Touch our future

ALBERTA CENTRE FOR
CHILD, FAMILY & COMMUNITY
RESEARCH

Experiences of Albertan Youth

2008/2009

Child and Youth Data Laboratory

CYDL Project One

Table of Contents

ACKNOWLEDGEMENTS ***1***

OVERVIEW ***2***

REPORT SUMMARIES ***3***

HOW TO READ THE REPORTS ***18***

REPORTS

Technical report
Socio-economic status of Albertan youth
Educational experiences of Albertan youth
Mental health status of Albertan youth
Family Support for Children with Disabilities services received by Albertan youth
Maltreatment-related investigations among Albertan youth
Maltreatment-related intervention services received by Albertan youth
Physician visits by Albertan youth
Emergency room visits by Albertan youth
Hospitalizations of Albertan youth
Offence charges among Albertan youth
Corrections involvement among Albertan youth
Post-secondary students in Alberta
Income support among Albertan youth
Educational experiences of Albertan youth with income support activity
Least advantaged and most advantaged Albertan youth

Suggested citation

Child and Youth Data Laboratory (2012). *CYDL Project One Summary Report.* Edmonton: Alberta Centre for Child, Family and Community Research.

CYDL Project One

Acknowledgements

The Child and Youth Data Lab gratefully acknowledges the contributions of the people in the following groups in this collaborative cross-ministry effort.

Partnering ministries

Aboriginal Relations
Education
Enterprise and Advanced Education
Health
Human Services
Justice and Solicitor General

Committees and Working Groups

The Deputy Ministers Committee
The Assistant Deputy Ministers Committee
The Coordinating Committee
The Research Working Group
The Data/Technical Working Group
The Legal/Privacy Working Group

CYDL Research Team
The Alberta Centre for Child, Family and Community Research

Xinjie Cui
Leslie Twilley
Cecilia Bukutu
Christine Werk
Jo Lamba
Saiful Kabir

Suzanne Tough, Scientific Director at ACCFCR, and many other reviewers and contributors.

CYDL Project One Overview

Overview of the CYDL initiative and Project One

The **Child and Youth Data Laboratory (CYDL**) analyzes and interprets linked administrative data from child- and youth-serving ministries in the Government of Alberta. The data are linked across ministries, at the level of the individual child or youth. Minstry involvement at all stages ensures policy relevance.

CYDL's research projects provide groundbreaking opportunities to understand relationships between many of the factors critical to children's lives, in broad-use areas such as health and education as well as more specialized services such as justice system contact or receipt of income support. The research results make unique contributions to the knowledge base on the well-being of children and youth, and can be used for enriched policy and program development and evaluation.

Project One is focused on basic understanding of the experiences of Albertan youth 12 to 24 years old in 2008/09. Service use data were provided by the ministries, and individuals receiving services from different ministries were linked by an anonymous process. A series of 15 short reports on policy-relevant topics has been produced (e.g., "Mental health status of Albertan youth", "Maltreatment-related investigations among Albertan youth", "Corrections involvement among Albertan youth", etc.).

It is expected that the results of Project One will generate further research questions, to be explored in subsequent projects. The second planned project extends Project One by looking at the experiences of youth in Alberta over a six-year time period, so that we can begin to develop more detailed insight into the factors that shape our youth as they develop. Future projects will be shaped by these two projects.

Some notes on the data

Administrative data are collected as part of the administration of ministries' services, such as organizing payments to physicians or tracking student enrolment data or classifying categories of income support recipients. Constructs useful for research purposes must be derived from indicators captured in administrative data and are therefore proxies for the underlying constructs. Validation of the data at source will vary across indicators, and will be dependent on administrative need for validation rather than on research need for accuracy and completeness.

On the other hand, administrative data provide richness that is absent from more traditional types of research. Administrative data used by CYDL are population-wide, allowing us to investigate virtually all of Alberta's youth. The level of detail collected for administrative purposes can be high, enabling in-depth investigation in many cases.

The linkage process employed by the CYDL preserves privacy while enabling this exciting and unprecedented opportunity to understand so many diverse facets of the lives of Albertan children and youth. However, analyses resulting from the linkage process must be interpreted with the understanding that some false matches (both incorrect matches and missed matches) will occur in the data, although they are thought to be relatively rare. Thus, the population of Albertan youth being considered in each short report (those that use ministry services, and could be linked with the software) is a subset of all youth.

CYDL Project One Report Summaries

Socio-economic status of Albertan youth

Socio-economic status of Albertan youth is an overview of the socio-economic status of 680,043 Albertan youth in 2008/09. Pampalon et al.'s neighbourhood deprivation index[1] was used to determine the social and material environments in which youth lived. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single parent families, percent of persons living alone, and percent of persons separated, divorced, or widowed.

The report contains analyses of the relationships between socio-economic status and age, gender, region of residence, educational achievement, mental health status, health service use, and interactions with Enterprise and Advanced Education, Human Services, and Justice and Solicitor General.

- The most socio-economically advantaged environments were experienced more often by youth who were younger, living in large urban centres, or achieving above educational expectations. Youth who pursued a post-secondary education were also more likely to live in higher socio-economic status neighbourhoods. The most socio-economically advantaged youth were less likely to visit emergency rooms or be hospitalized than youth living in the lowest socio-economic neighbourhoods.
- Youth facing challenges, such as receiving maltreatment-related intervention services, receiving Family Support for Children with Disabilities services, being charged with an offence, being involved with corrections, or receiving income support, were more likely to be living in low socio-economic neighbourhoods than youth not facing these challenges.

Educational experiences of Albertan youth

Educational experiences of Albertan youth is an overview of the educational experiences of 272,588 Albertan youth aged 12 to 20 years registered in Alberta's K-12 education system in 2008/09. Educational achievement was categorized as above, meeting, or below expectations for a student's age and grade. School authority types included public, separate, Francophone, charter, private, and other. No data were available for students who attended schools on First Nations reserves or in Lloydminster.

The report describes how educational achievement and school authority type varied by age, gender, region of residence, socio-economic status, mental health status, and health service use. The cross-ministry service use of youth registered in K-12 education was also studied.

- 79% of youth 12 to 17 years old and 17% of youth aged 18 to 20 were registered in the K-12 education system. 68% of students were meeting educational expectations, 19% were below expectations, and 11% were exceeding expectations.
- Overall, most students were meeting or above educational expectations. Students performing below educational expectations were more likely to be male, to live in a lower socio-economic status neighbourhood, to have received services for a mental health condition, to visit an emergency room, or to be hospitalized during the year.
- Poor educational performance was associated with receiving maltreatment-related intervention services, receiving Family Support for Children with Disabilities services, being charged with an offence (particularly multiple charges), being involved in corrections (particularly custody), or receiving income support at some point during the year 2008/09.
- 73% of youth were registered in public schools, and 22% in separate schools. School authority type varied with age, region of residence, socio-economic status, educational achievement, mental health status, and emergency room use.
- Students facing challenges, such as receiving intervention services, being charged with an offence, or receiving income support, were more likely to be registered in public schools than any other school authority type.

Mental health status of Albertan youth

Mental health status of Albertan youth is an overview of 66,792 Albertan youth (12 to 24 years) who received services for mental health conditions in 2008/09. Mental health status refers to presence or absence of a mental health condition. Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition.

The relationships between mental health status and age, gender, region of residence, socio-economic status, educational achievement, and health service use were considered. The cross-ministry service use of youth who received services for mental health conditions was also studied.

- 11% of Albertan youth received services for mental health conditions in 2008/09.
- *Mood/anxiety* and *behavioural* disorders were the most common mental health conditions, with *mood/anxiety* conditions generally more common in females and *behavioural* conditions more common in males. The percentage of youth with mental health conditions increased with age for females, but was stable across age for males.
- There was little effect of region of residence or socio-economic status on mental health status.
- The rate of mental health conditions was higher for youth who performed below educational expectations, who visited physicians five or more times, who visited emergency rooms, or who were hospitalized (youth with *schizophrenia/psychoses* were particularly likely to be hospitalized).
- Youth who received maltreatment-related intervention services, were charged with an offence, were involved in corrections, were enrolled in a part-time post-secondary program, or received income support were more likely to have received services for a mental health condition than youth who did not did not have these ministry service involvements.

Family Support for Children with Disabilities services received by Albertan youth

Family Support for Children with Disabilities services received by Albertan youth provides a profile of 3,764 Albertan youth (aged 12 to 18 years) who received Family Support for Children with Disabilities (FSCD) program services from Human Services in 2008/09. Service categories include *family support* services, *child-focused* services, *specialized services* and *out of home* services. In addition, FSCD assists with some of the extraordinary costs of raising a child with a disability. To receive FSCD services, medical documentation must be provided confirming that the child has a disability or is awaiting a diagnosis; primary diagnoses categories are derived from these medical diagnoses. Not all eligible families choose to access the FSCD program and there are additional health and education programs that support children with disabilities. As such, there are more children with disabilities in the province than those who receive FSCD services.

Youth are described by FSCD service category, primary disability diagnoses, age, gender, region of residence, socio-economic status, school authority type, educational achievement and health service use. The report also provides an overview of cross-ministry service use for these youth

- 1.0% of Albertan youth aged 12 to 18 received FSCD services in 2008/09.
- Overall, the majority of youth receiving FSCD services received *child-focused* services and had a primary diagnosis of a developmental impairment.
- Compared to youth not receiving FSCD services, youth who received FSCD services were more likely to be male, younger than 15 years of age, to live in low middle socio-economic status neighbourhoods, to perform below educational expectations, and to have higher use of health services.
- Youth receiving FSCD services were more likely than youth not receiving FSCD services to be enrolled in Alberta's K-12 education system, to receive maltreatment-related intervention services or to receive income support.

Maltreatment-related investigations among Albertan youth

Maltreatment-related investigations among Albertan youth provides a profile of 7,029 Albertan youth (aged 12 to 17 years) who were the subjects of investigations into possible maltreatment by a parent/guardian in 2008/09. In investigated cases where intervention is not needed, the file is closed (*no intervention needed*). Cases where maltreatment is found to have occurred can lead to interventions that include services within the family home (*out of care services*), or that require the youth to be removed from their home and placed *into care*.

Youth are described in terms of the outcome of the investigation and their Aboriginal status by age, gender, region of residence, socio-economic status, educational achievement, mental health status and health service use. The report also provides an overview of cross-ministry service use for these youth. Comparisons are made to youth of the same ages who were not the subjects of investigations.

- For most investigations, the outcome was *no intervention needed*. 29% of youth investigated were Aboriginal.
- Compared to those not investigated, youth who received a maltreatment-related investigation were more likely to be non-Aboriginal, female, younger than 15 years of age, living in a rural area (*in care* youth only), living in the lowest socio-economic status neighbourhoods, performing below educational expectations, and to have used services for a mental health condition or to have high use of health services.
- Youth who were the subject of an investigation were more likely to be receiving Family Support for Children with Disabilities (FSCD) services, to be charged with an offence, or to be involved in corrections, than youth not investigated.
- Aboriginal youth receiving investigations were more likely than non-Aboriginal youth to receive *in care* services, to live in rural areas or the lowest socio-economic status areas, or to be performing below educational expectations. They were less likely to have received services for a mental health condition, and were less likely to have had five or more physician visits.
- Aboriginal youth receiving investigations were more likely than non-Aboriginal youth to have been charged with an offence or involved with corrections, and less likely to be enrolled in the K-12 education system or to be receiving FSCD services.

Maltreatment-related intervention services received by Albertan youth

Maltreatment-related intervention services received by Albertan youth provides a profile of 6,400 Albertan youth (aged 12 to 17 years) who received intervention services in 2008/09 as a result of maltreatment. Depending on the situation, intervention services may be provided while the youth remains in the home (*out of care services*), or the youth may have to be removed from the home and placed *in care* because of ongoing and serious safety concerns.

Youth are described in terms of the type of intervention services they received and their Aboriginal status, by age, gender, region of residence, socio-economic status, educational achievement, mental health status and health service use. They are compared with youth not receiving intervention services. The report also provides an overview of cross-ministry service use for youth receiving intervention services.

- 2.1% of Albertan youth received intervention services; of these 62% were *in care*, and almost half were Aboriginal.
- Compared to youth not receiving intervention services, youth who received intervention services were more likely to live in the lowest socio-economic status neighbourhoods, to perform below educational expectations, to have a mental health condition (particularly mood or behavioural conditions), or to have five or more physician visits, an emergency room visit, or a hospitalization.
- Compared to youth not receiving interventions, youth receiving intervention services for maltreatment were over-represented in Family Support for Children with Disabilities (FSCD) and the justice and correctional systems, and were slightly more likely to be in the K-12 education system.
- Among youth receiving intervention services, Aboriginal youth were more likely to be *in care,* living in rural settings or the lowest socio-economic status neighbourhoods, or performing below educational expectations, compared to non-Aboriginal youth. Aboriginal youth were also less likely to have received services for a mental health condition, to have had five or more physician visits, and were slightly less likely to be hospitalized.
- Aboriginal youth receiving intervention services were less likely to be receiving FSCD services or to be registered in the K-12 education system than non-Aboriginal youth.

Physician visits by Albertan youth

Physician visits by Albertan youth is an overview of 2,361,770 physician visits by 496,787 Albertan youth (12 to 24 years) in 2008/09. Physicians were grouped into two types of providers: specialists and general practitioners. Youth not registered with the Alberta Health Care Insurance Plan in 2008/09 were excluded.

The report contains analyses of the relationships between number of physician visits as well as type of physician with region of residence, socio-economic status, age, gender, educational achievement and mental health status. The cross-ministry service use of youth who visited physicians was also described.

- 49% of youth had one to four physician visits and 26% had five or more physician visits, while 24% of youth had no physician visits. 64% of visits were with a general practitioner and 36% were with a specialist.
- Number of physician visits increased with age for females and decreased with age for males. Youth who were performing above educational expectations or who received services for a mental health condition were more likely to visit a physician.
- About two thirds of visits were to general practitioners; visits to specialists were less common among visits for older youth and females. Visits to specialists were more common among visits by youth who were performing above educational expectations than those below, or among those who had *neurodevelopmental* or *schizophrenia/psychoses* conditions than those with other mental health conditions.
- Socio-economic status and region of residence were unrelated to number of physician visits or to provider types.
- Making five or more physician visits in the study year was more common for youth on income support, youth receiving Family Support for Children with Disabilities services, youth who received maltreatment-related intervention services, and youth who were enrolled in a post-secondary institution, compared to the whole population of youth registered with Alberta Health Care.

Emergency room visits by Albertan youth

Emergency room visits by Albertan youth is an overview of 326,685 visits to emergency rooms by 163,411 Albertan youth (aged 12 to 24) in 2008/09. Reasons for emergency room visits were derived from primary diagnostic codes. Youth not registered with the Alberta Health Care Insurance Plan in 2008/09 were excluded.

The relationships between emergency room use and age, gender, region of residence, socio-economic status, educational achievement, and mental health status were analyzed, as was the cross-ministry service use of youth who visited emergency rooms.

- 15% of youth had a single emergency room visit and a further 10% had multiple emergency room visits. The most common reason for visit was *injury or poisoning*.
- The number of emergency room visits increased with age to about 19 years, then decreased. Females aged 16 and older were more likely to have multiple emergency room visits than males of those ages. Youth living in rural areas and those living in the lowest socio-economic status neighbourhoods had higher rates of emergency room use than those living in urban areas or in the highest socio-economic status areas. Performing above educational expectations and absence of a mental health condition were associated with lower rates of emergency room use.
- Visits for *injury or poisoning* were most likely for youth aged 12 to 20 while emergency room visits for *other* reasons were most likely for youth aged 21 to 24. Visits for males were most often for *injury or poisoning* whereas visits for females were most likely for *other* reasons. Visits by youth performing below educational expectations were more likely to be for *mental or behavioural* reasons and less likely to be for *injury or poisoning* than visits by youth meeting or above expectations.
- Youth receiving income support were most likely to make multiple emergency room visits and those enrolled in post-secondary education were least likely to do so. Single emergency room visits were most common among youth with offence charges or involved in corrections and least common among post-secondary students.

Hospitalizations of Albertan youth

Hospitalizations of Albertan youth is an overview of 29,676 hospitalizations of 24,067 Albertan youth (12 to 24 years) in 2008/09. Type of service was determined from main service codes. Youth not registered with the Alberta Health Care Insurance Plan in 2008/09 were excluded.

The relationships between hospitalizations and age, gender, region of residence, socio-economic status, educational achievement and mental health status were considered. The cross-ministry service use of youth who were hospitalized was also studied.

- 3.1% of youth were hospitalized once and 0.6% had multiple hospitalizations. The most common services were pregnancy-related, surgery or procedures, and general medicine.
- Males and females had similar rates of hospitalization when pregnancy-related hospitalizations for females were excluded.
- Hospitalized youth tended to live in rural or mid-sized regions or in low socio-economic status areas, perform below educational expectations, or receive services for a mental health condition (youth with *schizophrenia/psychoses* were particularly likely to be hospitalized).
- Most hospitalizations for youth aged 17 and under were for a surgery or procedure or for general medicine. Hospitalizations for youth aged 18 and older or youth living in the lowest socio-economic status neighbourhoods were most often pregnancy-related. Youth performing below educational expectations were more likely to have pregnancy-related or psychiatric hospitalizations than youth doing better in school. Hospitalizations among youth with mental health conditions were more likely to be for *psychiatric* services and less likely for *surgery or general procedures* than hospitalizations among youth without mental health conditions.
- Hospitalization rates were highest for youth who received maltreatment-related intervention services, were charged with an offence, were involved in corrections, received Family Support for Children with Disabilities services, or received income support.
- Psychiatric hospitalizations were most common among hospitalizations for youth receiving intervention services or involved in justice or corrections.

Offence charges among Albertan youth

Offence charges among Albertan youth is an overview of 6,311 Albertan youth (12 to 17 years) charged with offences in 2008/09. Youth with offence charges include those charged with criminal offences or administrative offences related to criminal offences (e.g., failure to appear in court, breach of probation, etc.). Number of offences in the study year was available, but individual incidents were not available. This means that youth charged with multiple offences may have had multiple charges in a single incident, or they may have been charged in multiple incidents.

The relationships between number of charges and age, gender, region of residence, socio-economic status, educational achievement and mental health status were considered. Youth charged with offences in the study year were compared to youth of the same ages not charged with offences in the study year. The cross-ministry service use of youth with offence charges was also studied.

- 2.1% of youth were charged with an offence in the study year. Of these, 44% had one charge in the year, 29% had two or three charges, and 27% had four or more charges.
- Offence charges were most common among youth aged 16 to 17.
- Males were more than twice as likely as females to be charged with offences, particularly multiple offences.
- Youth charged with offences were more likely than youth not charged with offences to live in lower socio-economic status neighbourhoods, to perform below educational expectations, to receive services for a mental health condition, or to visit an emergency room or be hospitalized.
- Youth with offence charges, particularly those with four or more charges, were more likely to receive maltreatment-related intervention services than youth without offence charges.

Corrections involvement among Albertan youth

Corrections involvement among Albertan youth is an overview of 5,178 Albertan youth (2% of youth aged 12 to 17 years) who were involved in corrections in 2008/09. Youth with corrections involvement have appeared before the Court or a Justice of the Peace for an offence charge and have been remanded in custody or placed under pre-trial supervision in the community awaiting further court dates, or have been found guilty and sentenced to a community disposition (in which the sentence is served in the community) or custody (in which the sentence is served in a young offender facility).

Type of corrections involvement and Aboriginal status of youth involved in corrections were considered, along with age, gender, region of residence, socio-economic status, educational achievement, and health service use. Youth involved in corrections were compared to youth not involved in corrections. The cross-ministry service use of youth involved in corrections was also studied.

- 1.7% of Albertan youth were involved in corrections in 2008/09; 18% of these were in custody at some point in the year.
- Youth involved in corrections were primarily older teenagers who were male. One in four youth involved in corrections was Aboriginal.
- Compared to youth not involved in corrections, youth involved in corrections were more likely to live in the lowest socio-economic status neighbourhoods, to perform below educational expectations, to receive services for a mental health condition, to visit an emergency room, to be hospitalized, or to receive maltreatment-related intervention services. All of these effects were larger for youth in custody than for youth with community sentences or pre-trial supervision.
- Aboriginal youth involved in corrections were more likely than non-Aboriginal youth involved in corrections to live in rural regions or the lowest socio-economic status neighbourhoods, to visit emergency rooms, to be hospitalized, or to receive maltreatment-related intervention services. They were less likely to meet or exceed educational expectations.

Post-secondary students in Alberta

Post-secondary students in Alberta profiles 113,154 youth (aged 17 to 24 years) who were enrolled in Alberta's post-secondary institutions in 2008/09. *Credential types* for post-secondary programs include bachelor/applied/graduate programs (also called degree-granting), certificate/diploma programs, and programs with no credential received upon completion. *Enrolment status* refers to full-time or part-time enrolment. Youth enrolled in apprenticeship programs were not available in this study.

Age, gender, region of residence, socio-economic status, mental health status, health service use, credential type, enrolment status, receipt of maltreatment-related intervention services, and receipt of income support are detailed. Comparisons are made with youth of the same ages who were not post-secondary students.

- 24% of all youth 17 to 24 years old were attending post-secondary institutions, with the highest rate (35%) for 20 year olds.
- More females than males were pursuing a post-secondary education. Females were also more likely than males to be enrolled in degree-granting programs.
- Post-secondary students, especially those enrolled in degree-granting or full-time programs, were more likely to be living in the highest socio-economic status neighborhoods than youth not enrolled in post-secondary institutions. Youth not enrolled in post-secondary studies were more likely to have visited an emergency room or to have been hospitalized at least once during the year, and were more likely to have five or more physician visits during the year.
- Post-secondary students enrolled part-time or in *no credential* programs were more likely than those enrolled full-time or in credential programs to have a mental health condition or to have been hospitalized at least once during the year.
- Youth receiving maltreatment-related intervention services or income support were over-represented in *no credential* programs and part-time programs compared to other post-secondary students.

Income support among Albertan youth

Income support among Albertan youth provides a profile of 6,599 Albertan youth (aged 18 to 24 years old) who received income support at any point in 2008/09. Human Services provides financial benefits to individuals and families who do not have the resources to meet their basic needs, such as food, clothing and shelter. Client types are those with *barriers to full employment* and those *expected to work*. Youth who received income support while upgrading or training (*learners*) were excluded. Household types are singles or couples, with or without children.

The report looks at the relationships between income support client type and household type and age, gender, region of residence, socio-economic status, educational achievement, mental health status, and health service use for youth who received income support. These youth are compared with youth who did not receive income support. An overview of cross-ministry service use for youth receiving income support is also included.

- 1.6% of youth received income support at some point in 2008/09. 54% of these were *barriers to full employment* clients and 46% were *expected to work* clients. 60% were *singles.*
- Females were over-represented among income support clients who were *singles* with children or *expected to work*; males were predominant among *singles* without children.
- Income support clients were more likely than youth (aged 18 to 20 years) not receiving income support to live in mid-sized centres, to live in low to middle socio-economic status neighbourhoods, to perform below expectations in high school, to receive services for a mental health condition, and to have high health service use or no health service use.
- Compared to youth who did not receive income support, income support clients were less likely to be in the Alberta Health Care Insurance Plan (AHCIP) registry or enrolled in a post-secondary institution, but were more likely to be receiving maltreatment-related intervention services. *Barriers to full employment* clients or *singles* without children were more likely than youth who did not receive income support to be enrolled in high school.

Educational experiences of Albertan youth with income support activity

Educational experiences of Albertan youth with income support activity is an overview of the educational experiences of 2,445 Albertan youth (aged 18 to 24 years old) who at any point in 2008/09 received income support. Human Services provides financial benefits to individuals and families who do not have the resources to meet their basic needs, such as food, clothing and shelter. Client types are those with *barriers to full employment* and those *expected to work*. Youth who received income support while upgrading or training (*learners*) were excluded. Household types are singles or couples, with or without children. For high school students, school authority type is considered. For post-secondary students, institution type, credential type, and enrolment status are considered. *Youth were not necessarily simultaneously receiving income support and attending high school or post-secondary institutions.*

The report describes client types and household types of youth with any income support activity who were enrolled (not necessarily at the same time) in an educational program, as well as relationships with age, gender, region of residence, socio-economic status, mental health status, and health service use. These youth were compared to youth enrolled in high school or post-secondary programs but not receiving income support.

- 549 Albertan youth (aged 18 to 20) who had any income support activity were registered in high school, and 378 Albertan youth (aged 18 to 24) who had any income support activity were enrolled in post-secondary institutions at some point in 2008/09.
- Youth with any income support activity who were registered in high school were most likely to be clients with *barriers to full employment*, single, female, living in large city centres, living in the lowest socio-economic status neighbourhoods, receiving services for a mental health condition, having a high rate of health service use, and performing below educational expectations.
- Youth with any income support activity who were enrolled in post-secondary institutions were likely to be clients with *barriers to full employment*, female, single, part-time students, enrolled in community or independent institutions and enrolled in *no credential* programs.

Least advantaged and most advantaged Albertan youth

Least advantaged and most advantaged Albertan youth provides a profile of the 2,281 least and 7,517 most advantaged Albertan youth between 12 and 17 years who were receiving provincial government services in 2008/09. *Least advantaged* is defined here as youth who were performing below educational expectations in the K-12 education system, who had a mental health condition, and who were living in the lowest socio-economic status neighbourhoods. Conversely, *most advantaged* youth performed above educational expectations, did not have a mental health condition, and lived in the highest socio-economic status neighbourhoods.

The relationships between advantage status and age, gender, region of residence, and health service use are examined for least and most advantaged youth, in comparison to remaining Albertan youth. The cross-ministry service use of least and most advantaged youth is also considered. The report concludes with a look at the educational achievement of youth experiencing challenges.

- 1.1% of Albertan youth were least advantaged, and 3.6% were most advantaged.
- The least advantaged youth were more likely than the remaining youth to be male, live in rural areas, be hospitalized, visit an emergency room, or receive maltreatment-related services; most advantaged youth were less likely than remaining youth to have these characteristics.
- Additionally, least advantaged youth were more likely than the remaining youth to visit physicians five or more times, to receive Family Support for Children with Disabilities services, to be charged with an offence, or to be involved in corrections. *Psychiatric* or *pregnancy-related* hospitalizations and *mental or behavioural* emergency room visits were more common among hospitalizations and emergency room visits for least advantaged youth than for the remaining youth.
- Additional analyses looked at challenged youth (such as youth involved in corrections or receiving maltreatment-related services), and found that, despite the challenges they faced, some youth performed well in school. Better educational outcomes were associated with being female, living in a higher socio-economic status neighbourhood, not having a mental health condition, and lower rates of health service use.

CYDL Project One Short Reports

Key report components and how to use them

Key findings

Each report begins with descriptions of the population of youth being studied, the concepts appearing in the report, and the kinds of analyses that were done. Following that are key findings from the various analyses, which serve as a high-level summary of the report.

Context

The context section of each report, on the second page, provides a short review of the relevant literature, intended as background for the report.

Analyses sections

Several pages of each report consist of analyses of the relevant indicators for the population being studied. There are two or three analyses sections on each page.

The first (non-bulleted) paragraph of each section describes the population being studied, including the number of youth and the percentage of the entire study population that this population represents. In subsequent analyses, if the population being analysed changes in any way (i.e., if only a portion of the overall report population is analysed), then the first (non-bulleted) paragraph of that section describes this population.

Bullets in each section describe, briefly, the findings of the analysis. Interpretations of the data are provided only in those cases where chance of misinterpretation was deemed to be high.

A graph accompanies each analysis, providing a visual of the data. Tables in the back of the report provide the numbers that appear in the graph. Each analysis section has a title, which includes the page numbers for the relevant data tables.

Tables

Following the analyses sections are tables. These tables contain all values appearing in the graphs, and sometimes provide additional data not appearing in the graph or the bullets of the analysis section.

Definitions and notes

Definitions and notes follow the tables. These provide information critical to the interpretation of the findings in the report, and should be carefully read before conclusions are reached.

Data sources

The table of data sources provides information on the administrative databases which were the source of data for the project.

References

Any literature cited in the Context or Definitions and notes sections is referenced here.

Touch our future

ALBERTA CENTRE FOR
CHILD, FAMILY & COMMUNITY
RESEARCH

Experiences of Albertan Youth

Technical Report

Child and Youth Data Laboratory

Table of Contents

PROJECT BACKGROUND

THE CYDL INITIATIVE **1**
PROJECT DESCRIPTION **2**
PARTNERING MINISTRIES **3**

STUDY DATA

DATA COLLECTION **5**
SOURCE DATABASES **6**

DATA LINKAGE

ANONYMOUS LINKAGE OVERVIEW **9**
THE AIRS PROCESS **11**
LINKAGE RULES **13**
LINKAGE VALIDATION **14**
LINKAGE RATES **15**
LINKAGE RATE INTERPRETATION **16**

METHODOLOGY AND LIMITATIONS

DATA CLEANING AND DERIVATION OF INDICATORS **19**
STUDY POPULATION **21**
ANALYSES **22**
DATA LIMITATIONS **23**

APPENDICES

APPENDIX I CYDL PROJECT ONE GOVERNANCE **25**
APPENDIX II CYDL PROJECT ONE DATA ELEMENTS **26**
APPENDIX III RESEARCH DATA NOTES SPECIFIC TO MINISTRIES **28**

Suggested citation

Child and Youth Data Laboratory (2012). *CYDL Project One Technical Report.* Edmonton: Alberta Centre for Child, Family and Community Research.

PROJECT BACKGROUND

THE CYDL INITIATIVE

The Child and Youth Data Laboratory (CYDL) analyzes and interprets linked administrative data from child- and youth-serving ministries in the Government of Alberta. The data are linked across ministries, at the level of the individual child or youth.

CYDL's research projects provide groundbreaking opportunities to understand relationships between many of the factors critical to children's and youth's lives, in broad-use areas such as health and education as well as more specialized services such as justice system contact or receipt of income support. The research results make unique contributions to the knowledge base on the well-being of children and youth, and can be used to support integrated policy development and coordinated program services.

The CYDL is managed by the Alberta Centre for Child, Family and Community Research (ACCFCR). The Centre has evolved over its eight year history as a public-sector, innovative resource for evidence. The Centre develops, supports and integrates research across sectors and disciplines to provide a strong, evidence-based foundation for identifying and promoting effective public policy and service delivery to improve the well-being of children, families, and communities in Alberta, Canada, and internationally.

CYDL research projects are governed by a number of committees, three working groups, the Hub and the Lab itself. Descriptions of the roles of the various groups are in Appendix I.

PROJECT DESCRIPTION

The current project, *Experiences of Albertan Youth 2008/09*, is a snapshot of the experiences of Albertan youth (12 to 24 years old) in 2008/09. It describes the characteristics and service use patterns of the population with a focus on mental health, educational achievement, and socio-economic status. A series of short reports on policy-relevant topics has been produced (e.g., *Mental health status of Albertan youth*, *Albertan youth receiving intervention services for maltreatment*, *Albertan youth charged with an offence*, *A profile of post-secondary students in Alberta*, etc.).

It is expected that the results of Project One will generate further research questions, to be explored in subsequent projects. The second planned project extends Project One by looking at the experiences of youth in Alberta over a six-year time period, so that we can begin to build more detailed insight into the factors that shape our youth as they develop. Future projects will be shaped in part by learnings from these two projects.

PARTNERING MINISTRIES

Alberta Government ministries, through their work in committees, working groups, and the Hub, participated in governance, provided funding or in-kind contributions, identified research priorities and a research agenda, participated in the development of research questions and the identification and development of data elements, developed privacy impact assessments and information sharing agreements, prepared data extracts and submitted them, generated a file to link research data with identity resolution data, participated in the validation of data and analyses, assessed adherence to data disclosure guidelines, and reviewed and approved reports.

The following six Alberta government ministries participated in Project One:

Aboriginal Relations
Education
Enterprise and Advanced Education
Health
Human Services
Justice and Solicitor General

The *Aboriginal Relations* ministry works with Aboriginal communities, the federal government, industry and other stakeholders to promote social and economic opportunities to enhance the quality of life of Aboriginal people in Alberta.

Education is the ministry that leads the education system from Early Childhood Services through grade 12. Education is responsible for curriculum development and evaluation, teacher development and certification, support of special needs students, funding and support of school boards, provision of Aboriginal and Francophone education, management of the Alberta Initiative for School Improvement (AISI), and oversight of education policy and regulations.

Enterprise and Advanced Education is the ministry responsible for advanced education and innovation programs in Alberta, including adult learning, apprenticeship and industry training, and technology innovation. The ministry's adult learning responsibilities include funding education providers, providing financial assistance to students, approving programs of study, and licensing and certifying providers. Apprenticeship and industry training responsibilities for the ministry include developing program standards, funding approved programs, and certifying apprentices and occupational trainees.

The Department of *Health* sets health care policy and standards, implements the policies, and ensures compliance. Alberta Health Services, reporting directly to the minister, oversees the planning and delivery of health supports and services to Albertans.

Human Services is the ministry responsible for providing programs and services related to children and youth (such as adoption, child care and early childhood development, Child Intervention Services, Family and Community Support Services, Family Support for Children with Disabilities, and family violence and bullying prevention), employment and immigration, and homelessness.

Justice and Solicitor General administers the criminal justice system (prosecuting offences under the *Criminal Code*, the *Youth Criminal Justice Act*, and provincial laws), appoints provincial court judges and justices of the peace, is responsible for property and civil law within the province, and is responsible for public security (policing, crime prevention, community awareness, sheriffs, and victim services) and correctional services (for custody and community sentences).

The research data elements that were provided by each ministry are detailed in Appendix II.

STUDY DATA

DATA COLLECTION

No data were collected directly by CYDL for Project One. Rather, secondary data were used, in the form of administrative data from the participating ministries. Administrative data are captured to enable and personalize service provision. In addition to demographic information on individuals, ministries also capture detailed data on services or programs provided (e.g., payments to physicians for services, student enrolment data, classification of categories of income support recipients, identification of the details of a criminal offence charge, etc.).

Administrative data have limitations, as do all types of data. On the other hand, administrative data provide richness that is unprecedented in more traditional types of research. Administrative data used by CYDL were population-based, allowing investigation of virtually all of Alberta's youth. Furthermore, the level of detail collected for administrative purposes can enable in-depth investigation not possible with many other types of data.

Three main types of administrative data were used for the project. Identity Resolution Data (IRD) consisted of demographic data, including names, addresses, and dates of birth; these data elements were used to link youth across ministries. Youth postal codes were used to determine region of residence and socio-economic status for the neighbourhoods in which youth resided. Anonymous Research Data (ARD) consisted of information on the programs and services provided to youth (such as health services, court sentences, maltreatment-related intervention services, post-secondary programs, etc.); these data were used to answer research questions of interest to the ministries.

The study year was fiscal year 2008/09. With the exception of Education and Enterprise and Advanced Education data, all data were for services provided between April 1, 2008 and March 31, 2009, with age determined on March 31, 2009.

- Data for Enterprise and Advanced Education were for services provided between September 1, 2008 and June 30, 2009, with age determined on March 31, 2009.
- Data for Education were for services provided to youth who were 12 to 19 years old on September 30, 2008. As a result, youth turning 12 between October 1, 2008 and March 31, 2009 *were not* included in the Education data but were included in other ministries' data. This resulted in the number of 12 year olds in the study population being lower (approximately 50% lower) than that of 13 to 17 year olds.
- Furthermore, although Education only provides services to youth who are under 20, the provision of services is defined by age at September 30. Youth who turned 20 between October 1, 2008 and March 31, 2009 *were* included in the Education data, resulting in the inclusion of 20 year olds in some analyses of Education data.

SOURCE DATABASES

1.1 million IRD records and 4.2 million ARD records were obtained for the project from 13 different ministry databases, as per the table below.

Ministry	Database	Use in this report	IRD source?	ARD source?
Education	Corporate Data Warehouse (CDW)	Primary and secondary education achievement data	No	Yes
Enterprise and Advanced Education	Learner Enrolment Reporting System (LERS)	Post-secondary education enrolment data	No	Yes
Enterprise and Advanced Education	Stakeholder Registry System (SHR)	Post-secondary and K to 12 demographic data	Yes	No
Health	Inpatient – Discharge Abstract Database (DAD)	Hospitalization data	No	Yes
Health	Ambulatory Care (ACCS)	Emergency room visit data	No	Yes
Health	Practitioner Payments (SESE)	Physician visit data	No	Yes
Health	Alberta Health Care Insurance Plan Population Registry (AHCIP registry)	Population registry	Yes	No
Human Services	Child Youth Information Module (CYIM)	Maltreatment and intervention data	Yes	Yes
Human Services	Family Support for Children with Disabilities Information System (FSCDIS)	Family Supports for Children with Disabilities data	Yes	Yes
Human Services	Central Client Directory (CCD)	Income support data	Yes	Yes
Justice and Solicitor General	Justice Online Information Network (JOIN)	Offence data	Yes	Yes
Justice and Solicitor General	Alberta Community Offender Management System (ACOM)	Corrections data (community supervision)	Yes	Yes
Justice and Solicitor General	Correctional Offender Management Information System (CoMIS)	Corrections data (custody)	Yes	Yes

See Appendix II for details of the data elements extracted for each ministry, and see Appendix III for definitions and notes specific to each ministry.

Education
When a youth enrolls in the K to 12 education system, a record of their enrollment is kept by Education in their Corporate Data Warehouse. Data elements from this database were used to determine a youth's educational achievement, including age, grade, school type, special education codes, provincial achievement test scores, home education status, number of high school credits earned, number of higher level courses taken, average grade in higher level courses, possession of an Alberta Education certificate or diploma, and Alexander Rutherford scholarship eligibility. School authority type was also obtained from this database. Demographic data for the IRD extract came from the Stakeholder Registry System for both Enterprise and Advanced Education and Education

Enterprise and Advanced Education
When students enroll in a post-secondary institution in Alberta, details of the enrollment are stored in the Learner Enrolment Reporting System (LERS). Data elements include demographic data, type of program, academic session (fall, winter, spring or summer), whether the student is enrolled full- or part-time, whether a student has completed the program, institution type, etc. Demographic data for the IRD extract came from the Stakeholder Registry System for both Enterprise and Advanced Education and Education.

Health
When individuals visit a physician, visit an emergency room, or are admitted to hospital, a record of their visit is created, including patient demographics, diagnoses made, services provided, or reasons for visit. The Practitioner Payments database, enabling physician billing, details physician visits. The Ambulatory Care database contains details of emergency room visits, and the Inpatient—Discharge Abstract Database contains information on hospital admissions. Demographic data for the IRD extract for Health came from the Alberta Health Care Insurance Plan stakeholder registry.

Human Services

Child Intervention
When maltreatment of a youth by a parent or guardian is suspected, an investigation may be initiated by Human Services to determine whether the youth is in need of intervention services. In some cases, it may be found that intervention services are not required, and referrals to other services in the community may be made. If the youth is found to be in need of intervention services, there is a range of services that may be provided. Services fall into two main groups: services the youth receives in the home with their parent(s) or guardian(s), and services the youth receives if they need to be removed from their home and placed into care. Data on investigations and intervention services were extracted from the Child and Youth Information Module (CYIM). Demographic data for the IRD extract for Human Services Child Intervention were also from CYIM.

Family Support for Children with Disabilities (FSCD)
FSCD provides parents or guardians with information, referrals, or funding for supports and services to support the growth and development of their children with developmental, physical, sensory, mental or neurological disabilities. The FSCD Information System (FSCDIS) extract provided data on types of support provided as well as disability types. Demographic data for the IRD extract for Human Services FSCD were also from FSCDIS.

Income Support
Income support in Alberta consists of financial support provided to individuals or families who cannot meet their basic needs for a variety of reasons. Support services and employment planning services are provided in addition to financial support. Financial resources, ability to work, and number of dependents determine the amount of financial support provided. An extract from the Central Client Directory (CCD) provided data on income support clients, including their household types (singles or couples, with our without children) and client types (whether they were expected to work or had barriers to full employment). Demographic data for the IRD extract for Human Services Income Support were also from CCD.

Justice and Solicitor General

When a youth is charged by police with committing an offence, the information for the offence and for the youth is entered into the Justice Online Information Network (JOIN). This database includes demographic data, details about the statute (e.g., the Criminal Code) under which the youth was charged, the date of the offence, the date of the charge, the court location, etc. The extract from this database allowed determination of the number of offences a given youth was charged with in the study year. Demographic data for the IRD extract for Justice and Solicitor General offence charges were also from JOIN.

When a youth appears in court, data on the court outcome is stored in one of two databases maintained by Justice and Solicitor General.

- If the court outcome is "pretrial supervision" (the youth is released into the community while awaiting trial) or a sentence to be served in the community (probation or community service), data on the court outcome are stored in the Alberta Community Offender Management System (ACOM). ACOM contains offender demographics, charge information, probation status, conditions of release, offender risk assessments, etc.
- If the court outcome is "remanded into custody" (i.e., the court outcome is to send them to a correctional centre or group home to await trial) or "sentenced to custody" (i.e., the court outcome is to sentence them to a period of time spent in a correctional centre or group home), data on the court outcome is stored in the Correctional Offender Management Information System (CoMIS). CoMIS contains data on offender demographics, admissions, movements, charges, and releases.

Demographic data for the IRD extract for Justice and Solicitor General court outcomes were obtained from both ACOM and CoMIS.

DATA LINKAGE

ANONYMOUS LINKAGE OVERVIEW

In order for the research data for each youth to be collated across the various ministries, an anonymous linkage process was employed (see diagram on following page).

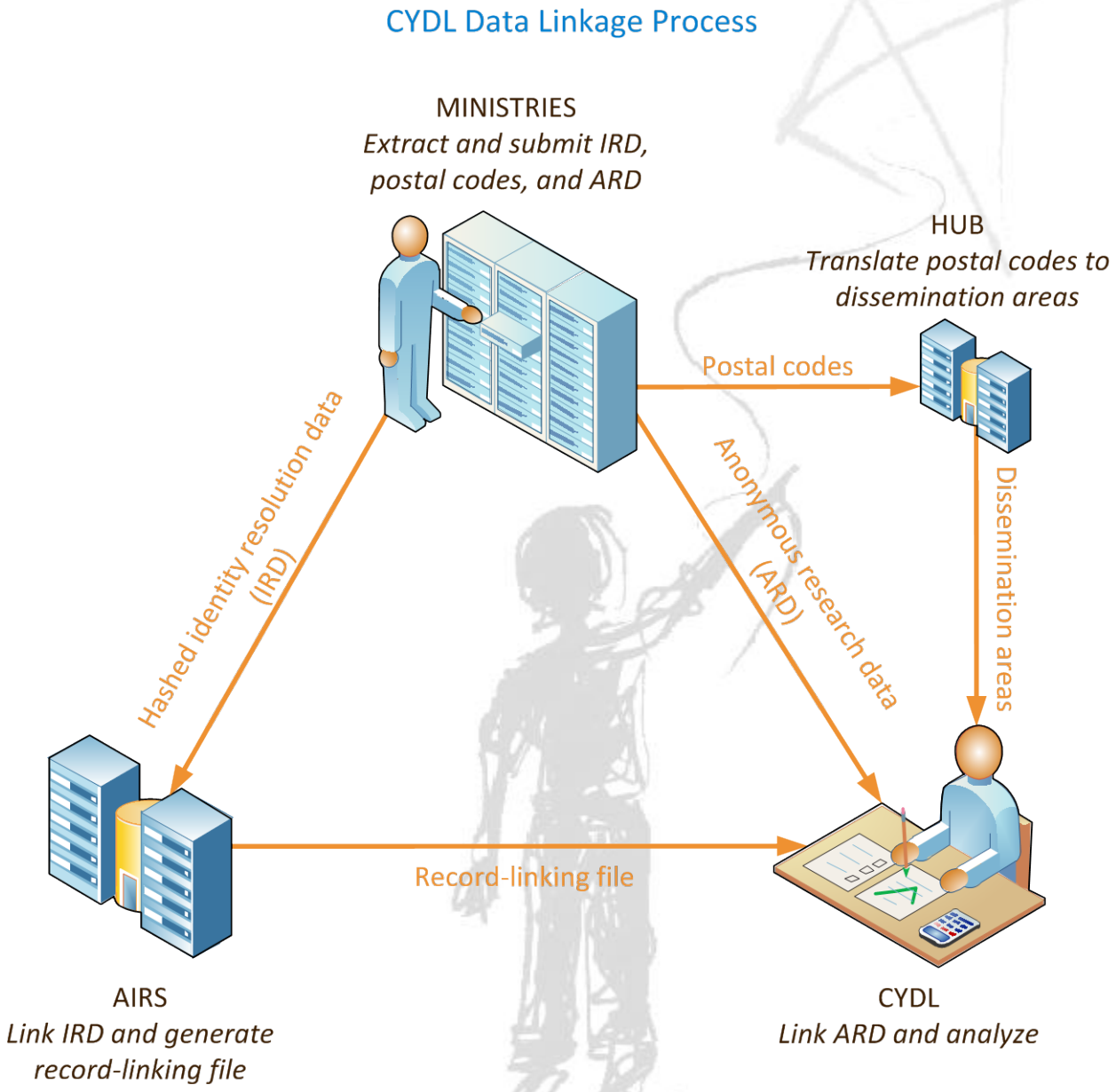
The ministries extracted the relevant data, standardized formatting and content as required, and assigned unique but meaningless identifiers to each record. The extracts were split into identity resolution data (IRD; names, dates of birth, and addresses), anonymous research data (ARD; specific to each ministry), and postal codes, with the same identifiers attached to the IRD, ARD, and postal code for each record.

The IRD were submitted to a one-way hashing process and were sent securely to the Anonymous Identity Resolution System (AIRS). Running the AIRS software on the IRD extracts resulted in a record-linking file. When the software determined that records from different ministries referred to the same youth (based on comparisons of names, dates of birth, and addresses), the identifiers for those records were linked to one another in the record linking file. If a record did not link with any other records, that identifier appeared alone in the record linking file. The record linking file was sent securely to the CYDL.

Postal codes for each youth were submitted to the Hub (in this case, Health). The Hub used a translation file to convert the postal codes to Statistics Canada dissemination areas. The resulting file, containing identifiers and dissemination areas, was sent securely to the CYDL.

The ARD (research data specific to each ministry, with identifiers) were sent securely to the CYDL directly from the ministries.

Using the record linking file from AIRS, the CYDL linked the ARD from all ministries for each youth. A dissemination area was also assigned to each youth using the file provided by the Hub. The CYDL then validated the submitted data and performed analyses to answer research questions.


CYDL Data Linkage Process
MINISTRIES
Extract and submit IRD, postal codes, and ARD
HUB
Translate postal codes to dissemination areas
Postal codes
Hashed identity resolution data (IRD)
Anonymous research data (ARD)
Dissemination areas
Record-linking file
AIRS
Link IRD and generate record-linking file
CYDL
Link ARD and analyze

THE AIRS PROCESS

The Anonymous Identity Resolution (AIRS) process used software developed by IBM® to determine whether a youth being served by a given ministry was the same youth receiving services from another ministry. To avoid sharing identifying information, ministries anonymized the IRD data elements via a one-way hashing process before submitting the IRD elements and record identifiers to AIRS.

The hashed data were compared by the AIRS software, to determine whether the data provided by different ministries were for the same youth. Names, dates of birth, and addresses were compared to determine whether the individuals were the same person. Some standardization of elements occurred at this stage, so that, for example, *Robert* and *Bob* would be considered the same, as would *80 Avenue* and *80 Ave.*

The record linking file was the output from the AIRS linkage process. This file contained all identifiers from the IRD; the identifiers for those records deemed to be from the same individual were linked in the record linking file.

On the next page is a simplified example of the AIRS process for three youth for Education and three youth from Justice and Solicitor General. One record in Education has the same name, date of birth, and address as a record in Justice and Solicitor General. AIRS generates a record linking file that links the identifiers from these two records. The remaining records were not linked, and their identifiers appear alone in the record linking file.

CYDL received only the record linking file from the AIRS process. The identifiers in the record linking file were the same as those in the ARD and the dissemination area files, allowing the research data and the dissemination area files to be linked across all ministries from which the individuals accessed services.

AIRS Process

Education IRD Extract

Linkage ID	Name	Date of Birth	Address
Edu0001	Jenny Penny	Feb 21 1994	567 89 Road Red Deer
Edu0002	Peter Tang	July 14 1995	234 56 Ave SE Calgary
Edu0003	Sally Smith	Jan 24 1996	123 45 Street Edmonton

Justice and Solicitor General IRD Extract

Linkage ID	Name	Date of Birth	Address
JSG001	Bob Connor	Feb 21 1994	234 56 Ave SE Calgary
JSG002	Sally Smith	Jan 24 1996	123 45 Street Edmonton
JSG003	Tom Cruise	Mar 3 1993	345 67 BLV Lethbridge

Education Hashed IRD

Linkage ID	Name	Date of Birth	Address
Edu0001	Uk8%jki#ml0	Hjiat43b^jkfp	JOfhliun4%Lf*lfhpa[op
Edu0002	Jikh^r3(Jkasp	kyegsUa1(L	hgopWqozogn%jfpsam$kfo
Edu0003	JhiWjMn9@k	Jietfm;(6@j	WlKoi$*kjiPl+yKtttttttre

Justice and Solicitor General Hashed IRD

Linkage ID	Name	Date of Birth	Address
JSG001	Kjuh*o0s	Hjiat43b^jkfp	Hiotgal9t*hgoUeomfjh
JSG002	JhiWjMn9@k	Jietfm;(6@j	WlKoi$*kjiPl+yKtttttttre
JSG003	iwQ&hiu9e	Kinj#fjnaofl	&kl;oi3#UskpPo&jfopkl!56

AIRS

Record Linking File

Youth	LinkageID1	LinkageID2	LinkageID3
YouthA	Edu0001		
YouthB	Edu0002		
YouthC	Edu0003	JSG002	
YouthD	JSG001		
YouthE	JSG003		

LINKAGE RULES

The AIRS software used a set of rules to link individuals. In the example above, the name, date of birth and address for the individual were all identical in the IRD from the two ministries. This is the most stringent criterion for a match, but it was not the only possible type of match. In actuality, linkages were possible with less stringent criteria. Below is a table with the three linkage rules used for Project One.

Rule	Description
One	Exact names, exact addresses, exact dates of birth
Two	Close names, exact addresses, exact dates of birth
Three	Close first and middle names and exact last names, exact dates of birth, address not considered

Close name matches were determined by an algorithm that considered various combinations of available names (e.g., if middle name and first name were switched, an exact match would fail but a close match would succeed).

If a match was not found between records with Rule One, Rule Two was tested. Failure to find a match with Rule Two led to comparison of records with Rule Three. If no match was found after Rule Three was applied, those records remained unlinked.

On the other hand, if a match was found with any of the rules, a new “entity” was formed, consisting of all of the elements (identifiers, names, dates of birth, and addresses) for the records that matched. Any subsequent data being evaluated for a match was compared to the entire entity; the rules would consider all instances of names, dates of birth, and addresses within the entity.

A new record could potentially cause two previously separate entities to merge together into a single entity containing the new record and both previous entities. This would occur when a new record shared enough information to match both entities, even though the two entities did not meet the criteria for a match on their own.

LINKAGE VALIDATION

Following the implementation of the AIRS software and generation of the record linking file, a validation process occurred. Overall linkage rates were evaluated for reasonableness, based on known data. Initial linkage rates were not considered acceptable, and the settings for the AIRS process were changed in an iterative fashion. Once a reasonable set of linkage rates was obtained, with rules that made sense given the IRD provided, samples of individual linkages were tested.

Because the submitted records were anonymized, this validation process could not be completed by CYDL. The ministries were given samples of identifiers from both matched and unmatched records. They were asked to look at the records associated with those identifiers in their original (non-anonymized) extracts to determine whether the matches and non-matches were correct. There were four possible outcomes from these evaluations, as seen in the table below.

	Resolver Match	**Resolver Non-Match**
Ministry Match	True match	False non-match
Ministry Non-match	False match	True non-match

The higher the proportion of true matches (i.e., cases in which the resolver matched records that the ministries agreed were indeed the same individuals) and true non-matches (i.e., cases in which the resolver did not match records that the ministries agreed were not the same individuals), the better the linkages. Significant proportions of false matches and false non-matches are not desirable.

The proportions of false matches found by the ministries were not minimal but were not overly high. This finding allowed CYDL researchers and the relevant working groups and committees to conclude that, while some specific linkage issues were identified (see below), the linkage process was valid and analysis of the research data could proceed.

Issue	**Description**
Addresses	Addresses had to begin with a number to be included in matching (e.g., "Rural route #1" was not included)
Siblings/twins	Many of the false matches found by the ministries were siblings or twins
Initials	There was some indication that false non-matches were more common when first names were initials only
Hyphens	There was some indication that false non-matches were more common when names were hyphenated
Ethnicity	There was some indication that false non-matches had a higher proportion of names of non-Anglo Saxon origin
Multiple names	There was some indication that false non-matches had a higher proportion of youth with multiple names

LINKAGE RATES

CYDL Project One Linkage Rates (percent)

		Source dataset									
		Educ	EAE	CI1	CI2	FSCD	IS	JSG	ACOM	CoMIS	AHCIP
	Number of Entities	**272,696**	**113,583**	**7,311**	**7,753**	**3,766**	**6,606**	**6,315**	**5,060**	**941**	**655,867**
	No match	9.2	24.6	8.2	3.1	1.5	26.7	7.2	4.5	-	48.6
Linked dataset	Educ	**0.6**	2.2	72.0	69.2	84.2	8.4	73.2	77.5	69.7	37.6
	EAE	0.9	**0.5**	0.5	1.8	0.5	5.8	0.2	0.3	-	13.0
	CI1	1.9	0.0	**0.5**	27.9	7.0	0.2	14.2	13.6	22.1	1.0
	CI2	2.0	0.1	29.6	**1.1**	5.6	2.1	16.4	16.6	35.3	1.1
	FSCD	1.2	0.0	3.6	2.7	-	3.0	1.2	1.1	1.7	0.5
	IS	0.2	0.3	0.2	1.8	5.2	-	-	-	-	0.7
	JSG	1.7	0.0	12.3	13.4	2.0	-	**3.6**	70.7	96.2	0.8
	ACOM	1.4	0.0	9.4	10.9	1.5	-	56.7	**0.2**	87.5	0.7
	CoMIS	0.2	-	2.8	4.3	0.4	-	14.3	16.3	-	0.1
	AHCIP	90.3	75.1	86.0	93.0	93.4	71.7	83.4	85.8	91.4	**1.4**

CYDL Project One Linkage Rates (number)

		Source dataset									
		Educ	EAE	CI1	CI2	FSCD	IS	JSG	ACOM	CoMIS	AHCIP
	Number of Entities	**272,696**	**113,583**	**7,311**	**7,753**	**3,766**	**6,606**	**6,315**	**5,060**	**941**	**655,867**
	No match	24,976	27,899	603	241	57	1,763	457	228	-	318,486
Linked dataset	Educ	**1,549**	2,486	5,263	5,367	3,170	556	4,620	3,924	656	246,329
	EAE	2,486	**572**	34	139	19	380	15	16	-	85,301
	CI1	5,263	34	**36**	2,162	262	14	899	687	208	6,285
	CI2	5,367	139	2,162	**84**	210	139	1,036	842	332	7,212
	FSCD	3,170	19	262	210	-	197	77	55	16	3,518
	IS	556	380	14	139	197	-	-	-	-	4,738
	JSG	4,620	15	899	1,036	77	-	**237**	3,578	905	5,268
	ACOM	3,924	16	687	842	55	-	3,578	**10**	823	4,342
	CoMIS	656	-	208	332	16	-	905	823	-	860
	AHCIP	246,329	85,301	6,285	7,212	3,518	4,738	5,268	4,342	860	**9,408**

Educ= K to 12 Education enrolment (12 to 20 years)
EAE= Enterprise and Advanced Education enrolment (12 to 24 years, most over 17)
CI1 = Human Services Child Intervention investigations (12 to 18 years)
CI2 = Human Services Child Intervention interventions (12 to 22 years)
FSCD = Family Support for Children with Disabilities (12 to 18 years)
IS = Income support (18 to 24 years)
JSG = Justice and Solicitor General offence charges (12 to 17 years)
ACOM = Alberta Community Offender Management (Justice and Solicitor General youth in community service) (12 to 17 years)
CoMIS = Correctional Management Information System (Justice and Solicitor General youth in custody) (12 to 17 years)
AHCIP = Alberta Health Care Insurance Plan registry (12 to 24 years)

LINKAGE RATE INTERPRETATION

There are two tables above; the top table contains percentages and the bottom contains counts.

The columns in the linkage rate tables are source datasets, which were linked to the datasets appearing in the rows (the linked datasets). For example, 3.6% (262) of the 7,311 CY1 entities matched to FSCD entities, and 72.0% (5,263) matched to Education entities. *Reminder: Entities represent individuals as determined by the AIRS software. An entity consists of one or more records, all of which have been deemed to represent the same youth.*

The "No match" row refers to entities for a given dataset that did not link to any other datasets.

Dashes represent suppressed data, when fewer than 10 entities occurred.

The diagonal (in bold) represents "internal matches", with records in a given database linking to other records in the same database (representing a mixture of false positive matches due to linkage errors or data errors, and true positives, in which a youth actually had duplicated data in the ministry database). The internal match rates were calculated as the number of records that were incorporated into other entities, out of the total number of records in a database. The internal match rates are under 1.5%, with the exception of the data on offence charges from Justice and Solicitor General (3.6%). The presence of duplicated records for the same youth is a known issue in this database.

Age groups of youth receiving services must be kept in mind when interpreting linkage rates. For example, just 8.4% of youth receiving income support were linked to youth in the K to 12 education system. Income support data were for 18 to 24 year olds, while 12 to 20 year olds were included in the Education data, so the low linkage rate is expected because of low overlap in populations.

The last row of the tables contains data on linkages to the Alberta Health Care Insurance Plan (AHCIP) registry, which includes all youth in Alberta with a health care number (close to the total population of youth). Linkage rates to this database were expected to be high, and they generally are. A notable exception is Enterprise and Advanced Education students, many of whom are from out of province and would not be expected to be in the registry. As well, only 71.7% of income support clients were linked to the registry, perhaps reflecting the more transient nature of this population.

Database-specific summaries of linkage rates

See the Source Databases section for descriptions of sources and content of databases.

Education students (Educ column)

K to 12 education students included 12 to 20 year olds (this is the second column in the tables). 2% or fewer of the youth enrolled in the education system received services from Human Services Child Intervention and FSCD, overlap with the advanced education system and income support was low (largely due to low overlap in age groups served), involvement in the justice and corrections systems was low, and registration in the AHCIP was high. Nevertheless, given the large Education population, there were more than 5,000 youth in the education system who were involved with Human Services Child Intervention, 3,170 receiving FSCD services, 4,620 in the justice system, and more than 4,000 involved in corrections.

Advanced education students (EAE column)

The first column contains the linkage rates for students enrolled in advanced education programs. Due to their ages (up to 24, but mostly over 17) and the higher proportion of youth from out of province, this population low rates of overlap with many of the other youth populations. There was a substantial population of youth (2,486 youth, or 2.0% of the advanced education population) who were enrolled in the K to 12 system and the post-secondary system in the same school year, and 0.3% of youth in advanced education were receiving income support. The linkage rate to the AHCIP registry was lower than most ministries, as discussed above, likely due to high numbers of out-of-province students.

Human Services Child Intervention clients (CI1 and CI2 columns)

The third and fourth columns are the linkage rates for Child Intervention investigations for maltreatment (CI1; 12 to 18 year olds) and interventions for maltreatment (CI2; 12 to 22 year olds; see Data These two populations have high rates of overlap with one another (an investigation often leads to an intervention), fairly high rates of enrolment in the K to 12 education system, and high rates of involvement in the justice system (12 or 13% of youth) and the corrections system (3 to 4% in custody and 9 to 11% in community service). Rates of linkage to the AHCIP registry were high, particularly for the interventions group.

Human Services Family Support for Children with Disabilities clients (FSCD column)

The fifth column represents the population of youth 12 to 18 years old receiving services from FSCD. This population shows moderate overlap with the Human Services Child Intervention investigations and interventions populations, the highest linkage rate to Education (many youth are referred from the Education system to FSCD and youth in the program are expected to attend school), some overlap with the income support population (this would be 18 year olds only), low involvement in the justice or corrections systems, and the highest linkage rate to the AHCIP registry (many FSCD clients have ongoing health concerns and as such would be less likely than others not to be registered with AHCIP).

Human Services Income Support Clients (IS column)

Youth receiving income support (18 to 24 years) generally had low rates of linkage with other ministries, again largely due to their ages. Of income support clients, 8.4% were enrolled in the K to 12 system (presumably, many of these youth were upgrading high school) and 5.8% were enrolled in the post-secondary system.

Youth charged with offences (JSG column) and Youth in community supervision (ACOM column)

Youth charged with offences (12 to 17 years; JSG column) had linkage patterns that were very similar to youth in community supervision corrections programs (12 to 17 years; ACOM column); the overlap between the two populations was, as expected, large. Enrolment in the K to 12 education system was fairly high (73.2% of youth charged with offences and 77.5% of youth in community supervision). Youth receiving investigations or interventions for maltreatment were over-represented in both of these populations, with maltreatment-related interventions being provided to 16.4% of youth in the justice system and 16.6% of youth in community supervision. Linkage rates to advanced education and FSCD were low, while linkage rates to the ACHIP registry were high.

Youth in custody (CoMIS column)

Youth in custody in the corrections system (12 to 17 years; CoMIS column) followed a similar but more extreme pattern than youth in community service, with only 69.7% of youth in custody enrolled in the K to 12 education system, and fully 35.3% of youth in custody receiving maltreatment-related interventions. The rate of linkage to the AHCIP registry was higher (91.4%) than for youth in the justice system or community service.

Youth in the Alberta Health Care Insurance Plan registry (AHCIP column)

There were 655,867 youth in the AHCIP registry, many more than received services from the other ministries participating in the project. The only sizeable linkage rates for this population, as expected, were to the other two large populations in the project (students enrolled in the K to 12 and post-secondary education systems). Almost half (48.6%) of youth in the AHCIP registry were not linked to youth in any other ministry, in large part due to the fact that many ministries provided services to youth under 18, while youth in registry extract were up to 24 years of age and therefore did not use services provided by other ministries. Note, of course, that most of the unlinked youth in the AHCIP did use health services.

METHODOLOGY AND LIMITATIONS

DATA CLEANING AND DERIVATION OF INDICATORS

Data manipulations prior to analysis

- Age, gender, and postal code (translated into Statistics Canada dissemination areas) were provided for each individual by each participating ministry. In the case of discrepancies between ministries (which occurred in less than 0.05% of cases), the most common value for an indicator was chosen. In the event of two or more most common values, the value for the indicator was chosen randomly from among the most common values.
    - For example, Justice and Solicitor General may have provided 17 years as the age of a particular youth, Education 16 years, and FSCD 16 years. In this case, 16 years would have been assigned to that youth (as the single most common value). If Child Intervention had contributed an age of 17 years as well, there would have been two most common values (16 and 17) and one would have been randomly assigned to that youth.
    - Very rarely, application of this algorithm resulted in assigning an age to a youth that was out of the age range for services provided by that ministry (e.g., a youth charged with an offence might have been assigned an age of 18 years, while the possible age range is 12 to 17). If this occurred, the individual was removed from the analysis.
    - In a few cases, application of this algorithm resulted in male gender being assigned to individuals receiving health services that were not possible for males (i.e., obstetrics and gynecology). This was noted in the relevant report when it occurred.
- Enterprise and Advanced Education provided data on all post-secondary academic sessions in which youth were enrolled in the study year. When a student was enrolled in more than one session in the study year, one session was chosen to provide values for credential type, enrolment status, and institution type for that individual.
    - Full-time enrolments were chosen over part-time, winter session enrolments were chosen over fall sessions, and fall sessions were chosen over spring and summer enrolments. If only spring or summer enrolments occurred, the session was randomly chosen from among the spring and summer enrolments.

Derivation of data elements

- Dissemination areas of residence were used by CYDL to determine **region of residence**. Urban areas included large centres with urban core populations greater than 100,000 (i.e., Edmonton and Calgary metropolitan areas) and mid-sized centres with urban cores greater than 10,000. All other areas were categorized as rural.
- **Socio-economic status (SES)** captures the social and material environments in which youth live. A youth was assigned a socio-economic status via an index based on the Statistics Canada dissemination area in which he or she resided[1]. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single families, percent of persons living alone, and percent of persons separated, divorced, or widowed. Socio-economic status values fell into five quintiles. In many reports, "lowest socio-economic status" refers to the lowest quintile of socio-economic status, while "highest" refers to the highest quintile. Other reports included all five quintiles.
    - Socio-economic status may be missing for a youth for a number of reasons (a postal code was not provided, the postal code was not associated with an Albertan dissemination area, or the socio-economic status index was unavailable for the dissemination area).
- **Mental health status** was defined by the presence or absence of mental health diagnosis codes in Health's databases (Inpatient—Discharge Abstract Database, Ambulatory Care, and Practitioner Payments), or in the Family Support for Children with Disabilities Information System. Only youth who were registered with the Alberta Health Care Insurance Plan for the full fiscal year were included in the mental health analyses. **Mental health service use is a proxy for presence of a mental health condition**: Some youth with mental health conditions may not have accessed mental health services in Alberta during the year, and some mental health service use may have occurred for youth who did not in fact have mental health conditions.
    - **Mental health conditions** were grouped based on The Johns Hopkins ACG® Case-Mix System (version 8.2)[2]. Mental health conditions were *mood/anxiety* (anxiety, depression, bipolar disorder, etc.), *behavioural* (attention-deficit disorder, regulatory disorder, mental or behavioural problems due to substance use, etc.), *neurodevelopmental* (autism, fetal alcohol spectrum disorder, cerebral palsy, etc.), or *schizophrenia/psychoses* (schizophrenia, psychosis, delusional disorder, etc.). Conditions were not mutually exclusive; a youth could have a diagnosis in more than one category.

1. Pampalon, R., Hamel, D., Garnache, P., Raymond, G. (2009). A deprivation index for health planning in Canada. *Chronic Diseases in Canada, 29(4)*, 178-91.
2. The Johns Hopkins University (2008). *The Johns Hopkins ACG® System Reference Manual, Version 8.2*. Johns Hopkins University: Baltimore.

STUDY POPULATION

A total of 1,091,813 IRD records from 10 datasets were submitted to the AIRS process by the participating ministries.

Once the AIRS process completed and youth were matched across ministries, a total of 713,830 entities resulted. In other words, of the 1,091,813 original records, 377,983 records were considered matches to other records and were added to entities, resulting in the 713,830 final entities that comprised our data set (the number of entities by ministry is in the top row of the linkage rate tables. Note that the total across ministries is larger than 713,830 because some of the entities include youth who received services from two or more ministries).

There were 655,867 entities in the AHCIP registry extract for Project One (57,963 fewer than the total number of entities in the project). The AHCIP registry is often used to estimate population in Alberta because health care provision is universal in the province. However, some youth are not registered, in particular those new to the province, temporary residents, and transient populations.

The AHCIP registry excludes youth who have not been permanent residents for at least six months, members of the Canadian Armed Forces or the Royal Canadian Mounted Police, and federal penitentiary inmates. The Project One population includes these youth; the largest subpopulation of youth captured in Project One who would not be in the AHCIP registry are post-secondary students whose permanent address is outside Alberta (there were 28,282 youth in the Enterprise and Advanced Education extract who did not match to the AHCIP registry). There would also be youth in our database who were members of the Armed Forces or the RCMP or were federal inmates.

There were a further 26,367 youth enrolled in the K to 12 education system who were not linked to the AHCIP registry. Youth who are new to the province and were not yet registered in AHCIP would be expected to be the majority of this group.

Failed linkages due to incorrect IRD or linkage software issues are expected to have resulted in the exclusion of a small but unknown number of Albertan youth.

ANALYSES

The central goal of Project One was to provide a comprehensive description of the experiences of Albertan youth in a single year. As such, the analyses were descriptive, with no testing of pre-defined theories. For the most part, analyses consisted of cross-tabulations of sub-populations of interest, with results expressed as percentages of a given population. Where appropriate, comparisons were made to complementary populations.

Significance testing of differences was not carried out. Our dataset was population-based, negating the need for significance testing due to the absence of sampling error. Furthermore, the criterion for meaningfulness was policy relevance: regardless of the statistical significance of a finding, ministries would be expected to develop policy based on whether the differences were meaningful to the ministry. For example, a ministry may be interested in preventing every instance of serious injury among the youth it serves. Prevention of a single serious injury might not represent a statistically significant difference, but it may in fact be meaningful to the ministry.

In all analyses, if a category of youth contained fewer than 10 individuals, the data for that group were suppressed to protect privacy of the individuals. In those cases, residual disclosure was avoided by suppressing totals for relevant groups.

DATA LIMITATIONS

Administrative data limitations

Administrative data are not collected for research purposes; this means that their use for research purposes comes with some caveats.

Constructs useful for research purposes must be derived from indicators captured in administrative data and are therefore only proxies for the underlying constructs.

There is variation in data collection policies and procedures across ministries. Possible sources of error include coverage errors (a ministry may fail to populate a record for a service provided), non-response errors (in which data are not available for a service), response errors (in which incorrect data are provided for a service), or processing errors (in which ministries make errors when recoding, for example, in assigning codes to written descriptions of events).

Ministry-level validation of administrative data will vary across indicators, and will be dependent on administrative need for validation rather than on research need for accuracy and completeness.

Linkage limitations

Analysis resulting from the linkage process must be interpreted with the understanding that some false matches (both positive and negative) will occur in the data, although false matches are thought to be relatively rare. A summary of known issues is discussed in the Linkage Validation section of this report. The linkage validation process led to the conclusion that there is a tendency for under-representation of the following youth in the linked dataset: rural youth, twins, youth with initials as first names, youth with hyphenated names, youth with some types of last names of non-Anglo Saxon origin, and youth with multiple names. The pattern of linkage rates indicates that these problems are fairly limited in nature.

An analysis comparing key indicators of youth who were matched across at least two IRD databases with youth who were not matched with any other IRD databases was conducted. These “matched” and “unmatched” youth did not differ substantially in terms of gender, Aboriginal status, region of residence, educational achievement, or presence of a mental health condition. There were more unmatched youth in the older age groups (name and address changes were likely more common in older youth). There was also a tendency for the two lowest socio-economic status quintiles to have higher rates of unmatched youth, in particular the low-middle SES group (address changes may be more common in lower socio-economic status groups).

General limitations

The study year was fiscal year 2008/09. With the exception of Education and Enterprise and Advanced Education data, all data were for services provided between April 1, 2008 and March 31, 2009, with age determined on March 31, 2009.

- Data for Enterprise and Advanced Education were for services provided between September 1, 2008 and June 30, 2009, with age determined on March 31, 2009.
- Data for Education were for services provided to youth who were 12 to 19 years old on September 30, 2008. As a result, youth turning 12 between October 1, 2008 and March 31, 2009 *were not* included in the Education data but were included in other ministries' data. This resulted in the number of 12 year olds in the Education data being lower (approximately 50% lower) than that of 13 to 17 year olds.
- Furthermore, although Education only provides services to youth who are under 20, the provision of services is defined by age at September 30. Youth who turned 20 between October 1, 2008 and March 31, 2009 *were* included in the Education data, resulting in the inclusion of 20 year olds in some analyses of Education data.

Some ministry service uses tend to be brief, and others are more long-term. As such, services received in the study year were not necessarily simultaneous. For example, youth who were hospitalized and in custody (corrections), may or may not have been so at the same time.

Only youth with a value for a given indicator were included in analyses involving that indicator (i.e., missing values were excluded).

Errors discovered in the data were excluded from analyses (following communications with ministries).

For research data notes specific to ministries, see Appendix III

APPENDICES

APPENDIX I CYDL Project One Governance

Committee or Group	Description
Deputy Ministers Committee	Prioritizes evidence needs for policy, approves final report.
Assistant Deputy Ministers Committee	Identifies the research agenda.
Coordinating Committee	Contributes to research question development and research product dissemination plan.
Research Working Group	Contributes to research question development, identification of desired data elements, development of data workbook outlines, feasibility analysis, and validation of data and analyses. Reviews final report.
Data/Technical Working Group	Contributes to feasibility analysis, development of final data elements and workbooks, carries out data extraction and submission to the Hub and CYDL.
Legal/Privacy Working Group	Considers legal and privacy issues in data workbooks, completes privacy impact assessment and information sharing agreements, performs disclosure assessment.
Hub	Translation of postal codes to dissemination areas, operation of identity resolution software, transfer of dissemination area files and record linking file to CYDL.
Child and Youth Data Lab (CYDL)	Facilitates research question development and identification of data elements, leads feasibility analysis, develops data workbooks, completes ethics board submission, facilitates data extraction and submission and data linkage process, links research data, analyzes research data, generates reports and other research products, participates in research product dissemination.

APPENDIX II CYDL Project One Data Elements

Source	Indicator	Description
Education	*Age*	Age in years and months
	Gender	Female or male
	Dissemination area	Area of residence
	Educational achievement	Educational performance relative to grade and age
	School authority type	Type of primary or secondary school attended (public, private, separate, charter, Francophone, other)
Enterprise and Advanced Education	*Age*	Age in years and months
	Gender	Female, male, or unknown
	Dissemination area	Area of residence at time of application, and for current residence
	Institution attended	Post-secondary institution attended. Grouped into: Baccalaureate and Applied Studies Institutions, Comprehensive Academic and Research Institutions, Comprehensive Community Institutions, Independent Academic Institutions, Polytechnical Institutions, Specialized Arts and Culture Institutions.
	Credential type	Type of credential student is working towards. Grouped into: Bachelor/Applied/Graduate Level Program, Certificate/Diploma Program, Not Applicable (No credential)
	Enrolment status	Full- or part-time status
	Session enrolled	Session enrolled (fall, winter, spring, summer)
	Parchment received	Whether the parchment for the program was received. Grouped into: yes, no, or non-parchment program.
Health	*Age*	Age in years and months
	Gender	Female or male
	Dissemination area	Area of residence
	Mental health status	Mental health-related service use (physician claims, hospitalizations, emergency departments). Categorized as neurodevelopmental, psychiatric, affective, behavioural, or none.
	Physician visits	For each visit to a physician, provider type (general practitioner or specialist), scrambled provider code, and date of visit were provided. Provider code and data of visit were used to calculate unique doctor/day visits. For mental health-related visits, reason for visit was provided.
	Emergency room visits	For each visit to an emergency room, the primary reason for the visit was provided. For mental health-related visits, all reasons for visit were provided.
	Hospitalizations	For each hospitalization, the primary service code for the visit and the length of stay were provided. For mental health-related visits, all service codes were provided.
Human Services (Child Intervention investigations)	*Age*	Age in years and months
	Gender	Female or male
	Dissemination area	Area of residence at the time of intervention, and at the time of placement (if in care).
	Aboriginal status	Aboriginal status (Aboriginal or not).
	Result of assessment/investigation	Outcome of maltreatment-related investigation (in care, not in care, no intervention needed)
Human Services (Child Intervention interventions)	*Age*	Age in years and months
	Gender	Female or male
	Dissemination area	Area of residence at the time of intervention, and at the time of placement (if in care).
	Aboriginal status	Aboriginal status (Aboriginal or not).
	Type of service	Type of intervention service provided (in care, not in care)

APPENDIX II CYDL Project One Data Elements continued

Source	Indicator	Description
Human Services (FSCD)	*Age*	Age in years and months
	Gender	Female or male
	Dissemination area	Area of residence
	Mental health status	Mental health diagnosis category (neurodevelopmental, psychiatric, affective, behavioural, none).
	Child category	Highest level of service provided in the most recent service agreement (out of home placement, specialized services, child-focused services, family-focused services, unclassified)
	Primary disability	Medical diagnosis for primary disability (autism-spectrum disorders, other developmental conditions, physical/motor conditions, mental health disorders, sensory impairments, health conditions, unconfirmed conditions)
	Secondary disability	Medical diagnosis for secondary disability (same categories as above)
	Tertiary disability	Medical diagnosis for tertiary disability (same categories as above)
Human Services (Income Support)	*Age*	Age in years and months
	Gender	Female or male
	Dissemination area	Area of residence
	Client type	Expectation for future labour force participation for head of household (expected to work, barriers to full employment, or not applicable)
	Household type	Household type (single without children, single parent with children, couple without children, couple with children)
Justice and Solicitor General (offence charges)	*Age*	Age in years and months
	Gender	Female or male
	Dissemination area	Area of residence
	Offence statute	Youth Criminal Justice Act, Part of the Criminal code, other statute
Justice and Solicitor General (corrections)	*Age*	Age in years and months
	Gender	Female or male
	Dissemination area	Area of residence
	Aboriginal identity	Aboriginal identity (Aboriginal or not)
	Type of service	Outcome of court procedure (custody or remand, community supervision or pretrial supervision)

APPENDIX III Research data notes specific to ministries

Education

- Participation in **education** refers to enrolment in the kindergarten to grade 12 education system in Alberta. No data were available for students who attended schools on First Nations reserves or in Lloydminster.
- **Educational achievement** was computed by Education using age, grade, school type, special education codes, provincial achievement test scores, home education status, number of high school credits earned, number of higher level courses taken, average grade in higher level courses, possession of an Alberta Education certificate or diploma, and Alexander Rutherford scholarship eligibility. Educational achievement was categorized as *above, meeting,* or *below expectations* for a student's age and grade. An educational achievement rating was not available for 12 to 14 year old youth without scores on provincial achievement tests, for youth in 'other' schools (accredited post-secondary institutions offering high school courses for credit to adults; most youth in these schools were between 18 and 20 years), and for home-schooled high school youth with no credits.

School authority types

- There is one publicly-funded system of education in Alberta. The public system includes public, separate, Francophone and charter schools.
    - **Public** schools are non-denominational schools.
    - **Separate** schools are established under rights guaranteed by the Constitution of Canada for the minority religion (Protestant or Roman Catholic).
    - **Francophone** schools provide instruction in French to children whose parents have rights under section 23 of the Canadian Charter of Rights and Freedoms.
    - **Charter** schools are autonomous public schools designed to meet the needs of students through a specific program or approach. They must be non-religious.
- **Private** schools operate outside the public education system. Private schools may charge tuition and other fees. There are two kinds of private schools.
    - Accredited private schools must offer the Alberta Program of Studies with certificated teachers; they may be partially funded or non-funded.
    - Registered private schools are not required to offer the Program of Studies and are not funded.
- **Other** schools are accredited post-secondary institutions offering high school courses for credit to adults.

Enterprise and Advanced Education

- Participation in **post-secondary education** refers to enrolment in a post-secondary institution in Alberta. Participation in post-secondary education refers to enrolment in a post-secondary institution in Alberta. Youth enrolled in apprenticeship programs were not included.
- **Credential types** for post-secondary programs include bachelor/applied/graduate programs (also called degree-granting), certificate/diploma programs, and programs with no credential received upon completion.
- **Enrolment status** for post-secondary programs consists of full-time (students who enrolled in at least 60% of a full course load in at least one session in the academic year) or part-time (students who were enrolled in less than 60% of full course load in all sessions attended for the academic year).
- **Institution types** for post-secondary programs included comprehensive academic and research institutions (Athabasca University, University of Alberta, University of Calgary, University of Lethbridge), baccalaureate and applied studies institutions (Grant MacEwan and Mount Royal), polytechnical institutions (NAIT and SAIT), comprehensive community institutions (e.g., Bow Valley College, NorQuest College, Red Deer College), independent academic institutions (e.g., Concordia University College of Alberta, St. Mary's University College), and specialized arts and culture institutions (Alberta College of Art and Design and The Banff Centre).

Health

- New and returning Alberta residents, if they are eligible, must register for **Alberta Health Care Insurance Plan** (AHCIP) coverage to receive insured health services.
- Youth in the "**health registry**" refers to all youth who are insured in Alberta. This includes any eligible youth who is a permanent resident of Alberta, living at least 183 days per year in the province.
- Members of the Canadian Armed Forces, Royal Canadian Mounted Police and federal penitentiary inmates are not eligible (they receive coverage from the federal government), but dependents of these non-eligible residents, who reside in Alberta, are eligible.
- **Physician visits** reflect fee claims made by physicians for services provided when patients visit their offices. In this report, multiple claims by a given physician for a given patient on the same day were counted as a single visit. Reasons for physician visits were not available for this project.
- **Emergency room visits** refer to visits to emergency departments for assessment or treatment. **Reason for emergency room visit** was based on the primary diagnostic code given for each visit. Categories of reasons included *injury/poisoning* (ICD-10-CA[1] Chapter XIX Injury, poisoning and certain other consequences of external causes), *respiratory* (Chapter X Diseases of the respiratory system), *influencing factors* (Chapter XXI Factors influencing health status and contact with health services), *symptoms/signs* (Chapter XVIII Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified), and *other* (all other ICD-10-CA chapters).
- **Hospitalizations** refer to admissions to hospital for assessment or treatment. **Hospital service type** was defined by the main patient service code (the patient service that contributes to the longest portion of a patient's stay; see the Canadian Institute for Health Information's DAD Abstracting Manual[2] for codes). Categories of services were labelled *general medicine* (patient service codes 01 to 29, 55, 56, 58, 60 to 63, 66 to 76, 82, 91, 96, 99), *surgery/procedure* (patient service codes 30 to 49, 81, 87), *psychiatry* (patient service codes 64, 65), or *pregnancy-related* (patient service codes 51 to 54, 59).

1. Canadian Institute for Health Information (2001). *International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada*. CIHI: Ottawa.
2. Canadian Institute for Health Information (2006). *DAD Abstracting Manual All Provinces Information 2006-2007 Edition*. CIHI: Ottawa.

Human Services Child Intervention

- **Maltreatment-related investigations** occur when there is a concern that the safety or well-being of a youth is threatened. Outcomes of investigation include in care after investigation (the youth is taken into care, and placed in a foster home, with family, in a group home, etc.), out of care services (the youth remains in the home and the family receives support services), and no intervention needed. Youth self-identified or were identified by a parent or guardian as Aboriginal or non-Aboriginal.
- **Maltreatment-related interventions** occur when the safety or well-being of a youth is threatened. Categories of intervention include in care services (the youth is taken into care, and placed in a foster home, with family, in a group home, etc.), and out of care services (the youth remains in the home and the family receives support services). Youth self-identified or were identified by a parent or guardian as Aboriginal or non-Aboriginal.

Human Services Family Support for Children with Disabilities

- **Family Support for Children with Disabilities (FSCD)** is a ministry of Human Services program that provides a range of supports and services to families that strengthen their ability to support and care for their child with a disability based on their needs. In addition to information, referral and advocacy, services and supports may include:
    - **Family Support Services** may include assistance with counseling, extraordinary clothing and footwear costs, costs to attend medical appointments and respite.
    - **Child-Focused Services** are provided when a child has a confirmed diagnosis and assessment information to specify their individual needs. These services include respite services, aide supports, child care supports, and health-related supports.
    - **Specialized Services** are available for children with severe disabilities and/or multiple needs. A Multi-Disciplinary Team is part of the review of complex cases and assists in determining services that are appropriate to the health and developmental needs of the child.
    - **Out of Home Services** provide long-term living arrangements and short-term relief care to accommodate the needs of severely disabled, medically fragile children and their families.
- For the purposes of analysis, families were grouped according to the highest level of service received. For instance, all families that received Out of Home Services were counted in the Out of Home Group regardless of any other services they received. Similarly, only families who did not receive other Child Focused, Specialized or Out-of Home services were included in the Family Support Group.

Human Services Income Support

- **Income support** refers to financial benefits provided to individuals and couples who cannot meet their basic needs.
- The **client types** for income support clients are *expected to work* (clients who are looking for work, working, or unable to work in the short term) and *barriers to full employment* (clients who have difficulty working because of a chronic mental or physical health problem or because of multiple barriers to employment).
- **Household types** include singles (one adult in the household) with or without children, and couples (two adults in the household) with or without children.

Justice and Solicitor General

- Youth with **offence charges** include those charged with criminal offences or administrative offences related to criminal offences (e.g., failure to appear in court, breach of probation, etc.). **Number of offences** in the study year was available, but individual incidents were not available. This means that youth charged with multiple offences may have had multiple charges in a single incident, or they may have been charged in multiple incidents.
- Youth with **corrections involvement** have appeared before the Court or a Justice of the Peace for an offence charge and have been remanded in custody or placed under pre-trial supervision in the community awaiting further court dates, or have been found guilty and sentenced to a community disposition (i.e. Fine, Probation, Community Service Work, Deferred Custody) and/or custody (in which the sentence is served in a young offender facility).
- Youth involved in corrections self-identified as Aboriginal or non-Aboriginal.
- Youth involved in corrections may have received educational programs from a school authority that was different from the school authority type they attended while not involved in the correctional system. The school authority assigned to the youth involved in corrections may or may not have been the school authority type in which they were enrolled while involved in corrections.

Socio-economic status of Albertan youth

Child and Youth Data Laboratory (CYDL)

Report for *Experiences of Albertan Youth* Project

Key findings

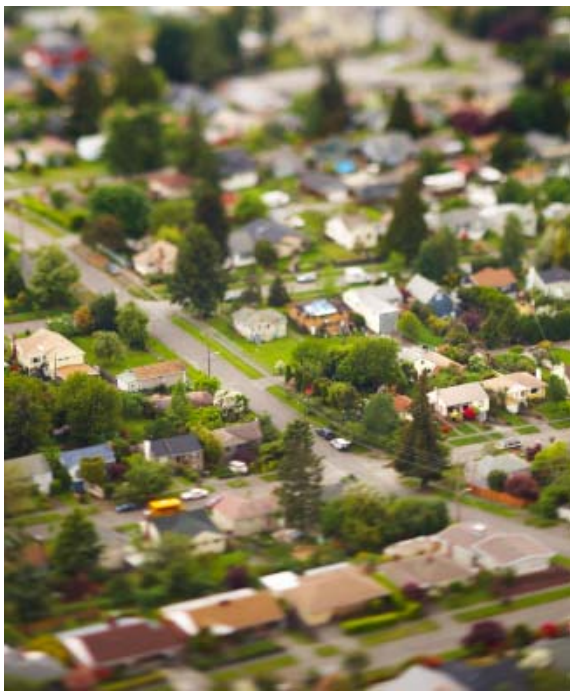
This report is an overview of the socio-economic status of 680,043 Albertan youth in 2008/09. Pampalon et al.'s neighbourhood deprivation index[1] was used to determine the social and material environments in which youth lived. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single parent families, percent of persons living alone, and percent of persons separated, divorced, or widowed.

The report contains analyses of the relationships between socio-economic status and age, gender, region of residence, educational achievement, mental health status, health service use, and interactions with Enterprise and Advanced Education, Human Services, and Justice and Solicitor General.

- The most socio-economically advantaged environments were experienced more often by youth who were younger, living in large urban centres, or achieving above educational expectations. Youth who pursued a post-secondary education were also more likely to live in higher socio-economic status neighbourhoods. The most socio-economically advantaged youth were less likely to visit emergency rooms or be hospitalized than youth living in the lowest socio-economic neighbourhoods.
- Youth facing challenges, such as receiving maltreatment-related intervention services, receiving Family Support for Children with Disabilities services, being charged with an offence, being involved with corrections, or receiving income support, were more likely to be living in low socio-economic neighbourhoods than youth not facing these challenges.

Contents

Key findings and Context ..... *1 to 2*
Data analyses ..... *3 to 7*
Tables ..... *8 to 15*
Definitions and Notes ..... *16 to 17*
Data sources *18*
References *18*
About CYDL *19*



Socio-economic status of Albertan youth

Context

Due to increased access to resources, materials and experiences, high socio-economic status youth, in general, have better health, educational, and behavioural outcomes than low socio-economic status youth. [2] Furthermore, neighbourhoods impact individuals; independent of individual or family health, education and income levels, youth in poorer neighbourhoods tend to have poorer outcomes than those in more advantaged neighbourhoods. [3]

According to the Public Health Agency of Canada, increments in socio-economic status are associated with increments in health status[4]. Lower socio-economic status groups have health disparities with the rest of the population, [5] whereas higher socio-economic status groups have greater self-perceived health than the rest of the population. [3] Additionally, overall health service use is higher in low socio-economic groups, [5] while use of preventative services is more likely in higher socio-economic groups. [3]

In addition to differences in health outcomes, previous research has shown that socio-economic status is associated with educational achievement, risk of maltreatment and corrections involvement. Low socio-economic status has been associated with lower grades and more school absences. [5] Youth from low income families are also less likely to attend university than those from high income families. [6] Approximately one third of substantiated child maltreatment investigations are from households receiving some form of social assistance. [7] Youth with higher socio-economic status are less likely to have corrections service involvement. [8]

Despite the negative impacts of living in high-risk neighbourhoods, youth may experience positive outcomes (such as higher levels of academic performance) if they can form a bond with family and teachers, engage in extra-curricular activities, and experience fewer adverse life events. [9]

The project

The current project, **Experiences of Albertan Youth**, is focused on basic understanding of the experiences of Albertan youth within and across ministries, as they relate to key indicators (age, gender, socio-economic status, educational achievement, and mental health status). It is the first project in a planned series that will link and analyze administrative data on children and youth in Alberta to inform policy, programs, and research.

List of reports for the project

Socio-economic status of Albertan youth
Educational experiences of Albertan youth
Mental health status of Albertan youth
Family Support for Children with Disabilities services received by Albertan youth
Maltreatment-related investigations among Albertan youth
Maltreatment-related intervention services received by Albertan youth
Physician visits by Albertan youth
Emergency room visits by Albertan youth
Hospitalizations of Albertan youth
Offence charges among Albertan youth
Corrections involvement among Albertan youth
Post-secondary students in Alberta
Income support among Albertan youth
Educational experiences of Albertan youth with income support activity
Least advantaged and most advantaged Albertan youth

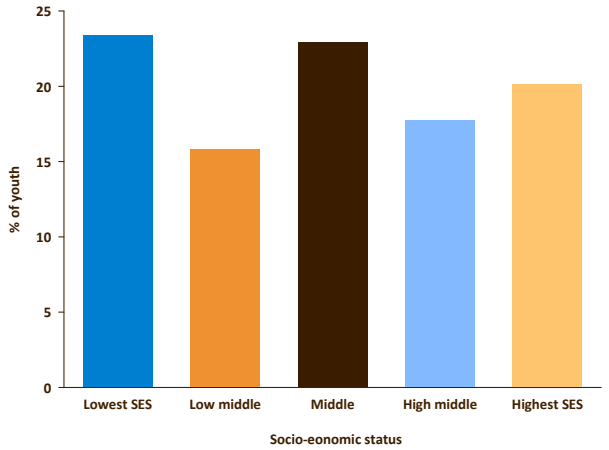
Socio-economic status of Albertan youth

Socio-economic status (Table 1)

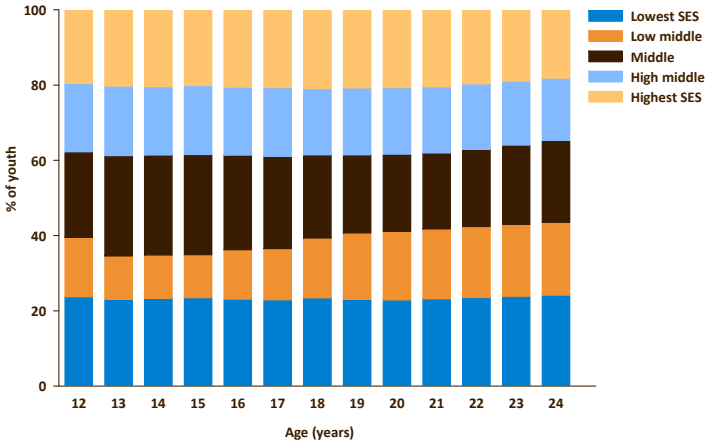
This analysis considers the socio-economic status of youth (aged 12 to 24 years). Socio-economic status captures the social and material environments in which youth lived.

- 23% of Albertan youth lived in the most materially and socially deprived neighbourhoods; 20% lived in the most privileged socio-economic neighbourhoods.
- The *low middle* and *high middl*e bars are slightly below the quintile mark, while the *lowest SES* and *highest SES* bars are slightly above the quintile mark. This is mainly because the original index quintiles were based on the total Albertan population; the study population represents only Albertan youth (aged 12 to 24 years).

Socio-economic status (SES) of
Albertan youth aged 12 to 24



Socio-economic status (SES) by age
Albertan youth aged 12 to 24



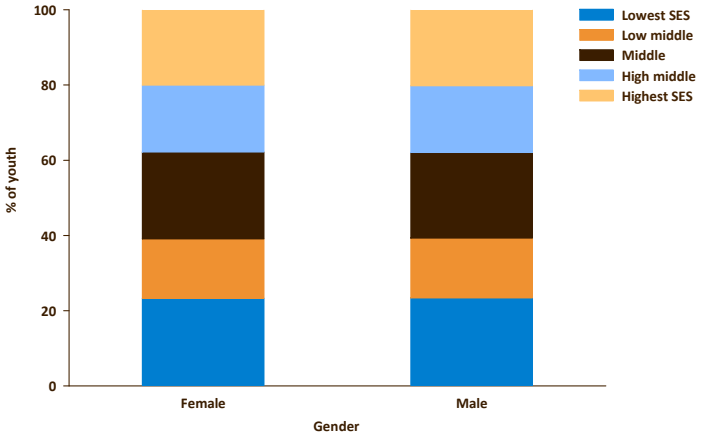
Age (Table 2)

- Between the ages of 12 and 24, the percentages of youth living in the lowest and highest socio-economic status neighbourhoods were similar. Across all ages, about 1 in 5 youth were consistently represented in each of these extreme ends of the socio-economic spectrum.
- The percentage of youth living in *middle* socio-economic status neighbourhoods decreased slightly with age. Movement from the middle to low-middle range increased as youth got older, perhaps indicating a period of lower social and material status for youth transitioning into adulthood.

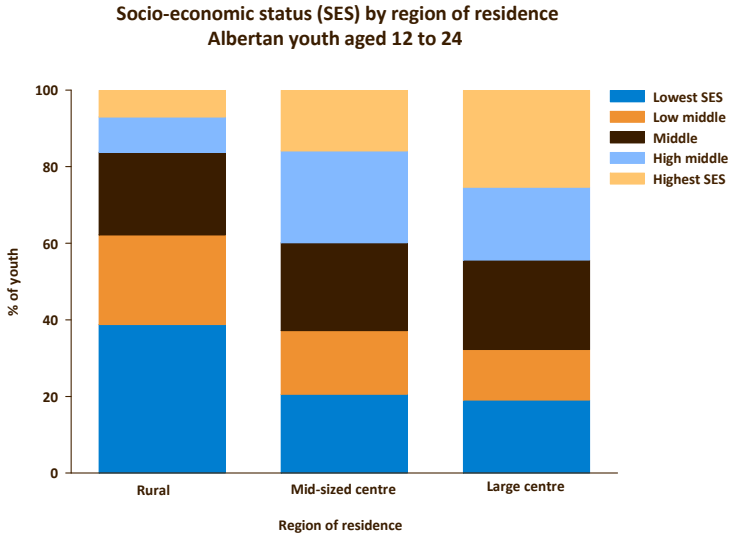
Gender (Table 3)

- Socio-economic status was similar for males and females. Approximately 20% of males and females were represented in both the lowest and highest socio-economic status neighbourhoods.

Socio-economic status (SES) by gender
Albertan youth aged 12 to 24



Socio-economic status of Albertan youth



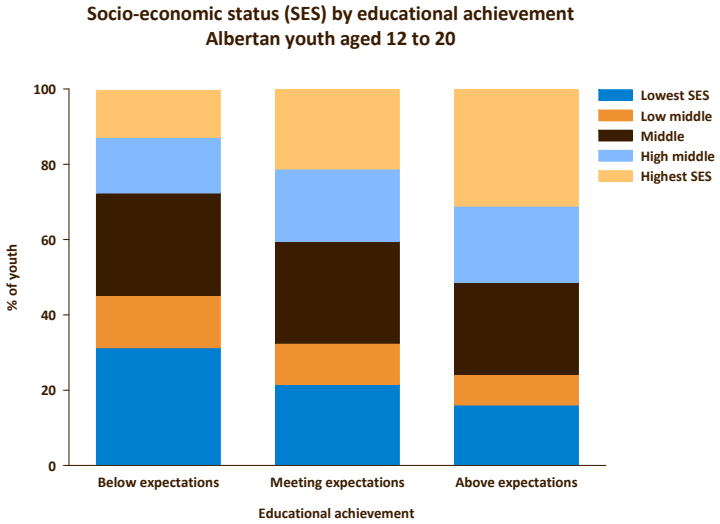
Region of residence (Table 4)

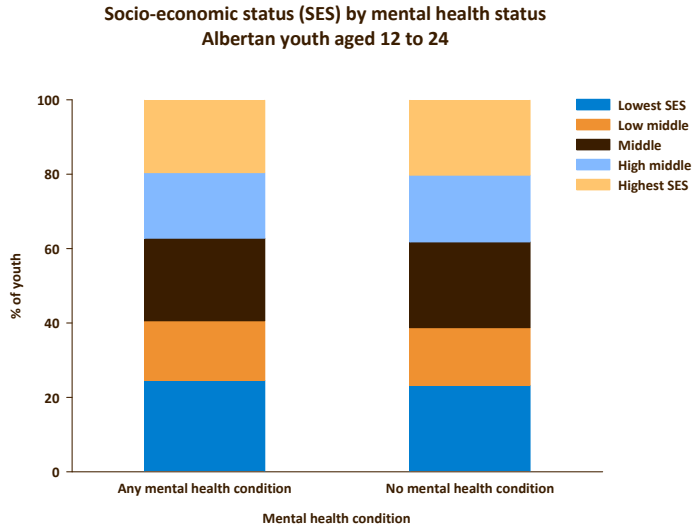
- Among youth living in rural regions, 62% were residing in the two lowest socio-economic status groups, compared to 37% of youth in mid-sized centres and 32% of youth living in large centres.
- Among youth living in the large centres of Edmonton and Calgary, 44% of youth were residing in the two most advantaged socio-economic status groups, compared to 16% of youth living in rural regions.

Educational achievement (Table 5)

This analysis considers youth (aged 12 to 20 years) who were registered in Alberta's K-12 education system in 2008/09.

- Living in more advantaged socio-economic status neighbourhoods was associated with better educational performance.
- Among students achieving above expectations in school, 31% were living in the most materially and socially advantaged neighbourhoods, compared to considerably fewer youth (16%) in the lowest socio-economic status neighbourhoods.





Mental health status (Table 6)

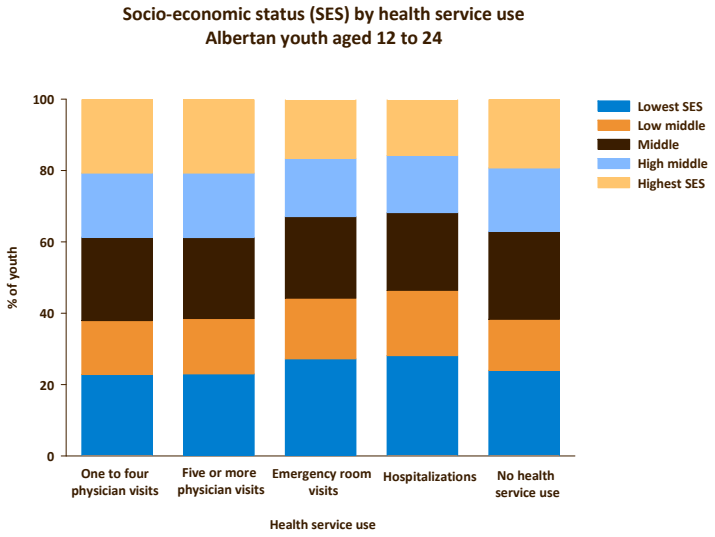
This analysis considers youth (aged 12 to 24 years) with a mental health condition in 2008/09. Mental health status refers to the presence or absence of a mental health condition. Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition. See *Definitions and Notes* (p.17).

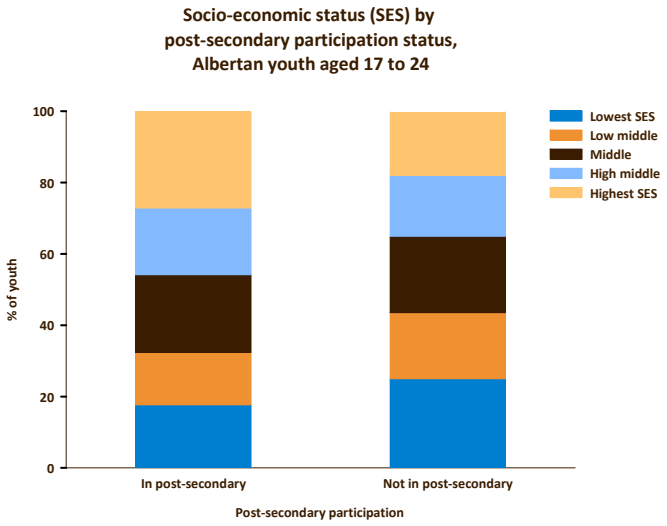
- The socio-economic distribution of youth who had a mental health condition did not differ greatly from youth who did not.

Socio-economic status of Albertan youth

Health service use (Table 7)

- Among youth visiting emergency rooms, 27% were living in the most socio-economically deprived neighbourhoods, compared to 17% of youth living in the most privileged neighbourhoods.
- Among youth who were hospitalized, 28% were living in the lowest socio-economic status neighbourhoods, compared to 16% living in the highest.
- Frequency of physician visits varied little by socio-economic status.





Post-secondary participation status (Table 8)

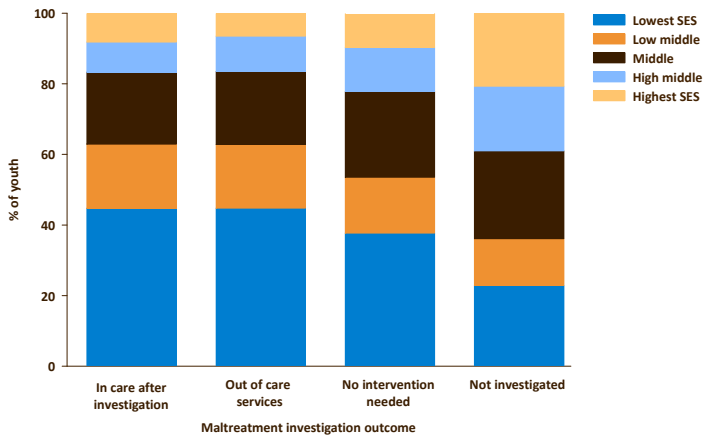
This analysis considers youth (aged 17 to 24 years) participating in the post-secondary education system in 2008/09.

- In general, youth living in the higher socio-economic status neighbourhoods were more likely to be enrolled in post-secondary institutions than youth not enrolled.
- Among youth participating in the post-secondary education system, 27% were living in the highest socio-economic status neighbourhoods, compared with 18% in the lowest.

Maltreatment-related investigation outcome (Table 9)

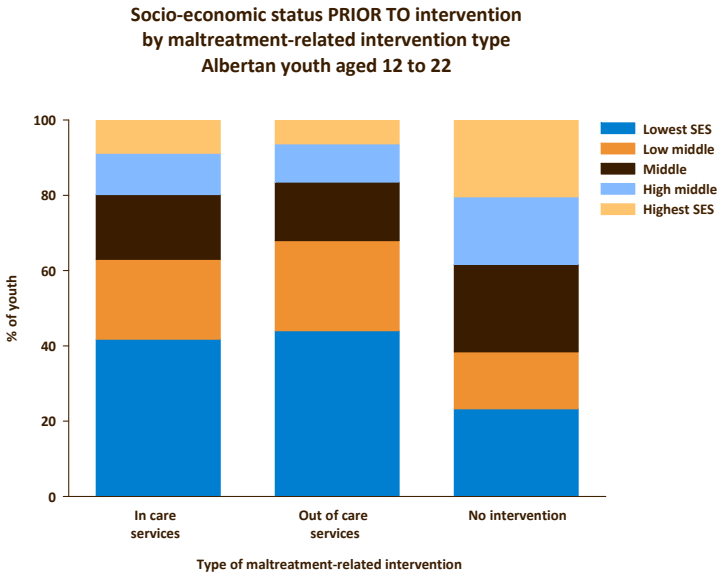
This analysis considers the socio-economic status of youth (aged 12 to 17 years) who were the subject of a maltreatment-related investigation by Human Services in 2008/09. A maltreatment-related investigation occurs when there is a concern that the safety and well-being of a youth is threatened. See *Definitions and Notes* (p. 17).

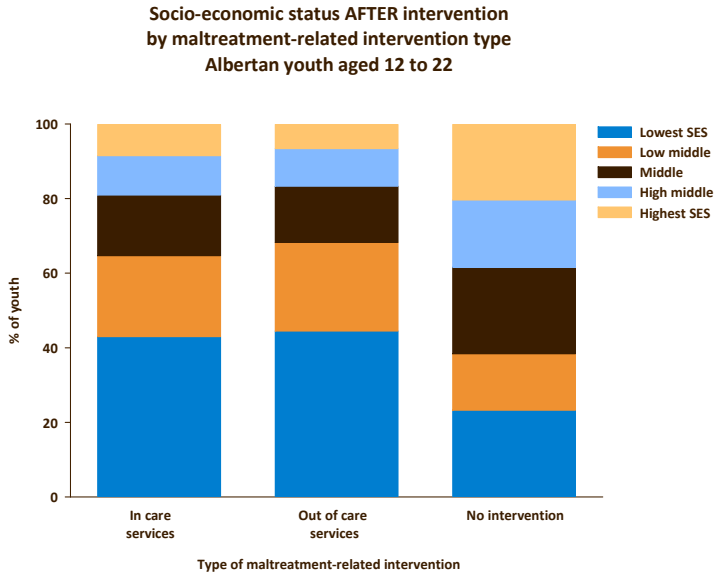
- Regardless of the outcome, the socio-economic status of youth who were the subject of a maltreatment-related investigation was considerably lower than youth who were not investigated.



Socio-economic status of Albertan youth

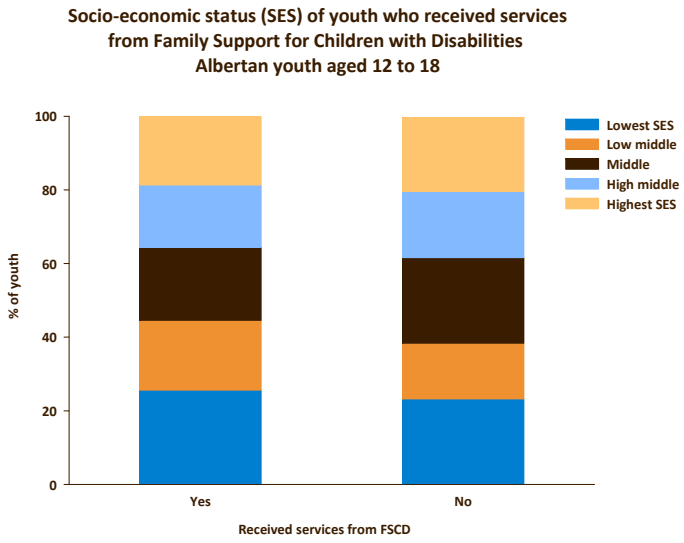
SES prior to and after maltreatment-related intervention (Tables 10 and 11)





This analysis considers youth (aged 12 to 22 years) who received a maltreatment-related intervention in 2008/09. Maltreatment-related interventions occur when the safety or well-being of a youth is threatened.

- The socio-economic status of youth who received a maltreatment-related intervention service did not vary greatly prior to and after intervention.
- Prior to and after an intervention service was received, more than 40% of these youth were living in the most socially and materially deprived neighbourhoods, compared to 23% of youth with no intervention.



Family Support for Children with Disabilities (Table 12)

This analysis considers the socio-economic status of youth (aged 12 to 18 years) who received services from Family Support for Children with Disabilities (FSCD) in 2008/09.

- The socio-economic status of youth who received services from FSCD was slightly different from those who did not receive such services, mainly in the low middle and middle quintiles.

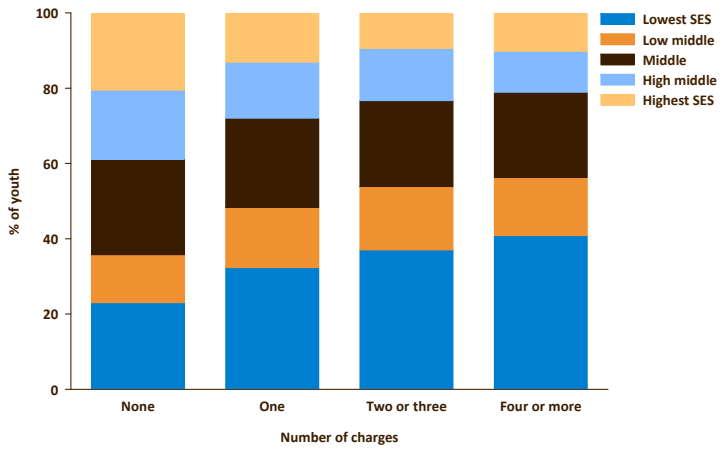
Socio-economic status of Albertan youth

Number of charges (Table 13)

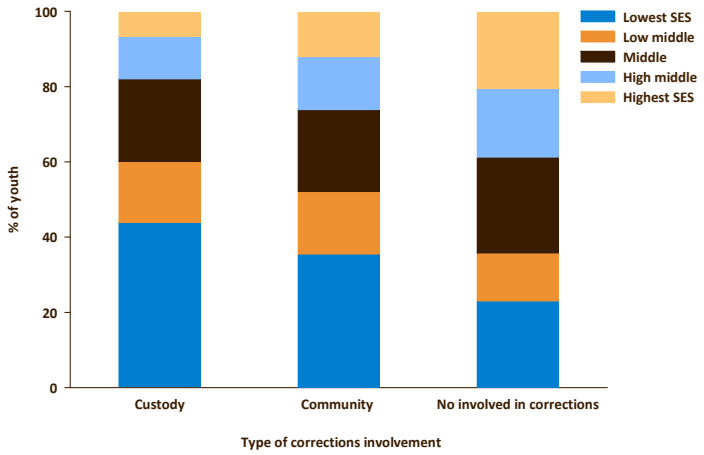
This analysis considers youth (aged 12 to 17 years) who were charged with an offence in 2008/09.

- Among youth who had four or more charges, 41% were living in the lowest socio-economic status neighbourhoods. This group was the least privileged materially and socially compared to youth receiving fewer or no charges.

Socio-economic status (SES) by number of charges
Albertan youth aged 12 to 17



Socio-economic status (SES) by type of corrections involvement
Albertan youth aged 12 to 17



Type of corrections involvement (Table 14)

This analysis considers the socio-economic status of youth (aged 12 to 17 years) who were in custody (in which a sentence is served in a young offender facility) or with a community sentence or pre-trial supervision in 2008/09.

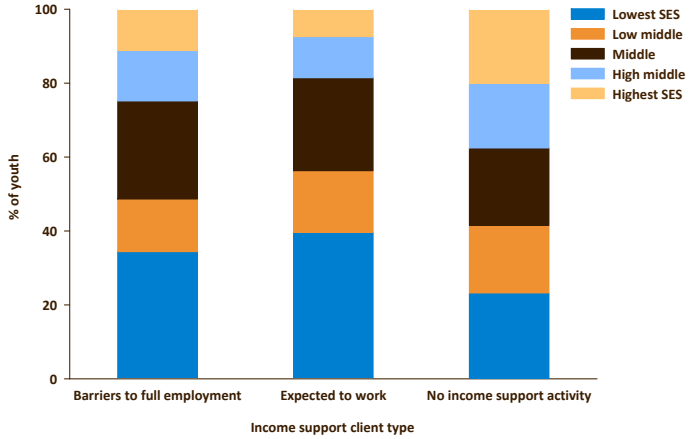
- 44% of youth in custody, 36% of youth with a community sentence or pre-trial supervision, and 23% of youth not involved in corrections were living in the lowest socio-economic status neighbourhoods; 7%, 12%, and 21% of these groups of youth, respectively, were living in the highest socio-economic status areas.

Any income support activity and client type (Table 15)

This analysis considers the socio-economic status of youth (aged 12 to 17 years) with any income support activity from Human Services during 2008/09. Client types include *expected to work* (clients looking for work or unable to work in the short term) and *barriers to full employment* (clients having difficulty finding work due to disabilities or other barriers).

- Whether they were *expected to work* or experienced *barriers to full employment,* youth with any income support activity were more socio-economically disadvantaged than the general population of same age youth.

Socio-economic status (SES) by any income support activity and client type
Albertan youth aged 18 to 24



Tables

Table 1. Number and percent of youth, socio-economic status (SES) of Albertan youth aged 12 to 24 years, 2008/09

	Socio-economic status	
Number of youth	Lowest SES	158,827
	Low middle	107,706
	Middle	155,994
	High middle	120,665
	Highest SES	136,851
	Total	680,043
Percent of youth	Lowest SES	23.4
	Low middle	15.8
	Middle	22.9
	High middle	17.7
	Highest SES	20.1
	Total	100.0

Table 2. Number and percent of youth by socio-economic status (SES) and age in years, Albertan youth aged 12 to 24 years, 2008/09

	Socio-economic status	Age in years													
		12	13	14	15	16	17	18	19	20	21	22	23	24	Total
Number of youth	Lowest SES	10,763	11,116	11,434	11,422	12,440	12,889	12,872	12,395	11,944	12,110	12,670	13,156	13,616	158,827
	Low middle	7,163	5,526	5,597	5,592	7,068	7,651	8,754	9,465	9,507	9,715	10,188	10,559	10,921	107,706
	Middle	10,292	12,848	12,990	12,985	13,533	13,778	12,163	11,147	10,712	10,567	11,079	11,624	12,276	155,994
	High middle	8,242	8,895	8,888	8,934	9,738	10,289	9,638	9,555	9,234	9,165	9,372	9,372	9,343	120,665
	Highest SES	8,871	9,782	10,003	9,822	11,091	11,667	11,558	11,178	10,812	10,710	10,618	10,466	10,273	136,851
	Total	45,331	48,167	48,912	48,755	53,870	56,274	54,985	53,740	52,209	52,267	53,927	55,177	56,429	680,043
Percent of youth	Lowest SES	23.7	23.1	23.4	23.4	23.1	22.9	23.4	23.1	22.9	23.2	23.5	23.8	24.1	23.4
	Low middle	15.8	11.5	11.4	11.5	13.1	13.6	15.9	17.6	18.2	18.6	18.9	19.1	19.4	15.8
	Middle	22.7	26.7	26.6	26.6	25.1	24.5	22.1	20.7	20.5	20.2	20.5	21.1	21.8	22.9
	High middle	18.2	18.5	18.2	18.3	18.1	18.3	17.5	17.8	17.7	17.5	17.4	17.0	16.6	17.7
	Highest SES	19.6	20.3	20.5	20.1	20.6	20.7	21.0	20.8	20.7	20.5	19.7	19.0	18.2	20.1
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Tables (continued)

Table 3. Number and percent of youth by socio-economic status (SES) and gender, Albertan youth aged 12 to 24 years, 2008/09

	Socio-economic status	Gender		
		Female	Male	Total
Number of youth	Lowest SES	78,124	80,700	158,824
	Low middle	52,765	54,938	107,703
	Middle	77,437	78,553	155,990
	High middle	59,488	61,177	120,665
	Highest SES	67,131	69,719	136,850
	Total	334,945	345,087	680,032
Percent of youth	Lowest SES	23.3	23.4	23.4
	Low middle	15.8	15.9	15.8
	Middle	23.1	22.8	22.9
	High middle	17.8	17.7	17.7
	Highest SES	20.0	20.2	20.1
	Total	100.0	100.0	100.0

Table 4. Number and percent of youth by socio-economic status (SES) and region of residence, Albertan youth aged 12 to 24 years, 2008/09

	Socio-economic status	Region of residence			
		Rural	Mid-sized centre	Large centre	Total
Number of youth	Lowest SES	54,596	21,646	82,585	158,827
	Low middle	32,929	17,510	57,267	107,706
	Middle	30,432	24,152	101,410	155,994
	High middle	12,923	25,256	82,486	120,665
	Highest SES	9,949	16,747	110,155	136,851
	Total	140,829	105,311	433,903	680,043
Percent of youth	Lowest SES	38.8	20.6	19.0	23.4
	Low middle	23.4	16.6	13.2	15.8
	Middle	21.6	22.9	23.4	22.9
	High middle	9.2	24.0	19.0	17.7
	Highest SES	7.1	15.9	25.4	20.1
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 5. Number and percent of youth by socio-economic status (SES) and educational achievement, Albertan youth aged 12 to 20 years, 2008/09

	Socio-economic status	Educational achievement			
		Below expectations	Meeting expectations	Above expectations	Total
Number of youth	Lowest SES	15,484	39,607	4,670	59,761
	Low middle	6,894	20,049	2,368	29,311
	Middle	13,486	49,706	7,126	70,318
	High middle	7,310	35,417	5,882	48,609
	Highest SES	6,374	39,046	9,065	54,485
	Total	49,548	183,825	29,111	262,484
Percent of youth	Lowest SES	31.3	21.5	16.0	22.8
	Low middle	13.9	10.9	8.1	11.2
	Middle	27.2	27.0	24.5	26.8
	High middle	14.8	19.3	20.2	18.5
	Highest SES	12.9	21.3	31.1	20.8
	Total	100.0	100.0	100.0	100.0

Table 6. Number and percent of youth by socio-economic status (SES) and mental health status, Albertan youth aged 12 to 24 years, 2008/09

	Socio-economic status	Mental health status		
		Any mental health condition	No mental health condition	Total
Number of youth	Lowest SES	16,083	126,202	142,285
	Low middle	10,429	84,415	94,844
	Middle	14,541	125,822	140,363
	High middle	11,499	97,266	108,765
	Highest SES	12,849	111,082	123,931
	Total	65,401	544,787	610,188
Percent of youth	Lowest SES	24.6	23.2	23.3
	Low middle	16.0	15.5	15.5
	Middle	22.2	23.1	23.0
	High middle	17.6	17.9	17.8
	Highest SES	19.7	20.4	20.3
	Total	100.0	100.0	100.0

Tables (continued)

Table 7. Number and percent of youth by socio-economic status (SES) and health service use, Albertan youth aged 12 to 24 years, 2008/09

	Socio-economic status	Health service use*				
		One to four physician visits	Five or more physician visits	Emergency room visit	Hospitalization	No health service use
Number of youth	Lowest SES	72,079	38,990	43,187	6,547	14,523
	Low middle	47,818	26,321	27,020	4,262	8,675
	Middle	74,199	38,601	36,440	5,078	14,941
	High middle	56,993	30,685	25,930	3,733	10,805
	Highest SES	65,652	35,311	26,424	3,692	11,706
	Total	316,741	169,908	159,001	23,312	60,650
Percent of youth	Lowest SES	22.8	23.0	27.2	28.1	24.0
	Low middle	15.1	15.5	17.0	18.3	14.3
	Middle	23.4	22.7	22.9	21.8	24.6
	High middle	18.0	18.1	16.3	16.0	17.8
	Highest SES	20.7	20.8	16.6	15.8	19.3
	Total	100.0	100.0	100.0	100.0	100.0

*Health service use categories are not mutually exclusive.

Table 8. Number and percent of youth by socio-economic status (SES) and post-secondary participation status, Albertan youth aged 17 to 24 years, 2008/09

	Socio-economic status	Post-secondary participation status		
		In post-secondary	Not in post-secondary	Total
Number of youth	Lowest SES	16,909	84,743	101,652
	Low middle	14,102	62,658	76,760
	Middle	20,927	72,419	93,346
	High middle	17,986	57,982	75,968
	Highest SES	26,048	61,234	87,282
	Total	95,972	339,036	435,008
Percent of youth	Lowest SES	17.6	25.0	23.4
	Low middle	14.7	18.5	17.6
	Middle	21.8	21.4	21.5
	High middle	18.7	17.1	17.5
	Highest SES	27.1	18.1	20.1
	Total	100.0	100.0	100.0

Tables (continued)

Table 9. Number and percent of youth by socio-economic status and type of maltreatment-related investigation outcome, Albertan youth aged 12 to 18 years, 2008/09

	Socio-economic status	Investigation outcome				
		In care after investigation	Out of care services	No intervention needed	Total	Not investigated
Number of youth	Lowest SES	331	537	1,966	2,834	80,102
	Low middle	135	216	825	1,176	46,175
	Middle	151	248	1,270	1,669	86,920
	High middle	63	120	653	836	63,788
	Highest SES	61	80	504	645	72,149
	Total	741	1,201	5,218	7,160	349,134
Percent of youth	Lowest SES	44.7	44.7	37.7	39.6	22.9
	Low middle	18.2	18.0	15.8	16.4	13.2
	Middle	20.4	20.7	24.3	23.3	24.9
	High middle	8.5	10.0	12.5	11.7	18.3
	Highest SES	8.2	6.7	9.7	9.0	20.7
	Total	100.0	100.0	100.0	100.0	100.0

Table 10. Number and percent of youth by socio-economic status prior to intervention and type of maltreatment-related intervention, Albertan youth aged 12 to 22 years, 2008/09

	Socio-economic status	Maltreatment-related intervention type			
		In care services	Out of care services	Total	No intervention
Number of youth	Lowest SES	1,372	1,322	2,694	132,055
	Low middle	697	720	1,417	86,226
	Middle	566	468	1,034	132,094
	High middle	361	305	666	101,950
	Highest SES	290	191	481	116,112
	Total	3,286	3,006	6,292	568,437
Percent of youth	Lowest SES	41.8	44.0	42.8	23.2
	Low middle	21.2	24.0	22.5	15.2
	Middle	17.2	15.6	16.4	23.2
	High middle	11.0	10.1	10.6	17.9
	Highest SES	8.8	6.4	7.6	20.4
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 11. Number and percent of youth socio-economic status after maltreatment-related intervention, Albertan youth aged 12 to 22 years, 2008/09

	Socio-economic status	Maltreatment-related intervention type			
		In care services	Out of care services	Total	No intervention
Number of youth	Lowest SES	1,512	1,364	2,876	132,055
	Low middle	763	730	1,493	86,226
	Middle	573	462	1,035	132,094
	High middle	369	309	678	101,950
	Highest SES	300	203	503	116,112
	Total	3,517	3,068	6,585	568,437
Percent of youth	Lowest SES	43.0	44.5	43.7	23.2
	Low middle	21.7	23.8	22.7	15.2
	Middle	16.3	15.1	15.7	23.2
	High middle	10.5	10.1	10.3	17.9
	Highest SES	8.5	6.6	7.6	20.4
	Total	100.0	100.0	100.0	100.0

Table 12. Number and percent of youth by socio-economic status and receipt of services from Family Support for Children with Disabilities (FSCD), Albertan youth aged 12 to 22 years, 2008/09

	Socio-economic status	Receiving services from FSCD		
		Yes	No	Total
Number of youth	Lowest SES	956	131,099	132,055
	Low middle	707	85,519	86,226
	Middle	739	131,355	131,094
	High middle	632	101,318	101,950
	Highest SES	695	115,417	116,112
	Total	3,729	564,708	568,437
Percent of youth	Lowest SES	25.6	23.2	23.2
	Low middle	19.0	15.1	15.2
	Middle	19.8	23.3	23.3
	High middle	16.9	17.9	17.9
	Highest SES	18.7	20.4	20.4
	Total	100.0	100.0	100.0

Tables (continued)

Table 13. Number and percent of youth by socio-economic status (SES) and number of offence charges, Albertan youth aged 12 to 17 years, 2008/09

	Socio-economic status	Number of charges				
		One	Two or three	Four or more	Total	No charges
Number of youth	Lowest SES	782	612	661	2,055	68,009
	Low middle	386	279	250	915	37,682
	Middle	573	378	366	1,317	75,109
	High middle	361	229	176	766	54,220
	Highest SES	316	156	165	637	60,599
	Total	2,418	1,654	1,618	5,690	295,619
Percent of youth	Lowest SES	32.3	37.0	40.9	36.1	23.0
	Low middle	16.0	16.9	15.5	16.1	12.8
	Middle	23.7	22.8	22.6	23.1	25.4
	High middle	14.9	13.8	10.9	13.5	18.3
	Highest SES	13.1	9.4	10.2	11.2	20.5
	Total	100.0	100.0	100.0	100.0	100.0

Table 14. Number and percent of youth by socio-economic status (SES) and type of corrections involvement, Albertan youth aged 12 to 17 years, 2008/09

	Socio-economic status	Tyoe of corrections involvement			
		Custody	Community	Any corrections involvement	Not involved in corrections
Number of youth	Lowest SES	399	1,713	1,752	68,312
	Low middle	148	800	819	37,778
	Middle	199	1,052	1,068	75,358
	High middle	103	678	697	54,289
	Highest SES	60	581	591	60,645
	Total	909	4,824	4,927	296,382
Percent of youth	Lowest SES	43.9	35.5	35.6	23.1
	Low middle	16.3	16.6	16.6	12.8
	Middle	21.9	21.8	21.7	25.4
	High middle	11.3	14.1	14.1	18.3
	Highest SES	6.6	12.0	12.0	20.5
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 15. Number and percent of youth by socio-economic status (SES) and any income support activity and client type, Albertan youth aged 18 to 24 years, 2008/09

	Socio-economic status	Income support client type			
		Barriers to full employment	Expected to work	Total	No income support activity
Number of youth	Lowest SES	1,183	1,151	2,334	86,429
	Low middle	489	487	976	68,133
	Middle	915	729	1,644	77,924
	High middle	469	324	793	64,886
	Highest SES	386	217	603	75,012
	Total	3,442	2,908	6,350	372,384
Percent of youth	Lowest SES	34.4	39.6	36.8	23.2
	Low middle	14.2	16.7	15.4	18.3
	Middle	26.6	25.1	25.9	20.9
	High middle	13.6	11.1	12.5	17.4
	Highest SES	11.2	7.5	9.5	20.1
	Total	100.0	100.0	100.0	100.0

Definitions and Notes

- The study population for this project consisted of all Albertan youth who were registered with the Alberta Health Care Insurance Plan in 2008/09 or who received selected services from one or more of the participating ministries in 2008/09. "All Albertan youth" refers to this study population.
- The study year was fiscal year 2008/09. With the exception of Education and Enterprise and Advanced Education data, all data were for services provided between April 1, 2008 and March 31, 2009, with age determined on March 31, 2009.
    - Data for Enterprise and Advanced Education were for services provided between September 1, 2008 and June 30, 2009, with age determined on March 31, 2009.
    - Data for Education were for services provided to youth who were 12 to 19 years old on September 30, 2008. As a result, youth turning 12 between October 1, 2008 and March 31, 2009 *were not* included in the Education data but were included in other ministries' data. This resulted in the number of 12 year olds in the Education data being lower (approximately 50% lower) than that of 13 to 17 year olds.
    - Furthermore, although Education only provides services to youth who are under 20, the provision of services is defined by age at September 30. Youth who turned 20 between October 1, 2008 and March 31, 2009 *were* included in the Education data, resulting in the inclusion of 20 year olds in some analyses of Education data.
- **Cross-ministry analyses included only youth that were linked across the relevant ministries**. This means that not all youth in the project were represented in every analysis. As well, only youth with a value for a given indicator were included in analyses involving that indicator (i.e., **missing values** were excluded).
- Age, gender, and postal code (translated into Statistics Canada dissemination areas) were provided for each individual by each participating ministry. In the case of discrepancies between ministries, the most common value for an indicator was chosen. In the event of two or more most common values, the value for the indicator was chosen randomly from the most common values.
- Dissemination areas of residence were used by CYDL to determine **region of residence**. Urban areas included large centres with urban core populations greater than 100,000 (i.e., Edmonton and Calgary metropolitan areas) and mid-sized centres with urban cores greater than 10,000; all other areas were categorized as rural.
- **Socio-economic status (SES)** captures the social and material environments in which youth live. A youth was assigned a socio-economic status via an index based on the Statistics Canada dissemination area in which he or she resided[1]. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single families, percent of persons living alone, and percent of persons separated, divorced, or widowed. Socio-economic status values fell into five quintiles. In this report, "lowest socio-economic status" refers to the lowest quintile of socio-economic status, while "highest" refers to the highest quintile.
- **Educational achievement** was computed by Alberta Education using age, grade, school type, special education codes, provincial achievement test scores, home education status, number of high school credits earned, number of higher level courses taken, average grade in higher level courses, possession of an Alberta Education certificate or diploma, and Alexander Rutherford scholarship eligibility. Educational achievement was categorized as *above, meeting,* or *below expectations* for a student's age and grade. An educational achievement rating was not available for 12 to 14 year old youth without scores on provincial achievement tests, for youth in 'other' schools (accredited post-secondary institutions offering high school courses for credit to adults; most youth in these schools were between 18 and 20 years), and for home-schooled high school

Definitions and Notes (continued)

youth with no credits.

- **Mental health status** was defined by the presence or absence of mental health diagnosis codes in Alberta Healths' databases (Inpatient—Discharge Abstract Database, Ambulatory Care, and Practitioner Payments), or in the Family Support for Children with Disabilities Information System. Only youth who were registered with Alberta Health for the full fiscal year were included in the mental health analyses. **Mental health service use is a proxy for presence of a mental health condition:** Some youth with mental health conditions may not have accessed mental health services in Alberta during the year, and some mental health service use may have occurred for youth who did not in fact have mental health conditions.
    - **Mental health conditions** were grouped based on The Johns Hopkins ACG® Case-Mix System (version 8.2) [10]. Mental health conditions were *mood/anxiety* (anxiety, depression, bipolar disorder, etc.), *behavioural* (attention-deficit disorder, regulatory disorder, mental or behavioural problems due to substance use, etc.), *neurodevelopmental* (autism, fetal alcohol spectrum disorder, cerebral palsy, etc.), or *schizophrenia/ psychoses* (schizophrenia, psychosis, delusional disorder, etc.). Conditions were not mutually exclusive; a youth could have a diagnosis in more than one category.
- **Physician visits** reflect fee claims made by physicians when patients visit their offices. In this report, multiple claims by a given physician for a given patient on the same day were counted as a single visit.
- **Emergency room visits** refer to visits to emergency departments for assessment or treatment.
- **Hospitalizations** refer to admissions to hospital for assessment or treatment.
- Participation in **post-secondary** education refers to enrolment in a post-secondary institution in Alberta. Youth enrolled in apprenticeship programs were not included.
- **Maltreatment-related investigations** occur when there is a concern that the safety or well-being of a youth is threatened. Outcomes of investigation include *in care after investigation* (the youth is taken into care, and placed in a foster home, with family, in a group home, etc.), *out of care services* (the youth remains in the home and the family receives support services), and *no intervention needed*.
- **Maltreatment-related interventions** occur when the safety or well-being of a youth is threatened. Categories of intervention include *in care services* (the youth is taken into care, and placed in a foster home, with family, in a group home, etc.), and *out of care services* (the youth remains in the home and the family receives support services).
- **Family Support for Children with Disabilities (FSCD)** is a ministry of Human Services program that provides a range of supports and services to families that strengthen their ability to support and care for their child with a disability based on their needs.
- Youth with **offence charges** include those charged with criminal offences or administrative offences related to criminal offences (e.g., failure to appear in court, breach of probation, etc.). **Number of offences** in the study year was available, but individual incidents were not available. This means that youth charged with multiple offences may have had multiple charges in a single incident, or they may have been charged in multiple incidents.
- Youth with **corrections involvement** have appeared before the Court or a Justice of the Peace for an offence charge and have been remanded in custody or placed under pre-trial supervision in the community awaiting further court dates, or have been found guilty and sentenced to a community disposition (i.e. Fine, Probation, Community Service Work, Deferred Custody) and/or custody (in which the sentence is served in a young offender facility).
- **Income support** refers to financial benefits provided to individuals and couples who cannot meet their basic needs. The **client types** for income support clients are *expected to work* (clients who are looking for work, working, or unable to work in the short term) and *barriers to full employment* (clients who have difficulty working because of a chronic mental or physical health problem or because of multiple barriers to employment).

Data sources

Ministry	Database	Use in this report
Enterprise and Advanced Education	Learner Enrolment Reporting System (LERS)	Post-secondary education enrolment data
Education	Corporate Data Warehouse (CDW)	Primary and secondary education
Health	Inpatient – Discharge Abstract Database (DAD)	Hospitalization data
Health	Ambulatory Care (ACCS)	Emergency room visit data
Health	Practitioner Payments (SESE)	Physician visit data
Health	Alberta Health Care Insurance Plan Population Registry (AHCIP registry)	Population registry
Human Services	Child Youth Information Module (CYIM)	Maltreatment and intervention data
Human Services	Family Support for Children with Disabilities Information System (FSCDIS)	Family Supports for Children with Disabilities data
Human Services	Central Client Directory (CCD)	Income support data
Justice and Solicitor General	Justice Online Information Network (JOIN)	Offence data
Justice and Solicitor General	Alberta Community Offender Management System (ACOM)	Corrections data (community supervision)
Justice and Solicitor General	Correctional Offender Management Information System (CoMIS)	Corrections data (custody)

References

1. Pampalon, R., Hamel, D., Garnache, P., & Raymond, G. (2009). A deprivation index for health planning in Canada. *Chronic Diseases in Canada, 29(4)*, 178-91.
2. Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology*, *53*, 371 -399.
3. Alberta Coalition for Healthy School Communities. (2006). *Socioeconomic disadvantage: Health and Education Outcomes for School-Aged Children and Youth*. Retrieved from http://www.achsc.org/download/ACHSC%20Background%20Paper_SES_Health_Educ_SCY(June%2015,06).pdf
4. Public Health Agency of Canada. (2001). *The socio-economic gradient in population health*. Retrieved from http://www.phac-aspc.gc.ca/ph-sp/resources-ressources/gradient-eng.php
5. Health Disparities Task Group of the Federal/ Provincial/ Territorial Advisory Committee on Population Health and Health Security. (2004). *Reducing Health Disparities – Roles of the Health Sector: Discussion Paper* (Cat. No. HP5-4/2005). Ottawa: Public Health Agency of Canada.
6. de Broucker, P. (2005). *Getting there and staying there: Low-income students and post-secondary education*. Ottawa: Canadian Policy Research Networks.
7. Public Health Agency of Canada. (2010). *Canadian Incidence Study of Reported Child Abuse and Neglect – 2008: Major Findings*. Ottawa.
8. Canadian Institute for Health Information. (2008). *Improving the health of Canadians: Mental health, delinquency, and criminal activity*. Ottawa.
9. Tiet, Q.Q., Huizinga, D., & Byrnes, H. F. (2010). Predictors of resilience among inner city youths. *J Child Fam Stud, (19),* 360-378.
10. The Johns Hopkins University. (2008). *The Johns Hopkins ACG® System Reference Manual, Version 8.2*. Johns Hopkins University: Baltimore.

The Child and Youth Data Laboratory

The **Child and Youth Data Laboratory** (CYDL) links and analyzes administrative data from child- and youth-serving ministries in the Government of Alberta. The ministries participate in research design and provide data elements that contribute to answering research questions.

The CYDL's research provides groundbreaking opportunities to understand relationships between critical factors in the lives of children and youth in Alberta. The research results can be used to inform policy and program development and evaluation, both within and across ministries, and to inspire further research.

The CYDL is managed by the **Alberta Centre for Child, Family and Community Research** (ACCFCR). The Centre has evolved over its eight year history as a public-sector, innovative resource for evidence. The Centre develops, supports and integrates research across sectors and disciplines to provide a strong, evidence-based foundation for identifying and promoting effective public policy and service delivery to improve the well-being of children, families, and communities in Alberta, Canada, and internationally.

Our partners

This project was carried out on behalf of six ministries of the Government of Alberta. Each ministry collaborated extensively with the CYDL on this project, and their dedication to the project is gratefully acknowledged:

Enterprise and Advanced Education
Education
Health
Human Services
Aboriginal Relations
Justice and Solicitor General

Suggested citation

Child and Youth Data Laboratory (2012). *Socio-economic status of Albertan youth.* Edmonton: Alberta Centre for Child, Family and Community Research.

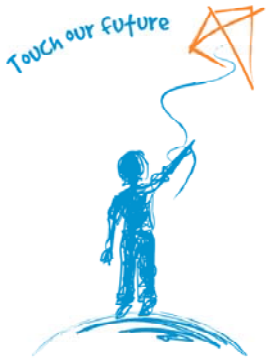
Contact CYDL

www.research4children.com
Click on "Data"

Xinjie Cui, Director
780 944 8631
xcui@research4children.com

Leslie Twilley, Senior Scientist
780 408 8734
ltwilley@research4children.com

Navjot (Jo) Lamba, Research Scientist
780 408 8735
jlamba@research4children.com



ALBERTA CENTRE FOR
CHILD, FAMILY & COMMUNITY
RESEARCH

Government
of Alberta

Educational experiences of Albertan youth

Child and Youth Data Laboratory (CYDL)

Report for *Experiences of Albertan Youth* Project

Key findings

This report is an overview of the educational experiences of 272,588 Albertan youth aged 12 to 20 years registered in Alberta's K-12 education system in 2008/09. Educational achievement was categorized as above, meeting, or below expectations for a student's age and grade. School authority types included public, separate, Francophone, charter, private, and other. No data were available for students who attended schools on First Nations reserves or in Lloydminster. See *Definitions and Notes* for details.

The report describes how educational achievement and school authority type varied by age, gender, region of residence, socio-economic status, mental health status, and health service use. The cross-ministry service use of youth registered in K-12 education was also studied.

- 79% of youth 12 to 17 years old and 17% of youth aged 18 to 20 were registered in the K-12 education system. 68% of students were meeting educational expectations, 19% were below expectations, and 11% were exceeding expectations.
- Overall, most students were meeting or above educational expectations. Students performing below educational expectations were more likely to be male, to live in a lower socio-economic status neighbourhood, to have received services for a mental health condition, to visit an emergency room, or to be hospitalized during the year.
- Poor educational performance was associated with receiving maltreatment-related intervention services, receiving Family Support for Children with Disabilities services, being charged with an offence (particularly multiple charges), being involved in corrections (particularly custody), or receiving income support at some point during the year 2008/09.
- 73% of youth were registered in public schools, and 22% in separate schools. School authority type varied with age, region of residence, socio-economic status, educational achievement, mental health status, and emergency room use.
- Students facing challenges, such as receiving intervention services, being charged with an offence, or receiving income support, were more likely to be registered in public schools than any other school authority type.

Contents

Key findings and Context.....1 to 2
Data analyses.....3 to 10
Tables.....11 to 20
Definitions and Notes.....21 to 23
Data sources.....24
References.....24
About CYDL.....27

Educational experiences of Albertan youth

Context

The benefits of an education are well documented. Graduating successfully from high school, for example, is associated with greater financial security and lower unemployment rates. [1] Education provides access to the resources, knowledge and support that are necessary for positive health outcomes. [2] High school graduates make more use of preventative medical services, make fewer multiple visits to doctors and have better general health status than non-graduates. [3]

Canadian results from an OECD study show that gender, socio-economic status, region of residence and child intervention status are factors associated with educational achievement. Among Canadian youth at age 15, girls perform significantly better than boys in reading, whereas boys perform better in math. [4] Performance in science is better among students from higher socio-economic status backgrounds than among those from lower socio-economic status backgrounds. [4]

Previous reports have shown that, while Albertan students tend to achieve above the national average on a range of educational outcomes, rural Albertan students have significantly lower reading scores than their urban counterparts. [5] Provincial test scores and high school completion rates are also consistently lower for youth in care compared to other Albertan youth. [6]

The project

The current project, **Experiences of Albertan Youth**, is focused on basic understanding of the experiences of Albertan youth within and across ministries, as they relate to key indicators (age, gender, socio-economic status, educational achievement, and mental health status). It is the first project in a planned series that will link and analyze administrative data on children and youth in Alberta to inform policy, programs, and research.

List of reports for the project

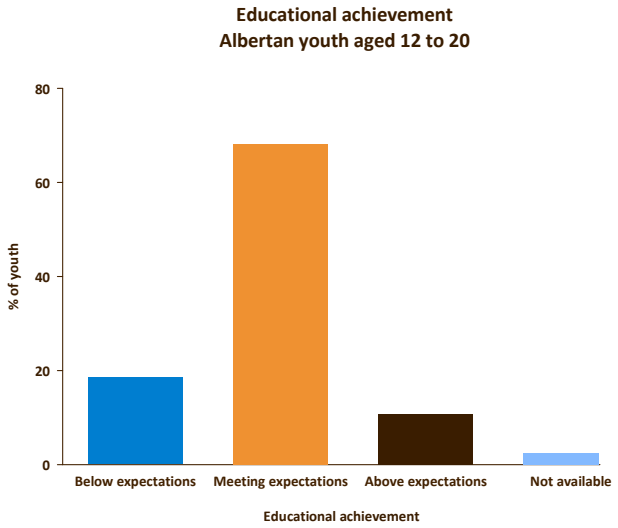
Socio-economic status of Albertan youth
Educational experiences of Albertan youth
Mental health status of Albertan youth
Family Support for Children with Disabilities services received by Albertan youth
Maltreatment-related investigations among Albertan youth
Maltreatment-related intervention services received by Albertan youth
Physician visits by Albertan youth
Emergency room visits by Albertan youth
Hospitalizations of Albertan youth
Offence charges among Albertan youth
Corrections involvement among Albertan youth
Post-secondary students in Alberta
Income support among Albertan youth
Educational experiences of Albertan youth with income support activity
Least advantaged and most advantaged Albertan youth

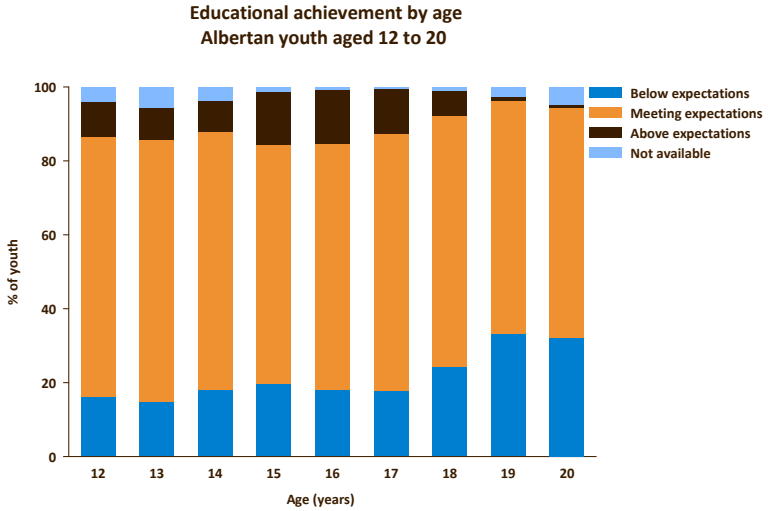
Educational experiences of Albertan youth

Educational achievement (Table 2)

This analysis and the following eleven analyses describe the educational achievement of 272,588 youth (aged 12 to 20 years) who were registered in Alberta's education system in 2008/09. An educational achievement rating was not available for 2.5% of the population. See *Definitions and Notes* (p. 21).

- Over two thirds (68%) of students were meeting educational expectations, 19% were performing below expectations, and 11% were exceeding educational expectations.





Educational achievement by age (Table 3)

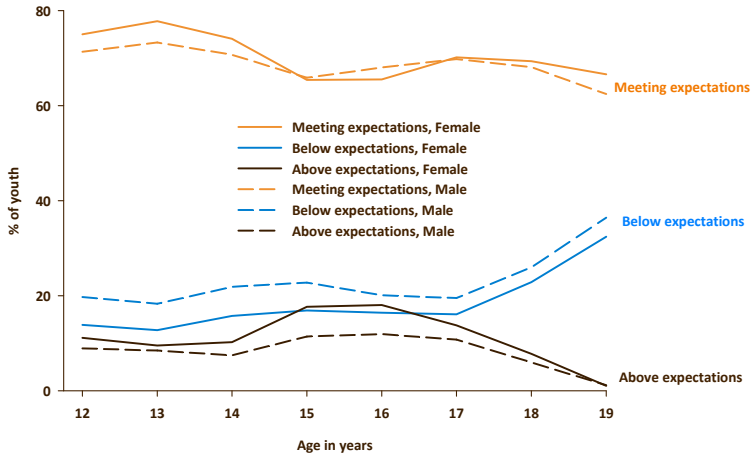
Student achievement was determined differently for each age group. The performance of younger youth was primarily evaluated using provincial tests scores, whereas number of credits and course grades were primarily used to evaluate older youth.

- About 15% of students between 15 and 16 years, and 12% of 17 year olds were achieving above educational expectations. These rates are higher than for other ages.
- About one-third of older students (aged 19 and 20 years) were performing below expectations, a higher rate than for younger students.

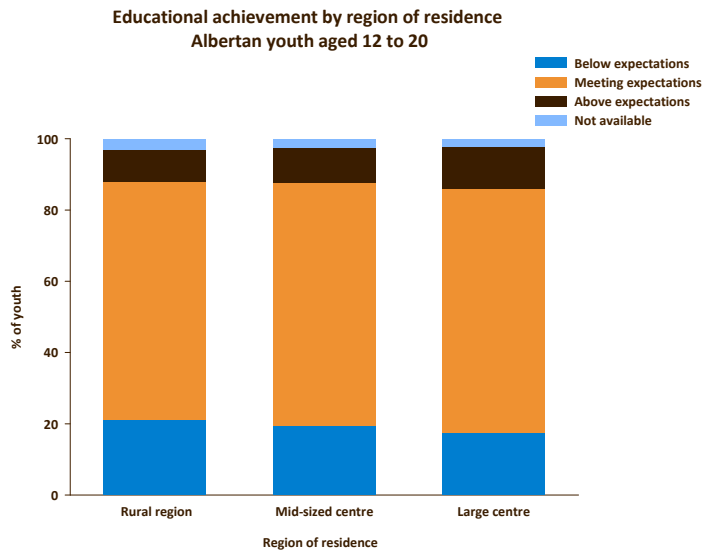
Educational achievement by age and gender (Table 4)

Due to small numbers, data for 20 year old youth are not shown in this analysis.

- Between the ages of 12 and 14 years, female students were slightly more likely to be meeting educational expectations than males.
- Between the ages of 14 and 17 years, female students were more likely to perform above expectations compared to males.
- Between 12 and 19 years, male students were consistently more likely to perform below expectations compared to females.



Educational experiences of Albertan youth



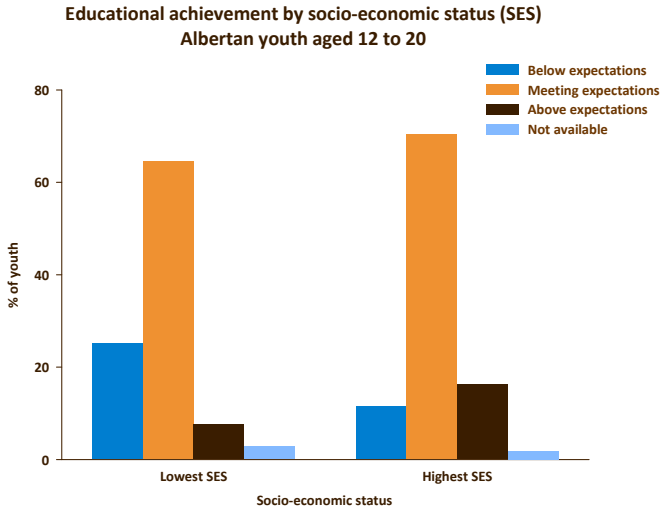
Educational achievement by region of residence (Table 5)

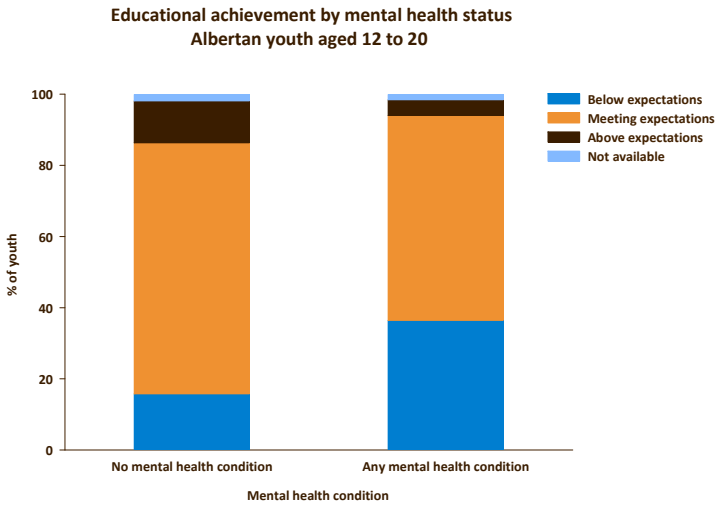
- Across all regions, the large majority of students was meeting or performing above educational expectations.
- However, as community size increased, the proportion of students performing below expectations decreased and the proportion of students achieving above expectations increased.
- 12% percent of students living in large centres (Edmonton and Calgary) were achieving above expectations.

Educational achievement by socio-economic status (Table 6)

Socio-economic status captures the social and material environments in which youth lived. In this report, "lowest socio-economic status" refers to the lowest group while "highest" refers to the highest group. See *Definitions and Notes* (p. 21).

- Students living in the lowest socio-economic status neighbourhoods were more likely to perform below expectations (25%) and less likely to perform above expectations (8%) than students living in the highest socio-economic status neighbourhoods (12% and 16%, respectively).





Educational achievement by mental health status (Table 7)

Mental health status refers to presence or absence of a mental health condition. Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition. See *Definitions and Notes* (p. 22).

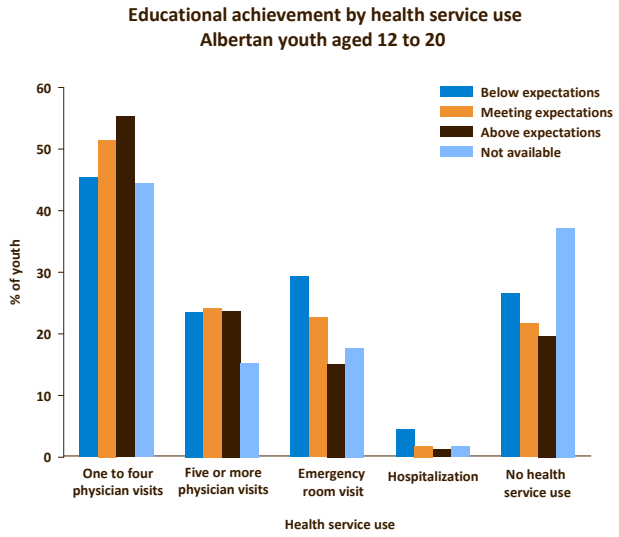
- 36% of students with a mental health condition were performing below expectations during 2008/09. Less than 5% of students with a mental health condition were achieving above educational expectations.

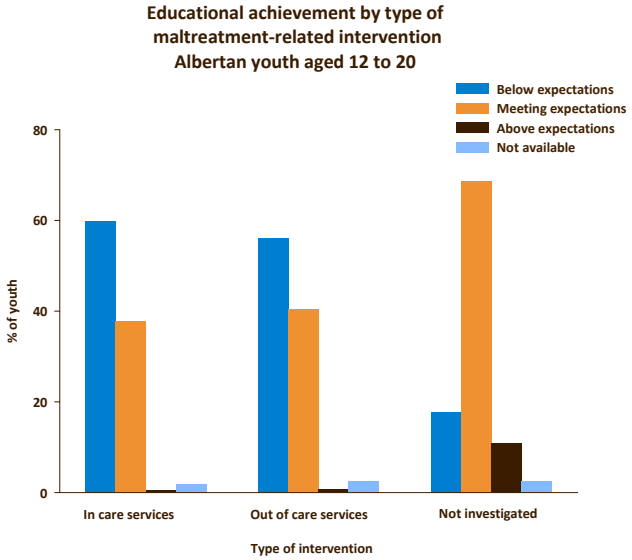
Educational experiences of Albertan youth

Educational achievement by health service use (Table 8)

This analysis describes youth (aged 12 to 20 years) registered in the Alberta Health Care Insurance Plan in 2008/09.

- Among youth exceeding educational expectations, 55% saw a physician between one and four times in the year, compared to 45% performing below expectations.
- Compared to other students, students performing below educational expectations were more likely to visit emergency rooms or hospitals at least once.





Educational achievement by type of maltreatment-related intervention (Table 9)

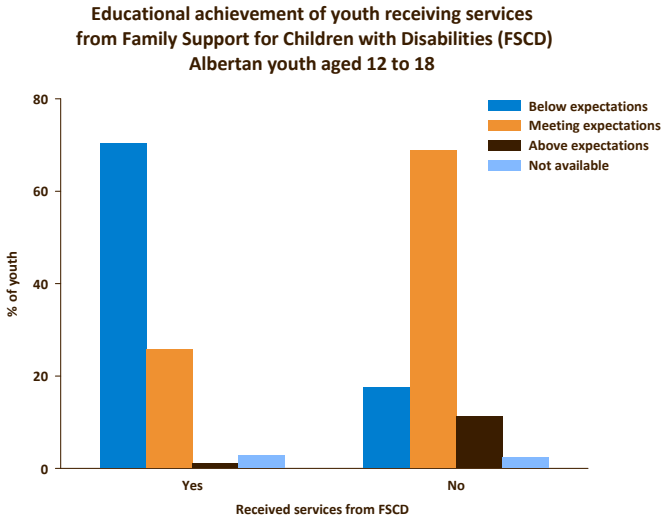
This analysis considers youth (aged 12 to 20 years) who received a maltreatment-related intervention from Human Services in 2008/09. A maltreatment-related intervention occurs when the safety or well-being of a youth is threatened. See *Definitions and Notes* (p. 22).

- Among youth not investigated, 18% were performing below educational expectations, compared to 56% of youth receiving *out of care services*, and 60% of youth receiving *in care services*.

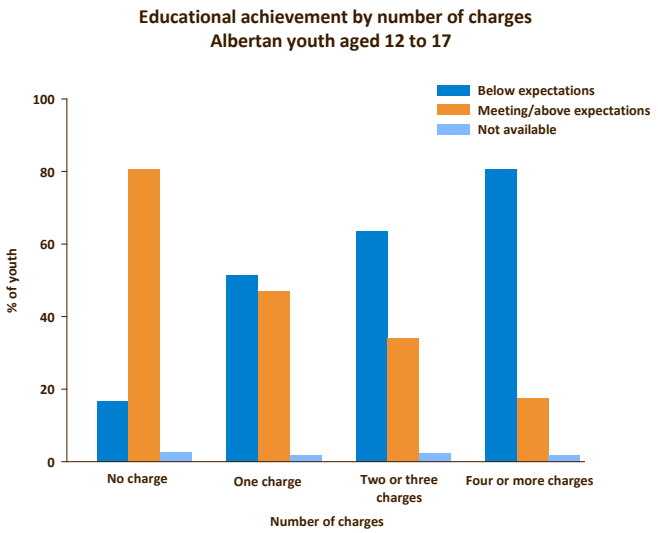
Educational achievement of youth receiving services from Family Support for Children with Disabilities (Table 10)

This analysis considers youth (aged 12 to 18 years) who received services from Family Support for Children with Disabilities (FSCD) in 2008/09. Some youth receiving FSCD services had disabilities that would be expected to directly affect their school performance.

- 70% of youth receiving FSCD services were performing below expectations, compared to 18% of youth not receiving services. 28% of youth receiving FSCD services were meeting or exceeding expectations compared to 80% of youth not receiving services.



Educational experiences of Albertan youth



Educational achievement by number of charges (Table 11)

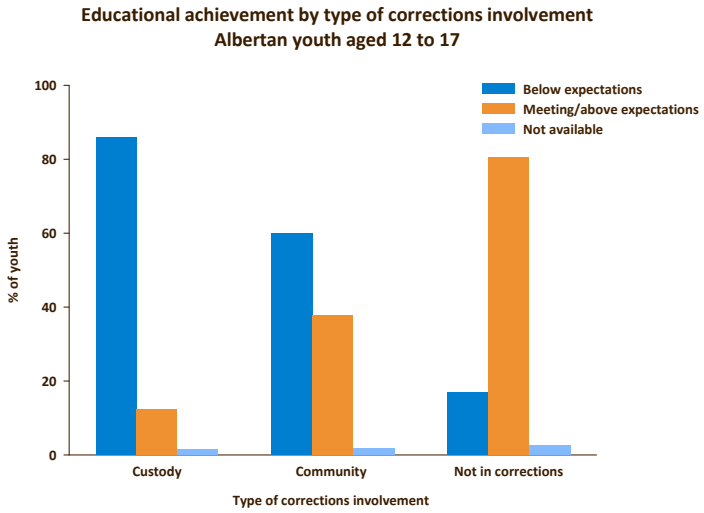
This analysis considers youth (aged 12 to 17 years) who were charged with an offence in 2008/09.

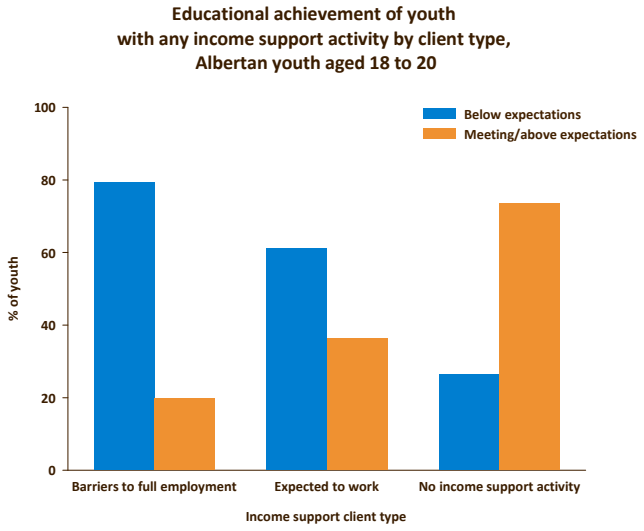
- More charges were associated with poorer educational achievement.
- Among youth with no charges, 17% were performing below expectations, compared to 81% of youth with four or more charges.

Educational achievement by type of corrections involvement (Table 12)

This analysis considers the educational achievement of youth (aged 12 to 17 years) who were registered in Alberta's K-12 education system and who were in custody (in which a sentence is served in a young offender facility) or had a community sentence or pre-trial supervision in 2008/09.

- Among youth not involved in corrections, 17% were performing below educational expectations, compared to 63% of youth with a community sentence/pre-trial supervision, and 86% of youth in custody.





Educational achievement of youth with any income support activity by client type (Table 13)

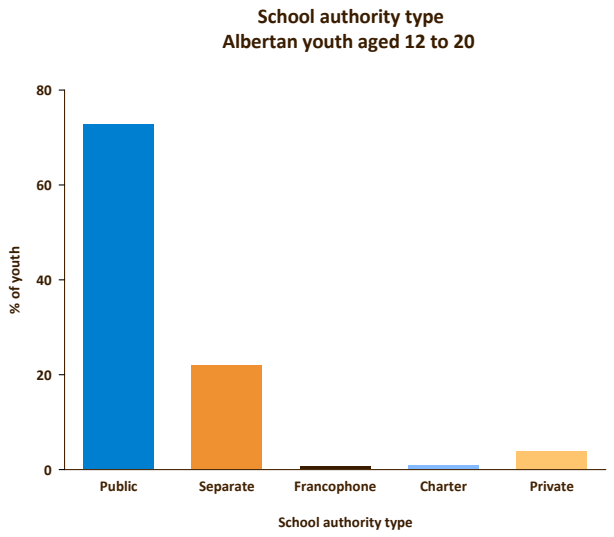
This analysis describes youth aged 18 to 20 years with any income support activity from Human Services during 2008/09 by client type. Client type categories include *expected to work* (clients looking for work, or unable to work in the short term) and *barriers to full employment* (clients having difficulty finding work due to disabilities or other barriers).

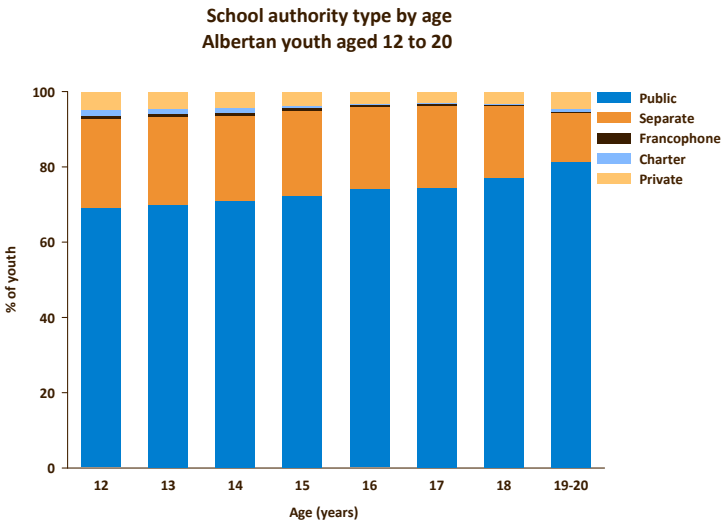
- Among youth with no income support activity, 28% were performing below expectations, compared to 62% of youth *expected to work*, and 80% of youth who experienced *barriers to full employment.*

School authority type (Table 14)

This analysis and the following eleven analyses consider youth (aged 12 to 20 years) registered in Alberta's K-12 education system, and the school authority type in which they were enrolled in 2008/09. See *Definitions and Notes* (p. 23).

- The vast majority (73%) of students were registered in public schools. 22% of students were registered in separate schools, and less than 5% were attending either Francophone (0.6%), charter (0.8%), private (3.8%), or other schools (0.1%, not shown).





School authority type by age (Table 15)

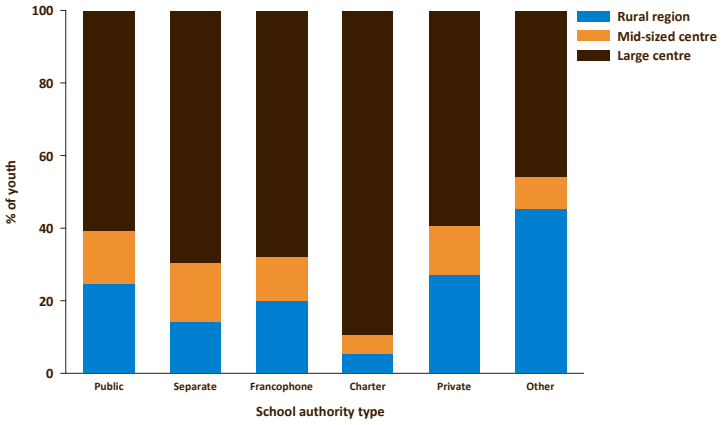
The *other* school authority type was not included in this analysis due to small numbers for some ages.

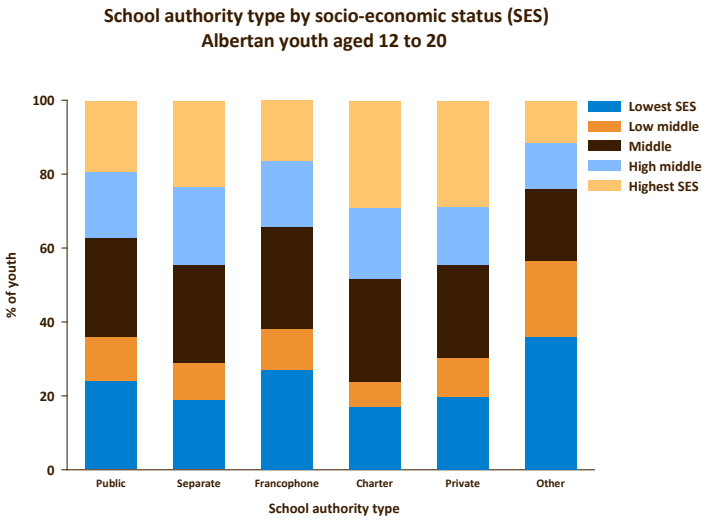
- Across all ages, at least 69% of students were registered in public schools. 81% of older youth (19 to 20 years) were registered in public schools.
- Almost one-quarter of youth between 12 and 14 years were registered in the separate school system.
- The highest percentages of youth registered in private schools were among 12 year olds (5%) and youth between 19 and 20 years (5%).

School authority type by region of residence (Table 16)

To provide context, 63% of students between 12 and 20 years were living in large centres (Edmonton and Calgary), 15% lived in mid-sized centres, and 22% lived in rural regions across Alberta.

- Almost 90% of all charter school students were located in large urban centres. The majority of public (61%), separate (69%), and Francophone (68%), and private (59%) school students were also located in large centres (Edmonton and Calgary).
- *Other* authority types (45%) had the largest proportion of students in rural areas.





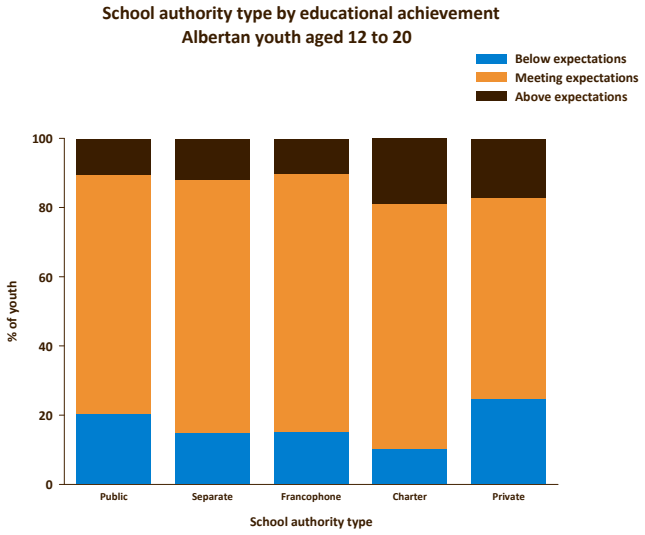
School authority type by socio-economic status (Table 17)

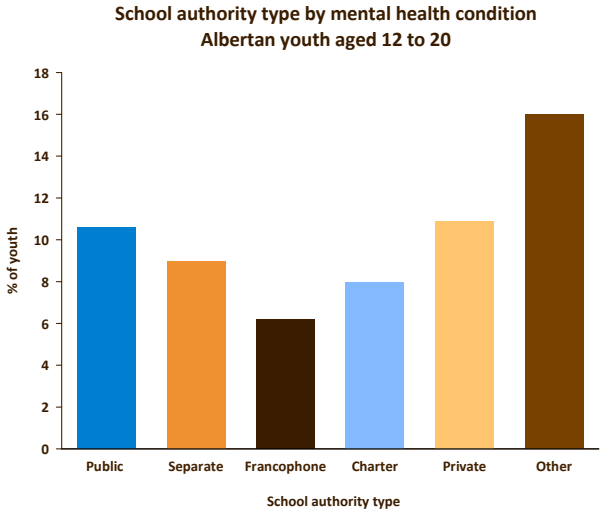
Socio-economic status captures the social and material environments in which youth lived. See *Definitions and Notes* (p. 21).

- Almost 30% of students in both private and charter schools were living in the most privileged socio-economic status neighbourhoods.
- 36% of students registered in *other* school authority types, and over one-quarter of students attending Francophone schools, were living in the most deprived socio-economic status areas.

School authority type by educational achievement (Table 18)

- Across all school authority types, the majority of students were either meeting or exceeding educational expectations.
- Compared to all other school authority types, charter schools had the greatest proportion of students (19%) achieving above educational expectations.
- Private (25%) and public (20%) institutions had the highest proportion of students performing below educational expectations.





School authority type by mental health condition (Table 19)

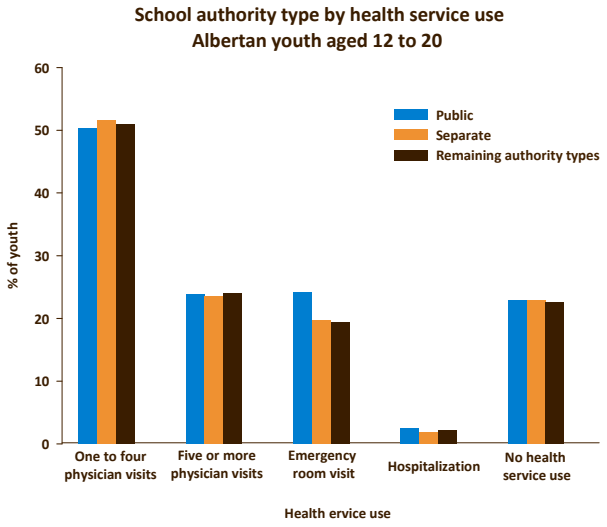
Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition. See *Definitions and Notes* (p. 22).

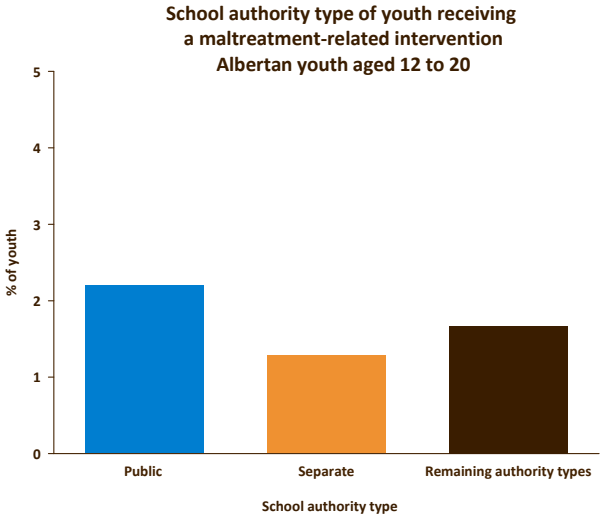
- Representing the highest proportion among all school authority types, 16% of students registered in *other* schools had a mental health condition.
- Francophone schools had the lowest proportion of students with a mental health condition (6%).

School authority type by health service use (Table 20)

This analysis describes youth (aged 12 to 20 years) registered in the Alberta Health Care Insurance Plan in 2008/09.

- Emergency room visits varied with school authority type. Among youth enrolled in public schools, 27% had visited an emergency room at least once during the year, compared to 22% of separate school students, and 21% of students enrolled in the remaining school authority types.
- Across all school authority types, about 23% of youth had no health service use during the year.





School authority type of youth receiving a maltreatment-related intervention (Table 21)

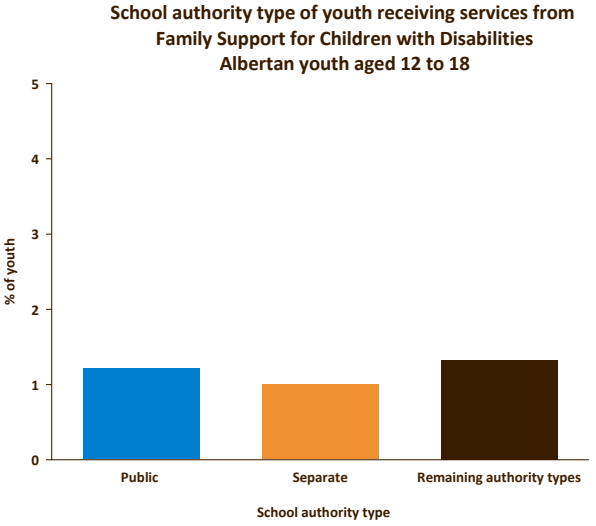
This analysis considers youth (aged 12 to 20 years) who received a maltreatment-related intervention in 2008/09. A maltreatment-related intervention occurs when the safety or well-being of a youth is threatened. See *Definitions and Notes* (p. 22).

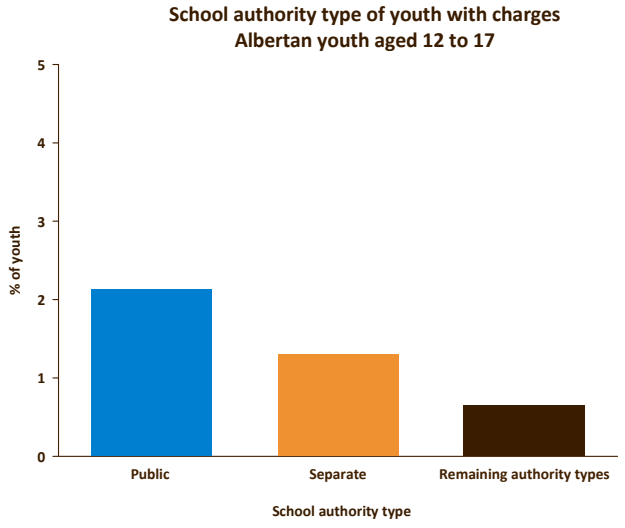
- 2.2% of youth (4,360 youth) registered in public schools were receiving maltreatment-related intervention services. Fewer registered in separate schools (1.3%, 765 youth) and the remaining authority types (1.7%, 242 youth) received these services.

School authority type of youth receiving services from Family Support for Children with Disabilities (Table 22)

This analysis describes the school authority type of youth (aged 12 to 18 years) who received services from Family Support for Children with Disabilities (FSCD) in 2008/09.

- The representation of youth receiving FSCD services was similar across school authority types, with the highest proportion in public schools (1.2%; 2,332 youth), followed by remaining school authority types (1.3%; 224 youth) and separate schools (1%, 614 youth).





School authority type of youth with charges (Table 23)

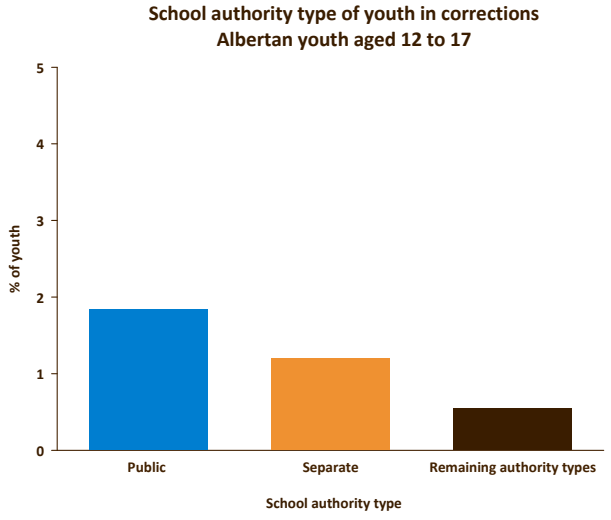
This analysis describes the school authority type of youth aged 12 to 17 years who were charged with an offence in 2008/09.

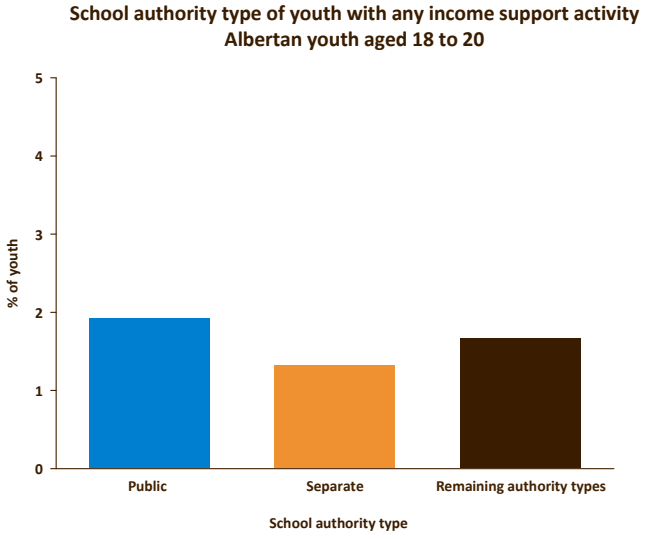
- 2.1% of students (3,760 youth) in public schools had been charged with at least one offence. Students charged with at least one offence were less likely to be registered in separate schools (1.3%, 745 youth) and the remaining school authority types (0.65%, 114 youth).

School authority type of youth involved with corrections (Table 24)

This analysis describes the school authority type of youth aged 12 to 17 years who were in custody (in which a sentence is served in a young offender facility) or with a community sentence or pre-trial supervision in 2008/09.

- 1.8% (3,236 youth) of youth in public schools were involved with corrections. Smaller proportions comprised the student population enrolled in separate schools (1.1%, 665 youth), and the remaining school authority types (0.6%, 94 youth).





School authority type of youth receiving income support (Table 25)

This analysis describes the school authority type of youth aged 18 to 20 years with any income support activity in 2008/09.

- 1.9% (443 youth) of students in public schools had any income support activity, while smaller proportions of students enrolled in separate schools (1.3%, 73 youth), and the remaining school authority types (1.7%, 33 youth) had any income support activity.

Tables - Educational achievement

Table 1. Number and percent of youth registered in Alberta's education system by age, Albertan youth aged 12 to 20 years, 2008/09

	Education	Age in years		
		12 to 17	18 to 20	Total
Number of youth	Total population in Education	243,108	29,480	272,588
	Total Albertan youth population	307,702	170,672	478,374
Percent of youth	Total population in Education	79.0	17.3	57.0

Table 2. Number and percent of youth registered in the Alberta education system and educational achievement, Albertan youth aged 12 to 20 years, 2008/09

	Educational achievement	
		Total
Number of youth	Below expectations	50,631
	Meeting expectations	185,841
	Above expectations	29,382
	Not available	6,734
	Total	272,588
Percent of youth	Below expectations	18.6
	Meeting expectations	68.2
	Above expectations	10.8
	Not available	2.5
	Total	100.0

Table 3. Number and percent of youth registered in Alberta's education system by educational achievement and age, Albertan youth aged 12 to 20 years, 2008/09

	Educational achievement	Age in years									
		12	13	14	15	16	17	18	19	20	Total
Number of youth	Below expectations	3,043	6,514	8,194	8,779	8,225	7,957	5,027	2,233	659	50,631
	Meeting expectations	13,180	31,523	31,378	28,907	30,031	31,248	14,094	4,203	1,277	185,841
	Above expectations	1,803	3,746	3,817	6,365	6,705	5,461	1,397	71	17	29,382
	Not available	751	2,581	1,693	630	311	266	211	191	100	6,734
	Total	18,777	44,364	45,082	44,681	45,272	44,932	20,729	6,698	2,053	272,588
Percent of youth	Below expectations	16.2	14.7	18.2	19.7	18.2	17.7	24.3	33.3	32.1	18.6
	Meeting expectations	70.2	71.1	69.6	64.7	66.3	69.6	68.0	62.8	62.2	68.2
	Above expectations	9.6	8.4	8.5	14.3	14.8	12.2	6.7	1.1	0.8	10.8
	Not available	4.0	5.8	3.8	1.4	0.7	0.6	1.0	2.9	4.9	2.5
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Tables (educational achievement continued)

Table 3a. Number and percent of youth registered in Alberta's education system by educational achievement and gender, Albertan youth aged 12 to 20 years, 2008/09

	Educational achievement	Gender		
		Female	Male	Total
Number of youth	Below expectations	21,548	29,083	50,631
	Meeting expectations	91,420	94,421	185,841
	Above expectations	16,628	12,754	29,382
	Not available	3,279	3,455	6,734
	Total	132,875	139,713	272,588
Percent of youth	Below expectations	16.2	20.8	18.6
	Meeting expectations	68.8	67.6	68.2
	Above expectations	12.5	9.1	10.8
	Not available	2.5	2.5	2.5
	Total	100.0	100.0	100.0

Table 4. Number and percent of youth registered in Alberta's education system by educational achievement and age and gender, Albertan youth aged 12 to 19 years, 2008/09

	Educational achievement	Age in years								
Female		12	13	14	15	16	17	18	19	Total
Number of youth	Below expectations	1,214	2,590	3,324	3,604	3,624	3,515	2,215	1,102	21,188
	Meeting expectations	6,572	15,804	15,639	13,938	14,458	15,341	6,716	2,265	90,733
	Above expectations	976	1,934	2,160	3,770	3,981	3,009	752	35	16,617
	Not available	367	1,253	788	298	160	134	116	102	3,218
	Total	9,129	21,581	21,911	21,610	22,223	21,999	9,799	3,504	131,756
Percent of youth	Below expectations	13.3	12.0	15.2	16.7	16.3	16.0	22.6	31.5	16.1
	Meeting expectations	72.0	73.2	71.4	64.5	65.1	69.7	68.5	64.6	68.9
	Above expectations	10.7	9.0	9.9	17.5	17.9	13.7	7.7	1.0	12.6
	Not available	4.0	5.8	3.6	1.4	0.7	0.6	1.2	2.9	2.4
Male		12	13	14	15	16	17	18	19	Total
Number of youth	Below expectations	1,829	3,924	4,870	5,175	4,601	4,442	2,812	1,131	28,784
	Meeting expectations	6,608	15,719	15,739	14,969	15,573	15,907	7,378	1,938	93,831
	Above expectations	827	1,812	1,657	2,595	2,724	2,452	645	36	12,748
	Not available	384	1,328	905	332	151	132	95	89	3,416
	Total	9,648	22,783	23,171	23,071	23,049	22,933	10,930	3,194	138,779
Percent of youth	Below expectations	19.0	17.2	21.0	22.4	20.0	19.4	25.7	35.4	20.7
	Meeting expectations	68.5	69.0	67.9	64.9	67.6	69.4	67.5	60.7	67.6
	Above expectations	8.6	8.0	7.2	11.3	11.8	10.7	5.9	1.1	9.2
	Not available	4.0	5.8	3.9	1.4	0.7	0.6	0.9	2.8	2.5
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Tables (educational achievement continued)

Table 5. Number and percent of youth registered in Alberta's education system by educational achievement and region of residence, Albertan youth aged 12 to 20 years, 2008/09

	Educational achievement	Region of residence			
		Rural	Mid-sized centre	Large centre	Total
Number of youth	Below expectations	12,783	7,952	29,615	50,350
	Meeting expectations	40,536	27,964	117,254	185,754
	Above expectations	5,341	3,898	20,129	29,368
	Not available	1,910	1,094	3,726	6,730
	Total	60,570	40,908	170,724	272,202
Percent of youth	Below expectations	21.1	19.4	17.4	18.5
	Meeting expectations	66.9	68.4	68.7	68.2
	Above expectations	8.8	9.5	11.8	10.8
	Not available	3.2	2.7	2.2	2.5
	Total	100.0	100.0	100.0	100.0

Table 6. Number and percent of youth registered in Alberta's education system by educational achievement and socio-economic status, Albertan youth aged 12 to 20 years, 2008/09

	Educational achievement	Socio-economic status					
		Lowest SES	Low middle	Middle	High middle	Highest SES	Total
Number of youth	Below expectations	15,484	6,894	13,486	7,310	6,374	49,548
	Meeting expectations	39,607	20,049	49,706	35,417	39,046	183,825
	Above expectations	4,670	2,368	7,126	5,882	9,065	29,111
	Not available	1,724	918	1,835	1,121	1,039	6,637
	Total	61,485	30,229	72,153	49,730	55,524	269,121
Percent of youth	Below expectations	25.2	22.8	18.7	14.7	11.5	18.4
	Meeting expectations	64.4	66.3	68.9	71.2	70.3	68.3
	Above expectations	7.6	7.8	9.9	11.8	16.3	10.8
	Not available	2.8	3.0	2.5	2.3	1.9	2.5
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Table 7. Number and percent of youth registered in Alberta's education system by educational achievement and mental health status, Albertan youth aged 12 to 20 years, 2008/09

	Educational achievement	Mental health status		
		No mental health condition	Any mental health condition	Total
Number of youth	Below expectations	34,110	8,935	43,045
	Meeting expectations	152,638	14,127	166,765
	Above expectations	25,517	1,085	26,602
	Not available	4,106	393	4,499
	Total	216,371	24,540	240,911
Percent of youth	Below expectations	15.8	36.4	18
	Meeting expectations	70.5	57.6	69
	Above expectations	11.8	4.4	11
	Not available	1.9	1.6	1.9
	Total	100.0	100.0	100.0

Tables (educational achievement continued)

Table 8. Number and percent of youth registered in Alberta's education system by educational achievement and health service use, Albertan youth aged 12 to 20 years, 2008/09

	Health service use*	Educational achievement				
		Below expectations	Meeting expectations	Above expectations	Not available	Total
Number of youth	One to four physician visits	23,000	95,722	16,238	2,989	137,949
	Five or more physician visits	11,935	45,061	6,963	1,027	64,986
	Emergency room visit	14,854	42,118	4,425	1,194	62,591
	Hospitalization	2,258	3,361	341	114	6,074
	No health service use	13,466	40,317	5,779	2,507	62,069
	Total	50,631	185,841	29,382	6,734	272,588
Percent of youth	One to four physician visits	45.4	51.5	55.3	44.4	50.6
	Five or more physician visits	23.6	24.2	23.7	15.3	23.8
	Emergency room visit	29.3	22.7	15.1	17.7	23.0
	Hospitalization	4.5	1.8	1.2	1.7	2.2
	No health service use	26.6	21.7	19.7	37.2	22.8

*Health service use categories are not mutually exclusive

Table 9. Number and percent of youth registered in Alberta's education system by educational achievement and type of maltreatment-related intervention, Albertan youth aged 12 to 20 years, 2008/09

	Educational achievement	Intervention outcome			
		In care services	Out of care services	Total	Not investigated
Number of youth	Below expectations	1,846	1,279	3,125	47,506
	Meeting expectations	1,168	926	2,094	183,747
	Above expectations	14	20	34	29,348
	Not available	56	58	114	6,620
	Total	3,084	2,283	5,367	267,221
Percent of youth	Below expectations	59.9	56.0	58.2	17.8
	Meeting expectations	37.9	40.6	39.0	68.8
	Above expectations	0.5	0.9	0.6	11.0
	Not available	1.8	2.5	2.1	2.5
	Total	100.0	100.0	100.0	100.0

Table 10. Number and percent of youth registered in Alberta's education system by educational achievement and services received from Family Support for Children with Disabilities (FSCD), Albertan youth aged 12 to 18 years, 2008/09

	Educational achievement	Receiving services from FSCD		
		Yes	No	Total
Number of youth	Below expectations	2,228	45,511	47,739
	Meeting expectations	817	179,544	180,361
	Above expectations	33	29,261	29,294
	Not available	92	6,351	6,443
	Total	3,170	260,667	263,837
Percent of youth	Below expectations	70.3	17.5	17.7
	Meeting expectations	25.8	68.9	68.3
	Above expectations	1.0	11.2	11.5
	Not available	2.9	2.4	2.6
	Total	100.0	100.0	100.0

Tables (educational achievement—continued)

Table 11. Number and percent of youth registered in Alberta's education system by educational achievement and number of charges, Albertan youth aged 12 to 17 years, 2008/09

	Educational achievement	Number of charges				
		One	Two or three	Four or more	Total	No charges
Number of youth	Below expectations	1,076	841	966	2,883	39,829
	Meeting/above expectations	986	452	209	1,647	192,517
	Not available	35	32	22	89	6,143
	Total	2,097	1,325	1,197	4,619	238,489
Percent of youth	Below expectations	51.3	63.5	80.7	62.4	16.7
	Meeting/above expectations	47.0	34.1	17.5	35.7	80.7
	Not available	1.7	2.4	1.8	1.9	2.6
	Total	100.0	100.0	100.0	100.0	100.0

Table 12. Number and percent of youth registered in Alberta's education system by educational achievement and type of corrections involvement, Albertan youth aged 12 to 17 years, 2008/09

	Educational achievement	Type of corrections involvement			
		Custody	Community	Any corrections involvement	No corrections involvement
Number of youth	Below expectations	564	2,364	2,418	40,294
	Meeting/above expectations	82	1,489	1,504	192,660
	Not available	10	71	73	6,159
	Total	656	3,924	3,995	239,113
Percent of youth	Below expectations	86.0	60.2	60.5	16.9
	Meeting/above expectations	12.5	37.9	37.6	80.6
	Not available	1.5	1.8	1.8	2.6
	Total	100.0	100.0	100.0	100.0

Table 13. Number and percent of youth registered in Alberta's education system by educational achievement and any income support activity and client type, Albertan youth aged 18 to 20 years, 2008/09

	Educational achievement*	Client type			
		Barriers to full employment	Expected to work	Total	No income support activity
Number of youth	Below expectations	336	77	413	7,506
	Meeting/above expectations	84	46	130	20,929
	Total	423	126	549	28,435
Percent of youth	Below expectations	79.4	61.1	75.2	26.4
	Meeting/above expectations	19.9	36.5	23.7	73.6

*The "Not available" category was not included due to small cell counts

Tables - School authority type

Table 14. Number and percent of youth registered in the Alberta education system by school authority type, Albertan youth aged 12 to 20 years, 2008/09

	School authority type	
		Total
Number of youth	Public	198,320
	Separate	59,756
	Francophone	1,699
	Charter	2,268
	Private	10,322
	Other	223
	Total	272,588
Percent of youth	Public	72.8
	Separate	21.9
	Francophone	0.6
	Charter	0.8
	Private	3.8
	Other	0.1
	Total	100.0

Table 15. Number and percent of youth registered in Alberta's education system by school authority type and age, Albertan youth aged 12 to 20 years, 2008/09

	School authority type*	Age in years								
		12	13	14	15	16	17	18	19 to 20	Total
Number of youth	Public	12,989	31,093	31,931	32,311	33,605	33,419	15,984	6,988	198,320
	Separate	4,405	10,272	10,270	10,121	9,814	9,828	3,941	1,105	59,756
	Francophone	178	357	332	281	228	198	82	43	1,699
	Charter	301	663	579	302	189	143	50	41	2,268
	Private	902	1,977	1,968	1,663	1,432	1,340	630	410	10,322
	Total	18,775	44,362	45,080	44,678	45,268	44,928	20,687	8,587	272,588
Percent of youth	Public	69.2	70.1	70.8	72.3	74.2	74.4	77.3	81.4	72.8
	Separate	23.5	23.2	22.8	22.7	21.7	21.9	19.1	12.9	21.9
	Francophone	0.9	0.8	0.7	0.6	0.5	0.4	0.4	0.5	0.6
	Charter	1.6	1.5	1.3	0.7	0.4	0.3	0.2	0.5	0.8
	Private	4.8	4.5	4.4	3.7	3.2	3.0	3.0	4.8	3.8
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Due to low cell counts, the "other" school authority category was not included in this table.

Tables (school authority type continued)

Table 16. Number and percent of youth registered in Alberta's education system by school authority type and region of residence, Albertan youth aged 12 to 20 years, 2008/09

	Region of residence	School authority type						
		Public	Separate	Francophone	Charter	Private	Other	Total
Number of youth	Rural region	48,737	8,474	338	126	2,794	101	60,570
	Mid-sized centre	29,329	9,833	207	119	1,400	20	40,908
	Large centre	119,926	41,419	1,151	2,023	6,103	102	170,724
	Total	197,992	59,726	1,696	2,268	10,297	223	272,202
Percent of youth	Rural region	24.6	14.2	19.9	5.6	27.1	45.3	22.3
	Mid-sized centre	14.8	16.5	12.2	5.2	13.6	9.0	15.0
	Large centre	60.6	69.3	67.9	89.2	59.3	45.7	62.7
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 17. Number and percent of youth registered in Alberta's education system by school authority type and socio-economic status, Albertan youth aged 12 to 20 years, 2008/09

	Socio-economic status	School authority type						
		Public	Separate	Francophone	Charter	Private	Other	Total
Number of youth	Lowest SES	47,292	11,279	444	385	2,007	78	61,485
	Low middle	22,944	5,822	188	153	1,077	45	30,229
	Middle	52,610	15,849	460	627	2,565	42	72,153
	Middle high	34,924	12,445	297	441	1,596	27	49,730
	Highest SES	37,762	13,877	281	656	2,923	25	55,524
	Total	195,532	59,272	1,670	2,263	10,168	217	269,121
Percent of youth	Lowest SES	24.2	19.0	26.6	17.0	19.7	35.9	22.8
	Low middle	11.7	9.8	11.3	6.8	10.6	20.7	11.2
	Middle	26.9	26.7	27.5	27.7	25.2	19.4	26.8
	Middle high	17.9	21.0	17.8	19.5	15.7	12.4	18.5
	Highest SES	19.3	23.4	16.8	29.0	28.7	11.5	20.6
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Tables (school authority type continued)

Table 18. Number and percent of youth registered in Alberta's education system by school authority type and educational achievement, Albertan youth aged 12 to 20 years, 2008/09

	Educational achievement	School authority type					
		Public	Separate	Francophone	Charter	Private	Total
Number of youth	Below expectations	39,433	8,661	247	234	2,056	50,631
	Meeting expectations	135,245	42,972	1,198	1,594	4,832	185,841
	Above expectations	20,395	6,980	165	429	1,413	29,382
	Total	195,073	58,613	1,610	2,257	8,301	265,854
Percent of youth	Below expectations	20.2	14.8	15.3	10.4	24.8	19.0
	Meeting expectations	69.3	73.3	74.4	70.6	58.2	69.9
	Above expectations	10.5	11.9	10.2	19.0	17.0	11.1
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Due to the unavailability of adequate information, an educational achievement rating was not possible to determine for about 20% of students in private schools and for smaller proportions in the remaining school authority types. None of the students enrolled in the "other" school authority category received an educational achievement rating.

Table 19. Number and percent of youth registered in Alberta's education system by school authority type and mental health status, Albertan youth aged 12 to 20 years, 2008/09

	Mental health status	School authority type						
		Public	Separate	Francophone	Charter	Private	Other	Total
Number of youth	Any mental health condition	18,486	4,754	86	174	1,011	29	24,549
	No mental health condition	156,637	48,020	1,297	1,994	8,272	152	216,468
	Total	175,123	52,774	1,383	2,168	9,282	181	241,017
Percent of youth	Any mental health condition	10.6	9.0	6.2	8.0	10.9	16.0	10.2
	No mental health condition	89.4	91.0	93.8	92.0	89.1	84.0	89.8
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 20. Number and percent of youth registered in Alberta's education system by school authority type and health service use, Albertan youth aged 12 to 20 years, 2008/09

	Health service use*	School authority type			
		Public	Separate	Remaining authority types	Total
Number of youth	One to four physician visits	99,710	30,841	7,398	137,949
	Five or more physician visits	47,461	14,043	3,482	64,986
	Emergency room visist	48,091	11,683	2,817	62,591
	Hospitalization	4,672	1,090	312	6,074
	No health service use	45,186	13,617	3,266	62,069
	Total	198,320	59,756	14,512	272,588
Percent of youth	One to four physician visits	50.3	51.6	51.0	50.6
	Five or more physician visits	23.9	23.5	24.0	23.8
	Emergency room visit	24.2	19.6	19.4	23.0
	Hospitalization	2.4	1.8	2.1	2.2
	No health service use	22.8	22.8	22.5	22.8

*Health service use categories are not mutually exclusive

Tables (school authority type continued)

Table 21. Number and percent of youth registered in Alberta's education system by school authority type and maltreatment-related intervention outcome, Albertan youth aged 12 to 20 years, 2008/09

	School authority type	Intervention outcome			
		In care	Out of care services	Total	Not investigated
Number of youth	Public	2,567	1,793	4,360	193,960
	Separate	371	394	765	58,991
	Remaining authority types	146	96	242	14,270
	Total	3,084	2,283	5,367	267,221
Percent of youth	Public	83.2	78.5	81.2	72.6
	Separate	12.0	17.3	14.3	22.1
	Remaining authority types	4.7	4.2	4.5	5.3
	Total	100.0	100.0	100.0	100.0

Table 22. Number and percent of youth registered in Alberta's education system by school authority type and youth receiving Family Support for Children with Disabilities (FSCD), Albertan youth aged 12 to 18 years, 2008/09

	School authority type	Receiving services from FSCD		
		Yes	No	Total
Number of youth	Public	2,332	189,000	191,332
	Separate	614	58,037	58,651
	Remaining authority types	224	13,630	13,854
	Total	3,170	260,667	263,837
Percent of youth	Public	73.6	72.5	72.5
	Separate	19.4	22.3	22.2
	Remaining authority type	7.1	5.2	5.3
	Total	100.0	100.0	100.0

Table 23. Number and percent of youth registered in Alberta's education system by school authority type and number of charges, Albertan youth aged 12 to 17 years, 2008/09

	School authority type	Number of charges				
		One	Two or three	Four or more	Total	No charges
Number of youth	Public	1,697	1,077	986	3,760	171,588
	Separate	363	215	167	745	53,965
	Remaining authority types	37	33	44	114	12,936
	Total	2,097	1,325	1,197	4,619	238,489
Percent of youth	Public	80.9	81.3	82.4	81.4	72.0
	Separate	17.3	16.2	14.0	16.1	22.6
	Remaining authority types	2.2	2.4	3.7	2.5	5.4
	Total	100.0	100.0	100.0	100.0	100.0

Tables (school authority type continued)

Table 24. Number and percent of youth registered in Alberta's education system by school authority type and type of corrections involvement, Albertan youth aged 12 to 17 years, 2008/09

	School authority type	Type of corrections involvement			
		Custody	Community	Any corrections involvement	No corrections involvement
Number of youth	Public	541	3,180	3,236	172,112
	Separate	88	653	665	54,045
	Remaining authority types	27	91	94	12,956
	Total	656	3,924	3,995	239,113
Percent of youth	Public	82.5	81.0	81.0	72.0
	Separate	13.4	16.6	16.6	22.6
	Remaining authority types	4.1	2.3	2.4	5.4
	Total	100.0	100.0	100.0	100.0

Table 25. Number and percent of youth registered in Alberta's education system by school authority type and any income support support activity, Albertan youth aged 18 to 20 years, 2008/09

	School authority type	Income support activity		
		Any income support activity	No income support activity	Total
Number of youth	Public	443	22,529	22,972
	Separate	73	4,973	5,046
	Remaining authority types	33	1,429	1,462
	Total	549	28,931	29,480
Percent of youth	Public	80.7	77.9	77.9
	Separate	13.3	17.2	17.1
	Remaining authority types	6.0	4.9	5.0
	Total	100.0	100.0	100.0

Definitions and Notes

- The study population for this project consisted of all Albertan youth who were registered with the Alberta Health Care Insurance Plan in 2008/09 or who received selected services from one or more of the participating ministries in 2008/09. "All Albertan youth" refers to this study population.
- The study year was fiscal year 2008/09. With the exception of Education and Enterprise and Advanced Education data, all data were for services provided between April 1, 2008 and March 31, 2009, with age determined on March 31, 2009.
    - Data for Enterprise and Advanced Education were for services provided between September 1, 2008 and June 30, 2009, with age determined on March 31, 2009.
    - Data for Education were for services provided to youth who were 12 to 19 years old on September 30, 2008. As a result, youth turning 12 between October 1, 2008 and March 31, 2009 *were not* included in the Education data but were included in other ministries' data. This resulted in the number of 12 year olds in the Education data being lower (approximately 50% lower) than that of 13 to 17 year olds.
    - Furthermore, although Education only provides services to youth who are under 20, the provision of services is defined by age at September 30. Youth who turned 20 between October 1, 2008 and March 31, 2009 *were* included in the Education data, resulting in the inclusion of 20 year olds in some analyses of Education data.
- **Cross-ministry analyses included only youth that were linked across the relevant ministries**. This means that not all youth in the project were represented in every analysis. As well, only youth with a value for a given indicator were included in analyses involving that indicator (i.e., **missing values** were excluded).
- Age, gender, and postal code (translated into Statistics Canada dissemination areas) were provided for each individual by each participating ministry. In the case of discrepancies between ministries, the most common value for an indicator was chosen. In the event of two or more most common values, the value for the indicator was chosen randomly from the most common values.
- Dissemination areas of residence were used by CYDL to determine **region of residence**. Urban areas included large centres with urban core populations greater than 100,000 (i.e., Edmonton and Calgary metropolitan areas) and mid-sized centres with urban cores greater than 10,000; all other areas were categorized as rural.
- **Socio-economic status (SES)** captures the social and material environments in which youth live. A youth was assigned a socio-economic status via an index based on the Statistics Canada dissemination area in which he or she resided[7]. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single families, percent of persons living alone, and percent of persons separated, divorced, or widowed. Socio-economic status values fell into five quintiles. In this report, "lowest socio-economic status" refers to the lowest quintile of socio-economic status, while "highest" refers to the highest quintile.

Definitions and Notes (continued)

- **Educational achievement** was computed by Alberta Education using age, grade, school type, special education codes, provincial achievement test scores, home education status, number of high school credits earned, number of higher level courses taken, average grade in higher level courses, possession of an Alberta Education certificate or diploma, and Alexander Rutherford scholarship eligibility. Educational achievement was categorized as *above*, *meeting*, or *below expectations* for a student's age and grade. An educational achievement rating was not available for 12 to 14 year old youth without scores on provincial achievement tests, for youth in 'other' schools (accredited post-secondary institutions offering high school courses for credit to adults; most youth in these schools were between 18 and 20 years), and for home-schooled high school youth with no credits.
- **Mental health status** was defined by the presence or absence of mental health diagnosis codes in Health's databases (Inpatient—Discharge Abstract Database, Ambulatory Care, and Practitioner Payments), or in the Family Support for Children with Disabilities Information System. Only youth who were registered with Health for the full fiscal year were included in the mental health analyses. **Mental health service use is a proxy for presence of a mental health condition:** Some youth with mental health conditions may not have accessed mental health services in Alberta during the year, and some mental health service use may have occurred for youth who did not in fact have mental health conditions.
    - **Mental health conditions** were grouped based on The Johns Hopkins ACG® Case-Mix System (version 8.2)[8]. Mental health conditions were *mood/anxiety* (anxiety, depression, bipolar disorder, etc.), *behavioural* (attention-deficit disorder, regulatory disorder, mental or behavioural problems due to substance use, etc.), *neurodevelopmental* (autism, fetal alcohol spectrum disorder, cerebral palsy, etc.), or *schizophrenia/psychoses* (schizophrenia, psychosis, delusional disorder, etc.). Conditions were not mutually exclusive; a youth could have a diagnosis in more than one category.
- **Physician visits** reflect fee claims made by physicians when patients visit their offices. In this report, multiple claims by a given physician for a given patient on the same day were counted as a single visit.
- **Emergency room visits** refer to visits to emergency departments for assessment or treatment.
- **Hospitalizations** refer to admissions to hospital for assessment or treatment.
- **Maltreatment-related investigations** occur when there is a concern that the safety or well-being of a youth is threatened. Outcomes of investigation include *in care after investigation* (the youth is taken into care, and placed in a foster home, with family, in a group home, etc.), *out of care services* (the youth remains in the home and the family receives support services), and *no intervention needed*.
- **Maltreatment-related interventions** occur when the safety or well-being of a youth is threatened. Categories of intervention include *in care services* (the youth is taken into care, and placed in a foster home, with family, in a group home, etc.), and *out of care services* (the youth remains in the home and the family receives support services).
- **Family Support for Children with Disabilities (FSCD)** is a ministry of Human Services program that provides a range of supports and services to families that strengthen their ability to support and care for their child with a disability based on their needs.
- Youth with **offence charges** include those charged with criminal offences or administrative offences related to criminal offences (e.g., failure to appear in court, breach of probation, etc.). **Number of offences** in the study year was available, but individual incidents were not available. This means that youth charged with multiple offences may have had multiple charges in a single incident, or they may have been charged in multiple incidents.

Definitions and Notes (continued)

- Youth with **corrections involvement** have appeared before the Court or a Justice of the Peace for an offence charge and have been remanded in custody or placed under pre-trial supervision in the community awaiting further court dates, or have been found guilty and sentenced to a community disposition (i.e. Fine, Probation, Community Service Work, Deferred Custody) and/or custody (in which the sentence is served in a young offender facility).
- **Income support** refers to financial benefits provided to individuals and couples who cannot meet their basic needs. The **client types** for income support clients are *expected to work* (clients who are looking for work, working, or unable to work in the short term) and *barriers to full employment* (clients who have difficulty working because of a chronic mental or physical health problem or because of multiple barriers to employment).
- **School authority types**

  There is one publicly-funded system of education in Alberta. The public system includes public, separate, Francophone and charter schools.

  - **Public** schools are non-denominational schools.
  - **Separate** schools are established under rights guaranteed by the Constitution of Canada for the minority religion (Protestant or Roman Catholic).
  - **Francophone** schools provide instruction in French to children whose parents have rights under section 23 of the Canadian Charter of Rights and Freedoms.
  - **Charter** schools are autonomous public schools designed to meet the needs of students through a specific program or approach. They must be non-religious.

  Private schools operate outside the public education system. Private schools may charge tuition and other fees. There are two kinds of private schools.

  - Accredited private schools must offer the Alberta Program of Studies with certificated teachers; they may be partially funded or non-funded.
  - Registered private schools are not required to offer the Program of Studies and are not funded.

  Other schools are accredited post-secondary institutions offering high school courses for credit to adults.
- No data were available for students who attended schools on First Nations reserves or in Lloydminster.
- Youth involved in corrections may have received educational programs from a school authority that was different from the school authority type they attended while not involved in the correctional system. The school authority assigned to the youth for analyses in this report may or may not have been the school authority type in which they were enrolled while involved in corrections.

Data sources

Ministry	Database	Use in this report
Enterprise and Advanced Education	Learner Enrolment Reporting System (LERS)	Post-secondary education enrolment data
Education	Corporate Data Warehouse (CDW)	Primary and secondary education achievement data
Health	Inpatient – Discharge Abstract Database (DAD)	Hospitalization data
Health	Ambulatory Care (ACCS)	Emergency room visit data
Health	Practitioner Payments (SESE)	Physician visit data
Health	Alberta Health Care Insurance Plan Population Registry (AHCIP registry)	Population registry
Human Services	Child Youth Information Module (CYIM)	Maltreatment and intervention data
Human Services	Family Support for Children with Disabilities Information System (FSCDIS)	Family Supports for Children with Disabilities data
Human Services	Central Client Directory (CCD)	Income support data
Justice and Solicitor General	Justice Online Information Network (JOIN)	Offence data
Justice and Solicitor General	Alberta Community Offender Management System (ACOM)	Corrections data (community)
Justice and Solicitor General	Correctional Offender Management Information System (CoMIS)	Corrections data (custody)

References

1. Human Resources and Skill Development Canada. (2008). *Special reports – What difference does learning make to financial security?*. Retrieved from http://www4.hrsdc.gc.ca/.3ndic.1t.4r@-eng.jsp?iid=54
2. The Chief Public Health Officer. (2011). *Report on the state of public health in Canada youth and young adults – Life in Transition*. Retrieved from http://www.phac-aspc.gc.ca/cphorsphc-respcacsp/2011/pdf/cpho-resp-2011-eng.pdf
3. Public Health Agency of Canada. (2004). *The social determinants of health: Education as a determinant of health*. Retrieved from http://www.phac-aspc.gc.ca/ph-sp/oi-ar/10_education-eng.php
4. Bussiere, P., Knighton, T., & Pennock, D. (2007). *Measuring up: Canadian results of the OECD PISA Study – The performance of Canada's youth in science, reading and mathematics 2006 first results for Canadians aged 15* (Cat. no. 81-590-XPE– No. 3). Ottawa: Human Resources and Social Development Canada, Statistics Canada, Council of Ministers of Education, Canada.
5. Statistics Canada. (2003). Understanding the rural-urban reading gap (Cat. no. 81-003-XIE). *Education quarterly review, 9*, 7-18.
6. Alberta Children and Youth Services & Alberta Education. (2010). *Summary of Education Results for Children and Youth in Care: 1997/98 – 2006/07*. Retrieved from http://education.alberta.ca/media/1136282/summarycyicdatareport.pdf
7. Pampalon, R., Hamel, D., Garnache, P., Raymond, G. (2009). A deprivation index for health planning in Canada. *Chronic Diseases in Canada, 29(4)*, 178-91.
8. The Johns Hopkins University (2008). *The Johns Hopkins ACG® System Reference Manual, Version 8.2*. Johns Hopkins University: Baltimore.

The Child and Youth Data Laboratory

The **Child and Youth Data Laboratory** (CYDL) links and analyzes administrative data from child- and youth-serving ministries in the Government of Alberta. The ministries participate in research design and provide data elements that contribute to answering research questions.

The CYDL's research provides groundbreaking opportunities to understand relationships between critical factors in the lives of children and youth in Alberta. The research results can be used to inform policy and program development and evaluation, both within and across ministries, and to inspire further research.

The CYDL is managed by the **Alberta Centre for Child, Family and Community Research** (ACCFCR). The Centre has evolved over its eight year history as a public-sector, innovative resource for evidence. The Centre develops, supports and integrates research across sectors and disciplines to provide a strong, evidence-based foundation for identifying and promoting effective public policy and service delivery to improve the well-being of children, families, and communities in Alberta, Canada, and internationally.

Our partners

This project was carried out on behalf of six ministries of the Government of Alberta. Each ministry collaborated extensively with the CYDL on this project, and their dedication to the project is gratefully acknowledged:

Enterprise and Advanced Education
Education
Health
Human Services
Aboriginal Relations
Justice and Solicitor General

Suggested citation

Child and Youth Data Laboratory (2012). *Educational experiences of Albertan youth.* Edmonton: Alberta Centre for Child, Family and Community Research.

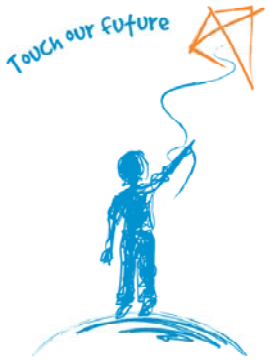
Contact CYDL

www.research4children.com
Click on "Data"

Xinjie Cui, Director
780 944 8631
xcui@research4children.com

Leslie Twilley, Senior Scientist
780 408 8734
ltwilley@research4children.com

Navjot (Jo) Lamba, Research Scientist
780 408 8735
jlamba@research4children.com



ALBERTA CENTRE FOR
CHILD, FAMILY & COMMUNITY
RESEARCH

Government
of Alberta

Mental health status of Albertan youth

Child and Youth Data Laboratory (CYDL)

Report for *Experiences of Albertan Youth* Project

Key findings

This report is an overview of 66,792 Albertan youth (12 to 24 years) who received services for mental health conditions in 2008/09. Mental health status refers to presence or absence of a mental health condition. Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition.

The relationships between mental health status and age, gender, region of residence, socio-economic status, educational achievement, and health service use were considered. The cross-ministry service use of youth who received services for mental health conditions was also studied.

- 11% of Albertan youth received services for mental health conditions in 2008/09.
- *Mood/anxiety* and *behavioural* disorders were the most common mental health conditions, with *mood/anxiety* conditions generally more common in females and *behavioural* conditions more common in males. The percentage of youth with mental health conditions increased with age for females, but was stable across age for males.
- There was little effect of region of residence or socio-economic status on mental health status.
- The rate of mental health conditions was higher for youth who performed below educational expectations, who visited physicians five or more times, who visited emergency rooms, or who were hospitalized (youth with *schizophrenia/psychoses* were particularly likely to be hospitalized).
- Youth who received maltreatment-related intervention services, were charged with an offence, were involved in corrections, were enrolled in a part-time post-secondary program, or received income support were more likely to have received services for a mental health condition than youth who did not did not have these ministry service involvements.

Contents

Key findings and Context.....1 to 2
Data analyses.....3 to 10
Tables.....11 to 18
Definitions and Notes.....19 to 21
Data sources.....22
References.....22
About CYDL.....23

Mental health status of Albertan youth

Context

Good mental health is a cornerstone of overall health, and the mental health status of youth has recently become a major focus of social programs and policy. Specifying exactly what is meant by mental health is difficult, and consequently definitions vary widely. Interpretation of findings related to the mental health of youth, including those in this report, must give careful consideration to how mental health was measured.

Personal and societal costs of mental health issues in youth are high. According to Waddell et al. (2005), 14% of Canadians aged 4 to 17 years are affected by mental health disorders that are serious enough to cause distress or impairment at home, school, and in the community[1]. Youth with untreated mental health disorders have been found to have elevated rates of use of services such as health care, justice and corrections, special education programs, foster care, and income support[2].

Youth who report lower levels of satisfaction with and control over their lives, reduced sense of belonging, or impaired relationships have a lower level of mental health.[3] Aboriginal youth living off reserves are less likely than the overall population of youth to report having good or excellent mental health, while immigrants are more likely to report this than the overall population.[3] More than two thirds of sexual minority youth do not feel a sense of belonging to their school community. Youth living in low income situations (who are more likely than the overall population to be Aboriginal, immigrant, or homeless youth) are more stressed than youth not living in low income.[3]

Children who are resilient to mental health problems tend to have strong learning abilities, good social skills, long-term support from one or more adults, feelings of competency, and positive beliefs about their purpose in the world, and cohesive families and communities[1].

The project

The current project, **Experiences of Albertan Youth**, is focused on basic understanding of the experiences of Albertan youth within and across ministries, as they relate to key indicators (age, gender, socio-economic status, educational achievement, and mental health status). It is the first project in a planned series that will link and analyze administrative data on children and youth in Alberta to inform policy, programs, and research.

List of reports for the project

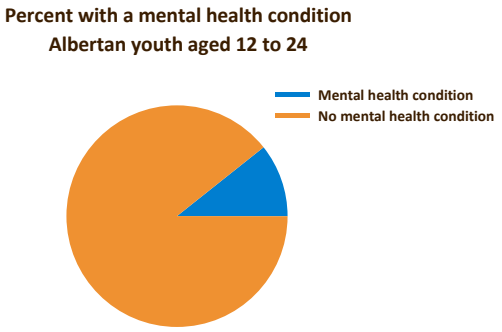
Socio-economic status of Albertan youth
Educational experiences of Albertan youth
Mental health status of Albertan youth
Family Support for Children with Disabilities services received by Albertan youth
Maltreatment-related investigations among Albertan youth
Maltreatment-related intervention services received by Albertan youth
Physician visits by Albertan youth
Emergency room visits by Albertan youth
Hospitalizations of Albertan youth
Offence charges among Albertan youth
Corrections involvement among Albertan youth
Post-secondary students in Alberta
Income support among Albertan youth
Educational experiences of Albertan youth with income support activity
Least advantaged and most advantaged Albertan youth

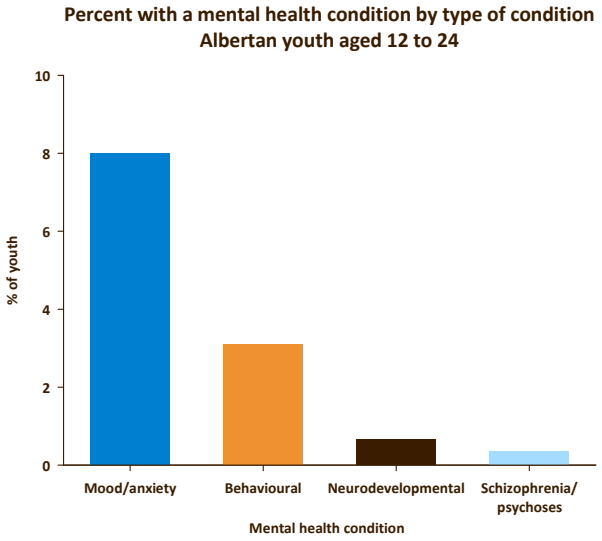
Mental health status of Albertan youth

Mental health status (Table 1)

Mental health data were analyzed for all youth (aged 12 to 24 years) who were registered with the Alberta Health Care Insurance Plan for the duration of 2008/09.

- In 2008/09, there were 66,792 youth who received services for one or more mental health conditions. This represents 11% of Albertan youth.





Mental health conditions (Table 1)

See table below for example conditions for mental health categories and *Definitions and Notes* (p. 20) for a description of coding.

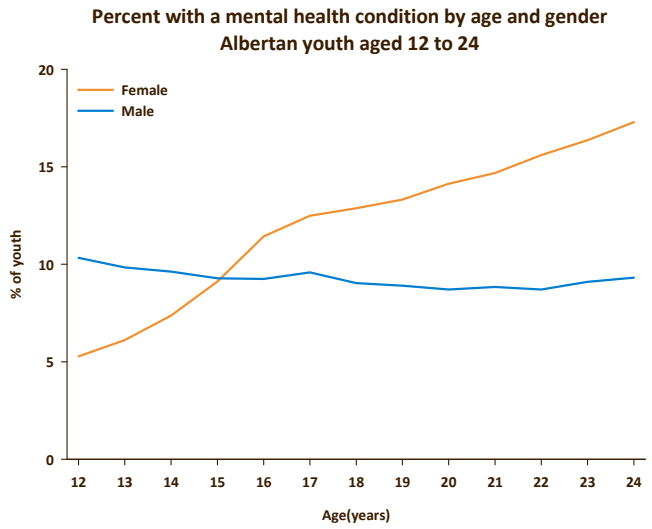
- *Mood/anxiety* conditions were the most common mental health diagnoses in Albertan youth, affecting 8% of Albertan youth.

Mental health conditions, example diagnoses

Category name*	Examples
Mood/anxiety	Anxiety, depression, bipolar disorder, etc.
Behavioural	Attention-deficit disorder, regulatory disorder, mental/behavioural problems due to substance use, etc.
Neurodevelopmental	Autism, fetal alcohol spectrum disorder, cerebral palsy, etc.
Schizophrenia/psychoses	Schizophrenia, psychosis, delusional disorder, etc.

*Mental health condition categories are not mutually exclusive

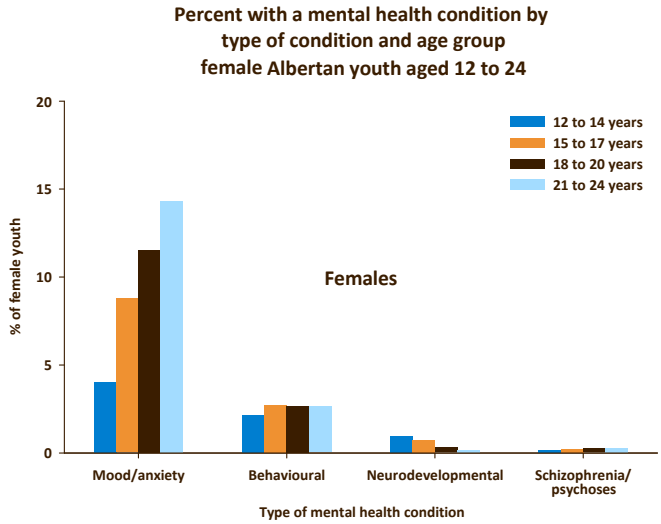
Mental health status of Albertan youth

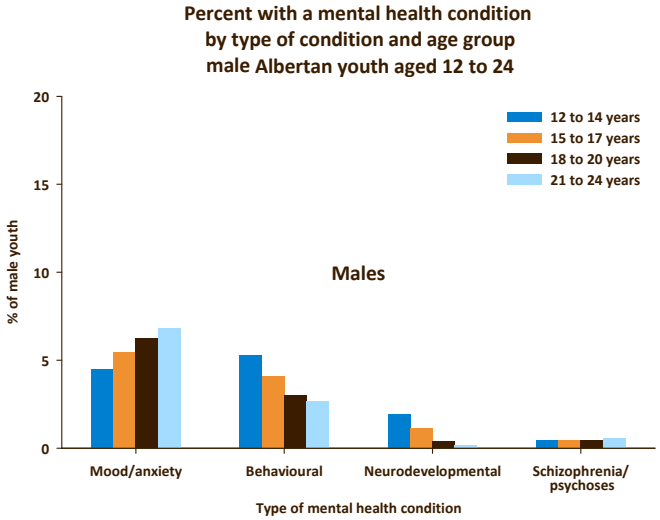


Mental health status by age and gender
(Tables 2 and 3)

- The percentage of female youth with mental health conditions increased with age. For males, the rate was stable across age.
- Between ages 12 and 14 years, males had higher rates of mental health conditions than females.
- From age 16 on, females had higher rates of mental health conditions than males.

Mental health condition by age group and gender (Tables 4 and 5)



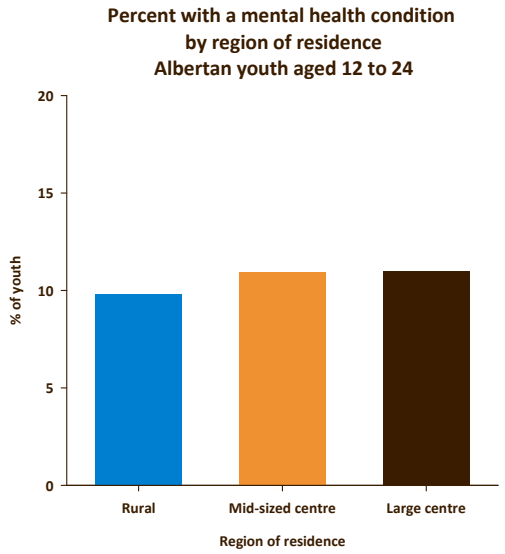


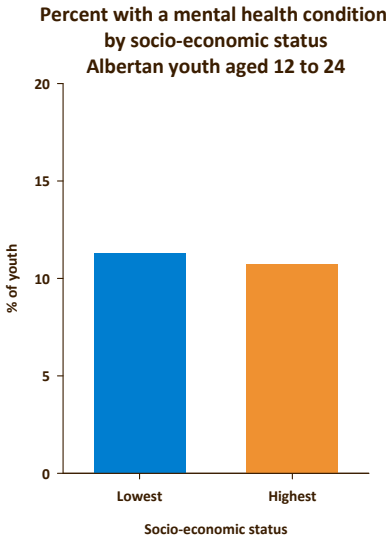
- Female youth with a mental health condition were most likely, in all age groups, to have a *mood/anxiety* disorder. The rate of *mood/anxiety* disorders in females increased markedly with increasing age.
- Male youth with a mental health condition most often had *mood/anxiety* or *behavioural* conditions, with *mood/anxiety* conditions increasing in frequency and *behavioural* conditions decreasing in frequency with increasing age.
- *Mood/anxiety* disorders were more common in females than males from age group 15 to 17 years and onward, while behavioural disorders were more common in males than females up to age group 15 to 17 years. *Neurodevelopmental* and *schizophrenia/psychoses* conditions were rare, but generally more common in males than in females.

Mental health status of Albertan youth

Mental health status by region of residence (Table 6)

- Among youth living in mid-sized and large centres, 11% had a mental health condition. This rate is similar to the 10% of rural Albertan youth who had a mental health condition.
- Rates for different types of mental health conditions varied little across region of residence (not shown in graph).





Mental health status by socio-economic status (Table 7)

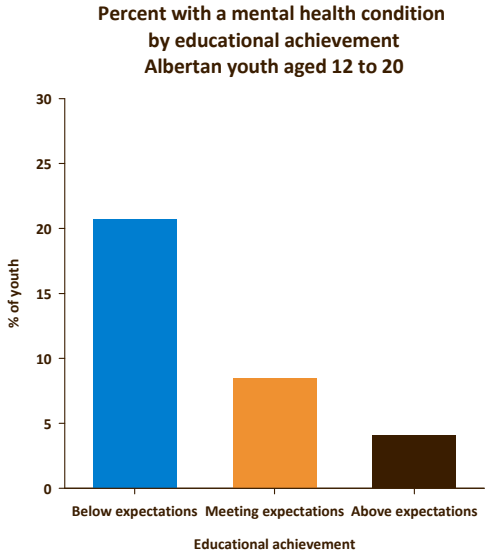
Socio-economic status captures the social and material environments in which youth live. Only the highest and lowest socio-economic status groups are shown in this and the following analysis. See *Definitions and Notes* (p. 19).

- Socio-economic status was not substantially associated with the overall likelihood of having a mental health condition as measured in this study.
- Youth living in the lowest socio-economic areas had slightly higher rates of *mood/anxiety* disorders than youth living in the highest socio-economic areas (not shown in graph).

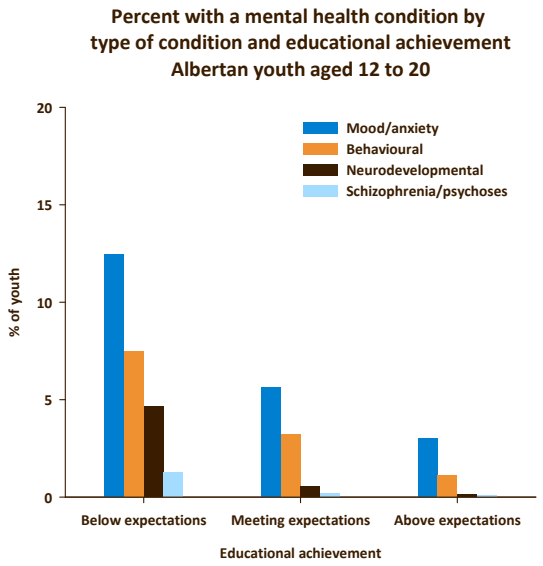
Mental health status by educational achievement (Table 8)

The next four analyses consider youth (aged 12 to 20 years) who were enrolled in the K-12 education system in Alberta in 2008/09. See *Definitions and Notes* (p. 19).

- There was a strong relationship between educational achievement and the presence of any mental health condition.
- Youth who were performing below expectations in school had a mental health condition in 21% of cases, compared with 9% of youth meeting expectations and 4% of those achieving above expectations.



Mental health status of Albertan youth



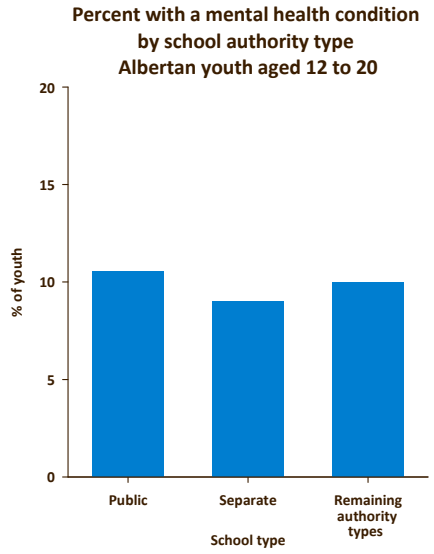
Mental health condition by educational achievement (Table 8)

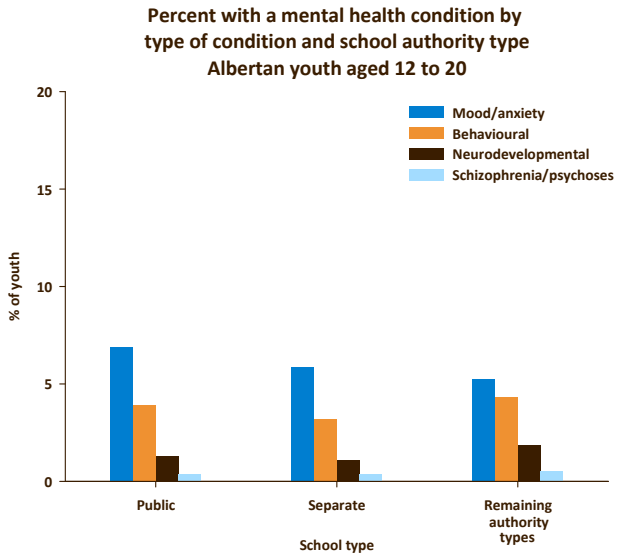
- *Neurodevelopmental* conditions were substantially more common among youth who performed below expectations (4.7%) than youth meeting (0.5%) or above expectations (0.1%).
- *Mood/anxiety* conditions, *behavioural* conditions, and *schizophrenia/psychoses* conditions were also most common among youth who performed below expectations.

Mental health status by school authority type (Table 9)

See *Definitions and Notes* (p. 20) for description of school authority types.

- Rates of mental health conditions were similar across all school authority types.





Mental health condition by school authority type (Table 9)

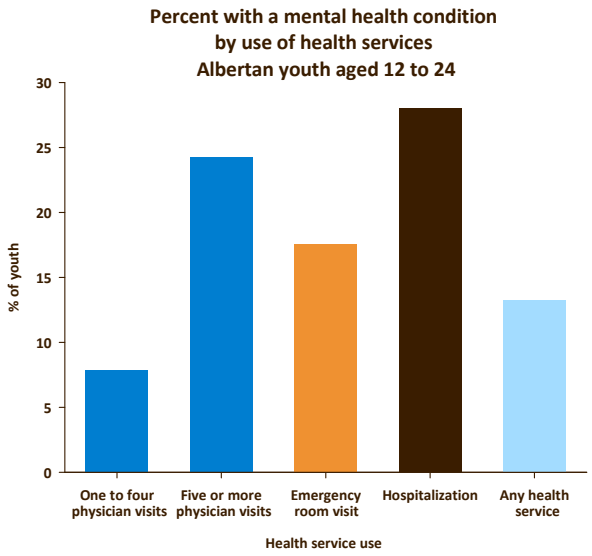
- *Mood/anxiety* conditions were slightly higher in public (7%) compared to *separate* (6%) or *remaining authority types* (5%).
- Higher rates of *behavioural* and *neurodevelopmental* conditions were observed in *remaining authority types (4.3%, 1.9%)* compared to either *public (3.9%, 1.3%)* or *separate* (3.2%, 1.1%) schools. This may reflect specialized services provided at some schools.

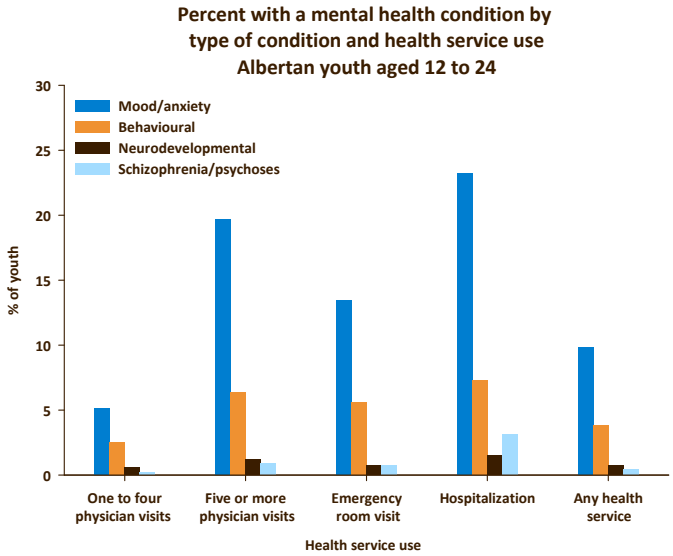
Mental health status of Albertan youth

Mental health status by health service type (Table 10)

The next two analyses consider youth (aged 12 to 24 years) who were registered with the Alberta Health Care Insurance Plan in 2008/09.

- 28% of youth who were hospitalized had a mental health condition, compared with 24% of youth with five or more physician visits, 18% of youth who visited emergency rooms, and 8% of youth with one to four physician visits.





Mental health condition by health service type (Table 10)

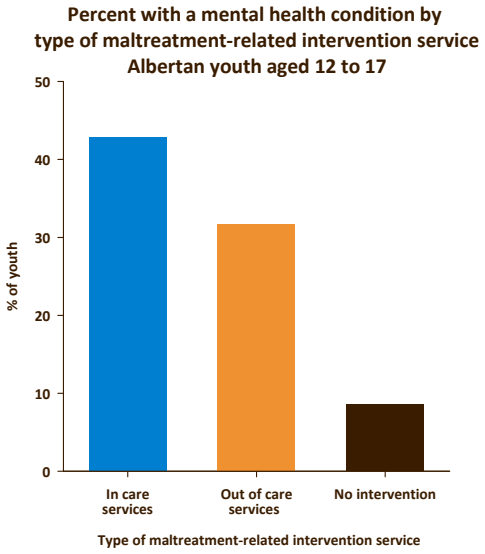
- 23% of youth who were hospitalized had a *mood/anxiety* condition, compared with 20% of those with five or more physician visits, 14% of those visiting emergency rooms, and 5% of youth with one to four physician visits.
- The percentage of youth with *schizophrenia/psychoses* was higher among hospitalized youth (3.2%) than among youth visiting emergency rooms (0.8%) or youth visiting physicians five or more times (0.9%).

Mental health status by type of maltreatment-related intervention services (Table 11)

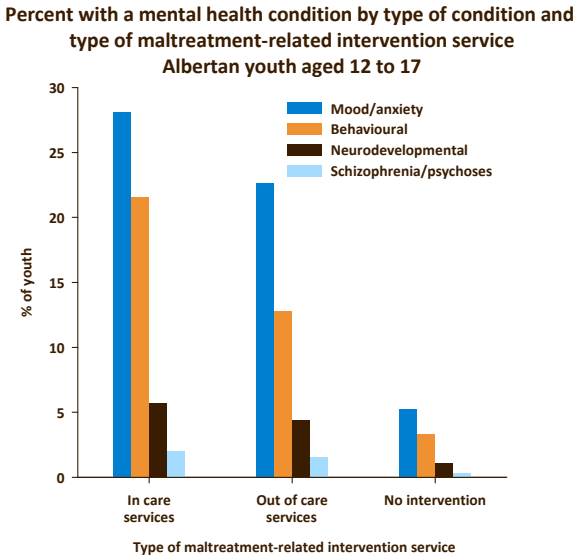
This and the following five analyses are based on youth (aged 12 to 17 years) in Alberta in 2008/09.

Maltreatment-related intervention services occur when the safety or well-being of the youth is threatened. See *Definitions and Notes* (p. 21).

- A mental health condition occurred in 9% of youth who did not receive maltreatment-related intervention services. This rate was much higher in youth who were in care (43%) and in youth receiving out of care intervention services (32%).



Mental health status of Albertan youth



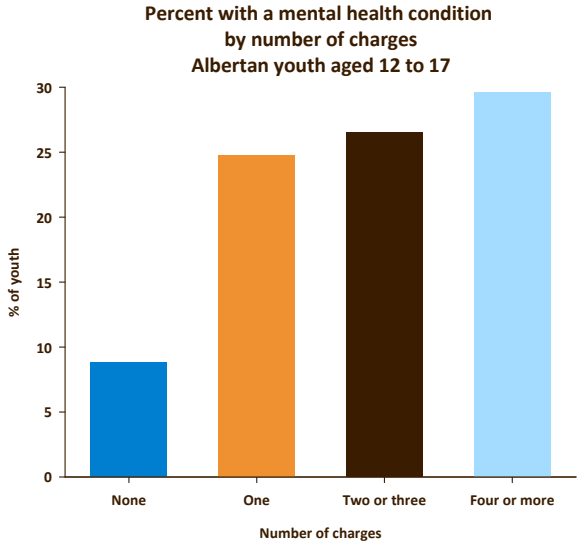
Mental health condition by type of maltreatment -related intervention services (Table 11)

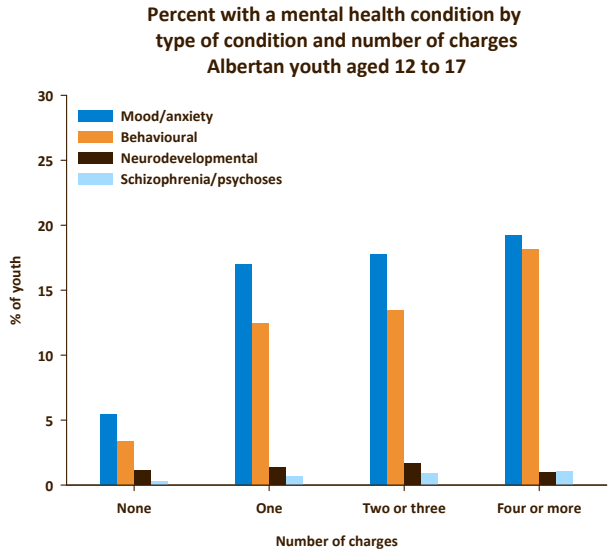
- Service use for all mental health conditions was higher for youth who received maltreatment-related intervention services than for youth with no maltreatment-related intervention services.
- For all mental health conditions there was a gradient in the percentage of youth with these conditions, such that the highest rates were for youth receiving in care services, followed by youth receiving out of care services, and then youth needing no interventions.

Mental health status by number of charges (Table 12)

Youth with offence charges include those charged with criminal offences or administrative offences related to criminal offences (e.g., failure to appear in court, breach of probation, etc.). See *Definitions and Notes* (p. 20).

- The percentage of youth with a mental health condition increased with number of charges.
- Youth with no charges had a mental health condition in 9% of cases, compared with a rate of 30% in youth who had four or more charges.





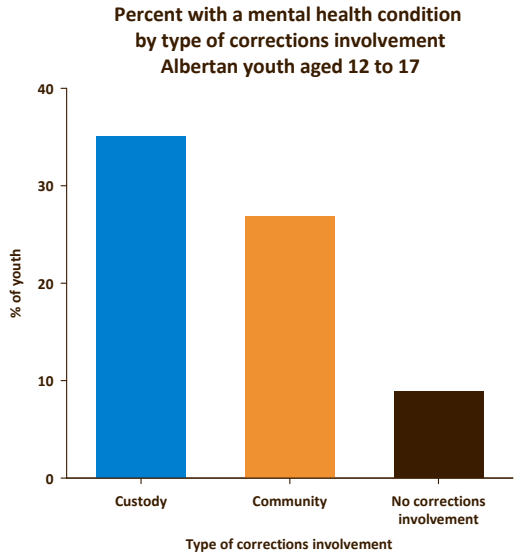
Mental health condition by number of charges (Table 12)

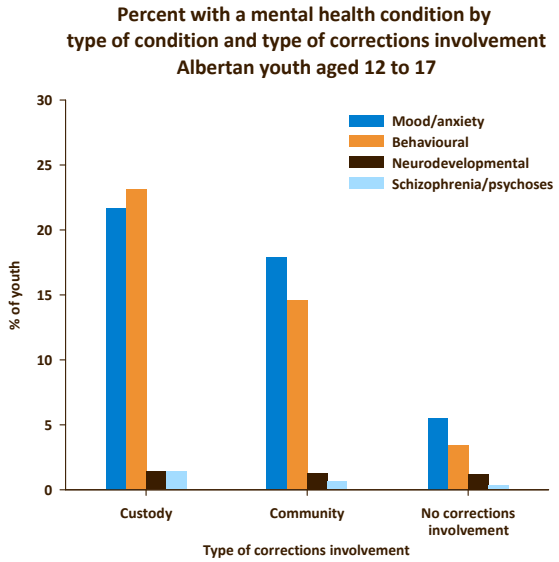
- *Mood/anxiety* conditions were the most common mental health condition in all groups and were markedly more common among charged youth.
- Youth with four or more charges were more likely to have *behavioural* conditions (18%) than youth with two to three charges (14%), youth with one charge (13%) and youth with no charges (3%).
- Rates of *schizophrenia/psychoses* increased slightly with number of charges.
- Rates of neurodevelopmental conditions varied little across number of charges.

Mental health status by corrections involvement (Table 13)

Youth with corrections involvement have appeared before the Court or a Justice of the Peace for an offence charge and have been remanded in custody or placed under pre-trial supervision in the community awaiting further court dates, or have been found guilty and sentenced to a community disposition (in which the sentence is served in the community) or custody (in which the sentence is served in a young offender facility). See *Definitions and Notes* (p. 21).

- The highest rate of mental health conditions was for youth in custody (35%).





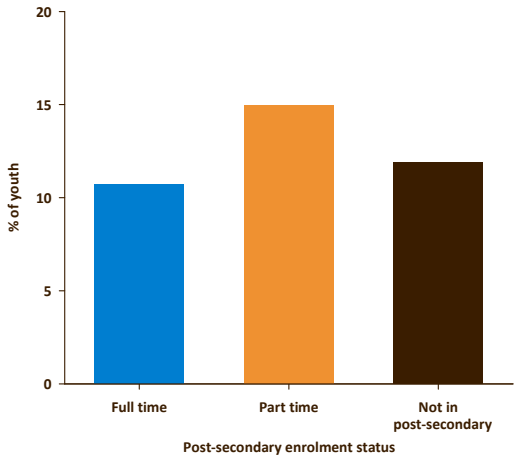
Mental health condition by corrections involvement (Table 13)

- *Mood/anxiety* and *behavioural* conditions were substantially more likely among youth involved in corrections (18%) than among youth not involved in corrections (6%).
- *Behavioural* conditions were the most frequent mental health condition among youth in custody whereas *mood/anxiety* conditions were most frequent for the other groups of youth.
- Note that *neurodevelopmental* conditions, including fetal alcohol spectrum disorder, are underestimated because data from community mental health clinics were not available for these analyses.

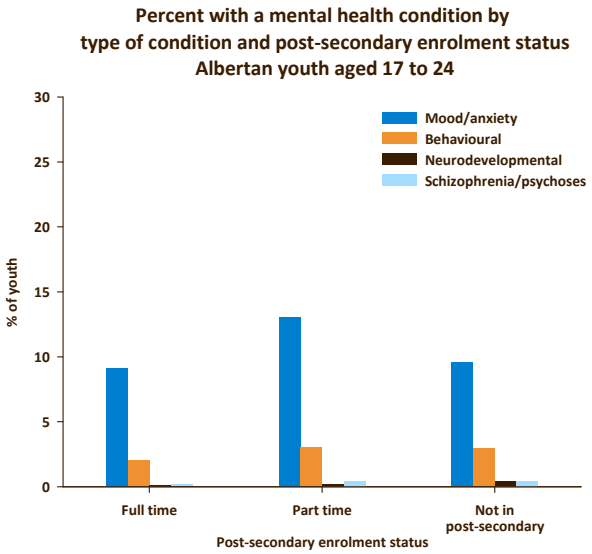
Mental health status by post-secondary enrolment (Table 14)

Youth (17 to 24 years) enrolled in post-secondary institutions in 2008/09 are considered in the next two analyses, in comparison to youth not enrolled in post-secondary institutions. See *Definitions and Notes* (p. 21).

- A mental health condition was present in 11% of youth enrolled in full-time programs, which is equivalent to the rate for those not enrolled in post-secondary programs (12%).
- The rate was elevated (15%) for youth in part-time programs.



Mental health status of Albertan youth



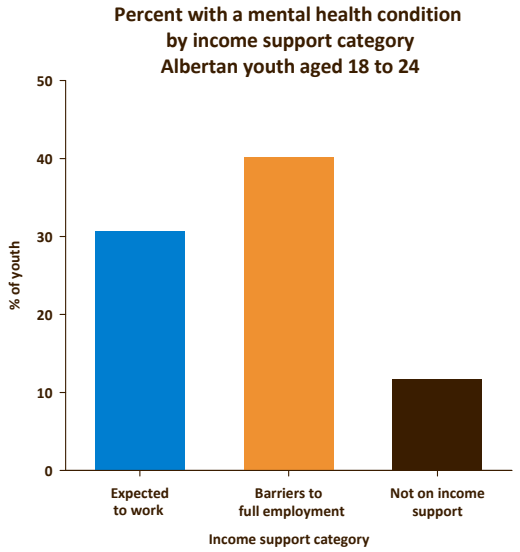
Mental health condition by post-secondary enrolment (Table 14)

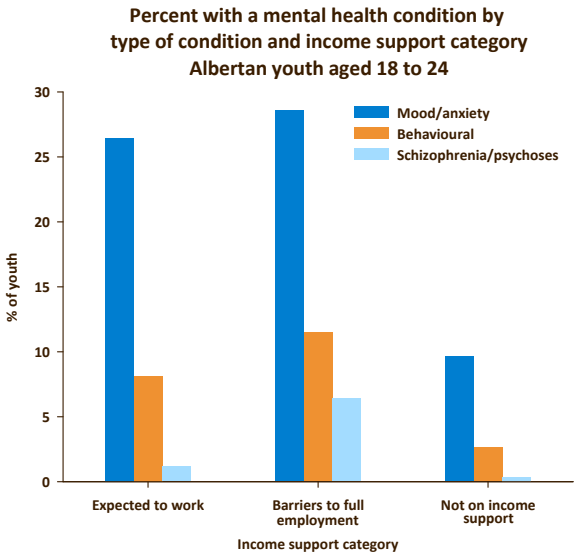
- The higher rate of mental health conditions among youth enrolled in part-time programs compared to those in full-time programs (shown in previous graph) was primarily due to a higher rate of *mood/anxiety* conditions.

Mental health status by income support (Table 15)

Income support refers to financial benefits provided to individuals and couples (aged 18 to 24 years) who cannot meet their basic needs. The client types for income support clients are *expected to work* (clients who are looking for work, working, or unable to work in the short term) and *barriers to full employment* (clients who have difficulty working because of a chronic mental or physical health problem or because of multiple barriers to employment). See *Definitions and Notes* (p. 21).

- Youth receiving income support and experiencing *barriers to full employment* were most likely to have a mental health condition.





Mental health condition by income support (Table 15)

There were not enough youth with *neurodevelopmental* conditions across income support categories to graph.

- Youth experiencing *barriers to full employment* had substantially higher rates of *schizophrenia/psychoses* (6.4%) than youth *expected to work* (1.2%) and youth not on income support (0.4%).
- *Mood/anxiety* and *behavioural* conditions were substantially elevated in both the *expected to work* group and *barriers to full employment* group in comparison to youth not receiving income support.

Tables

Table 1. Number and percent of youth by mental health condition and age group, Albertan youth aged 12 to 24 years, 2008/09

	Mental health condition*	Age group				
		12 to 17	12 to 20	17 to 24	18 to 24	12 to 24
Number of youth	Mood/anxiety	15,777	28,713	38,025	34,152	49,929
	Behavioural	9,967	14,116	11,053	9,459	19,426
	Neurodevelopmental	3,311	3,840	1,250	859	4,170
	Schizophrenia/psychoses	904	1,439	1,580	1,387	2,291
	Any condition	25,442	41,677	46,622	41,350	66,792
	No condition	251,408	381,204	348,417	305,752	557,160
	Total	276,850	422,881	395,039	347,102	623,952
Percent of youth	Mood/anxiety	5.7	6.8	9.6	9.8	8.0
	Behavioural	3.6	3.3	2.8	2.7	3.1
	Neurodevelopmental	1.2	0.9	0.3	0.2	0.7
	Schizophrenia/psychoses	0.3	0.3	0.4	0.4	0.4
	Any condition	9.2	9.9	11.8	11.9	10.7
	No condition	90.8	90.1	88.2	88.1	89.3
	Total	100.0	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Tables (continued)

Table 2. Number and percent of female youth by mental health status and age, Albertan youth aged 12 to 24 years, 2008/09

	Mental health status	Age (years)												
Female		12	13	14	15	16	17	18	19	20	21	22	23	24
Number of youth	Any condition	1,120	1,347	1,655	2,034	2,640	2,911	3,017	3,218	3,400	3,526	3,895	4,143	4,494
	No condition	20,093	20,714	20,800	20,269	20,461	20,389	20,423	20,940	20,667	20,492	21,078	21,179	21,496
	Total	21,213	22,061	22,455	22,303	23,101	23,300	23,440	24,158	24,067	24,018	24,973	25,322	25,990
Percent of youth	Any condition	5.3	6.1	7.4	9.1	11.4	12.5	12.9	13.3	14.1	14.7	15.6	16.4	17.3
	No condition	94.7	93.9	92.6	90.9	88.6	87.5	87.1	86.7	85.9	85.3	84.4	83.6	82.7
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 3. Number and percent of male youth by mental health status and age, Albertan youth aged 12 to 24 years, 2008/09

	Mental health status	Age (years)												
Male		12	13	14	15	16	17	18	19	20	21	22	23	24
Number of youth	Any condition	2,355	2,305	2,288	2,207	2,219	2,361	2,232	2,237	2,131	2,180	2,171	2,311	2,395
	No condition	20,444	21,120	21,498	21,564	21,780	22,276	22,479	22,911	22,376	22,499	22,797	23,086	23,329
	Total	22,799	23,425	23,786	23,771	23,999	24,637	24,711	25,148	24,507	24,679	24,968	25,397	25,724
Percent of youth	Any condition	10.3	9.8	9.6	9.3	9.2	9.6	9.0	8.9	8.7	8.8	8.7	9.1	9.3
	No condition	89.7	90.2	90.4	90.7	90.8	90.4	91.0	91.1	91.3	91.2	91.3	90.9	90.7
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Tables (continued)

Table 4. Number and percent of female youth by mental health condition and age, Albertan youth aged 12 to 24 years, 2008/09

	Mental health condition*	Age group (years)				
Female		12 to 14	15 to 17	18 to 20	21 to 24	Total
Number of youth	Mood/anxiety	2,641	6,032	8,273	14,355	31,301
	Behavioural	1,425	1,872	1,901	2,644	7,842
	Neurodevelopmental	629	510	222	164	1,525
	Schizophrenia/psychoses	107	166	179	275	727
	Any condition	4,122	7,585	9,635	16,058	37,400
	No condition	61,607	61,119	62,030	84,245	269,001
	Total	65,729	68,704	71,665	100,303	306,401
Percent of youth	Mood/anxiety	4.0	8.8	11.5	14.3	10.2
	Behavioural	2.2	2.7	2.7	2.6	2.6
	Neurodevelopmental	1.0	0.7	0.3	0.2	0.5
	Schizophrenia/psychoses	0.2	0.2	0.2	0.3	0.2
	Any condition	6.3	11.0	13.4	16.0	12.2
	No condition	93.7	89.0	86.6	84.0	87.8
	Total	100.0	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Table 5. Number and percent of male youth by mental health condition and age, Albertan youth aged 12 to 24 years, 2008/09

	Mental health condition*	Age group (years)				
Male		12 to 14	15 to 17	18 to 20	21 to 24	Total
Number of youth	Mood/anxiety	3,143	3,961	4,663	6,861	18,628
	Behavioural	3,697	2,973	2,248	2,666	11,584
	Neurodevelopmental	1,353	819	307	166	2,645
	Schizophrenia/psychoses	320	311	356	577	1,564
	Any condition	6,948	6,787	6,600	9,057	29,392
	No condition	63,062	65,620	67,766	91,711	288,159
	Total	70,010	72,407	74,366	100,768	317,551
Percent of youth	Mood/anxiety	4.5	5.5	6.3	6.8	5.9
	Behavioural	5.3	4.1	3.0	2.6	3.6
	Neurodevelopmental	1.9	1.1	0.4	0.2	0.8
	Schizophrenia/psychoses	0.5	0.4	0.5	0.6	0.5
	Any condition	9.9	9.4	8.9	9.0	9.3
	No condition	90.1	90.6	91.1	91.0	90.7
	Total	100.0	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Tables (continued)

Table 6. Number and percent of youth by mental health condition and region of residence, Albertan youth aged 12 to 24 years, 2008/09

	Mental health condition*	Region of residence			
		Rural	Mid-sized centre	Large centre	Total
Number of youth	Mood/anxiety	9,775	7,724	32,427	49,926
	Behavioural	3,916	3,234	12,276	19,426
	Neurodevelopmental	795	676	2,699	4,170
	Schizophrenia/psychoses	476	363	1,452	2,291
	Any condition	13,203	10,525	43,061	66,789
	No condition	121,476	85,788	349,833	557,097
	Total	134,679	96,313	392,894	623,886
Percent of youth	Mood/anxiety	7.3	8.0	8.3	8.0
	Behavioural	2.9	3.4	3.1	3.1
	Neurodevelopmental	0.6	0.7	0.7	0.7
	Schizophrenia/psychoses	0.4	0.4	0.4	0.4
	Any condition	9.8	10.9	11.0	10.7
	No condition	90.2	89.1	89.0	89.3
	Total	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Table 7. Number and percent of youth by mental health condition and socio-economic status (SES), Albertan youth aged 12 to 24 years, 2008/09

	Mental health condition*	Socio-economic status					
		Lowest SES	Low middle	Middle	High middle	Highest SES	Total
Number of youth	Mood/anxiety	12,072	7,948	10,789	8,520	9,498	48,827
	Behavioural	4,730	2,844	4,336	3,374	3,768	19,052
	Neurodevelopmental	1,049	717	852	688	821	4,127
	Schizophrenia/psychoses	534	391	508	403	416	2,252
	Any condition	16,083	10,429	14,541	11,499	12,849	65,401
	No condition	126,202	84,415	125,822	97,266	111,082	544,787
	Total	142,285	94,844	140,363	108,765	123,931	610,188
Percent of youth	Mood/anxiety	8.5	8.4	7.7	7.8	7.7	8.0
	Behavioural	3.3	3.0	3.1	3.1	3.0	3.1
	Neurodevelopmental	0.7	0.8	0.6	0.6	0.7	0.7
	Schizophrenia/psychoses	0.4	0.4	0.4	0.4	0.3	0.4
	Any condition	11.3	11.0	10.4	10.6	10.4	10.7
	No condition	88.7	89.0	89.6	89.4	89.6	89.3
	Total	100.0	100.0	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Tables (continued)

Table 8. Number and percent of youth by mental health condition and educational achievement, Albertan youth aged 12 to 20 years, 2008/09

	Mental health condition*	Educational achievement			
		Below expectations	Meeting expectations	Above expectations	Total
Number of youth	Mood/anxiety	5,361	9,388	810	15,559
	Behavioural	3,215	5,408	302	8,925
	Neurodevelopmental	2,020	893	38	2,951
	Schizophrenia/psychoses	543	299	22	864
	Any condition	8,935	14,127	1,085	24,147
	No condition	34,110	152,638	25,517	212,265
	Total	43,045	166,765	26,602	236,412
Percent of youth	Mood/anxiety	12.5	5.6	3.0	6.6
	Behavioural	7.5	3.2	1.1	3.8
	Neurodevelopmental	4.7	0.5	0.1	1.2
	Schizophrenia/psychoses	1.3	0.2	0.1	0.4
	Any condition	20.8	8.5	4.1	10.2
	No condition	79.2	91.5	95.9	89.8
	Total	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Table 9. Number and percent of youth by mental health condition and school authority type, Albertan youth aged 12 to 20 years, 2008/09

	Mental health condition*	School type			
		Public	Separate	Remaining authority types	Total
Number of youth	Mood/anxiety	12,055	3,074	681	15,810
	Behavioural	6,825	1,671	564	9,060
	Neurodevelopmental	2,218	574	241	3,033
	Schizophrenia/psychoses	633	190	65	888
	Any condition	18,486	4,754	1,300	24,540
	No condition	156,637	48,020	11,714	216,371
	Total	175,123	52,774	13,014	240,911
Percent of youth	Mood/anxiety	6.9	5.8	5.2	6.6
	Behavioural	3.9	3.2	4.3	3.8
	Neurodevelopmental	1.3	1.1	1.9	1.3
	Schizophrenia/psychoses	0.4	0.4	0.5	0.4
	Any condition	10.6	9.0	10.0	10.2
	No condition	89.4	91.0	90.0	89.8
	Total	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Tables (continued)

Table 10. Number and percent of youth by mental health condition and health service type, Albertan youth aged 12 to 24 years, 2008/09

	Mental health condition*	Health service type**				
		One to four physician visits	Five or more physician visits	Emergency room visit	Hospitalization	Any health service
Number of youth	Mood/anxiety	15,981	33,497	21,526	5,384	49,870
	Behavioural	7,964	10,914	9,022	1,689	19,403
	Neurodevelopmental	1,820	2,133	1,180	359	3,984
	Schizophrenia/psychoses	664	1,571	1,234	736	2,289
	Any condition	24,459	41,122	28,112	6,486	66,535
	No condition	287,761	128,725	131,868	16,651	438,855
	Total	312,220	169,847	159,980	23,137	505,390
Percent of youth	Mood/anxiety	5.1	19.7	13.5	23.3	9.9
	Behavioural	2.6	6.4	5.6	7.3	3.8
	Neurodevelopmental	0.6	1.3	0.7	1.6	0.8
	Schizophrenia/psychoses	0.2	0.9	0.8	3.2	0.5
	Any condition	7.8	24.2	17.6	28.0	13.2
	No condition	92.2	75.8	82.4	72.0	86.8
	Total	100.0	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

**Health service type categories are not mutually exclusive

Table 11. Number and percent of youth by mental health condition and type of maltreatment-related intervention service, Albertan youth aged 12 to 17 years, 2008/09

	Mental health condition*	Maltreatment-related intervention service			
		In care services	Out of care services	Total	No intervention
Number of youth	Mood/anxiety	1,030	496	1,526	14,251
	Behavioural	789	280	1,069	8,898
	Neurodevelopmental	208	97	305	3,006
	Schizophrenia/psychoses	74	33	107	797
	Any condition	1,570	694	2,264	23,178
	No condition	2,093	1,496	3,589	247,819
	Total	3,663	2,190	5,853	270,997
Percent of youth	Mood/anxiety	28.1	22.6	26.1	5.3
	Behavioural	21.5	12.8	18.3	3.3
	Neurodevelopmental	5.7	4.4	5.2	1.1
	Schizophrenia/psychoses	2.0	1.5	1.8	0.3
	Any condition	42.9	31.7	38.7	8.6
	No condition	57.1	68.3	61.3	91.4
	Total	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Tables (continued)

Table 12. Number and percent of youth by mental health condition and number of charges, Albertan youth aged 12 to 17 years, 2008/09

	Mental health condition*	Number of charges				
		None	One	Two or three	Four or more	Total charged with an offence
Number of youth	Mood/anxiety	14,853	371	266	287	924
	Behavioural	9,222	271	203	271	745
	Neurodevelopmental	3,239	31	26	15	72
	Schizophrenia/psychoses	859	15	14	16	45
	Any condition	24,063	539	398	442	1,379
	No condition	247,617	1,637	1,105	1,049	3,791
	Total	271,680	2,176	1,503	1,491	5,170
Percent of youth	Mood/anxiety	5.5	17.0	17.7	19.2	17.9
	Behavioural	3.4	12.5	13.5	18.2	14.4
	Neurodevelopmental	1.2	1.4	1.7	1.0	1.4
	Schizophrenia/psychoses	0.3	0.7	0.9	1.1	0.9
	Any condition	8.9	24.8	26.5	29.6	26.7
	No condition	91.1	75.2	73.5	70.4	73.3
	Total	100.0	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Table 13. Number and percent of youth by mental health condition and type of corrections involvement, Albertan youth aged 12 to 17 years, 2008/09

	Mental health condition*	Type of corrections involvement**			
		Custody	Community	Any corrections involvement	Not involved in corrections
Number of youth	Mood/anxiety	184	762	779	14,998
	Behavioural	196	621	646	9,321
	Neurodevelopmental	12	54	60	3,251
	Schizophrenia/psychoses	12	28	32	872
	Any condition	298	1,146	1,183	24,259
	No condition	550	3,115	3,177	248,231
	Total	848	4,261	4,360	272,490
Percent of youth	Mood/anxiety	21.7	17.9	17.9	5.5
	Behavioural	23.1	14.6	14.8	3.4
	Neurodevelopmental	1.4	1.3	1.4	1.2
	Schizophrenia/psychoses	1.4	0.7	0.7	0.3
	Any condition	35.1	26.9	27.1	8.9
	No condition	64.9	73.1	72.9	91.1
	Total	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

*Type of corrections involvement categories are not mutually exclusive

Tables (continued)

Table 14. Number and percent of youth by mental health condition and post-secondary enrolment status, Albertan youth aged 17 to 24 years, 2008/09

	Mental health condition*	Post-secondary enrolment status			
		Full time	Part time	Total	Not in post-secondary
Number of youth	Mood/anxiety	6,339	1,666	8,005	30,020
	Behavioural	1,414	386	1,800	9,253
	Neurodevelopmental	81	20	101	1,149
	Schizophrenia/psychoses	117	54	171	1,409
	Any condition	7,420	1,910	9,330	37,292
	No condition	61,797	10,844	72,641	275,776
	Total	69,217	12,754	81,971	313,068
Percent of youth	Mood/anxiety	9.2	13.1	9.8	9.6
	Behavioural	2.0	3.0	2.2	3.0
	Neurodevelopmental	0.1	0.2	0.1	0.4
	Schizophrenia/psychoses	0.2	0.4	0.2	0.5
	Any condition	10.7	15.0	11.4	11.9
	No condition	89.3	85.0	88.6	88.1
	Total	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Table 15. Number and percent of youth by mental health condition and income support category, Albertan youth aged 18 to 24 years, 2008/09

	Mental health condition*	Income support category			
		Expected to work	Barriers to full employment	Total	Not on income support
Number of youth	Mood/anxiety	511	688	1,199	32,953
	Behavioural	157	276	433	9,026
	Neurodevelopmental**	–	184	–	673
	Schizophrenia/psychoses	23	154	177	1,210
	Any condition	592	966	1,558	39,792
	No condition	1,339	1,441	2,780	302,972
	Total	1,931	2,407	4,338	342,764
Percent of youth	Mood/anxiety	26.5	28.6	27.6	9.6
	Behavioural	8.1	11.5	10.0	2.6
	Neurodevelopmental**	–	7.6	–	0.2
	Schizophrenia/psychoses	1.2	6.4	4.1	0.4
	Any condition	30.7	40.1	35.9	11.6
	No condition	69.3	59.9	64.1	88.4
	Total	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

**There were not enough youth with neurodevelopmental conditions in one or more income support categories to be able to show data

Definitions and Notes

- The study population for this project consisted of all Albertan youth who were registered with the Alberta Health Care Insurance Plan in 2008/09 or who received selected services from one or more of the participating ministries in 2008/09. "All Albertan youth" refers to this study population.
- The study year was fiscal year 2008/09. With the exception of Education and Enterprise and Advanced Education data, all data were for services provided between April 1, 2008 and March 31, 2009, with age determined on March 31, 2009.
    - Data for Enterprise and Advanced Education were for services provided between September 1, 2008 and June 30, 2009, with age determined on March 31, 2009.
    - Data for Education were for services provided to youth who were 12 to 19 years old on September 30, 2008. As a result, youth turning 12 between October 1, 2008 and March 31, 2009 *were not* included in the Education data but were included in other ministries' data. This resulted in the number of 12 year olds in the Education data being lower (approximately 50% lower) than that of 13 to 17 year olds.
    - Furthermore, although Education only provides services to youth who are under 20, the provision of services is defined by age at September 30. Youth who turned 20 between October 1, 2008 and March 31, 2009 *were* included in the Education data, resulting in the inclusion of 20 year olds in some analyses of Education data.
- **Cross-ministry analyses included only youth that were linked across the relevant ministries**. This means that not all youth in the project were represented in every analysis. As well, only youth with a value for a given indicator were included in analyses involving that indicator (i.e., **missing values** were excluded).
- Age, gender, and postal code (translated into Statistics Canada dissemination areas) were provided for each individual by each participating ministry. In the case of discrepancies between ministries, the most common value for an indicator was chosen. In the event of two or more most common values, the value for the indicator was chosen randomly from the most common values.
- Dissemination areas of residence were used by CYDL to determine **region of residence**. Urban areas included large centres with urban core populations greater than 100,000 (i.e., Edmonton and Calgary metropolitan areas) and mid-sized centres with urban cores greater than 10,000; all other areas were categorized as rural.
- **Socio-economic status (SES)** captures the social and material environments in which youth live. A youth was assigned a socio-economic status via an index based on the Statistics Canada dissemination area in which he or she resided[5]. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single families, percent of persons living alone, and percent of persons separated, divorced, or widowed. Socio-economic status values fell into five quintiles. In this report, "lowest socio-economic status" refers to the lowest quintile of socio-economic status, while "highest" refers to the highest quintile.
- **Educational achievement** was computed by Alberta Education using age, grade, school type, special education codes, provincial achievement test scores, home education status, number of high school credits earned, number of higher level courses taken, average grade in higher level courses, possession of an Alberta Education certificate or diploma, and Alexander Rutherford scholarship eligibility. Educational achievement was categorized as *above, meeting,* or *below expectations* for a student's age and grade. An educational achievement rating was not available for 12 to 14 year old youth without scores on provincial achievement tests, for youth in 'other' schools (accredited post-secondary institutions offering high school courses for credit to adults; most youth in these schools were between 18 and 20 years), and for home-schooled high school youth with no credits.

Definitions and Notes (continued)

- **Mental health status** was defined by the presence or absence of mental health diagnosis codes in Health's databases (Inpatient—Discharge Abstract Database, Ambulatory Care, and Practitioner Payments), or in the Family Support for Children with Disabilities Information System. Only youth who were registered with the Alberta Health Care Insurance Plan or the full fiscal year were included in the mental health analyses. **Mental health service use is a proxy for presence of a mental health condition:** Some youth with mental health conditions may not have accessed mental health services in Alberta during the year, and some mental health service use may have occurred for youth who did not in fact have mental health conditions.
    - **Mental health conditions** were grouped based on The Johns Hopkins ACG® Case-Mix System (version 8.2)[5]. Mental health conditions were *mood/anxiety* (anxiety, depression, bipolar disorder, etc.), *behavioural* (attention-deficit disorder, regulatory disorder, mental or behavioural problems due to substance use, etc.), *neurodevelopmental* (autism, fetal alcohol spectrum disorder, cerebral palsy, etc.), or *schizophrenia/psychoses* (schizophrenia, psychosis, delusional disorder, etc.). Conditions were not mutually exclusive; a youth could have a diagnosis in more than one category.
- New and returning Alberta residents, if they are eligible, must register for **Alberta Health Care Insurance Plan** coverage to receive insured health services. Youth in the "**health registry**" refers to all youth who are insured in Alberta. This includes any eligible youth who is a permanent resident of Alberta, living at least 183 days per year in the province. Members of the Canadian Armed Forces, Royal Canadian Mounted Police and federal penitentiary inmates are not eligible (they receive coverage from the federal government), but dependents of these non-eligible residents, who reside in Alberta, are eligible.
- **School authority types**

  There is one publicly-funded system of education in Alberta. The public system includes public, separate, Francophone and charter schools.
    - **Public** schools are non-denominational schools.
    - **Separate** schools are established under rights guaranteed by the Constitution of Canada for the minority religion (Protestant or Roman Catholic).
    - **Francophone** schools provide instruction in French to children whose parents have rights under section 23 of the Canadian Charter of Rights and Freedoms.
    - **Charter** schools are autonomous public schools designed to meet the needs of students through a specific program or approach. They must be non-religious.

  Private schools operate outside the public education system. Private schools may charge tuition and other fees. There are two kinds of private schools.
    - Accredited private schools must offer the Alberta Program of Studies with certificated teachers; they may be partially funded or non-funded.
    - Registered private schools are not required to offer the Program of Studies and are not funded.

  Other schools are accredited post-secondary institutions offering high school courses for credit to adults. Schools on First Nations reserves are not funded by Alberta Education; students who attended these schools are not included in the youth enrolled in the K to 12 education system.

Definitions and Notes (continued)

- **Physician visits** reflect fee claims made by physicians when patients visit their offices. In this report, multiple claims by a given physician for a given patient on the same day were counted as a single visit.
- **Emergency room visits** refer to visits to emergency departments for assessment or treatment.
- **Hospitalizations** refer to admissions to hospital for assessment or treatment.
- Participation in **education** refers to enrolment in the kindergarten to grade 12 education system in Alberta. No data were available for students who attended schools on First Nations reserves or in Lloydminster.
- **Maltreatment-related interventions** occur when the safety or well-being of a youth is threatened. Categories of intervention include *in care services* (the youth is taken into care, and placed in a foster home, with family, in a group home, etc.), and *out of care services* (the youth remains in the home and the family receives support services).
- Youth with **offence charges** include those charged with criminal offences or administrative offences related to criminal offences (e.g., failure to appear in court, breach of probation, etc.). **Number of offences** in the study year was available, but individual incidents were not available. This means that youth charged with multiple offences may have had multiple charges in a single incident, or they may have been charged in multiple incidents.
- Youth with **corrections involvement** have appeared before the Court or a Justice of the Peace for an offence charge and have been remanded in custody or placed under pre-trial supervision in the community awaiting further court dates, or have been found guilty and sentenced to a community disposition (i.e. Fine, Probation, Community Service Work, Deferred Custody) and/or custody (in which the sentence is served in a young offender facility).
- Participation in **post-secondary** education refers to enrolment in a post-secondary institution in Alberta. Youth enrolled in apprenticeship programs were not included. When a student was enrolled in more than one session in the study year, one session was chosen to provide values for credential type, enrolment status, and institution type for that individual. Full-time enrolments were chosen over part-time, winter session enrolments were chosen over fall sessions, and fall sessions were chosen over spring and summer enrolments. If only spring or summer enrolments occurred, the session was randomly chosen from among the spring and summer enrolments.
- **Enrolment status** for post-secondary programs consists of full-time (students who enrolled in at least 60% of a full course load in at least one session in the academic year) or part-time (students who were enrolled in less than 60% of full course load in all sessions attended for the academic year).
- **Income support** refers to financial benefits provided to individuals and couples who cannot meet their basic needs. The **client types** for income support clients are *expected to work* (clients who are looking for work, working, or unable to work in the short term) and *barriers to full employment* (clients who have difficulty working because of a chronic mental or physical health problem or because of multiple barriers to employment).

Data sources

Ministry	Database	Use in this report
Enterprise and Advanced Education	Learner Enrolment Reporting System (LERS)	Post-secondary education enrolment data
Education	Corporate Data Warehouse (CDW)	Primary and secondary education achievement data
Health	Inpatient – Discharge Abstract Database (DAD)	Hospitalization data
Health	Ambulatory Care (ACCS)	Emergency room visit data
Health	Practitioner Payments (SESE)	Physician visit data
Health	Alberta Health Care Insurance Plan Population Registry (AHCIP registry)	Population registry
Human Services	Child Youth Information Module (CYIM)	Maltreatment and intervention data
Human Services	Central Client Directory (CCD)	Income support data
Justice and Solicitor General	Justice Online Information Network (JOIN)	Offence data
Justice and Solicitor General	Alberta Community Offender Management System (ACOM)	Corrections data (community)
Justice and Solicitor General	Correctional Offender Management Information System (CoMIS)	Corrections data (custody)

References

1. Waddell, C., McEwan, K., Shepherd, C.A., Offord, D.R., & Hua, J.M. (2005). A public health strategy to improve the mental health of Canadian children. *Canadian Journal of Psychiatry, 50(4)*, 226-33.
2. Scott, S., Knapp, M., Henderson, J., & Maughan, B. (2001). Financial cost of social exclusion: follow up study of antisocial children into adulthood. *British Medical Journal, 323*, 191-194.
3. Public Health Agency of Canada (2011). *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2011: Youth and Young Adults – Life in Transition*. PHAC: Ottawa.
4. Pampalon, R., Hamel, D., Garnache, P., Raymond, G. (2009). A deprivation index for health planning in Canada. *Chronic Diseases in Canada, 29(4)*, 178-91.
5. The Johns Hopkins University (2008). *The Johns Hopkins ACG® System Reference Manual, Version 8.2* . Johns Hopkins University: Baltimore.

The Child and Youth Data Laboratory

The **Child and Youth Data Laboratory** (CYDL) links and analyzes administrative data from child- and youth-serving ministries in the Government of Alberta. The ministries participate in research design and provide data elements that contribute to answering research questions.

The CYDL's research provides groundbreaking opportunities to understand relationships between critical factors in the lives of children and youth in Alberta. The research results can be used to inform policy and program development and evaluation, both within and across ministries, and to inspire further research.

The CYDL is managed by the **Alberta Centre for Child, Family and Community Research** (ACCFCR). The Centre has evolved over its eight year history as a public-sector, innovative resource for evidence. The Centre develops, supports and integrates research across sectors and disciplines to provide a strong, evidence-based foundation for identifying and promoting effective public policy and service delivery to improve the well-being of children, families, and communities in Alberta, Canada, and internationally.

Our partners

This project was carried out on behalf of six ministries of the Government of Alberta. Each ministry collaborated extensively with the CYDL on this project, and their dedication to the project is gratefully acknowledged:

Enterprise and Advanced Education
Education
Health
Human Services
Aboriginal Relations
Justice and Solicitor General

Suggested citation

Child and Youth Data Laboratory (2012). *Mental health status of Albertan youth.* Edmonton: Alberta Centre for Child, Family and Community Research.

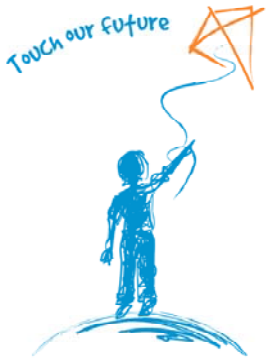
Contact CYDL

www.research4children.com
Click on "Data"

Xinjie Cui, Director
780 944 8631
xcui@research4children.com

Leslie Twilley, Senior Scientist
780 408 8734
ltwilley@research4children.com

Christine Werk, Research Scientist
780 408 8767
cwerk@research4children.com



ALBERTA CENTRE FOR
CHILD, FAMILY & COMMUNITY
RESEARCH

Government
of Alberta

Family Support for Children with Disabilities services received by Albertan youth

Child and Youth Data Laboratory (CYDL)

Report for *Experiences of Albertan Youth* Project

Key findings

This report provides a profile of 3,764 Albertan youth (aged 12 to 18 years) who received Family Support for Children with Disabilities (FSCD) program services from Human Services in 2008/09. Service categories include *family support* services, *child-focused* services, *specialized services* and *out of home* services (see *Definitions and Notes*, p.14). In addition, FSCD assists with some of the extraordinary costs of raising a child with a disability. To receive FSCD services, medical documentation must be provided confirming that the child has a disability or is awaiting a diagnosis; primary diagnoses categories are derived from these medical diagnoses. Not all eligible families choose to access the FSCD program and there are additional health and education programs that support children with disabilities. As such, there are more children with disabilities in the province than those that receive FSCD services.

Youth are described by FSCD service category, primary disability diagnoses, age, gender, region of residence, socio-economic status, school authority type, educational achievement and health service use. The report also provides an overview of cross-ministry service use for these youth

- 1.0% of Albertan youth aged 12 to 18 received FSCD services in 2008/09.
- Overall, the majority of youth receiving FSCD services received *child-focused* services and had a primary diagnosis of a developmental impairment.
- Compared to youth not receiving FSCD services, youth who received FSCD services were more likely to be male, younger than 15 years of age, to live in low middle socio-economic status neighbourhoods, to perform below educational expectations, and to have higher use of health services.
- Youth receiving FSCD services were more likely than youth not receiving FSCD services to be enrolled in Alberta's K-12 education system, to receive maltreatment-related intervention services or to receive income support.

Contents

Key findings and Context.....1 to 2
Data analyses.....3 to 7
Tables.....8 to 13
Definitions and Notes.....14 to 16
Data sources.....17
References.....17
About CYDL.....19

Context

Families with children and youth who have disabilities may require a wide range of supports to assist them in meeting the needs of their children. Statistics Canada reports that in Alberta, approximately 5% of children and youth aged 5 to 24 years have a disability.[1] The most common disabilities reported among children 5 to 14 years of age in Canada are learning disabilities, chronic health conditions, and speech, psychological, and developmental disabilities, while the most common disabilities reported by 15 to 24 year olds include learning disabilities, and disabilities related to pain, mobility, and agility.[2]

Research indicates that families of children with disabilities are more likely to be living in low income neighbourhoods than families with non-disabled children.[3] Additionally, parents of children with severe disabilities are more likely to report high levels of daily stress and find that their employment, financial situation and personal activities are significantly impacted by their child's disability. These parents also report difficulty in finding adequate help and childcare.[3]

Outcomes for children with disabilities improve in the context of adequate income, supported parenting (including employment leaves, flexible work schedules, availability of child care), and community supports (such as integrated delivery of health, education, social, and recreational services).[4]

The project

The current project, **Experiences of Albertan Youth**, is focused on basic understanding of the experiences of Albertan youth within and across ministries, as they relate to key indicators (age, gender, socio-economic status, educational achievement, and mental health status). It is the first project in a planned series that will link and analyze administrative data on children and youth in Alberta to inform policy, programs, and research.

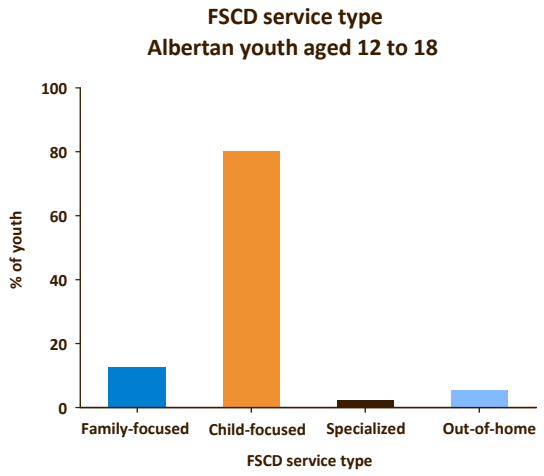
List of reports for the project

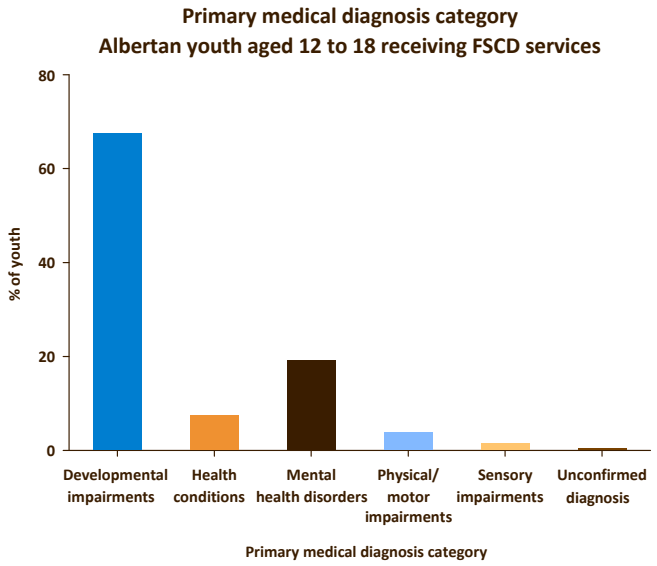
Socio-economic status of Albertan youth
Educational experiences of Albertan youth
Mental health status of Albertan youth
Family Support for Children with Disabilities services received by Albertan youth
Maltreatment-related investigations among Albertan youth
Maltreatment-related intervention services received by Albertan youth
Physician visits by Albertan youth
Emergency room visits by Albertan youth
Hospitalizations of Albertan youth
Offence charges among Albertan youth
Corrections involvement among Albertan youth
Post-secondary students in Alberta
Income support among Albertan youth
Educational experiences of Albertan youth with income support activity
Least advantaged and most advantaged Albertan youth

Youth receiving services through FSCD
(Table 1)

This analysis considers the highest level of FSCD services received (see *Definitions and notes,* p.15) by families of youth (age 12 to 18 years) in Alberta in 2008/09.

- There were 3,764 youth (aged 12 to 18 years) who received FSCD services, representing 1.0% of 365,112 Albertan youth in that age range.
- Of those receiving FSCD services, the majority (80%) received *child-focused* services, 13% received *family-focused* services, 5% received *out-of-home* placement services, and 2% received *specialized* services.





Primary diagnosis (Table 2)

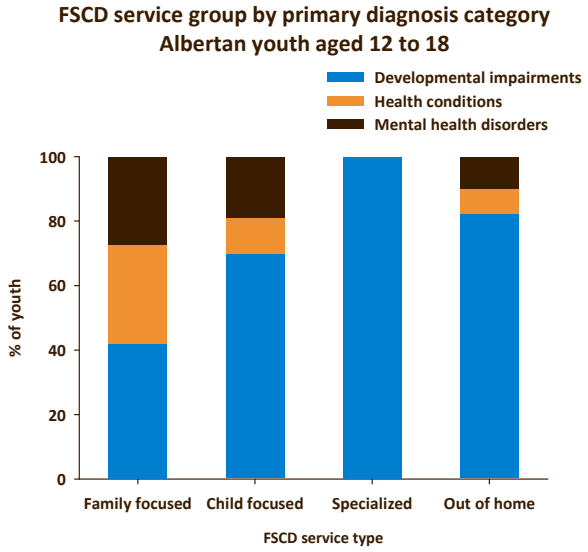
This analysis looks at the primary medical diagnosis (see *Definitions and Notes*, p.15) for youth (aged 12 to 18 years) who received FSCD services in 2008/09.

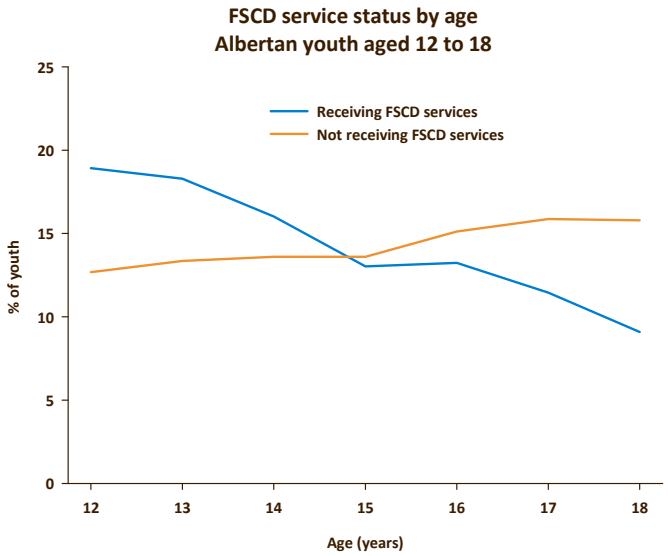
- Most youth receiving FSCD services had a primary diagnosis of developmental impairment (68%), followed by mental health disorder (19%), health condition (7%), physical/motor impairment (4%), sensory impairments (1.5%) and lastly unconfirmed conditions (0.5%). Under the unconfirmed conditions category, youth received FSCD services while awaiting a formal diagnosis.

FSCD service group by primary diagnosis category (Table 3)

This analysis looks at youth (aged 12 to 18 years) grouped according to the highest level of service received by the primary diagnosis category. Primary diagnosis categories were re-grouped into developmental impairments, health conditions and mental health disorders. Physical/motor and sensory impairments were merged into health conditions, and unconfirmed diagnoses were excluded.

- Most youth receiving FSCD services had a primary diagnosis of developmental impairment.
- Health and mental health conditions were most predominant in the *family-focused* group.



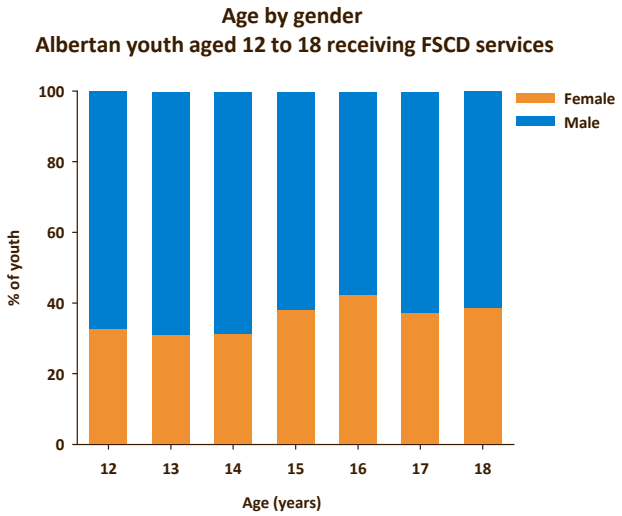


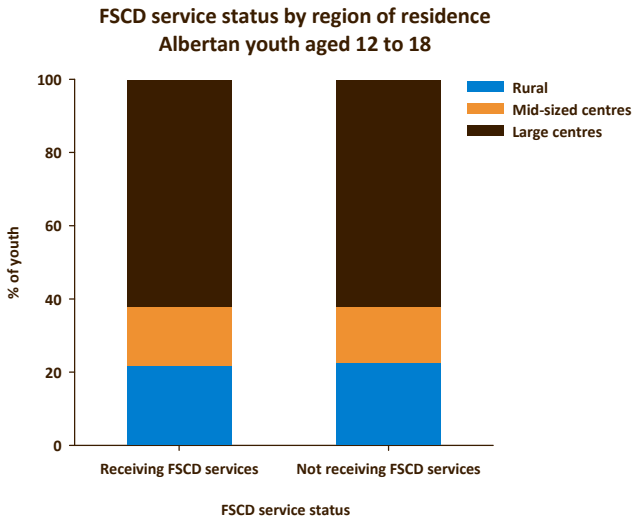
FSCD service status by age (Table 4)

- Youth receiving FSCD services tended to be younger than youth not receiving FSCD services.

Age by gender (Table 5)

- Overall there were more males than females receiving FSCD services, regardless of their age.
- Within an age group, the percentage of female youth receiving services increased with age.





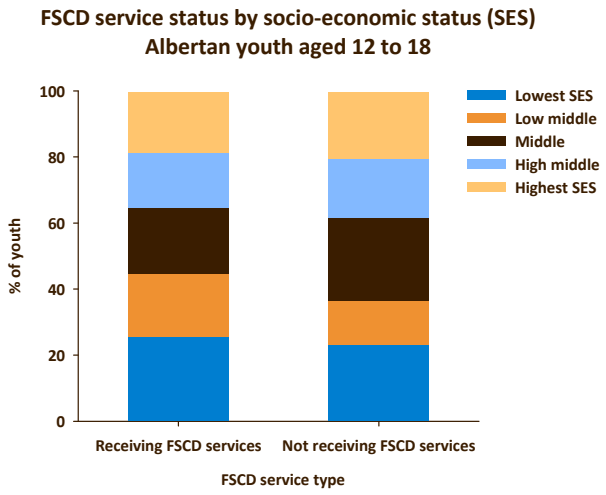
Region of residence (Table 6)

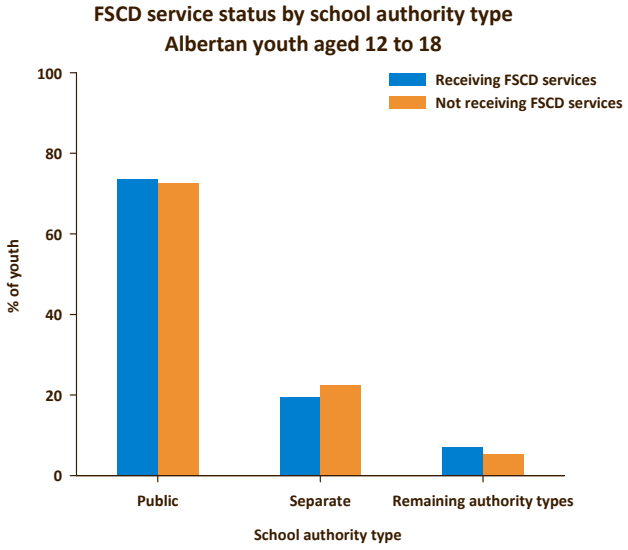
- There were no region of residence differences between youth receiving FSCD services and youth not receiving FSCD services.

Socio-economic status (Table 7)

Socio-economic status captures the social and material environments in which youth live. See *Definitions and Notes* (p.14).

- Youth receiving FSCD services were more likely to live in the low middle (19%) socio-economic neighbourhoods than youth not receiving FSCD services (13%).
- 20% of youth receiving FSCD services lived in the middle socio-economic neighbourhoods compared to 25% of youth not receiving services from the FSCD program.





School authority type (Table 8)

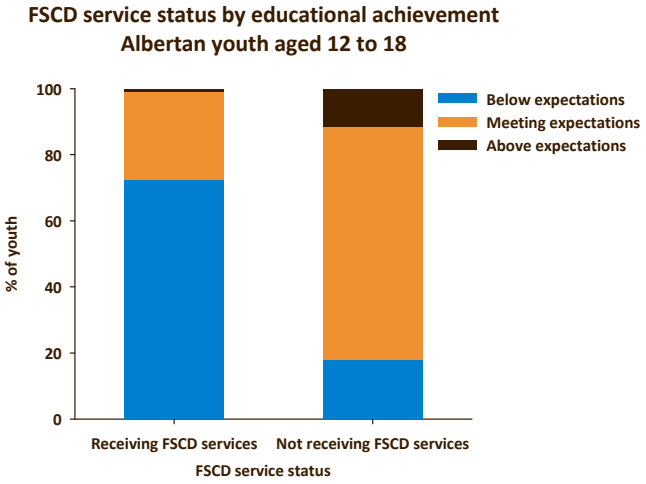
This and the following analysis are limited to youth who received FSCD services and were registered in the K-12 education system in Alberta in 2008/09. See *Definitions and Notes* (p.15).

- Youth receiving FSCD services attended schools in each authority type at a similar rate to Albertan youth not receiving FSCD services.
- Most youth were registered in public schools, regardless of their FSCD status.

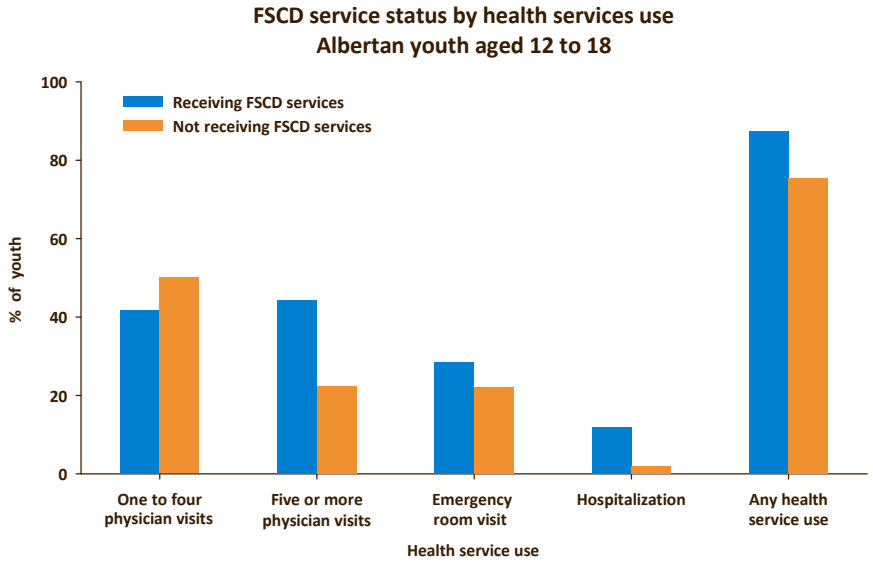
School authority type does not include information about home schooling status.

Educational achievement (Table 9)

- 72% of youth receiving FSCD services performed below educational expectations, compared to 18% of youth not receiving FSCD services.
- Youth not receiving FSCD services were more likely to have met (71%) or exceeded (11%) educational expectations.

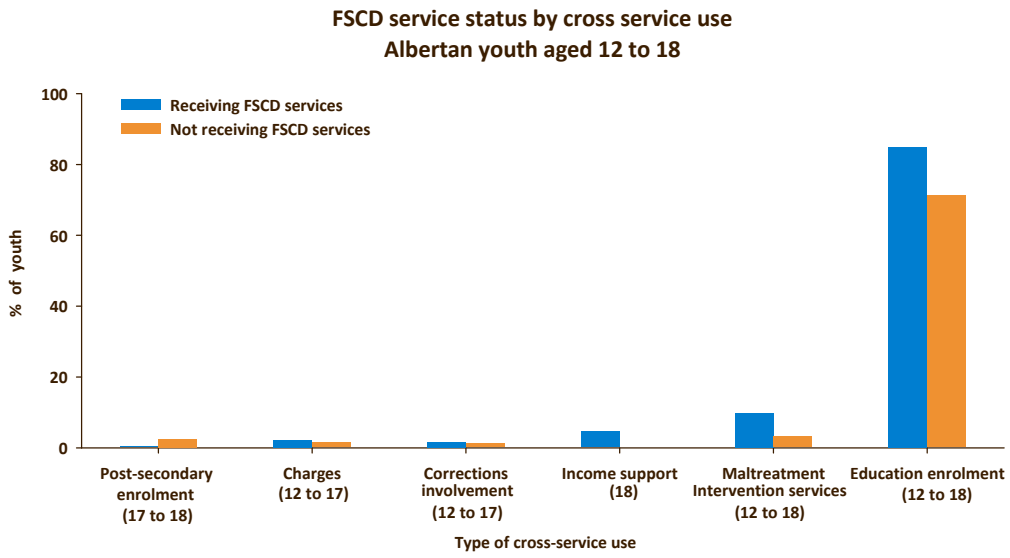


Health service use (Table 10)



- Youth who received FSCD services were more likely to have used any health services, to have five or more physician visits, to have visited an emergency room or been hospitalized at least once, compared to youth not receiving FSCD services.
- Youth not receiving FSCD services were most likely to have one to four physician visits.

Cross service use (Table 11)



This analysis looks at the cross-ministry service use of youth (aged 12 to 18 years) who received FSCD services in 2008/09. Youth were considered in this analysis if they were registered with the Alberta Health Care Insurance Plan (AHCIP; see *Definitions and Notes,* p.16). The effects should be interpreted with caution; they cannot be generalized to youth not registered with the AHCIP. 6.6% of youth who received FSCD program services in 2008/09 were not registered with AHCIP.

- Youth (aged 12 to 18 years) receiving FSCD program services were most likely to be enrolled in Alberta's K-12 education system, to receive maltreatment intervention services, or to have received income support (income support data were available only for youth aged 18 years), than youth not receiving FSCD services.
- Youth (aged 17 to 18 years) receiving FSCD program services were less likely to be enrolled in post-secondary institutions than youth not receiving FSCD services.

Tables

Table 1. Number and percent of youth receiving services from Family Support for Children with Disabilities (FSCD), Albertan youth aged 12 to 18 years, 2008/09

	FSCD service group	Total
Number of youth	Family focused	469
	Child focused	3,017
	Specialized services	80
	Out of home	198
	Any FSCD services	3,764
	Not receiving FSCD services	361,348
	Total youth aged 12 to 18 years	365,112
Percent of youth	Family focused	0.1
	Child focused	0.8
	Specialized services	0.0
	Out of home	0.1
	Any FSCD services	1.0
	Not receiving FSCD services	99.0
	Total youth aged 12 to 18 years	100.0
Percent of youth receiving FSCD services	Family focused	12.5
	Child focused	80.2
	Specialized services	2.1
	Out of home	5.3
	Any FSCD services	100.0

Table 2. Number and percent of youth receiving services from Family Support for Children with Disabilities (FSCD) by primary diagnosis category, Albertan youth aged 12 to 18 years, 2008/09

	FSCD primary diagnosis category	Total
Number of youth	Developmental impairments	2,544
	Health conditions	283
	Mental health disorders	721
	Physical/motor impairments	144
	Sensory impairments	55
	Unconfirmed impairments	17
	Total	3,764
Percent of youth receiving FSCD services	Developmental impairments	67.6
	Health conditions	7.5
	Mental health disorders	19.2
	Physical/motor impairments	3.8
	Sensory impairments	1.5
	Unconfirmed impairments	0.5
	Total	100.0

Tables (continued)

Table 3. Number and percent of youth by Family Support for Children with Disabilities (FSCD) service group and primary diagnosis category, Albertan youth aged 12 to 18 years, 2008/09

	Primary diagnosis category*	FSCD service group				
		Family focused	Child focused	Specialized services	Out of home	Total
Number of youth	Developmental impairments	191	2,110	80	163	2,544
	Health conditions	139	328	-	15	482
	Mental health disorders	124	577	-	20	721
	Total	454	3,015	80	198	3,747
Percent of youth	Developmental impairments	42.1	70.0	100.0	82.3	67.9
	Health conditions	30.6	10.9	-	7.6	12.9
	Mental health disorders	27.3	19.1	-	10.1	19.2
	Total	100.0	100.0	100.0	100.0	100.0

*Primary diagnosis categories are not mutually exclusive

Table 4. Number and percent of youth by Family Support for Children with Disabilities (FSCD) service status and age, Albertan youth aged 12 to 18 years, 2008/09

	Age	FSCD service status		
		Receiving FSCD services	Not receiving FSCD services	Total
Number of youth	12	712	45,801	46,513
	13	688	48,242	48,930
	14	603	49,147	49,750
	15	490	49,151	49,641
	16	498	54,614	55,112
	17	431	57,326	57,757
	18	342	57,067	57,409
	Total	3,764	361,348	365,112
Percent of youth	12	18.9	12.7	12.7
	13	18.3	13.4	13.4
	14	16.0	13.6	13.6
	15	13.0	13.6	13.6
	16	13.2	15.1	15.1
	17	11.5	15.9	15.8
	18	9.1	15.8	15.7
	Total	100.0	100.0	100.0

Tables (continued)

Table 5. Number and percent of youth receiving Family Support for Children with Disabilities (FSCD) services by age and gender, Albertan youth aged 12 to 18 years, 2008/09

	Gender	Age							
		12	13	14	15	16	17	18	Total
Number of youth	Female	232	214	189	187	211	161	132	1,326
	Male	480	474	414	303	287	270	210	2,438
	Total	712	688	603	490	498	431	342	3,764
Percent of youth	Female	32.6	31.1	31.3	38.2	42.4	37.4	38.6	35.2
	Male	67.4	68.9	68.7	61.8	57.6	62.6	61.4	64.8
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 6. Number and percent of youth by Family Support for Children with Disabilities (FSCD) service status and region of residence, Albertan youth aged 12 to 18 years, 2008/09

	Region of residence	FSCD service status		
		Receiving FSCD services	Not receiving FSCD services	Total
Number of youth	Rural	820	81,157	81,977
	Mid-sized centres	605	54,875	55,480
	Large centres	2,339	222,994	225,333
	Total	3,764	359,026	362,790
Percent of youth	Rural	21.8	22.6	22.6
	Mid-sized centres	16.1	15.3	15.3
	Large centres	62.1	62.1	62.1
	Total	100.0	100.0	100.0

Tables (continued)

Table 7. Number and percent of youth by Family Support for Children with Disabilities (FSCD) service status and socio-economic status (SES), Albertan youth aged 12 to 18 years, 2008/09

	Socio-economic status	FSCD service status		
		Receiving FSCD services	Not receiving FSCD services	Total
Number of youth	Lowest SES	956	81,980	82,936
	Low middle	707	46,644	47,351
	Middle	739	87,850	88,589
	High middle	632	63,992	64,624
	Highest SES	695	72,099	72,794
	Total	3,729	352,565	356,294
Percent of youth	Lowest SES	25.6	23.3	23.3
	Low middle	19.0	13.2	13.3
	Middle	19.8	24.9	24.9
	High middle	16.9	18.2	18.1
	Highest SES	18.6	20.4	20.4
	Total	100.0	100.0	100.0

Table 8. Number and percent of youth receiving services from Family Support for Children with Disabilities (FSCD) by school authority type, Albertan youth aged 12 to 18 years, 2008/09

	School authority type	FSCD service status		
		Receiving FSCD services	Not receiving FSCD services	Total
Number of youth	Public	2,332	189,000	191,332
	Separate	614	58,037	58,651
	Remaining authority types	224	13,630	13,854
	Total	3,170	260,667	263,837
Percent of youth	Public	73.6	72.5	72.5
	Separate	19.4	22.3	22.2
	Remaining authority types	7.1	5.2	5.3
	Total	100.0	100.0	100.0

Tables (continued)

Table 9. Number and percent of youth receiving services by Family Support for Children with Disabilities (FSCD) service status and educational achievement, Albertan youth aged 12 to 18 years, 2008/09

	Educational achievement	FSCD service status		
		Receiving FSCD services	Not receiving FSCD services	Total
Number of youth	Below expectations	2,228	45,511	47,739
	Meeting expectations	817	179,544	180,361
	Above expectations	33	29,261	29,294
	Total	3,078	254,316	257,394
Percent of youth	Below expectations	72.4	17.9	18.5
	Meeting expectations	26.5	70.6	70.1
	Above expectations	1.1	11.5	11.4
	Total	100.0	100.0	100.0

Table 10. Number and percent of youth by Family Support for Children with Disabilities (FSCD) service status and health service use, Albertan youth aged 12 to 18 years, 2008/09

	Health service use*	FSCD service status		
		Receiving FSCD services	Not receiving FSCD services	Total
Number of youth	One to four physician visits	1,572	181,160	182,732
	Five or more physician visits	1,669	80,724	82,393
	Emergency room visit	1,075	80,328	81,403
	Hospitalization	452	7,438	7,890
	Any health service use	3,293	272,453	275,746
	No health service use	471	88,895	89,366
	Total	3,764	361,348	365,112
Percent of youth	One to four physician visits	41.8	50.1	50.0
	Five or more physician visits	44.3	22.3	22.6
	Emergency room visit	28.6	22.2	22.3
	Hospitalization	12.0	2.1	2.2
	Any health service use	87.5	75.4	75.5
	No health service use	12.5	24.6	24.5

*Health service use categories are not mutually exclusive

Tables (continued)

Table 11. Number and percent of youth by Family Support for Children with Disabilities (FSCD) service status and type of cross-service use, Albertan youth aged 12 to 18 years, 2008/09*

	Type of cross-service use	FSCD service status		
		Receiving FSCD services	Not receiving FSCD services	Total
Number of youth	Maltreatment intervention services	345	10,642	10,987
	Post-secondary enrolment	16	8,575	8,591
	Income support	162	393	555
	Charges	75	5,191	5,266
	Corrections involvement	57	4,384	4,441
	Education enrolment	2,985	235,954	238,939
	Health registry	3,518	331,359	334,877
Percent of youth	Maltreatment intervention services	9.8	3.2	3.3
	Post-secondary enrolment	0.5	2.6	2.6
	Income support	4.6	0.1	0.2
	Charges	2.1	1.6	1.6
	Corrections involvement	1.6	1.3	1.3
	Education enrolment	84.8	71.2	71.4
	Health registry	100.0	100.0	100.0

*Only youth registered in the Alberta Health Care Insurance Plan were included in this analysis

Definitions and Notes

- The study population for this project consisted of all Albertan youth who were registered with the Alberta Health Care Insurance Plan in 2008/09 or who received selected services from one or more of the participating ministries in 2008/09. "All Albertan youth" refers to this study population.
- The study year was fiscal year 2008/09. With the exception of Education and Enterprise and Advanced Education data, all data were for services provided between April 1, 2008 and March 31, 2009, with age determined on March 31, 2009.
    - Data for Enterprise and Advanced Education were for services provided between September 1, 2008 and June 30, 2009, with age determined on March 31, 2009.
    - Data for Education were for services provided to youth who were 12 to 19 years old on September 30, 2008. As a result, youth turning 12 between October 1, 2008 and March 31, 2009 *were not* included in the Education data but were included in other ministries' data. This resulted in the number of 12 year olds in the Education data being lower (approximately 50% lower) than that of 13 to 17 year olds.
    - Furthermore, although Education only provides services to youth who are under 20, the provision of services is defined by age at September 30. Youth who turned 20 between October 1, 2008 and March 31, 2009 *were* included in the Education data, resulting in the inclusion of 20 year olds in some analyses of Education data.
- **Cross-ministry analyses included only youth that were linked across the relevant ministries**. This means that not all youth in the project were represented in every analysis. As well, only youth with a value for a given indicator were included in analyses involving that indicator (i.e., **missing values** were excluded).
- Age, gender, and postal code (translated into Statistics Canada dissemination areas) were provided for each individual by each participating ministry. In the case of discrepancies between ministries, the most common value for an indicator was chosen. In the event of two or more most common values, the value for the indicator was chosen randomly from the most common values.
- Dissemination areas of residence were used by CYDL to determine **region of residence**. Urban areas included large centres with urban core populations greater than 100,000 (i.e., Edmonton and Calgary metropolitan areas) and mid-sized centres with urban cores greater than 10,000; all other areas were categorized as rural.
- **Socio-economic status (SES)** captures the social and material environments in which youth live. A youth was assigned a socio-economic status via an index based on the Statistics Canada dissemination area in which he or she resided[5]. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single families, percent of persons living alone, and percent of persons separated, divorced, or widowed. Socio-economic status values fell into five quintiles.
- **Educational achievement** was computed by Alberta Education using age, grade, school type, special education codes, provincial achievement test scores, home education status, number of high school credits earned, number of higher level courses taken, average grade in higher level courses, possession of an Alberta Education certificate or diploma, and Alexander Rutherford scholarship eligibility. Educational achievement was categorized as *above, meeting,* or *below expectations* for a student's age and grade. An educational achievement rating was not available for 12 to 14 year old youth without scores on provincial achievement tests, for youth in 'other' schools (accredited post-secondary institutions offering high school courses for credit to adults; most youth in these schools were between 18 and 20 years), and for home-schooled high school youth with no credits.

Definitions and Notes (continued)

- **Family Support for Children with Disabilities (FSCD)** is a ministry of Human Services program that provides a range of supports and services to families that strengthen their ability to support and care for their child with a disability based on their needs. In addition to information, referral and advocacy, services and supports may include:

  Family Support Services may include assistance with counseling, extraordinary clothing and footwear costs, costs to attend medical appointments and respite.

  Child-Focused Services are provided when a child has a confirmed diagnosis and assessment information to specify their individual needs. These services include respite services, aide supports, child care supports, and health-related supports.

  Specialized Services are available for children with severe disabilities and/or multiple needs. A Multi-Disciplinary Team is part of the review of complex cases and assists in determining services that are appropriate to the health and developmental needs of the child.

  Out of Home Services provide long-term living arrangements and short-term relief care to accommodate the needs of severely disabled, medically fragile children and their families.

  For the purposes of analysis, families were grouped according to the highest level of service received. For instance, all families that received Out of Home Services were counted in the Out of Home Group regardless of any other services they received. Similarly, only families who did not receive other Child Focused, Specialized or Out-of Home services were included in the Family Support Group.

- **Primary medical diagnosis categories** are Developmental impairments (Autism spectrum disorder, cerebral palsy, chromosomal anomaly, fetal alcohol spectrum disorder, etc.), Health conditions (Cancer, seizure disorder, metabolic/immune disorder, etc.), Mental health conditions (Attention deficit hyperactivity disorder, Tourette's syndrome, schizophrenia, etc.), Physical/motor impairments (Spina Bifida, muscular dystrophy, musculo-skeletal system conditions, etc.), Sensory impairments (Visual impairment/blind, hearing impairment/deaf, etc.) and unconfirmed diagnosis (conditions awaiting formal diagnosis from a professional).

- **School authority types**

  There is one publicly-funded system of education in Alberta. The public system includes public, separate, Francophone and charter schools.

  - **Public** schools are non-denominational schools.
  - **Separate** schools are established under rights guaranteed by the Constitution of Canada for the minority religion (Protestant or Roman Catholic).
  - **Francophone** schools provide instruction in French to children whose parents have rights under section 23 of the Canadian Charter of Rights and Freedoms.
  - **Charter** schools are autonomous public schools designed to meet the needs of students through a specific program or approach. They must be non-religious.

  Private schools operate outside the public education system. Private schools may charge tuition and other fees. There are two kinds of private schools.

  - Accredited private schools must offer the Alberta Program of Studies with certificated teachers; they may be partially funded or non-funded.
  - Registered private schools are not required to offer the Program of Studies and are not funded.

  Other schools are accredited post-secondary institutions offering high school courses for credit to adults.

  Schools on First Nations reserves are not funded by Alberta Education; students who attended these schools are not included in the study population.

Definitions and Notes (continued)

- **Physician visits** reflect fee claims made by physicians for services provided when patients visit their offices. In this report, multiple claims by a given physician for a given patient on the same day were counted as a single visit. Reasons for physician visits were not available for this project.
- **Emergency room visits** refer to visits to emergency departments for assessment or treatment.
- **Hospitalizations** refer to admissions to hospital for assessment or treatment.
- New and returning Alberta residents, if they are eligible, must register for **Alberta Health Care Insurance Plan** coverage to receive insured health services. Youth in the "**health registry**" refers to all youth who are insured in Alberta. This includes any eligible youth who is a permanent resident of Alberta, living at least 183 days per year in the province. Members of the Canadian Armed Forces, Royal Canadian Mounted Police and federal penitentiary inmates are not eligible (they receive coverage from the federal government), but dependents of these non-eligible residents, who reside in Alberta, are eligible. *Use this note only if you have an analysis subset to those in the registry.*
- Participation in **post-secondary** education refers to enrolment in a post-secondary institution in Alberta. Youth enrolled in apprenticeship programs were not included.
- **Maltreatment-related interventions** occur when the safety or well-being of a youth is threatened.
- **Income support** refers to financial benefits provided to individuals and couples who cannot meet their basic needs.
- Youth with **corrections involvement** have appeared before the Court or a Justice of the Peace for an offence charge and have been remanded in custody or placed under pre-trial supervision in the community awaiting further court dates, or have been found guilty and sentenced to a community disposition (i.e. Fine, Probation, Community Service Work, Deferred Custody) and/or custody (in which the sentence is served in a young offender facility).
- Youth with **offence charges** include those charged with criminal offences or administrative offences related to criminal offences (e.g., failure to appear in court, breach of probation, etc.).
- Participation in **education** refers to enrolment in the kindergarten to grade 12 education system in Alberta. No data were available for students who attended schools on First Nations reserves or in Lloydminster.

Data sources

Ministry	Database	Use in this report
Enterprise and Advanced Education	Learner Enrolment Reporting System (LERS)	Post-secondary education enrolment data
Education	Corporate Data Warehouse (CDW)	Primary and secondary education achievement data
Health	Inpatient – Discharge Abstract Database (DAD)	Hospitalization data
Health	Ambulatory Care (ACCS)	Emergency room visit data
Health	Practitioner Payments (SESE)	Physician visit data
Health	Alberta Health Care Insurance Plan Population Registry (AHCIP registry)	Population registry
Human Services	Child Youth Information Module (CYIM)	Maltreatment and intervention data
Human Services	Family Support for Children with Disabilities Information System (FSCDIS)	Family Supports for Children with Disabilities data
Human Services	Central Client Directory (CCD)	Income support data
Justice and Solicitor General	Justice Online Information Network (JOIN)	Offence data
Justice and Solicitor General	Alberta Community Offender Management System (ACOM)	Corrections data (community)
Justice and Solicitor General	Correctional Offender Management Information System (CoMIS)	Corrections data (custody)

References

1. Statistics Canada. (2007). *Participation and activity limitation survey 2006: Tables* (Cat. No. 89-628-XIE no. 003). Ottawa.
2. Statistics Canada (2007). *Participation and activity limitation survey 2006: Analytical report* (Cat. No. 89-628-XIE). Ottawa.
3. Statistics Canada, Social and Aboriginal Statistics Division. (2008). *Participation and activity limitation survey 2006: Families of children with disabilities in Canada* (Cat. No. 89-628-X no.009). Ottawa.
4. Valentine, F. (2001). *Enabling citizenship: Full inclusion of children with disabilities and their parents*. Canadian Policy Research Networks Inc.: Ottawa.
5. Pampalon, R., Hamel, D., Garnache, P., Raymond, G. (2009). A deprivation index for health planning in Canada. *Chronic Diseases in Canada, 29(4)*, 178-91.

The Child and Youth Data Laboratory

The **Child and Youth Data Laboratory** (CYDL) links and analyzes administrative data from child- and youth-serving ministries in the Government of Alberta. The ministries participate in research design and provide data elements that contribute to answering research questions.

The CYDL's research provides groundbreaking opportunities to understand relationships between critical factors in the lives of children and youth in Alberta. The research results can be used to inform policy and program development and evaluation, both within and across ministries, and to inspire further research.

The CYDL is managed by the **Alberta Centre for Child, Family and Community Research** (ACCFCR). The Centre has evolved over its eight year history as a public-sector, innovative resource for evidence. The Centre develops, supports and integrates research across sectors and disciplines to provide a strong, evidence-based foundation for identifying and promoting effective public policy and service delivery to improve the well-being of children, families, and communities in Alberta, Canada, and internationally.

Our partners

This project was carried out on behalf of six ministries of the Government of Alberta. Each ministry collaborated extensively with the CYDL on this project, and their dedication to the project is gratefully acknowledged:

Enterprise and Advanced Education
Education
Health
Human Services
Aboriginal Relations
Justice and Solicitor General

Suggested citation

Child and Youth Data Laboratory (2012). *Family Support for Children with Disabilities services received by Albertan youth.* Edmonton: Alberta Centre for Child, Family and Community Research.

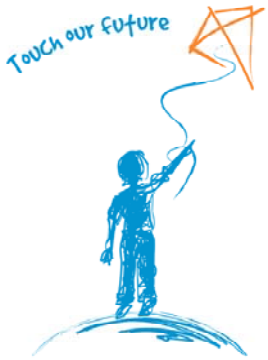
Contact CYDL

www.research4children.com
Click on "Data"

Xinjie Cui, Director
780 944 8631
xcui@research4children.com

Leslie Twilley, Senior Scientist
780 408 8734
ltwilley@research4children.com

Cecilia Bukutu, Research Scientist
780 408 8732
cbukutu@research4children.com



ALBERTA CENTRE FOR
CHILD, FAMILY & COMMUNITY
RESEARCH

Government
of Alberta

Maltreatment-related investigations among Albertan youth

Child and Youth Data Laboratory (CYDL)

Report for *Experiences of Albertan Youth* Project

Key findings

This report provides a profile of 7,029 Albertan youth (aged 12 to 17 years) who were the subjects of investigations into possible maltreatment by a parent/guardian in 2008/09. In investigated cases where intervention is not needed, the file is closed (*no intervention needed*). Cases where maltreatment is found to have occurred can lead to interventions that include services within the family home (*out of care services*), or that require the youth to be removed from their home and placed *into care*.

Youth are described in terms of the outcome of the investigation and their Aboriginal status by age, gender, region of residence, socio-economic status, educational achievement, mental health status and health service use. The report also provides an overview of cross-ministry service use for these youth. Comparisons are made to youth of the same ages who were not the subjects of investigations.

- For most investigations, the outcome was *no intervention needed*. 29% of youth investigated were Aboriginal.
- Compared to those not investigated, youth who received a maltreatment-related investigation were more likely to be non-Aboriginal, female, younger than 15 years of age, living in a rural area (*in care* youth only), living in the lowest socio-economic status neighbourhoods, performing below educational expectations, and to have used services for a mental health condition or to have high use of health services.
- Youth who were the subject of an investigation were more likely to be receiving Family Support for Children with Disabilities (FSCD) services, to be charged with an offence, or to be involved in corrections, than youth not investigated.
- Aboriginal youth receiving investigations were more likely than non-Aboriginal youth to receive *in care* services, to live in rural areas or the lowest socio-economic status areas, or to be performing below educational expectations. They were less likely to have received services for a mental health condition, and were less likely to have had five or more physician visits.
- Aboriginal youth receiving investigations were more likely than non-Aboriginal youth to have been charged with an offence or involved with corrections, and less likely to be enrolled in the K-12 education system or to be receiving FSCD services.

Contents

Key findings and Context.....1 to 2
Data analyses.....3 to 11
Tables.....12 to 21
Definitions and Notes.....22 to 23
Data sources.....24
References.....24
About CYDL.....27

Maltreatment-related investigations among Albertan youth

Context

In 2008, there were 235,842 child maltreatment investigations in Canada and 85,400 (36%) of these investigations substantiated the maltreatment claim.[1] A 2003 analysis of child intervention service agencies across Canada found the rates of maltreatment investigations resulting in children and youth being taken into care were much higher for Aboriginal children (16%) compared to non-Aboriginal children (7%).[2]

Maltreatment stems from a complex interplay of individual, relationship, society and community factors.[3] Factors associated with maltreatment include recent life stressors, family conflict, substance abuse, low maternal education level, low socio-economic status and maternal mental health problems.[4] Neglect is the main reason Aboriginal children enter the child protection system and this can be linked to conditions of poverty, inadequate housing and substance abuse.[2]

The Public Health Agency of Canada reported that outcomes for a child or youth who experiences maltreatment are influenced by the type, severity, frequency and duration of the maltreatment, as well as the age at which maltreatment occurs. Maltreatment can harm physical and psychological well-being, and can affect academic performance.[4]

Factors such as personal resiliency and access to protective adults, health services, education, and social services have been shown to protect children and youth from the negative effects of maltreatment.[4]

The project

The current project, **Experiences of Albertan Youth**, is focused on basic understanding of the experiences of Albertan youth within and across ministries, as they relate to key indicators (age, gender, socio-economic status, educational achievement, and mental health status). It is the first project in a planned series that will link and analyze administrative data on children and youth in Alberta to inform policy, programs, and research.

List of reports for the project

Socio-economic status of Albertan youth
Educational experiences of Albertan youth
Mental health status of Albertan youth
Family Support for Children with Disabilities services received by Albertan youth
Maltreatment-related investigations among Albertan youth
Maltreatment-related intervention services received by Albertan youth
Physician visits by Albertan youth
Emergency room visits by Albertan youth
Hospitalizations of Albertan youth
Offence charges among Albertan youth
Corrections involvement among Albertan youth
Post-secondary students in Alberta
Income support among Albertan youth
Educational experiences of Albertan youth with income support activity
Least advantaged and most advantaged Albertan youth

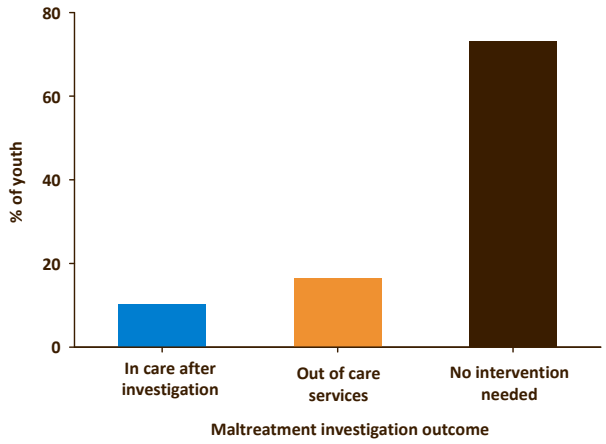
Maltreatment-related investigations among Albertan youth

Maltreatment related investigation outcome (Table 1)

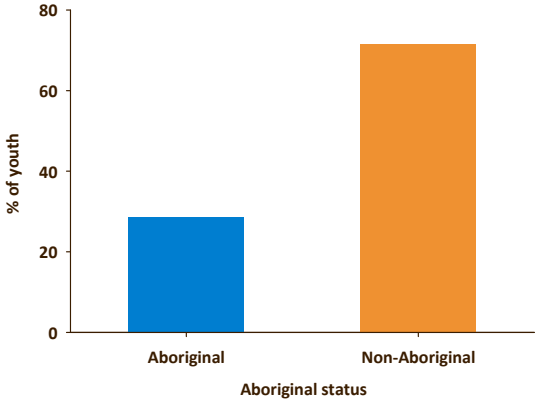
These analyses look at Albertan youth (aged 12 to 17 years) who were the subject of a maltreatment-related investigation in 2008/09.

- 7,029 youth (2% of 307,703 youth aged 12 to 17 years) were the subject of a maltreatment-related investigation by child intervention services.
- 73% of maltreatment-related investigations resulted in *no intervention needed*, 17% resulted in youth receiving services in the parental home (*out of care services*) and 10% resulted in youth receiving services outside the parental home (*in care after investigation*).

Maltreatment investigation outcome
Albertan youth aged 12 to 17 investigated for maltreatment



Aboriginal status
Albertan youth aged 12 to 17 investigated for maltreatment



Aboriginal status of youth who were the subject of a maltreatment investigation (Table 2)

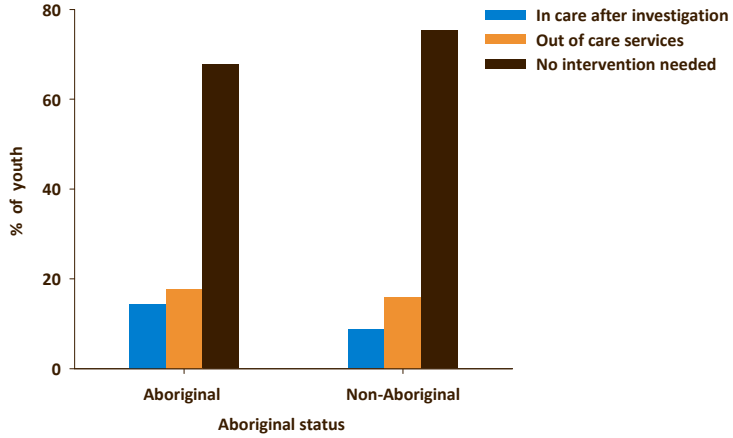
The Aboriginal status of youth who were not the subject of a maltreatment-related investigation in 2008/09 was not available for this project.

- 29% of youth who underwent a maltreatment-related investigation were Aboriginal. The remainder were non-Aboriginal (71%).

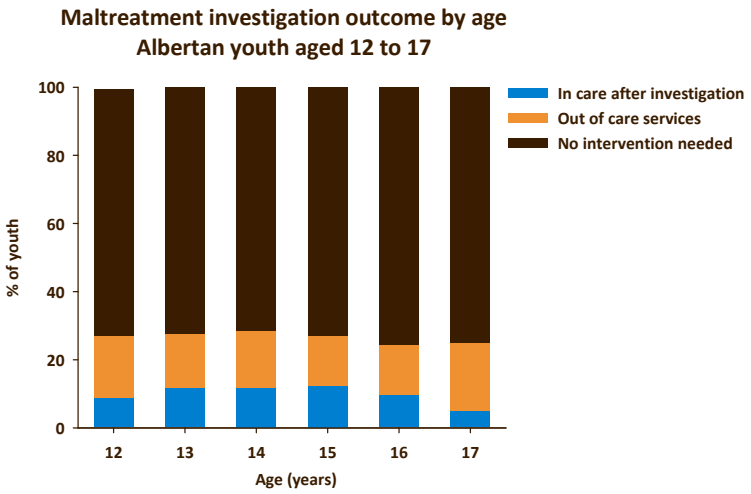
Aboriginal status by maltreatment investigation outcome (Table 3)

- The majority of maltreatment-related investigations resulted in *no intervention needed* for both Aboriginal (68%) and non-Aboriginal youth (75%).
- The maltreatment-related investigation outcome was more likely to result in receipt of *in care* services for Aboriginal youth (15%) than for non-Aboriginal youth (9%).
- Percentage of investigations resulting in *out of care* services was similar for Aboriginal (18%) and non-Aboriginal youth (16%).

Aboriginal status by maltreatment investigation outcome
Albertan youth aged 12 to 17



Maltreatment-related investigations among Albertan youth

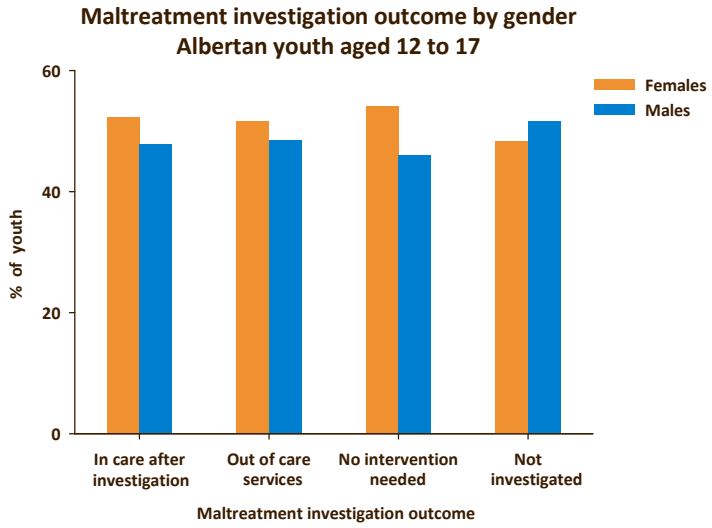


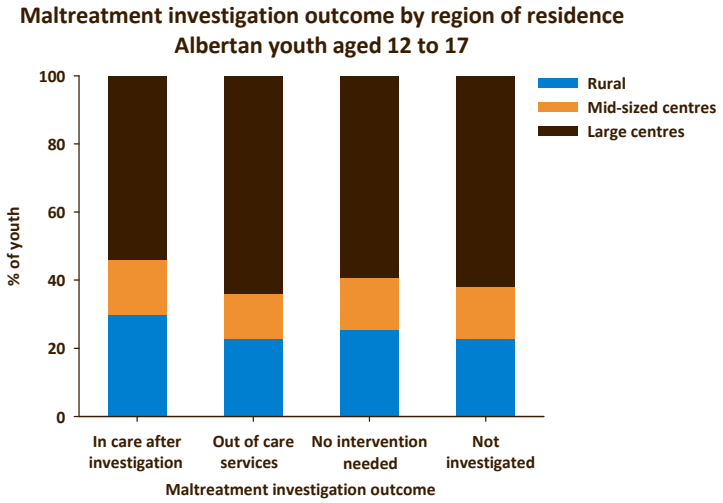
Maltreatment investigation outcome by age (Tables 4 and 5)

- The percentage of youth who came *into care* as a result of investigation was highest for youth aged 15 years old (13%).
- The percentage of youth who received *out of care services* was highest for youth aged 17 years, compared to any other age.
- There was no difference across age in the percentage of youth who were Aboriginal (graph not shown).

Maltreatment investigation outcome by gender (Tables 6 and 7)

- Females (53%) were more likely than males (47%) to be the subject of a maltreatment-related investigation.
- Female Aboriginal youth were slightly more likely (55%) than male Aboriginal youth (53%) to be the subject of a maltreatment-related investigation (graph not shown).



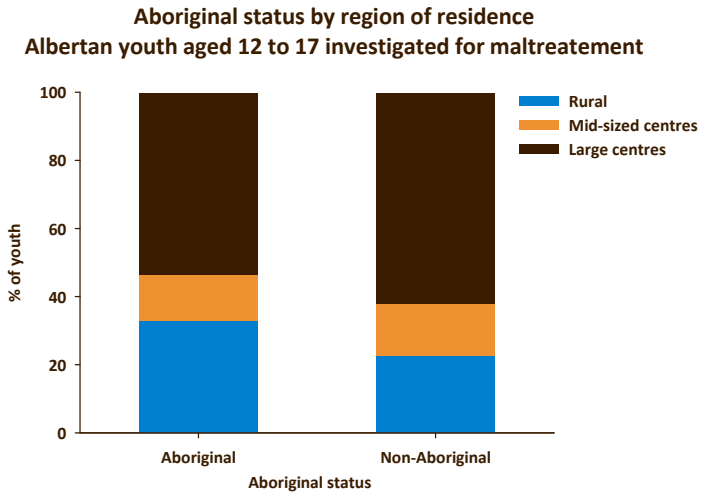


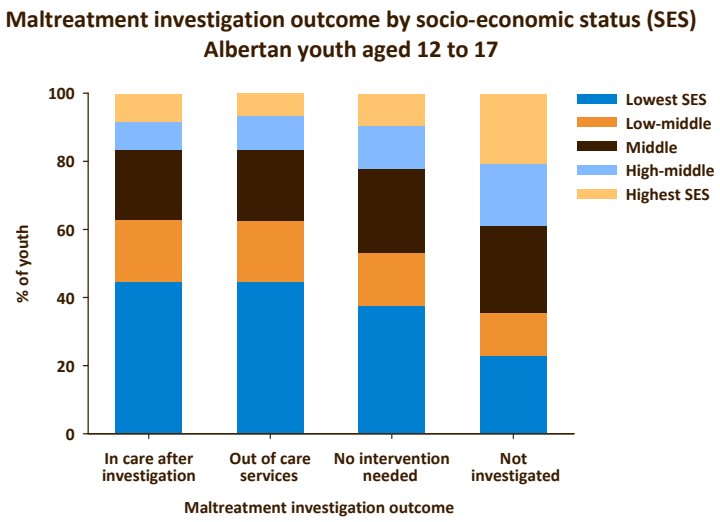
Maltreatment investigation outcome by region of residence (Table 8)

- The majority of maltreatment-related investigations occurred in large centres (Edmonton and Calgary).
- A larger percentage of youth whose investigations led to *in care* services were from rural regions (30%) than *out of care services* (23%), no *intervention needed* (25%), and youth not investigated (23%).
- Youth whose investigation led *to out of care services* were the most likely to be from large centres (64%).

Aboriginal status by region of residence
(Table 9)

- 32% of Aboriginal youth and 23% of non-Aboriginal youth who were the subject of a maltreatment-related investigation were from rural areas.





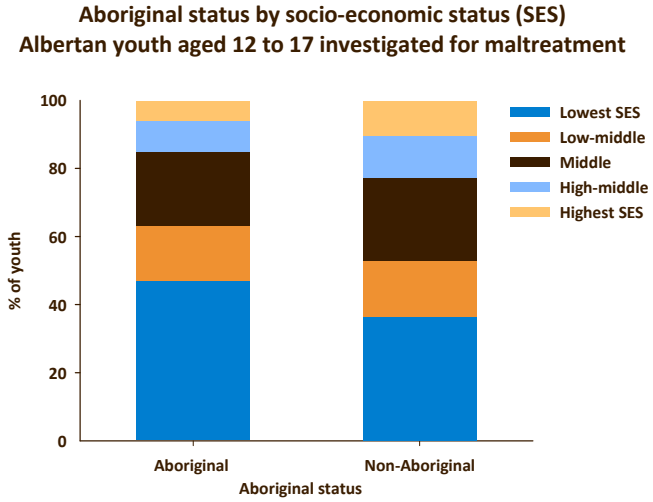
Maltreatment investigation outcome by socio-economic status (Table 10)

Socio-economic status captures the social and material environments in which youth live. See *Definitions and Notes* (p.22).

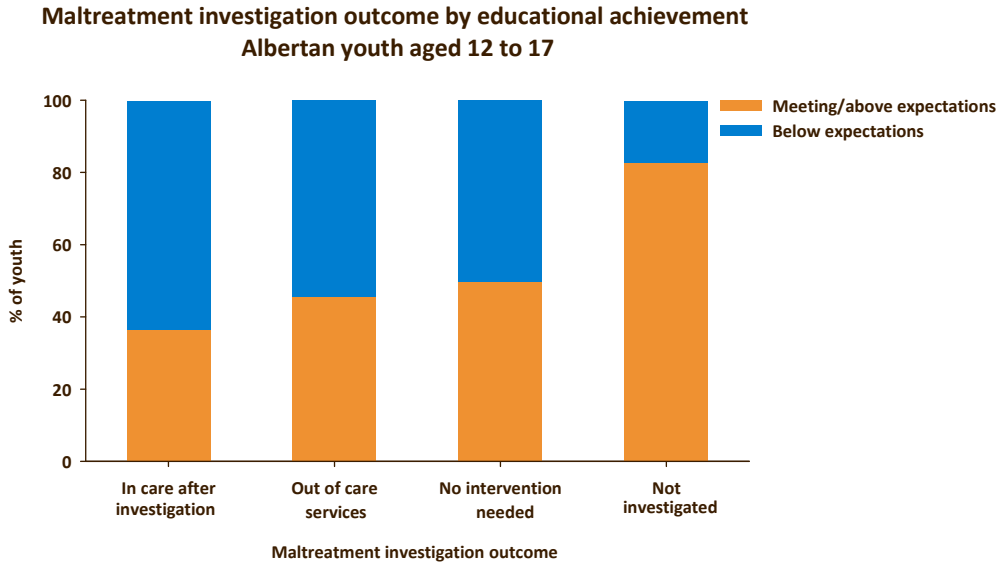
- Youth who were the subject of a maltreatment-related investigation were more likely to be from the lowest socio-economic status neighbourhoods (39%) than youth who were not investigated (23%).

Aboriginal status by socio-economic status
(Table 11)

- Among Aboriginal youth who were the subject of a maltreatment-related investigation, 47% were from the lowest socio-economic status neighbourhoods, compared to 36% of Non-Aboriginal youth.



Maltreatment investigation outcome by educational achievement (Table 12)



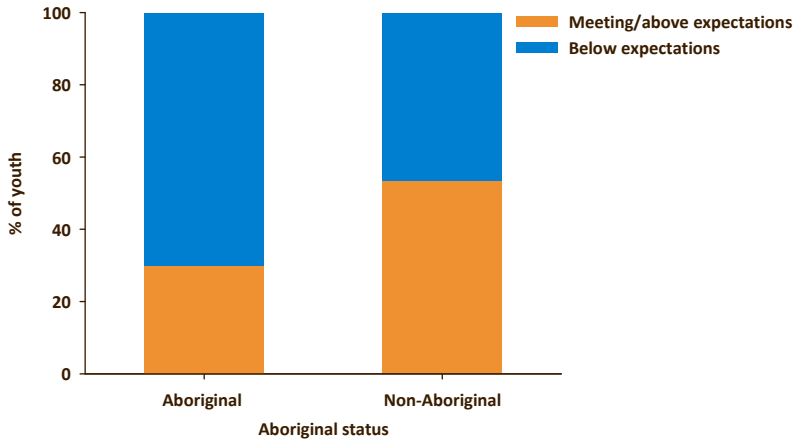
This and the following analysis are limited to youth who were the subject of a maltreatment-related investigation and were registered in the K-12 education system in Alberta in 2008/09.

- Youth who were the subject of a maltreatment-related investigation were more likely to be performing below educational expectations than youth who had not been investigated, regardless of the investigation outcome.
- Youth whose investigation outcome led to *in care* services were least likely to have met or exceeded educational expectations (36%). In contrast, 45% of youth receiving services *out of care*, 50% of youth *not requiring intervention* and 83% of youth who were not the subject of a maltreatment investigation met or exceeded educational expectations.

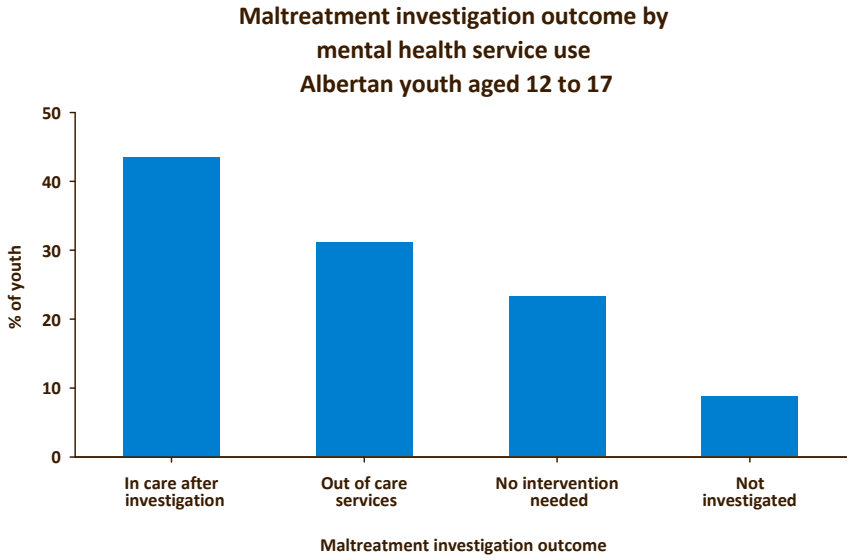
Aboriginal status by educational achievement (Table 13)

Aboriginal status was determined by Human Services records only. Comparisons between Aboriginal and non-Aboriginal students should be interpreted with caution, because no data were available for students who attended schools on First Nations reserves.

- Among youth who were the subject of a maltreatment-related investigation, 30% of Aboriginal youth and 53% of non-Aboriginal youth met or exceeded educational expectations.

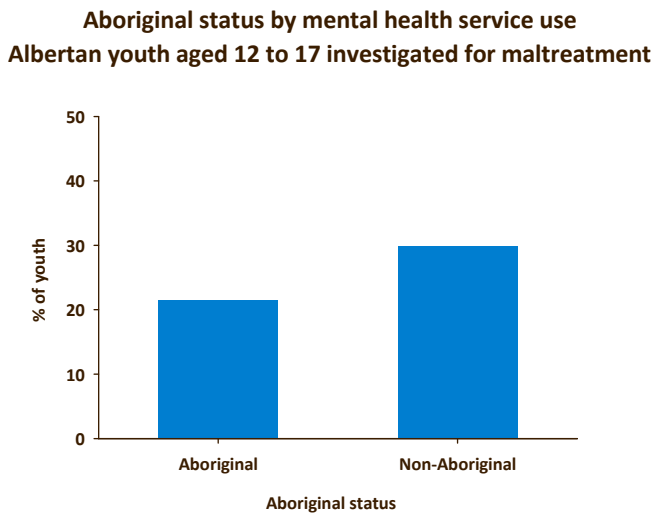


Maltreatment investigation outcome by mental health status (Table 14)



Mental health status refers to presence or absence of a mental health condition. Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition. See *Definitions and Notes* (p.23).

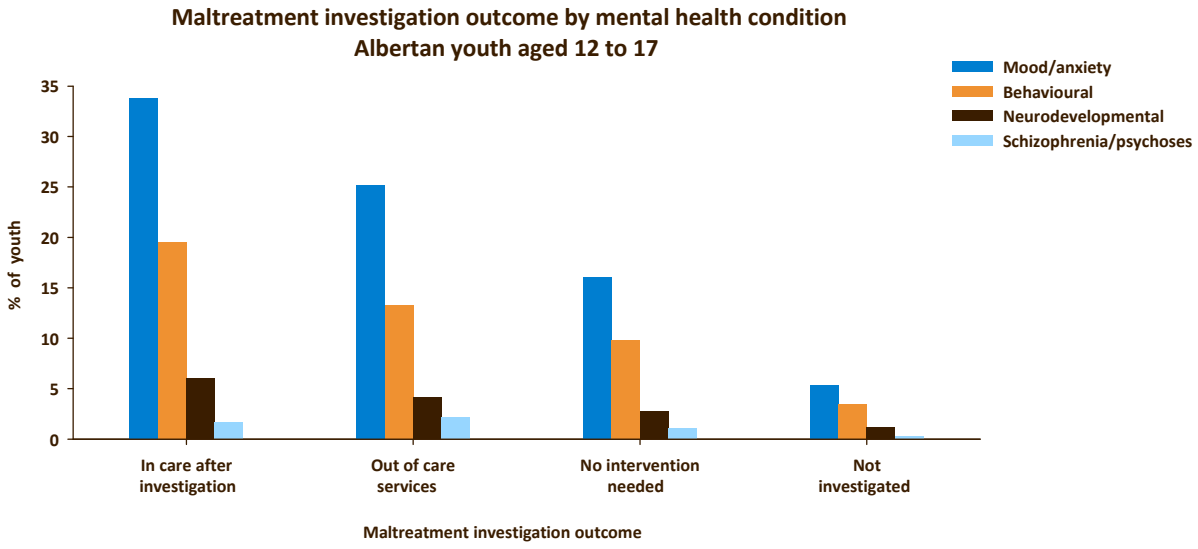
- Service use for mental health conditions was more than twice as likely among youth who were the subject of a maltreatment-related investigation (27% of youth investigated, 1,610 youth) than among youth who were not investigated (9% of youth not investigated, 23,832 youth). This may be partially due to increased access to mental health services for youth who are the subject of a maltreatment-related investigation.
- Youth whose investigation outcome led to *in care* services had the highest rate of service use for mental health conditions (44%), followed by 31% for youth receiving *out of care services* and 23% for the *no intervention needed* group.



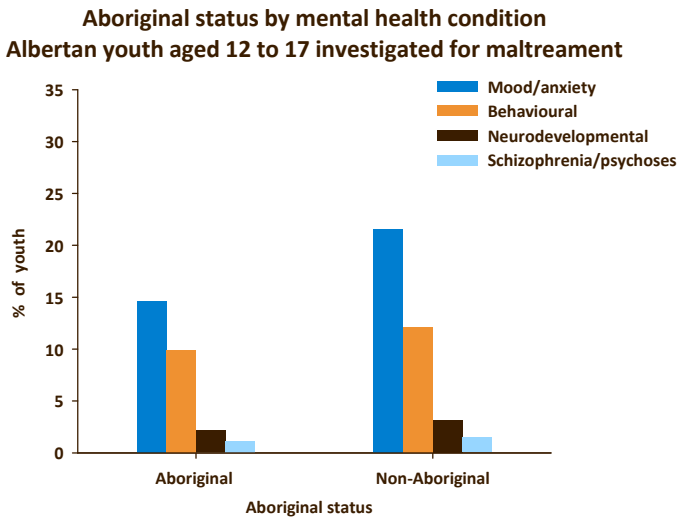
Aboriginal status by mental health status (Table 15)

- Service use for mental health conditions was more common among non-Aboriginal youth (30%) than Aboriginal youth (22%) who were the subject of a maltreatment-related investigation.

Maltreatment investigation outcome by mental health condition (Table 16)



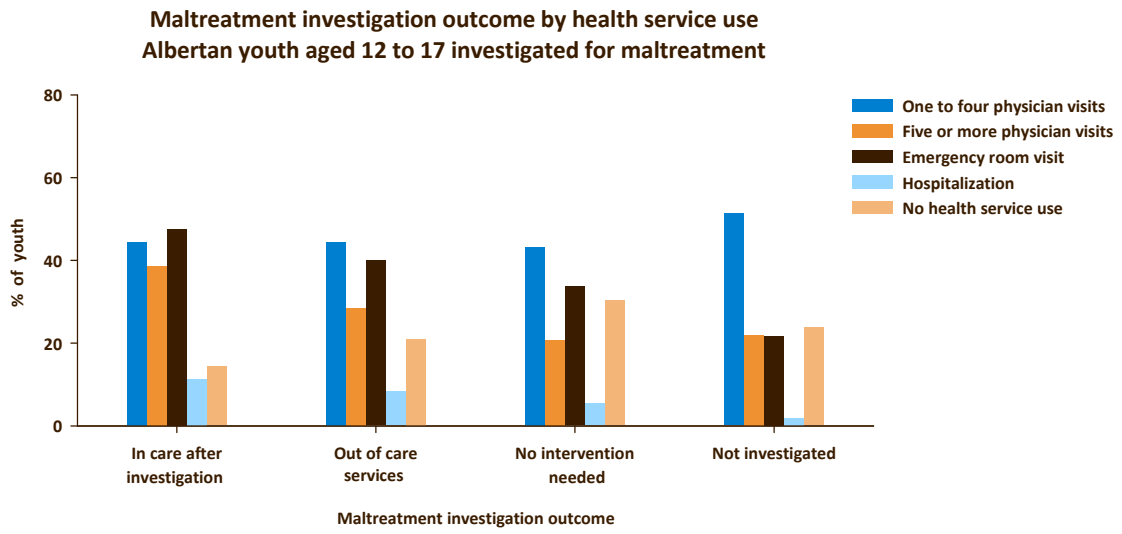
- *Mood/anxiety*, *behavioural* and *neurodevelopmental* mental health conditions were more common among youth who were the subject of a maltreatment-related investigation than among youth not investigated, with the highest rates of mental health conditions among youth who entered *in care after investigation.*
- *Schizophrenia/psychoses* conditions were slightly more common among youth whose investigation outcome led to *out of care* services (2.2%) than *in care after intervention* (1.7%) and *no intervention needed* (1.1%).



Aboriginal status by mental health condition (Table 17)

- All four types of mental health conditions were more common among non-Aboriginal than Aboriginal youth who were the subject of an investigation.

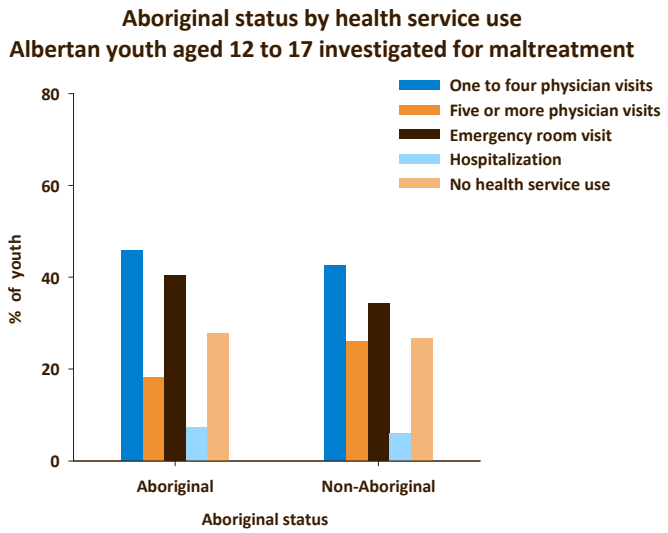
Maltreatment investigation outcome by heath service use (Table 18)



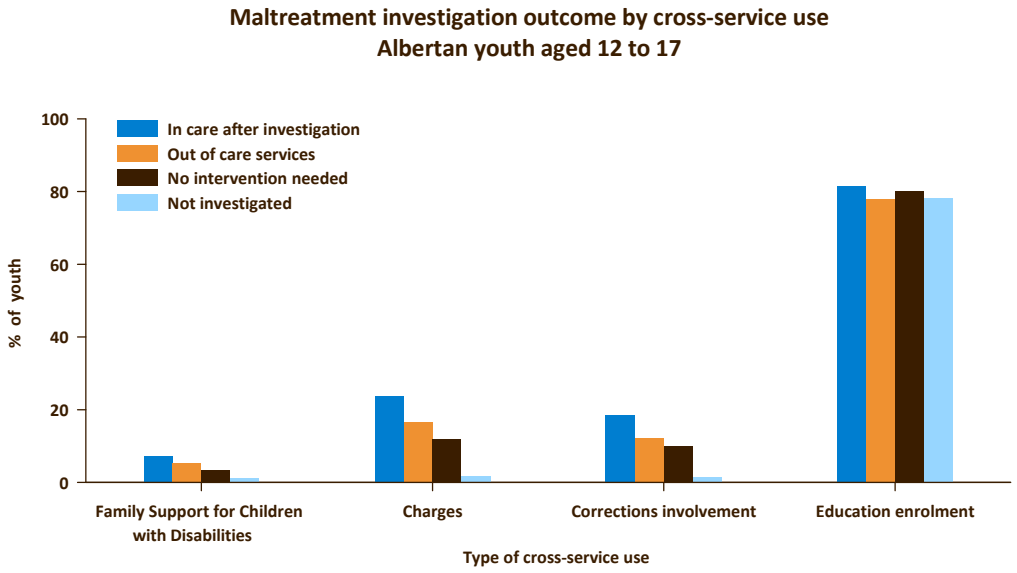
- Youth who experienced an investigation which resulted in the receipt of *in care* services were most likely to visit an emergency room, be hospitalized, or visit physicians five or more times, followed by youth who received *out of care services* after an investigation, and youth whose investigation outcome led to *no intervention needed*.
- Youth not investigated were more likely to have one to four physician visits than any other group.
- Youth whose investigation outcome led to *no intervention needed* were more likely to have no health service use compared to the other groups.

Aboriginal status by health service use (Table 19)

- Aboriginal youth who were the subject of an investigation were slightly more likely to have one to four physician visits, to have an emergency room visit, or to be hospitalized at least once, compared to non-Aboriginal youth who were the subject of an investigation.
- Among youth who were the subject of an investigation, non-Aboriginal youth were more likely to have five or more physician visits (26%) than Aboriginal youth (18%).



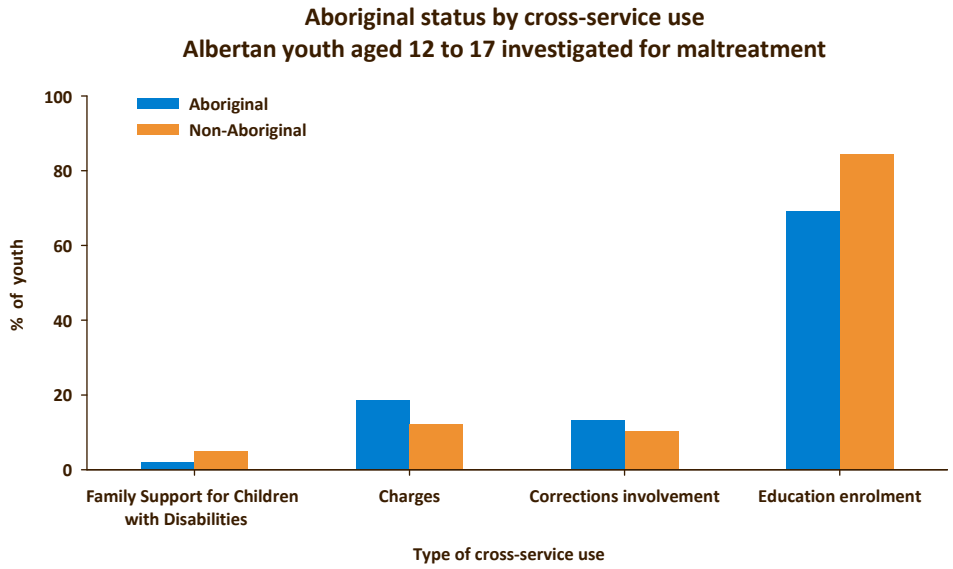
Maltreatment investigation outcome by cross-service use (Table 20)



This analysis and the next one look at the cross-ministry service use of youth (aged 12 to 17 years) by maltreatment investigation outcome. Youth were considered in this and the following analysis if they were registered with the Alberta Health Care Insurance Plan (AHCIP; see *Definitions and Notes*, p.23). The effects should be interpreted with caution; they cannot be generalized to youth not registered with AHCIP. 14% of youth who were the subjection of a maltreatment investigation were not registered with AHCIP.

- Youth who were *in care after investigation* were most likely of the four groups to be enrolled in Alberta's K-12 education system, to receive Family Support for Children with Disability program services, to be charged with an offence, or to be involved with correctional services than all other youth.

Aboriginal status by cross-service use (Table 21)



- Aboriginal youth who were the subject of a maltreatment-related investigation were more likely to have been charged with offences and involved with correctional services than non-Aboriginal youth who were investigated.
- Aboriginal youth who were the subject of a maltreatment-related investigation were less likely to receive support from the Family Support for Children with Disability (FSCD) program or to be enrolled in Alberta's off-reserve K-12 education system compared to non-Aboriginal youth.
- These results need to be interpreted with caution as youth enrollment data for on-reserve schools were not available.

Tables

Table 1. Number and percent of youth who were the subject of a maltreatment-related investigation, Albertan youth aged 12 to 17 years, 2008/09

	Maltreatment investigation outcome	Total
Number of youth	In care after investigation	726
	Out of care services	1,157
	No intervention needed	5,146
	Any maltreatment investigation	7,029
	Not investigated	300,674
	Total Albertan youth (aged 12 to 17)	307,703
Percent of youth	In care after investigation	0.2
	Out of care services	0.4
	No intervention needed	1.7
	Any maltreatment investigation	2.3
	Not investigated	97.7
	Total Albertan youth (aged 12 to 17)	100.0
Percentage of youth investigated for maltreatment	In care after investigation	10.3
	Out of care services	16.5
	No intervention needed	73.2
	Any maltreatment investigation	100.0

Table 2. Number and percent of youth who were the subject of a maltreatment-related investigation by Aboriginal status, Albertan youth aged 12 to 17 years, 2008/09

	Aboriginal status	Total investigated
Number of youth	Aboriginal	2,007
	Non-Aboriginal	5,022
	Any maltreatment investigation	7,029
Percent of youth	Aboriginal	28.6
	Non-Aboriginal	71.4
	Any maltreatment investigation	100.0

Tables (continued)

Table 3. Number and percent of youth who were the subject of a maltreatment-related investigation by Aboriginal status and investigation outcome, Albertan youth aged 12 to 17 years, 2008/09

	Maltreatment investigation outcome	Aboriginal Status		
		Aboriginal	Non-Aboriginal	Total investigated
Number of youth	In care after investigation	290	436	726
	Out of care services	356	801	1,157
	No intervention needed	1,361	3,785	5,146
	Total	2,007	5,022	7,029
Percent of youth	In care after investigation	14.4	8.7	10.3
	Out of care services	17.7	15.9	16.5
	No intervention needed	67.8	75.4	73.2
	Total	100.0	100.0	100.0

Table 4. Number and percent of youth who the subject of a maltreatment investigation by age, Alberta youth aged 12 to 17 years, 2008/09

	Maltreatment investigation outcome	Age (years)						
		12	13	14	15	16	17	Total
Number of youth	In care after investigation	110	150	159	155	109	43	726
	Out of care services	225	198	228	179	161	166	1,157
	No intervention needed	895	916	968	903	838	626	5,146
	Total	1,230	1,264	1,355	1,237	1,108	835	7,029
Percent of youth	In care after investigation	8.9	11.9	11.7	12.5	9.8	5.1	10.3
	Out of care services	18.3	15.7	16.8	14.5	14.5	19.9	16.5
	No intervention needed	72.8	72.5	71.4	73.0	75.6	75.0	73.2
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 5. Number and percent of youth who were the subject of a maltreatment-related investigation by Aboriginal status and age, Albertan youth aged 12 to 17 years, 2008/09

	Aboriginal status	Age (years)						
		12	13	14	15	16	17	Total
Number of youth	Aboriginal	357	366	397	357	305	225	2,007
	Non-Aboriginal	873	898	958	880	803	610	5,022
	Total	1,230	1,264	1,355	1,237	1,108	835	7,029
Percent of youth	Aboriginal	29.0	29.0	29.3	28.9	27.5	26.9	28.6
	Non-Aboriginal	71.0	71.0	70.7	71.1	72.5	73.1	71.4
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Tables (continued)

Table 6. Number and percent of youth who were the subject of a maltreatment-related investigation by gender, Albertan youth aged 12 to 17 years, 2008/09

	Gender	Maltreatment investigation outcome				
		In care after investigation	Out of care services	No intervention needed	Total investigated	Not investigated
Number of youth	Female	379	597	2,779	3,755	145,459
	Male	347	560	2,366	3,273	155,215
	Total	726	1,157	5,145	7,028	300,674
Percent of youth	Female	52.2	51.6	54.0	53.4	48.4
	Male	47.8	48.4	46.0	46.6	51.6
	Total	100.0	100.0	100.0	100.0	100.0

Table 7. Number and percent of youth who were the subject of a maltreatment-related investigation by Aboriginal status and gender, Albertan youth aged 12 to 17 years, 2008/09

	Gender	Aboriginal Status		
		Aboriginal	Non-Aboriginal	Total investigated
Number of youth	Female	1,095	2,660	3,273
	Male	912	2,361	3,755
	Total	2,007	5,021	7,028
Percent of youth	Female	54.6	53.0	48.4
	Male	45.4	47.0	51.6
	Total	100.0	100.0	100.0

Tables (continued)

Table 8. Number and percent of youth who were the subject of a maltreatment-related investigation by region of residence, Albertan youth aged 12 to 17 years, 2008/09

	Region of residence	Maltreatment investigation outcome				
		In care after investigation	Out of care services	No intervention needed	Total investigated	Not investigated
Number of youth	Rural	216	262	1,284	1,762	68,020
	Mid-sized centres	117	155	765	1,037	45,915
	Large centres	393	739	2,992	4,124	185,686
	Total	726	1,156	5,041	6,923	299,621
Percent of youth	Rural	29.8	22.7	25.5	25.5	22.7
	Mid-sized centres	16.1	13.4	15.2	15.0	15.3
	Large centres	54.1	63.9	59.4	59.6	62.0
	Total	100.0	100.0	100.0	100.0	100.0

Table 9. Number and percent of youth who were the subject of a maltreatment-related investigation by Aboriginal status and region of residence, Albertan youth aged 12 to 17 years, 2008/09

	Region of residence	Aboriginal Status		
		Aboriginal	Non-Aboriginal	Total investigated
Number of youth	Rural	648	1,114	1,762
	Mid-sized centres	273	764	1,037
	Large centres	1,059	3,065	4,124
	Total	1,980	4,943	6,923
Percent of youth	Rural	32.7	22.5	25.5
	Mid-sized centres	13.8	15.5	15.0
	Large centres	53.5	62.0	59.6
	Total	100.0	100.0	100.0

Tables (continued)

Table 10. Number and percent of youth who were the subject of a maltreatment-related investigation by socio-economic status (SES), Albertan youth aged 12 to 17 years, 2008/09

	Socio-economic status	Maltreatment investigation outcome				
		In care after investigation	Out of care services	No intervention needed	Total investigated	Not investigated
Number of youth	Lowest SES	324	514	1,878	2,716	67,348
	Low middle	131	208	788	1,127	37,470
	Middle	149	238	1,235	1,622	74,804
	High middle	59	115	628	802	54,184
	Highest SES	61	78	480	619	60,617
	Total	724	1,153	5,009	6,886	294,423
Percent of youth	Lowest SES	44.8	44.6	37.5	39.4	22.9
	Low-middle	18.1	18.0	15.7	16.4	12.7
	Middle	20.6	20.6	24.7	23.6	25.4
	High-Middle	8.1	10.0	12.5	11.6	18.4
	Highest SES	8.4	6.8	9.6	9.0	20.6
	Total	100.0	100.0	100.0	100.0	100.0

Table 11. Number and percent of youth who were the subject of a maltreatment-related investigation by Aboriginal status and socio-economic status (SES), Albertan youth aged 12 to 17 years, 2008/09

	Socio-economic status	Aboriginal Status		
		Aboriginal	Non-Aboriginal	Total investigated
Number of youth	Lowest SES	926	1,790	2,716
	Low middle	312	815	1,127
	Middle	427	1,195	1,622
	High middle	181	621	802
	Highest SES	117	502	619
	Total	1,963	4,923	6,886
Percent of youth	Lowest SES	47.2	36.4	39.4
	Low-middle	15.9	16.6	16.4
	Middle	21.8	24.3	23.6
	High-Middle	9.2	12.6	11.6
	Highest SES	6.0	10.2	9.0
	Total	100.0	100.0	100.0

Tables (continued)

Table 12. Number and percent of youth who were the subject of a maltreatment-related investigation by educational achievement, Albertan youth aged 12 to 17, 2008/09

	Educational achievement	Maltreatment investigation outcome				
		In care after investigation	Out of care services	No intervention needed	Total investigated	Not investigated
Number of youth	Below expectations	346	452	1,800	2,598	40,114
	Meeting/above expectations	198	377	1,776	2,351	191,813
	Total	544	829	3,576	4,949	231,927
Percent of youth	Below expectations	63.6	54.5	50.3	52.5	17.3
	Meeting/above expectations	36.4	45.5	49.7	47.5	82.7
	Total	100.0	100.0	100.0	100.0	100.0

Table 13. Number and percent of youth who were the subject of a maltreatment-related investigation by Aboriginal status and educational achievement, Albertan youth aged 12 to 17 years, 2008/09

	Educational achievement	Aboriginal status		
		Aborginal	Non-Aboriginal	Total investigated
Number of youth	Below expectations	860	1,738	2,598
	Meeting/above expectations	367	1,984	2,351
	Total	1,227	3,722	4,949
Percent of youth	Below expectations	70.1	46.7	52.5
	Meeting/above expectations	29.9	53.3	47.5
	Total	100.0	100.0	100.0

Tables (continued)

Table 14. Number and percent of youth who were the subject of a maltreatment-related investigation by mental health status, Albertan youth aged 12 to 17 years, 2008/09

	Mental health status	Maltreatment investigation outcome				
		In care after investigation	Out of care services	No intervention	Total investigated	Not investigated
Number of youth	Any mental health condition	278	346	986	1,610	23,832
	No mental health condition	361	667	3,244	4,272	247,136
	Total	639	1,013	4,230	5,882	270,968
Percent of youth	Any mental health condition	43.5	34.2	23.3	27.4	8.8
	No mental health condition	56.5	65.8	76.7	72.6	91.2
	Total	100.0	100.0	100.0	100.0	100.0

Table 15. Number and percent of youth who were the subject of a maltreatment-related investigation by Aboriginal status and mental health status, Albertan youth aged 12 to 17 years, 2008/09

	Mental health status	Aboriginal status		
		Aboriginal	Non-Aboriginal	Total investigated
Number of youth	Any mental health condition	367	1,243	1,610
	No mental health condition	1,343	2,929	4,272
	Total	1,710	4,172	5,882
Percent of youth	Any mental health condition	21.5	29.8	27.4
	No mental health condition	78.5	70.2	72.6
	Total	100.0	100.0	100.0

Tables (continued)

Table 16. Number and percent of youth who were the subject of a maltreatment-related investigation by mental health condition, Albertan youth aged 12 to 17 years, 2008/09

	Mental health condition*	Maltreatment investigation outcome				
		In care after investigation	Out of care services	No intervention needed	Total investigated	Not investigated
Number of youth	Mood/anxiety	216	255	679	1,150	14,627
	Behavioural	125	135	416	676	9,291
	Neurodevelopmental	39	42	120	201	3,110
	Schizophrenia/psychoses	11	22	47	80	824
	Total in investigation outcome category	639	1,013	4,230	5,882	270,968
Percent of youth investigated	Mood/anxiety	33.8	25.2	16.1	19.6	5.4
	Behavioural	19.6	13.3	9.8	11.5	3.4
	Neurodevelopmental	6.1	4.1	2.8	3.4	1.1
	Schizophrenia/psychoses	1.7	2.2	1.1	1.4	0.3

* Mental health condition categories were not mutually exclusive

Table 17. Number and percent of youth who were the subject of a maltreatment-related investigation by Aboriginal status and mental health condition, Albertan youth aged 12 to 17 years, 2008/09

	Mental health condition*	Aboriginal status		
		Aboriginal	Non-Aboriginal	Total investigated
Number of youth	Mood/anxiety	250	900	1,150
	Behavioural	169	507	676
	Neurodevelopmental	37	164	201
	Schizophrenia/psychoses	19	61	80
	Total in investigation outcome category	1,710	4,172	5,882
Percent of youth investigated	Mood/anxiety	14.6	21.6	19.6
	Behavioural	9.9	12.2	11.5
	Neurodevelopmental	2.2	3.9	3.4
	Schizophrenia/psychoses	1.1	1.5	1.4

* Mental health condition categories were not mutually exclusive

Tables (continued)

Table 18. Number and percent of youth who were the subject of a maltreatment-related investigation by health service use, Albertan youth, aged 12 to 17 years, 2008/09

	Health service use*	Maltreatment investigation outcome				
		In care after investigation	Out of care services	No intervention needed	Total investigated	Not investigated
Number of youth	One to four physician visits	322	515	2,227	3,064	154,402
	Five or more physician visits	281	329	1,072	1,682	66,179
	Emergency room visit	345	462	1,735	2,542	65,449
	Hospitalization	82	96	280	458	5,718
	Any health service use	622	915	3,586	5,123	229,154
	No health service use	104	242	1,560	1,906	71,520
	Total	726	1,157	5,146	7,029	300,674
Percent of youth	One to four physician visits	44.4	44.5	43.3	43.6	51.4
	Five or more physician visits	38.7	28.4	20.8	23.9	22.0
	Emergency room visit	47.5	39.9	33.7	36.2	21.8
	Hospitalization	11.3	8.3	5.4	6.5	1.9
	Any health service use	85.7	79.1	69.7	72.9	76.2
	No health service use	14.3	20.9	30.3	27.1	23.8

* Health service use categories were not mutually exclusive

Table 19. Number and percent of youth who were the subject of a maltreatment-related investigation by Aboriginal status and health service use, Albertan youth, aged 12 to 17 years, 2008/09

	Health service use*	Aboriginal status			
		Aboriginal	Non-Aboriginal	Total investigated	Not investigated
Number of youth	One to four physician visits	920	2,144	3,064	154,402
	Five or more physician visits	367	1,315	1,682	66,179
	Emergency room visit	814	1,728	2,542	65,449
	Hospitalization	149	309	458	5,718
	Any health service use	1,449	3,674	5,123	229,154
	No health service use	558	1,348	1,906	71,520
	Total	2,007	5,022	7,029	300,674
Percent of youth	One to four physician visits	45.8	42.7	43.6	51.4
	Five or more physician visits	18.3	26.2	23.9	22.0
	Emergency room visit	40.6	34.4	36.2	21.8
	Hospitalization	7.4	6.2	6.5	1.9
	Any health service use	72.2	73.2	72.9	76.2
	No health service use	27.8	26.8	27.1	23.8

* Health service use categories were not mutually exclusive

Tables (continued)

Table 20. Number and percent of youth who were the subject of a maltreatment-related investigation by type of cross-service use, Albertan youth aged 12 to 17 years, 2008/09*

	Type of cross-service use	Maltreatment investigation outcome				
		In care after investigation	Out of care services	No intervention needed	Total investigated	Not investigated
Number of youth	FSCD**	48	55	142	245	2,989
	Charges	160	173	510	843	4,423
	Corrections involvement	124	127	424	675	3,766
	Education enrolment	548	818	3,471	4,837	217,646
	Health registry	673	1,049	4,332	6,054	279,077
Percent of youth	FSCD**	7.1	5.2	3.3	4.0	1.1
	Charges	23.8	16.5	11.8	13.9	1.6
	Corrections involvement	18.4	12.1	9.8	11.1	1.3
	Education enrolment	81.4	78.0	80.1	79.9	78.0
	Health registry	100.0	100.0	100.0	100.0	100.0

* Only youth registered in the Alberta Health Care Insurance Plan were included in this analysis

**FSCD = Family Support for Children with Disabilities

Table 21. Number and percent of youth who were the subject of a maltreatment-related investigation by Aboriginal status and type of cross-service use, Albertan youth aged 12 to 17 years, 2008/09*

	Type of cross-service use	Aboriginal status		
		Aboriginal	Non-Aboriginal	Total investigated
Number of youth	FSCD**	36	209	245
	Charges	324	519	843
	Corrections involvement	230	445	675
	Education enrolment	1,202	3,635	4,837
	Health registry	1,741	4,313	6,054
Percent of youth	FSCD**	2.1	4.8	4.0
	Charges	18.6	12.0	13.9
	Corrections involvement	13.2	10.3	11.1
	Education enrolment	69.0	84.3	79.9
	Health registry	100.0	100.0	100.0

* Only youth registered in the Alberta Health Care Insurance Plan were included in this analysis

**FSCD = Family Support for Children with Disabilities

Definitions and Notes

- The study population for this project consisted of all Albertan youth who were registered with the Alberta Health Care Insurance Plan in 2008/09 or who received selected services from one or more of the participating ministries in 2008/09. "All Albertan youth" refers to this study population.
- The study year was fiscal year 2008/09. With the exception of Education and Enterprise and Advanced Education data, all data were for services provided between April 1, 2008 and March 31, 2009, with age determined on March 31, 2009.
    - Data for Enterprise and Advanced Education were for services provided between September 1, 2008 and June 30, 2009, with age determined on March 31, 2009.
    - Data for Education were for services provided to youth who were 12 to 19 years old on September 30, 2008. As a result, youth turning 12 between October 1, 2008 and March 31, 2009 *were not* included in the Education data but were included in other ministries' data. This resulted in the number of 12 year olds in the Education data being lower (approximately 50% lower) than that of 13 to 17 year olds.
    - Furthermore, although Education only provides services to youth who are under 20, the provision of services is defined by age at September 30. Youth who turned 20 between October 1, 2008 and March 31, 2009 *were* included in the Education data, resulting in the inclusion of 20 year olds in some analyses of Education data.
- **Cross-ministry analyses included only youth that were linked across the relevant ministries**. This means that not all youth in the project were represented in every analysis. As well, only youth with a value for a given indicator were included in analyses involving that indicator (i.e., **missing values** were excluded).
- Age, gender, and postal code (translated into Statistics Canada dissemination areas) were provided for each individual by each participating ministry. In the case of discrepancies between ministries, the most common value for an indicator was chosen. In the event of two or more most common values, the value for the indicator was chosen randomly from the most common values.
- Dissemination areas of residence were used by CYDL to determine **region of residence**. Urban areas included large centres with urban core populations greater than 100,000 (i.e., Edmonton and Calgary metropolitan areas) and mid-sized centres with urban cores greater than 10,000; all other areas were categorized as rural.
- **Socio-economic status (SES)** captures the social and material environments in which youth live. A youth was assigned a socio-economic status via an index based on the Statistics Canada dissemination area in which he or she resided[5]. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single families, percent of persons living alone, and percent of persons separated, divorced, or widowed. Socio-economic status values fell into five quintiles.
- **Educational achievement** was computed by Alberta Education using age, grade, school type, special education codes, provincial achievement test scores, home education status, number of high school credits earned, number of higher level courses taken, average grade in higher level courses, possession of an Alberta Education certificate or diploma, and Alexander Rutherford scholarship eligibility. Educational achievement was categorized as *above, meeting,* or *below expectations* for a student's age and grade. An educational achievement rating was not available for 12 to 14 year old youth without scores on provincial achievement tests, for youth in 'other' schools (accredited post-secondary institutions offering high school courses for credit to adults; most youth in these schools were between 18 and 20 years), and for home-schooled high school youth with no credits.

Definitions and Notes (continued)

Mental health status was defined by the presence or absence of mental health diagnosis codes in Health's databases (Inpatient—Discharge Abstract Database, Ambulatory Care, and Practitioner Payments), or in the Family Support for Children with Disabilities Information System. Only youth who were registered with the Alberta Health Care Insurance Plan for the full fiscal year were included in the mental health analyses. **Mental health service use is a proxy for presence of a mental health condition:** Some youth with mental health conditions may not have accessed mental health services in Alberta during the year, and some mental health service use may have occurred for youth who did not in fact have mental health conditions.

- **Mental health conditions** were grouped based on The Johns Hopkins ACG® Case-Mix System (version 8.2)[6]. Mental health conditions were *mood/anxiety* (anxiety, depression, bipolar disorder, etc.), *behavioural* (attention-deficit disorder, regulatory disorder, mental or behavioural problems due to substance use, etc.), *neurodevelopmental* (autism, fetal alcohol spectrum disorder, cerebral palsy, etc.), or *schizophrenia/psychoses* (schizophrenia, psychosis, delusional disorder, etc.). Conditions were not mutually exclusive; a youth could have a diagnosis in more than one category.

- **Maltreatment-related investigations** occur when there is a concern that the safety or well-being of a youth is threatened. Outcomes of investigation include *in care after investigation* (the youth is taken into care, and placed in a foster home, with family, in a group home, etc.), *out of care services* (the youth remains in the home and the family receives support services), and *no intervention needed*. Youth self-identified or were identified by a parent or guardian as Aboriginal or non-Aboriginal.
- **Physician visits** reflect fee claims made by physicians when patients visit their offices. In this report, multiple claims by a given physician for a given patient on the same day were counted as a single visit. Reasons for physician visits were not available for this project.
- **Emergency room visits** refer to visits to emergency departments for assessment or treatment.
- **Hospitalizations** refer to admissions to hospital for assessment or treatment.
- **Family Support for Children with Disabilities (FSCD)** is a ministry of Human Services program that provides a range of supports and services to families that strengthen their ability to support and care for their child with a disability based on their needs.
- Youth with **offence charges** include those charged with criminal offences or administrative offences related to criminal offences (e.g., failure to appear in court, breach of probation, etc.).
- Youth with **corrections involvement** have appeared before the Court or a Justice of the Peace for an offence charge and have been remanded in custody or placed under pre-trial supervision in the community awaiting further court dates, or have been found guilty and sentenced to a community disposition (i.e. Fine, Probation, Community Service Work, Deferred Custody) and/or custody (in which the sentence is served in a young offender facility).
- Participation in **education** refers to enrolment in the kindergarten to grade 12 education system in Alberta. No data were available for students who attended schools on First Nations reserves or in Lloydminster.
- New and returning Alberta residents, if they are eligible, must register for **Alberta Health Care Insurance Plan** coverage to receive insured health services. Youth in the "**health registry**" refers to all youth who are insured in Alberta. This includes any eligible youth who is a permanent resident of Alberta, living at least 183 days per year in the province. Members of the Canadian Armed Forces, Royal Canadian Mounted Police and federal penitentiary inmates are not eligible (they receive coverage from the federal government), but dependents of these non-eligible residents, who reside in Alberta, are eligible.

Data sources

Ministry	Database	Use in this report
Education	Corporate Data Warehouse (CDW)	Primary and secondary education achievement data
Health	Inpatient – Discharge Abstract Database (DAD)	Hospitalization data
Health	Ambulatory Care (ACCS)	Emergency room visit data
Health	Practitioner Payments (SESE)	Physician visit data
Health	Alberta Health Care Insurance Plan Population Registry (AHCIP registry)	Population registry
Human Services	Child Youth Information Module (CYIM)	Maltreatment and intervention data
Human Services	Family Support for Children with Disabilities Information System (FSCDIS)	Family Supports for Children with Disabilities data
Justice and Solicitor General	Justice Online Information Network (JOIN)	Offence data
Justice and Solicitor General	Alberta Community Offender Management System (ACOM)	Corrections data (community)
Justice and Solicitor General	Correctional Offender Management Information System (CoMIS)	Corrections data (custody)

References

1. Public Health Agency of Canada. (2010). *Canadian Incidence study of reported child abuse and neglect - 2008: Major findings*. Ottawa.
2. Trocmé, N., MacLaurin, B., Fallon, B., Knoke, D., Pitman, L., & McCormack, M. (2005). *Understanding the Overrepresentation of First Nations Children in Canada's Child Welfare System: An Analysis of the Canadian Incidence Study of Reported Child Abuse and Neglect (CIS-2003)*. Toronto: Centre of Excellence for Child Welfare.
3. World Health Organization and International Society for Prevention of Child Abuse and Neglect. (2006). *Preventing child maltreatment: a guide to taking action and generating evidence*. Geneva.
4. Jack, S., Munn, C., Cheng, C., & MacMillan, H. (2006). *Child Maltreatment in Canada: Overview Paper.* Ottawa: Public Health Agency of Canada, National Clearinghouse on Family Violence.
5. Pampalon, R., Hamel, D., Garnache, P., & Raymond, G. (2009). A deprivation index for health planning in Canada. *Chronic Diseases in Canada, 29(4)*, 178-91.
6. The Johns Hopkins University. (2008). *The Johns Hopkins ACG® System Reference Manual, Version 8.2*. Johns Hopkins University: Baltimore.

The Child and Youth Data Laboratory

The **Child and Youth Data Laboratory** (CYDL) links and analyzes administrative data from child- and youth-serving ministries in the Government of Alberta. The ministries participate in research design and provide data elements that contribute to answering research questions.

The CYDL's research provides groundbreaking opportunities to understand relationships between critical factors in the lives of children and youth in Alberta. The research results can be used to inform policy and program development and evaluation, both within and across ministries, and to inspire further research.

The CYDL is managed by the **Alberta Centre for Child, Family and Community Research** (ACCFCR). The Centre has evolved over its eight year history as a public-sector, innovative resource for evidence. The Centre develops, supports and integrates research across sectors and disciplines to provide a strong, evidence-based foundation for identifying and promoting effective public policy and service delivery to improve the well-being of children, families, and communities in Alberta, Canada, and internationally.

Our partners

This project was carried out on behalf of six ministries of the Government of Alberta. Each ministry collaborated extensively with the CYDL on this project, and their dedication to the project is gratefully acknowledged:

Enterprise and Advanced Education
Education
Health
Human Services
Aboriginal Relations
Justice and Solicitor General

Suggested citation

Child and Youth Data Laboratory (2012). *Maltreatment-related investigations among Albertan youth.* Edmonton: Alberta Centre for Child, Family and Community Research.

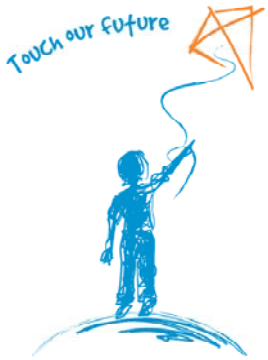
Contact CYDL

www.research4children.com
Click on "Data"

Xinjie Cui, Director
780 944 8631
xcui@research4children.com

Leslie Twilley, Senior Scientist
780 408 8734
ltwilley@research4children.com

Cecilia Bukutu, Research Scientist
780 408 8732
cbukutu@research4children.com



ALBERTA CENTRE FOR
CHILD, FAMILY & COMMUNITY
RESEARCH

Government
of Alberta

Maltreatment-related intervention services received by Albertan youth

Child and Youth Data Laboratory (CYDL)

Report for *Experiences of Albertan Youth* Project

Key findings

This report provides a profile of 6,400 Albertan youth (aged 12 to 17 years) who received intervention services in 2008/09 as a result of maltreatment. Depending on the situation, intervention services may be provided while the youth remains in the home (*out of care services*), or the youth may have to be removed from the home and placed *in care* because of ongoing and serious safety concerns.

Youth are described in terms of the type of intervention services they received and their Aboriginal status, by age, gender, region of residence, socio-economic status, educational achievement, mental health status and health service use. They are compared with youth not receiving intervention services. The report also provides an overview of cross-ministry service use for youth receiving intervention services.

- 2.1% of Albertan youth received intervention services; of these 62% were *in care*, and almost half were Aboriginal.
- Compared to youth not receiving intervention services, youth who received intervention services were more likely to live in the lowest socio-economic status neighbourhoods, to perform below educational expectations, to have a mental health condition (particularly mood or behavioural conditions), or to have five or more physician visits, an emergency room visit, or a hospitalization.
- Compared to youth not receiving interventions, youth receiving intervention services for maltreatment were over-represented in Family Support for Children with Disabilities (FSCD) and the justice and correctional systems, and were slightly more likely to be in the K-12 education system.
- Among youth receiving intervention services, Aboriginal youth were more likely to be *in care,* living in rural settings or the lowest socio-economic status neighbourhoods, or performing below educational expectations compared to non-Aboriginal youth. Aboriginal youth were also less likely to have received services for a mental health condition, to have had five or more physician visits, and were slightly less likely to be hospitalized.
- Aboriginal youth receiving intervention services were less likely to be receiving FSCD services or to be registered in the K-12 education system than non-Aboriginal youth.

Contents

Key findings and Context.....1 to 2
Data analyses.....3 to 12
Tables.....13 to 25
Definitions and Notes.....26 to 28
Data sources.....29
References.....29
About CYDL.....31

Maltreatment-related intervention services received by Albertan youth

Context

Rates of maltreatment of children and youth in Canada are not minimal. Canadian data indicate a rate of 14.2 substantiated cases of maltreatment for every 1,000 children and youth. Rates are higher for infants and young children than for adolescents. [1] Aboriginal children and youth are over-represented in child intervention systems.[2]

Maltreatment stems from a complex interplay of individual, relationship, society and community factors.[3] Factors associated with maltreatment include recent life stressors, family conflict, substance abuse, low maternal education level, low socio-economic status and maternal mental health problems. [4] Neglect is the main reason Aboriginal children enter the child protection system and this can be linked to conditions of poverty, inadequate housing and substance abuse.[2]

Maltreated youth's physical and mental well-being can be affected, often in the long-term. There is increased risk for "violent victimization and the perpetration of violence, depression, smoking, obesity, high-risk sexual behaviours, unintended pregnancy, and alcohol and drug use"[5] among those who have been maltreated.

Societal costs associated with maltreatment-related interventions are high, including provision of related services, health care costs, lost earnings and productivity, costs of criminal actions, and incarceration.[3] Rates of children and youth who are taken into care and who have complex needs resulting from circumstances such as fetal alcohol spectrum disorder, exposure to parental substance abuse, substantial health needs, or involvement in the justice system, have been increasing. Some estimates suggest 50-60% of children and youth taken into care require additional resources to deal with issues such as these.[6]

The project

The current project, **Experiences of Albertan Youth**, is focused on basic understanding of the experiences of Albertan youth within and across ministries, as they relate to key indicators (age, gender, socio-economic status, educational achievement, and mental health status). It is the first project in a planned series that will link and analyze administrative data on children and youth in Alberta to inform policy, programs, and research.

List of reports for the project

Socio-economic status of Albertan youth
Educational experiences of Albertan youth
Mental health status of Albertan youth
Family Support for Children with Disabilities services received by Albertan youth
Maltreatment-related investigations among Albertan youth
Maltreatment-related intervention services received by Albertan youth
Physician visits by Albertan youth
Emergency room visits by Albertan youth
Hospitalizations of Albertan youth
Offence charges among Albertan youth
Corrections involvement among Albertan youth
Post-secondary students in Alberta
Income support among Albertan youth
Educational experiences of Albertan youth with income support activity
Least advantaged and most advantaged Albertan youth

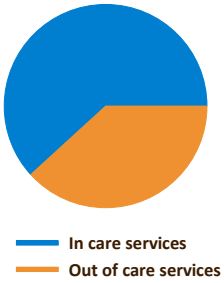
Maltreatment-related intervention services received by Albertan youth

Type of intervention (Table 1)

These analyses look at Albertan youth (aged 12 to 17 years) who were receiving intervention services in 2008/09 as a result of maltreatment by type of intervention service.

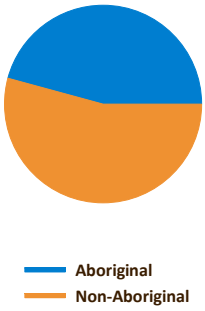
- 6,400 youth were receiving intervention services as a result of maltreatment, representing 2.1% of 307,703 Albertan youth (aged 12 to 17 years).
- 62% of youth receiving intervention services were receiving *in care services* and 38% were receiving services while at home with their parents or guardians (*out of care services*).

Type of intervention services
Albertan youth aged 12 to 17



Aboriginal status of youth receiving intervention services (Table 2)

Aboriginal status
Albertan youth aged 12 to 17 receiving intervention services



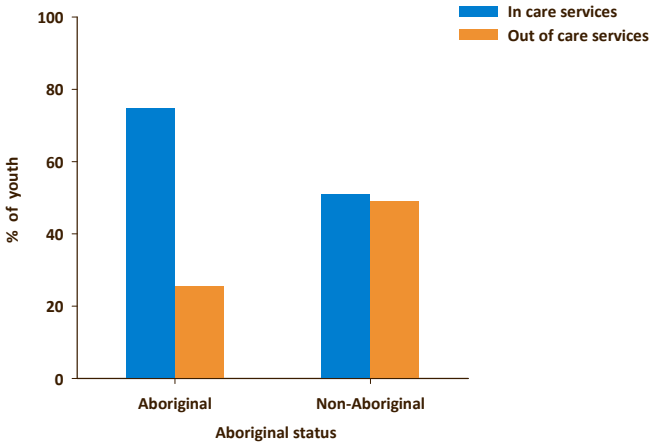
The Aboriginal status of youth in the general population not receiving intervention services in 2008/09 was not available for this project.

- 46% of youth who were receiving intervention services as a result of maltreatment were Aboriginal. The remainder, 54%, were non-Aboriginal.

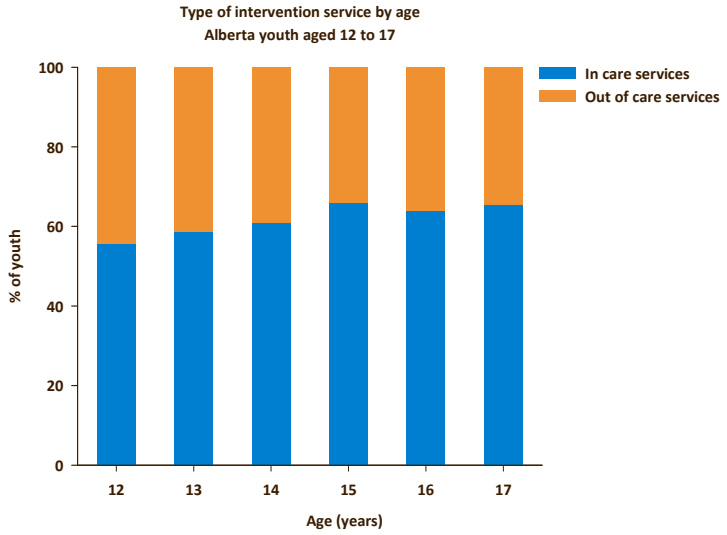
Aboriginal status by type of intervention (Table 3)

- Aboriginal youth receiving intervention services were more likely to be receiving *in care services* (75%) than non-Aboriginal youth (51%) receiving intervention services.

Aboriginal status by type of intervention service
Albertan youth aged 12 to 17



Maltreatment-related intervention services received by Albertan youth

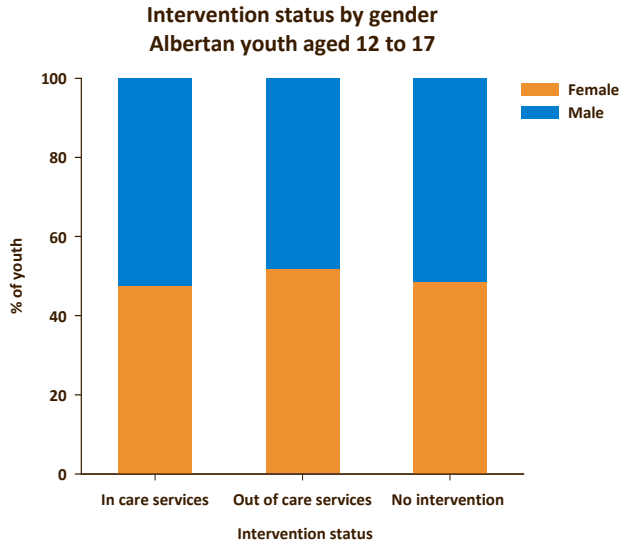


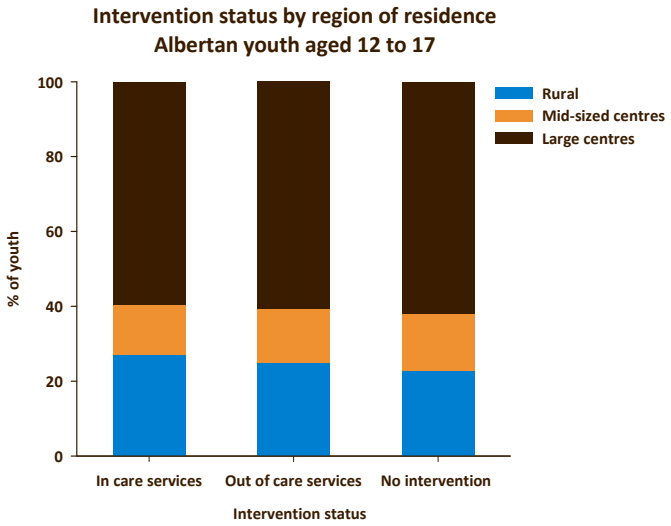
Type of intervention by age (Table 4 and 5)

- Among those receiving intervention services *in care services* were slightly more common than *out of care services* (range 55-65%).
- The percentage of youth receiving intervention services who were Aboriginal varied from 43% to 49%, with younger youth being slightly more likely to be Aboriginal (graph not shown).

Intervention status by gender (Table 6 and 7)

- Females were slightly more likely (52%) than males to receive *out of care services*, but there were slightly fewer females (48%) than males among youth receiving *in care services*.
- Among those receiving intervention services, there was no difference in the ratio of males to females for Aboriginals compared to non-Aboriginals (graph not shown).





Intervention status by region of residence (Table 8 and 9)

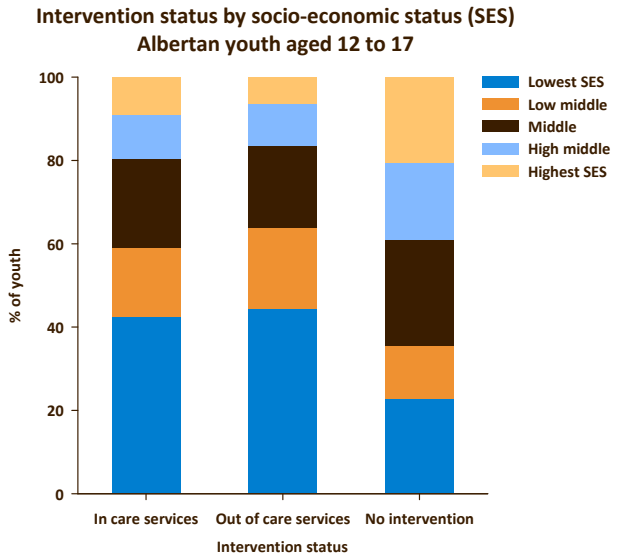
- Region of residence varied little across type of intervention service.
- Aboriginal youth receiving intervention services were more likely to live in rural areas (36%) compared to non-Aboriginal youth receiving intervention services(18%) (graph not shown).

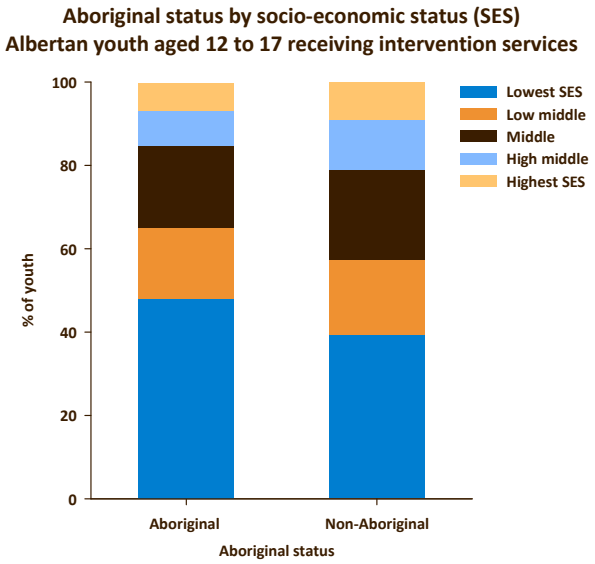
Maltreatment-related intervention services received by Albertan youth

Intervention status by socio-economic status (Table 10)

Socio-economic status captures the social and material environments in which youth live. See *Definitions and Notes* (p.26).

- 23% of youth not receiving intervention services lived in the lowest socio-economic status neighbourhoods, compared with 43% of youth *in care* and 44% of those receiving *out of care services*.
- 9% of youth *in care* and 6% of youth receiving *out of care services* lived in the highest socio-economic neighbourhoods, compared with 21% of youth not receiving interventions.





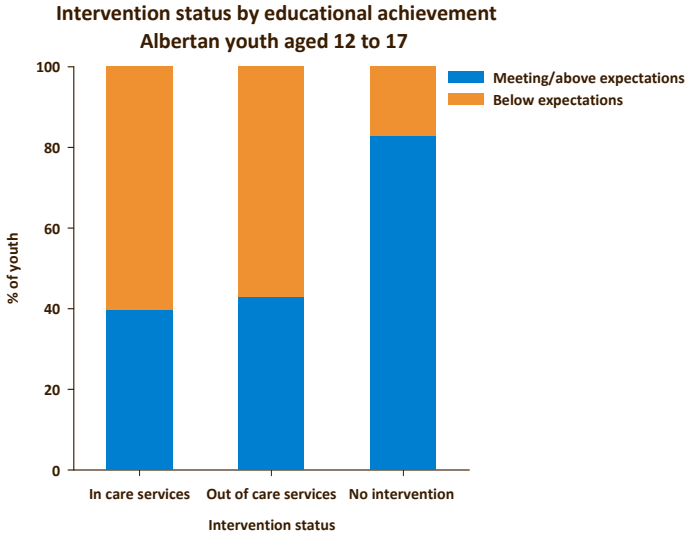
Aboriginal status by socio-economic status (Table 11)

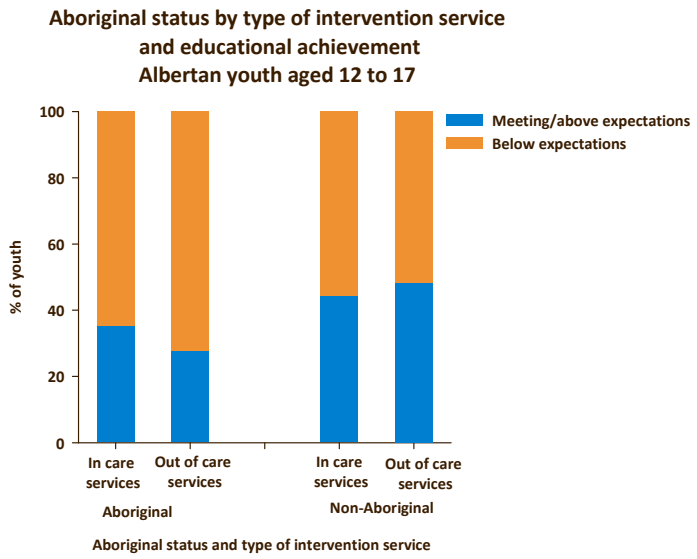
- Of youth receiving intervention services, 48% of Aboriginal youth and 40% of non-Aboriginal youth lived in the lowest socio-economic status neighbourhoods.

Intervention status by educational achievement (Table 12 and 13)

This and the following analysis are limited to youth who received maltreatment-related intervention services and were registered in the K-12 education system in 2008/09.

- Youth receiving intervention services were less likely to meet or exceed expectations in school.
- 41% of youth receiving intervention services (40% of those receiving *in care services* and 43% of those receiving *out of care services*) met or exceeded educational expectations, in contrast to 83% of youth not receiving intervention services.



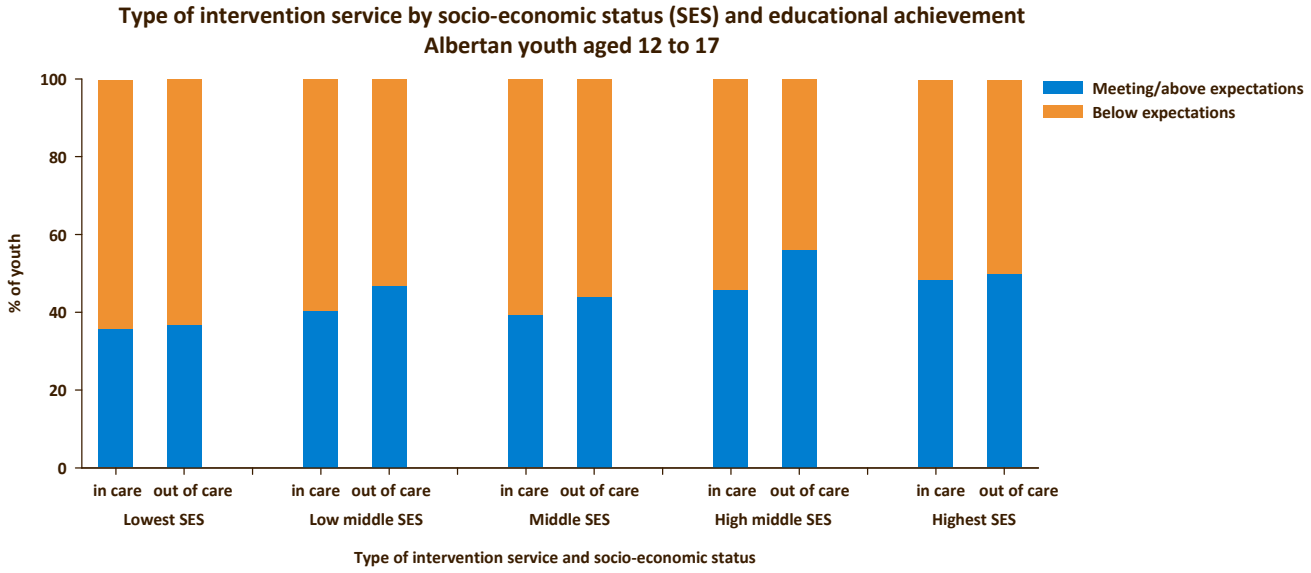


Aboriginal status by type of intervention service and educational achievement (Table 14)

Aboriginal status was determined by Human Services records only. Comparisons between Aboriginal and non-Aboriginal students should be interpreted with caution, because no data were available for students who attended schools on First Nations reserves.

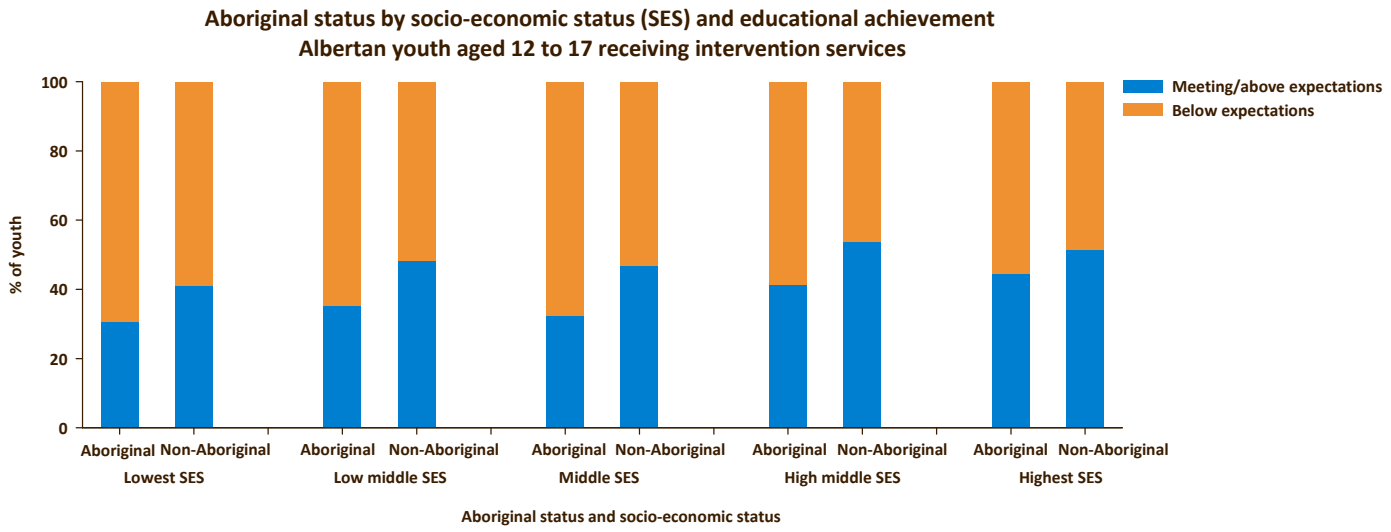
- Aboriginal youth who received *in care* services were more likely to meet or exceed educational expectations (35%) than Aboriginal youth who received *out of care services* (28%). The reverse was observed for non-Aboriginal youth.

Intervention type by socio-economic status and educational achievement (Table 15)



- Youth receiving *out of care services* were more likely to have met or exceeded educational expectations than youth receiving *in care services,* among youth who lived in low middle, middle and high middle socio-economic neighbourhoods.
- No difference in educational achievement was observed between youth receiving *in care* and *out of care services* if they lived in the lowest or the highest socio-economic status neighbourhoods.

Aboriginal status by socio-economic status and educational achievement (Table 16)



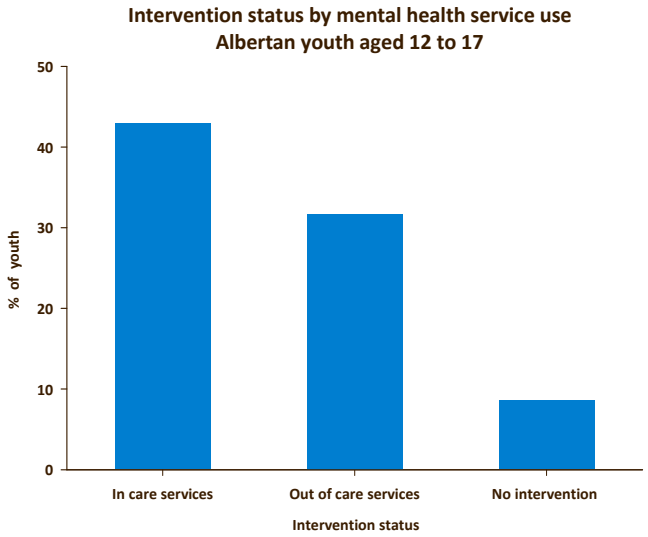
Aboriginal status was determined by Human Services records only. Comparisons between Aboriginal and non-Aboriginal students should be interpreted with caution, because no data were available for students who attended schools on First Nations reserves.

- Across all socio-economic groups, Aboriginal youth attending off-reserve schools were less likely to meet or exceed educational expectations than non-Aboriginal youth in the same socio-economic group.
- The difference between Aboriginal youth and non-Aboriginal youth in the percentage of youth who met or exceeded educational expectations was greater than 10% across all socio-economic status groups, except among those who lived in the highest socio-economic status neighbourhoods, where the difference was 7%.

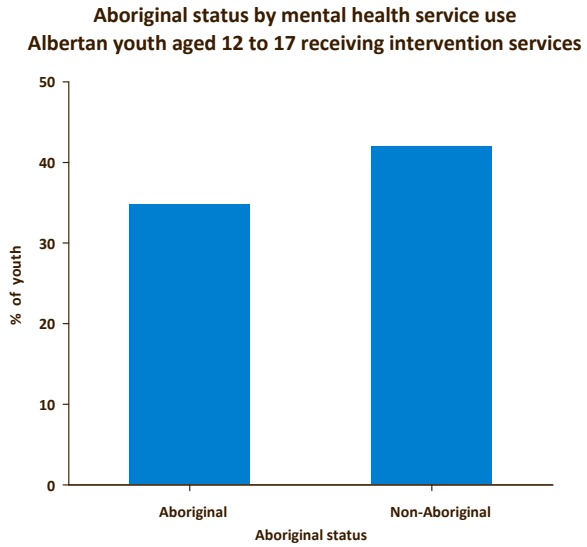
Intervention status by mental health status
(Table 17)

Mental health status refers to presence or absence of a mental health condition. Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition. *See Definitions and Notes (p.27).*

- Service use for mental health conditions was far more common among youth receiving intervention services than youth not receiving intervention. This may be partially due to increased access to mental health services for youth receiving intervention services.



Maltreatment-related intervention services received by Albertan youth

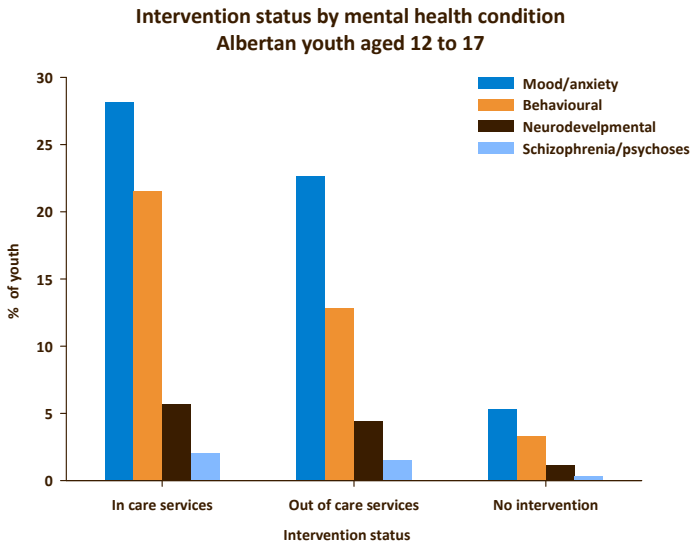


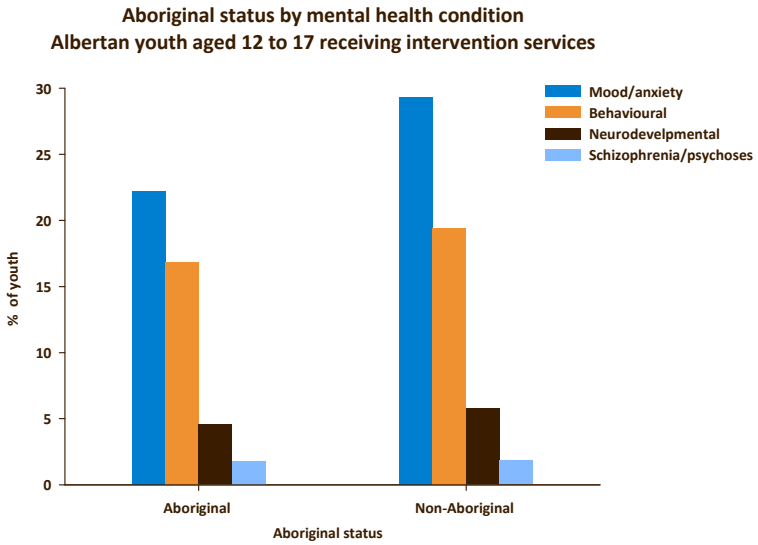
Aboriginal status by mental health status (Table 18)

- Non-Aboriginal youth receiving intervention services had higher service use for mental health conditions (41%) compared to Aboriginal youth receiving intervention services (35%).

Intervention status by mental health condition (Table 19)

- Service use for all types of mental health conditions was most common among youth who were *in care*, followed by youth receiving *out of care services*. Rates were much lower in youth with no interventions.
- Among youth *in care* and those receiving *out of care services*, *mood/anxiety* (28% and 23%, respectively) and *behavioural* (22% and 13%, respectively) conditions were most common. The rates for *mood/anxiety* and *behavioural* conditions were 5% and 3%, respectively, among youth not receiving intervention.

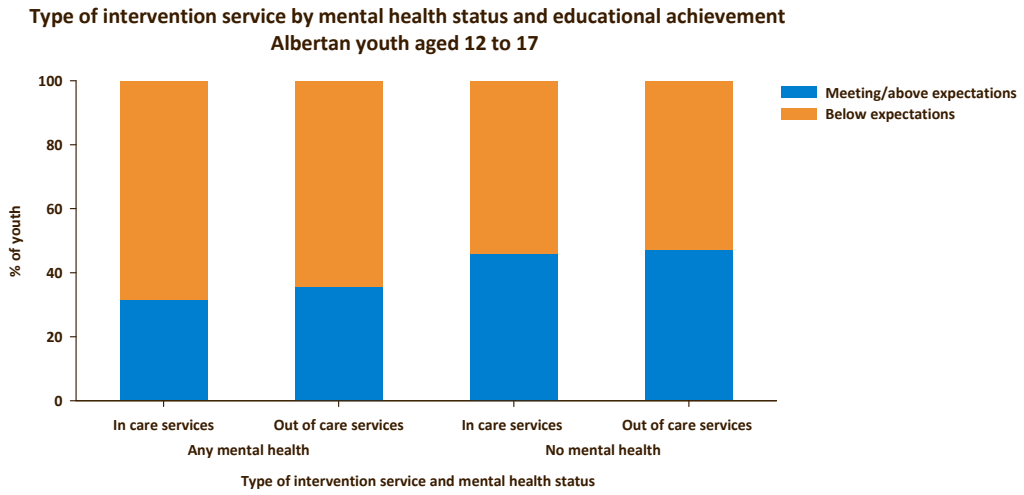




Aboriginal status by mental health condition (Table 20)

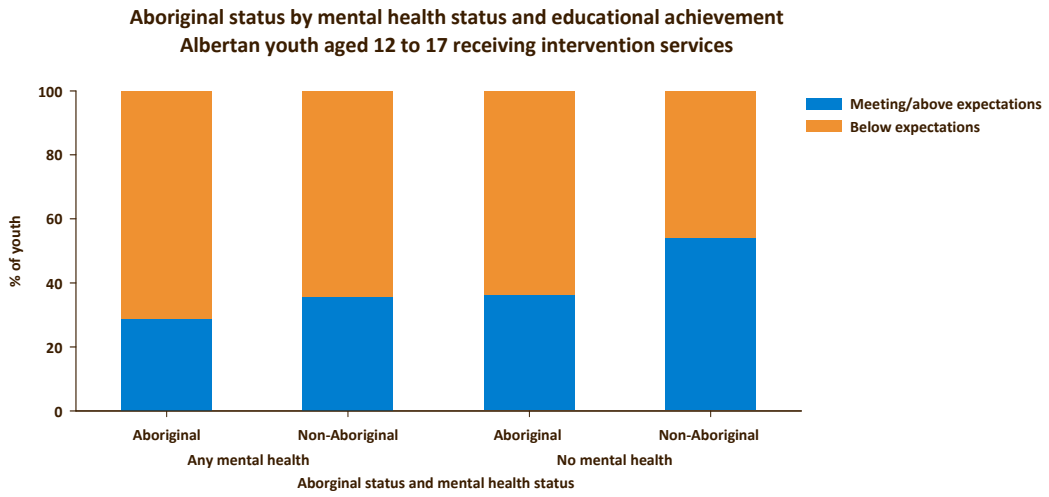
- *Mood* and/or *anxiety* conditions were more common among non-Aboriginal youth (29%) than Aboriginal youth (22%) receiving intervention services.

Intervention type by mental health status and educational achievement (Table 21)



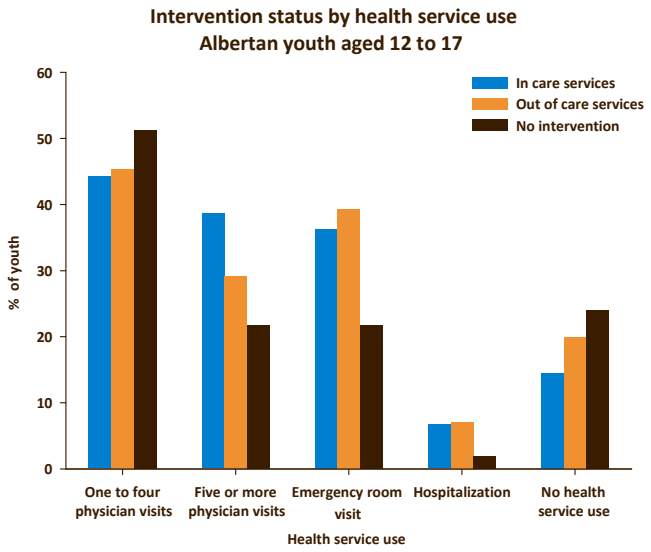
- Youth who accessed services for a mental health condition were less likely to meet or exceed educational expectations, regardless of the type of intervention service they received, than those who had not accessed services for any mental health condition.

Aboriginal status by mental health status and educational achievement (Table 22)



Aboriginal status was determined by Human Services records only. Comparisons between Aboriginal and non-Aboriginal students should be interpreted with caution, because no data were available for students who attended schools on First Nations reserves.

- Aboriginal youth accessing services for a mental health condition were less likely to have met or exceeded educational expectations (29%) than non-Aboriginal youth (36%).
- Over half (53%) of non-Aboriginal youth with no service use for a mental health condition met or exceeded educational expectations.



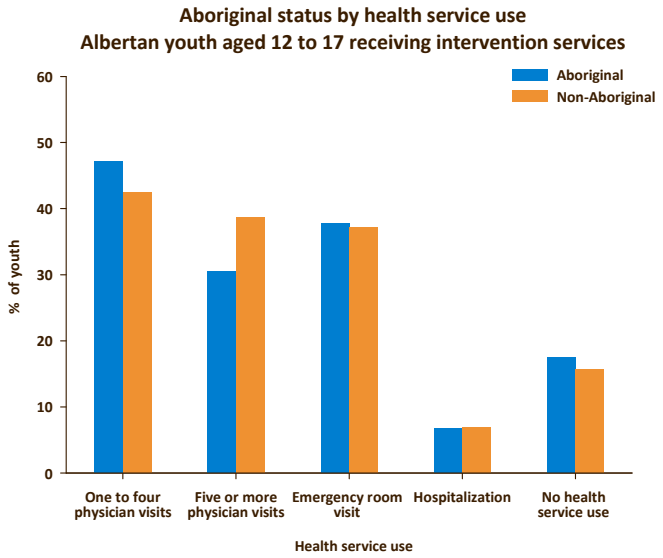
Intervention status by health service use (Table 23)

- Five or more physician visits were more common among youth who received *in care* services (39%).
- Youth who received *out of care services* were slightly more likely to have had an emergency room visit or been hospitalized than youth who received *in care services*.
- Youth who had not received intervention services were more likely to have one to four physician visits.

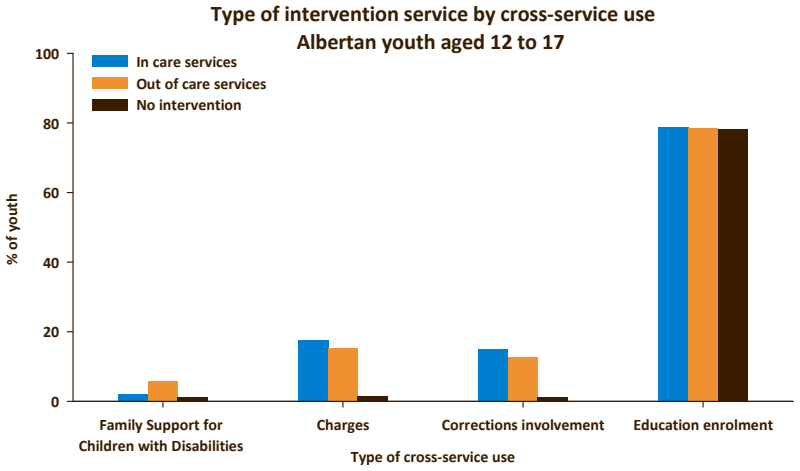
Maltreatment-related intervention services received by Albertan youth

Aboriginal status by health service use
(Table 24)

- Among youth receiving intervention services, Aboriginal youth were more likely than non-Aboriginal youth to have one to four physician visits, whereas non-Aboriginal youth were more likely to have five or more physician visits.
- Aboriginal youth receiving intervention services were more likely to have no health service use than non-Aboriginal youth.



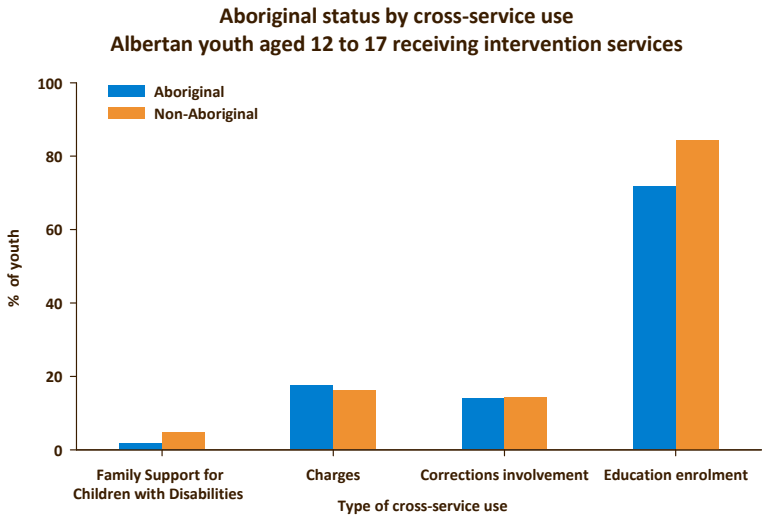
Intervention status by cross-service use (Table 25)



This analysis looks at the cross-ministry service use of youth (aged 12 to 17 years) by type of maltreatment intervention service received. Youth were considered in this and the following analysis if they were registered with the Alberta Health Care Insurance Plan (AHCIP; *see Definitions and Notes, p.28*). The effects should be interpreted with caution; they cannot be generalized to youth not registered with AHCIP. 7% of youth who received maltreatment-related intervention services were not registered with AHCIP.

- Youth receiving intervention services were more likely to have offence charges or involvement with correctional services or with Family Support for Children with Disabilities (FSCD) in 2008/09 than those who did not receive intervention services.

Aboriginal status by cross-service use (Table 26)



- 85% of non-Aboriginal youth and 72% of Aboriginal youth receiving intervention services were registered in Alberta's K-12 education system (off-reserve schools only), compared with 78% of youth not receiving interventions.
- There were minimal differences between Aboriginal and non-Aboriginal youth in terms of having offence charges or being involved with correctional services.
- 5% of non-Aboriginal youth were receiving services from FSCD, compared to 2% of Aboriginal youth.

Tables

Table 1. Number and percent of youth by maltreatment intervention status, Albertan youth aged 12 to 17 years, 2008/09

	Maltreatment intervention status	Total
Number of youth	In care services	3,956
	Out of care services	2,444
	Any maltreatment intervention services	6,400
	No maltreatment intervention services	301,303
	Total Albertan youth aged 12 to 17 years	307,703
Percent of Alberta youth	In care services	1.3
	Out of care services	0.8
	Any maltreatment intervention services	2.1
Percent of youth receiving intervention	In care services	61.8
	Out of care services	38.2
	Total	100.0

Table 2. Number and percent of youth by Aboriginal status of youth receiving maltreatment intervention services, Albertan youth aged 12 to 17 years, 2008/09

	Aboriginal status	Total
Number of youth	Aboriginal receiving maltreatment intervention services	2,930
	Non-Aboriginal receiving maltreatment intervention services	3,470
	Any maltreatment intervention services	6,400
	No maltreatment intervention services	301,303
	Total Albertan youth aged 12 to 17 years	307,703
Percent of Alberta youth	Aboriginal receiving maltreatment intervention services	1.0
	Non-Aboriginal receiving maltreatment intervention services	1.1
	Any maltreatment intervention services	2.1
Percent of youth receiving intervention	Aboriginal	45.8
	Non-Aboriginal	54.2
	Total	100.0

Tables (continued)

Table 3. Number and percent of youth by type of maltreatment intervention service and Aboriginal status, Albertan youth aged 12 to 17 years, 2008/09

	Maltreatment intervention type	Aboriginal Status		
		Aboriginal	Non-Aboriginal	Total
Number of youth	In care services	2,187	1,769	3,956
	Out of care services	743	1,701	2,444
	Total	2,930	3,470	6,400
Percent of youth	In care services	74.6	51.0	61.8
	Out of care services	25.4	49.0	38.2
	Total	100.0	100.0	100.0

Table 4. Number and percent of youth by type of maltreatment intervention service and age, Albertan youth aged 12 to 17 years, 2008/09

	Maltreatment intervention type	Age (years)						
		12	13	14	15	16	17	Total
Number of youth	In care services	553	604	676	743	710	670	3,956
	Out of care services	440	427	436	385	402	354	2,444
	Total	993	1,031	1,112	1,128	1,112	1,024	6,400
Percent of youth	In care services	55.7	58.6	60.8	65.9	63.8	65.4	61.8
	Out of care services	44.3	41.4	39.2	34.1	36.2	34.6	38.2
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Tables (continued)

Table 5. Number and percent of youth receiving maltreatment intervention services by Aboriginal status and age, Albertan youth aged 12 to 17 years, 2008/09

	Maltreatment intervention type	Age (years)						
		12	13	14	15	16	17	Total
Number of youth	Aboriginal	490	507	492	501	483	457	2,930
	Non-Aboriginal	503	524	620	627	629	567	3,470
	Total	993	1,031	1,112	1,128	1,112	1,024	6,400
Percent of youth	Aboriginal	49.3	49.2	44.2	44.4	43.4	44.6	45.8
	Non-Aboriginal	50.7	50.8	55.8	55.6	56.6	55.4	54.2
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 6. Number and percent youth by type of maltreatment intervention service and gender, Albertan youth aged 12 to 17 years, 2008/09

	Gender	Maltreatment intervention type			
		In care services	Out of care services	Total	No intervention
Number of youth	Female	1,878	1,269	3,147	146,067
	Male	2,078	1,175	3,253	155,235
	Total	3,956	2,444	6,400	301,302
Percent of youth	Female	47.5	51.9	49.2	48.5
	Male	52.5	48.1	50.8	51.5
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 7. Number and percent youth by type of maltreatment intervention service, Aboriginal status and gender, Albertan youth aged 12 to 17 years, 2008/09

	Gender	Aboriginal status			
		Aboriginal	Non-Aboriginal	Total	No intervention
Number of youth	Female	1,454	1,693	3,147	146,067
	Male	1,476	1,777	3,253	155,235
	Total	2,930	3,470	6,400	301,302
Percent of youth	Female	49.6	48.8	49.2	48.5
	Male	50.4	51.2	50.8	51.5
	Total	100.0	100.0	100.0	100.0

Table 8. Number and percent of youth by type of maltreatment intervention service and region of residence, Albertan youth aged 12 to 17 years, 2008/09

	Region of residence	Maltreatment intervention type			
		In care services	Out of care services	Total	No intervention
Number of youth	Rural	1,065	609	1,674	68,108
	Mid-sized centres	529	351	880	46,072
	Large centres	2,342	1,481	3,823	185,987
	Total	3,936	2,441	6,377	300,167
Percent of youth	Rural	27.1	24.9	26.3	22.7
	Mid-sized centres	13.4	14.4	13.8	15.3
	Large centres	59.5	60.7	59.9	62.0
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 9. Number and percent of youth receiving maltreatment intervention services by Aboriginal status and region of residence, Albertan youth aged 12 to 17 years, 2008/09

	Region of residence	Aboriginal status			
		Aboriginal	Non-Aboriginal	Total	No intervention
Number of youth	Rural	1,039	635	1,674	68,108
	Mid-sized centres	345	535	880	46,072
	Large centres	1,528	2,295	3,823	185,987
	Total	2,912	3,465	6,377	300,167
Percent of youth	Rural	35.7	18.3	26.3	22.7
	Mid-sized centres	11.8	15.4	13.8	15.3
	Large centres	52.5	66.2	59.9	62.0
	Total	100.0	100.0	100.0	100.0

Table 10. Number and percent of youth by type of maltreatment intervention service and socio-economic status (SES), Albertan youth aged 12 to 17 years, 2008/09

	Socio-economic status	Maltreatment intervention type			
		In care services	Out of care services	Total	No intervention
Number of youth	Lowest SES	1,659	1,078	2,737	67,327
	Low middle	641	470	1,111	37,486
	Middle	834	477	1,311	75,115
	High middle	411	245	656	54,330
	Highest SES	354	156	510	60,726
	Total	3,899	2,426	6,325	294,984
Percent of youth	Lowest SES	42.5	44.4	43.3	22.8
	Low middle	16.4	19.4	17.6	12.7
	Middle	21.4	19.7	20.7	25.5
	High middle	10.5	10.1	10.4	18.4
	Highest SES	9.1	6.4	8.1	20.6
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 11. Number and percent of youth receiving maltreatment intervention services by Aboriginal status and socio-economic status (SES), Albertan youth aged 12 to 17 years,

	Socio-economic status	Aboriginal status			
		Aboriginal	Non-Aboriginal	Total	No intervention
Number of youth	Lowest SES	1,373	1,364	2,737	67,327
	Low middle	486	625	1,111	37,486
	Middle	569	742	1,311	75,115
	High middle	241	415	656	54,330
	Highest SES	195	315	510	60,726
	Total	2,864	3,461	6,325	294,984
Percent of youth	Lowest SES	47.9	39.4	43.3	22.8
	Low middle	17.0	18.1	17.6	12.7
	Middle	19.9	21.4	20.7	25.5
	High middle	8.4	12.0	10.4	18.4
	Highest SES	6.8	9.1	8.1	20.6
	Total	100.0	100.0	100.0	100.0

Table 12. Number and percent of youth by type of maltreatment intervention service and educational achievement, Albertan youth aged 12 to 17 years, 2008/09

	Educational achievement	Maltreatment intervention type			
		In care services	Out of care services	Total	No intervention
Number of youth	Below expectations	1,782	1,014	2,796	39,916
	Meeting/above expectations	1,171	762	1,933	192,231
	Total	2,953	1,776	4,729	232,147
Percent of youth	Below expectations	60.3	57.1	59.1	17.2
	Meeting/above expectations	39.7	42.9	40.9	82.8
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 13. Number and percent of youth receiving maltreatment intervention services by Aboriginal status and educational achievement, Albertan youth aged 12 to 17 years, 2008/09

	Educational achievement	Aboriginal status			
		Aboriginal	Non-Aboriginal	Total	No intervention
Number of youth	Below expectations	1,307	1,489	2,796	39,916
	Meeting/above expectations	659	1,274	1,933	192,231
	Total	1,966	2,763	4,729	232,147
Percent of youth	Below expectations	66.5	53.9	59.1	17.2
	Meeting/above expectations	33.5	46.1	40.9	82.8
	Total	100.0	100.0	100.0	100.0

Table 14. Number and percent of youth by Aboriginal status, type of intervention service and educational achievement, Albertan youth aged 12 to 17 years, 2008/09

	Educational achievement	Aboriginal status		
In care services		Aboriginal	Non-Aboriginal	Total
Number of youth	Below expectations	976	806	1,782
	Meeting/above expectations	533	638	1,171
	Total	1,509	1,444	2,953
Percent of youth	Below expectations	64.7	55.8	60.3
	Meeting/above expectations	35.3	44.2	39.7
	Total	100.0	100.0	100.0
Out of care services		Aboriginal	Non-Aboriginal	Total
Number of youth	Below expectations	331	683	1,014
	Meeting/above expectations	126	636	762
	Total	457	1,319	1,776
Percent of youth	Below expectations	72.4	51.8	57.1
	Meeting/above expectations	27.6	48.2	42.9
	Total	100.0	100.0	100.0

Tables (continued)

Table 15. Number and percent of youth by type of maltreatment intervention service, socio-economic status and educational achievement, Albertan youth aged 12 to 17 years, 2008/09

	Educational achievement	Socio-economic status					
In care services		Lowest	Low middle	Middle	High middle	Highest	Total
Number of youth	Below expectations	799	269	386	178	147	1,779
	Meeting/above expectations	446	182	251	150	138	1,167
	Total	1,245	451	637	328	285	2,946
Percent of youth	Below expectations	64.2	59.6	60.6	54.3	51.6	60.4
	Meeting/above expectations	35.8	40.4	39.4	45.7	48.4	39.6
	Total	100.0	100.0	100.0	100.0	100.0	100.0
Out of care services		Lowest	Low middle	Middle	High middle	Highest	Total
Number of youth	Below expectations	485	182	195	83	61	1,006
	Meeting/above expectations	282	160	153	106	61	762
	Total	767	342	348	189	122	1,768
							0
Percent of youth	Below expectations	63.2	53.2	56.0	43.9	50.0	56.9
	Meeting/above expectations	36.8	46.8	44.0	56.1	50.0	43.1
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Table 16. Number and percent of youth receiving intervention services by Aboriginal status, socio-economic status and educational achievement, Albertan youth aged 12 to 17 years, 2008/09

	Educational achievement	Socio-economic status					
Aboriginal		Lowest	Low middle	Middle	High middle	Highest	Total
Number of youth	Below expectations	649	201	263	104	80	1,297
	Meeting/above expectations	284	109	125	73	64	655
	Total	933	310	388	177	144	1,952
Percent of youth	Below expectations	69.6	64.8	67.8	58.8	55.6	66.4
	Meeting/above expectations	30.4	35.2	32.2	41.2	44.4	33.6
	Total	100.0	100.0	100.0	100.0	100.0	100.0
Non-Aboriginal		Lowest	Low middle	Middle	High middle	Highest	Total
Number of youth	Below expectations	635	250	318	157	128	1,488
	Meeting/above expectations	444	233	279	183	135	1,274
	Total	1,079	483	597	340	263	2,762
							0
Percent of youth	Below expectations	58.9	51.8	53.3	46.2	48.7	53.9
	Meeting/above expectations	41.1	48.2	46.7	53.8	51.3	46.1
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Tables (continued)

Table 17. Number and percent of youth by type of maltreatment intervention service and mental health status, Albertan youth aged 12 to 17 years, 2008/09

	Mental health status	Maltreatment intervention type			
		In care services	Out of care services	Total	No intervention
Number of youth	Any mental health condition	1,570	694	2,264	23,178
	No mental health condition	2,093	1,496	3,589	247,819
	Total	3,663	2,190	5,853	270,997
Percent of youth	Any mental health condition	42.9	31.7	38.7	8.6
	No mental health condition	57.1	68.3	61.3	91.4
	Total	100.0	100.0	100.0	100.0

Table 18. Number and percent of youth receiving maltreatment intervention services by Aboriginal status and mental health status, Albertan youth aged 12 to 17 years, 2008/09

	Mental health status	Aboriginal status			
		Aboriginal	Non-Aboriginal	Total	No intervention
Number of youth	Any mental health condition	932	1,332	2,264	23,178
	No mental health condition	1,747	1,842	3,589	247,819
	Total	2,679	3,174	5,853	270,997
Percent of youth	Any mental health condition	34.8	42.0	38.7	8.6
	No mental health condition	65.2	58.0	61.3	91.4
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 19. Number and percent of youth by type of maltreatment intervention services and mental health conditions, Albertan youth aged 12 to 17 years, 2008/09

	Mental health condition*	Maltreatment intervention type			
		In care services	Out of care services	Total	No intervention
Number of youth	Mood/anxiety	1,030	496	1,526	14,251
	Behavioural	789	280	1,069	8,898
	Neurodevelopmental	208	97	305	3,006
	Schizophrenia/psychoses	74	33	107	797
	Total in maltreatment intervention category	3,663	2,190	5,853	270,997
Percent of youth	Mood/anxiety	28.1	22.6	26.1	5.3
	Behavioural	21.5	12.8	18.3	3.3
	Neurodevelopmental	5.7	4.4	5.2	1.1
	Schizophrenia/psychoses	2.0	1.5	1.8	0.3

* Mental health condition categories were not mutually exclusive

Table 20. Number and percent of youth receiving intervention services by Aboriginal status and mental health conditions, Albertan youth aged 12 to 17 years, 2008/09

	Mental health condition*	Aboriginal status			
		Aboriginal	Non-Aboriginal	Total	No intervention
Number of youth	Mood/anxiety	595	931	1,526	14,251
	Behavioural	452	617	1,069	8,898
	Neurodevelopmental	122	183	305	3,006
	Schizophrenia/psychoses	48	59	107	797
	Total in Aboriginal status category	2,679	3,174	5,853	270,997
Percent of youth	Mood/anxiety	22.2	29.3	26.1	5.3
	Behavioural	16.9	19.4	18.3	3.3
	Neurodevelopmental	4.6	5.8	5.2	1.1
	Schizophrenia/psychoses	1.8	1.9	1.8	0.3

* Mental health condition categories were not mutually exclusive

Tables (continued)

Table 21. Number and percent of youth by type of maltreatment intervention service, mental health status and educational achievement, Albertan youth aged 12 to 17 years, 2008/09

	Educational achievement	Maltreatment intervention type		
No mental health condition		In care services	Out of care services	Total
Number of youth	Below expectations	834	588	1,422
	Meeting/above expectations	706	527	1,233
	Total	1,540	1,115	2,655
Percent of youth	Below expectations	54.2	52.7	53.6
	Meeting/above expectations	45.8	47.3	46.4
	Total	100.0	100.0	100.0
Any mental health condition		In care services	Out of care services	Total
Number of youth	Below expectations	884	363	1,247
	Meeting/above expectations	411	200	611
	Total	1,295	563	1,858
Percent of youth	Below expectations	68.3	64.5	67.1
	Meeting/above expectations	31.7	35.5	32.9
	Total	100.0	100.0	100.0

Table 22. Number and percent of youth receiving maltreatment intervention services by Aboriginal status, mental health status and educational achievement, Albertan youth aged 12 to 17 years, 2008/09

	Educational achievement	Aboriginal status		
No mental health condition		Aboriginal status	Non-Aboriginal	Total
Number of youth	Below expectations	738	684	1,422
	Meeting/above expectations	423	810	1,233
	Total	1,161	1,494	2,655
Percent of youth	Below expectations	63.6	45.8	53.6
	Meeting/above expectations	36.4	54.2	46.4
	Total	100.0	100.0	100.0
Any mental health condition		Aboriginal status	Non-Aboriginal	Total
Number of youth	Below expectations	514	733	1,247
	Meeting/above expectations	206	405	611
	Total	720	1,138	1,858
Percent of youth	Below expectations	71.4	64.4	67.1
	Meeting/above expectations	28.6	35.6	32.9
	Total	100.0	100.0	100.0

Tables (continued)

Table 23. Number and percent of youth by maltreatment intervention status and health service use, Albertan youth aged 12 to 17 years, 2008/09

	Health service use	Maltreatment intervention type			
		In care services	Out of care services	Total	No intervention
Number of youth	One to four physician visits	1,751	1,110	2,861	154,605
	Five or more physician visits	1,529	712	2,241	65,620
	Emergency room visit	1,438	962	2,400	65,591
	Hospitalization	267	174	441	5,735
	Any health service use	3,382	1,957	5,339	228,938
	No health service use	574	487	1,061	72,365
	Total	3,956	2,444	6,400	301,303
Percent of youth	One to four physician visits	44.3	45.4	44.7	51.3
	Five or more physician visits	38.7	29.1	35.0	21.8
	Emergency room visit	36.3	39.4	37.5	21.8
	Hospitalization	6.7	7.1	6.9	1.9
	Any health service use	85.5	80.1	83.4	76.0
	No health service use	14.5	19.9	16.6	24.0

* Health service use categories were not mutually exclusive

Table 24. Number and percent of youth receiving maltreatment intervention services by Aboriginal staus and health service use, Albertan youth aged 12 to 17 years, 2008/09

	Health service use	Maltreatment intervention type			
		Aboriginal	Non-Aboriginal	Total	No intervention
Number of youth	One to four physician visits	1,385	1,476	2,861	154,605
	Five or more physician visits	895	1,346	2,241	65,620
	Emergency room visit	1,107	1,293	2,400	65,591
	Hospitalization	198	243	441	5,735
	Any health service use	2,414	2,925	5,339	228,938
	No health service use	516	545	1,061	72,365
	Total	2,930	3,470	6,400	301,303
Percent of youth	One to four physician visits	47.3	42.5	44.7	51.3
	Five or more physician visits	30.5	38.8	35.0	21.8
	Emergency room visit	37.8	37.3	37.5	21.8
	Hospitalization	6.8	7.0	6.9	1.9
	Any health service use	82.4	84.3	83.4	76.0
	No health service use	17.6	15.7	16.6	24.0

* Health service use categories were not mutually exclusive

Tables (continued)

Table 25. Number and percent of youth by maltreatment intervention status and type of cross-service use, Albertan youth aged 12 to 17 years, 2008/09*

	Type of cross-service use	Maltreatment intervention type			
		In care services	Out of care services	Total	No intervention
Number of youth	FSCD**	71	129	200	3,034
	Charges	656	341	997	4,269
	Corrections involvement	559	283	842	3,599
	Education enrolment	2,929	1,754	4,683	217,800
	Health registry	3,716	2,236	5,952	279,179
Percent of youth	FSCD**	1.9	5.8	3.4	1.1
	Charges	17.7	15.3	16.8	1.5
	Corrections involvement	15.0	12.7	14.1	1.3
	Education enrolment	78.8	78.4	78.7	78.0
	Health registry	100.0	100.0	100.0	100.0

* Only youth registered in the Alberta Health Care Insurance Plan were included in this analysis

**FSCD = Family Support for Children with Disabilities

Table 26. Number and percent of youth receiving maltreatment intervention services by Aboriginal status and type of cross-service use, Albertan youth aged 12 to 17 years, 2008/09*

	Type of cross-service use	Aboriginal status			
		Aboriginal	Non-Aboriginal	Total	No intervention
Number of youth	FSCD**	49	151	200	3,034
	Charges	473	524	997	4,269
	Corrections involvement	379	463	842	3,599
	Education enrolment	1,944	2,739	4,683	217,800
	Health registry	2,709	3,243	5,952	279,179
Percent of youth	FSCD**	1.8	4.7	3.4	1.1
	Charges	17.5	16.2	16.8	1.5
	Corrections involvement	14.0	14.3	14.1	1.3
	Education enrolment	71.8	84.5	78.7	78.0
	Health registry	100.0	100.0	100.0	100.0

* Only youth registered in the Alberta Health Care Insurance Plan were included in this analysis

**FSCD = Family Support for Children with Disabilities

Definitions and notes

- The study population for this project consisted of all Albertan youth who were registered with the Alberta Health Care Insurance Plan in 2008/09 or who received selected services from one or more of the participating ministries in 2008/09. "All Albertan youth" refers to this study population.
- The study year was fiscal year 2008/09. With the exception of Education and Enterprise and Advanced Education data, all data were for services provided between April 1, 2008 and March 31, 2009, with age determined on March 31, 2009.
    - Data for Enterprise and Advanced Education were for services provided between September 1, 2008 and June 30, 2009, with age determined on March 31, 2009.
    - Data for Education were for services provided to youth who were 12 to 19 years old on September 30, 2008. As a result, youth turning 12 between October 1, 2008 and March 31, 2009 *were not* included in the Education data but were included in other ministries' data. This resulted in the number of 12 year olds in the Education data being lower (approximately 50% lower) than that of 13 to 17 year olds.
    - Furthermore, although Education only provides services to youth who are under 20, the provision of services is defined by age at September 30. Youth who turned 20 between October 1, 2008 and March 31, 2009 *were* included in the Education data, resulting in the inclusion of 20 year olds in some analyses of Education data.
- **Cross-ministry analyses included only youth that were linked across the relevant ministries**. This means that not all youth in the project were represented in every analysis. As well, only youth with a value for a given indicator were included in analyses involving that indicator (i.e., **missing values** were excluded).
- Age, gender, and postal code (translated into Statistics Canada dissemination areas) were provided for each individual by each participating ministry. In the case of discrepancies between ministries, the most common value for an indicator was chosen. In the event of two or more most common values, the value for the indicator was chosen randomly from the most common values.
- Dissemination areas of residence were used by CYDL to determine **region of residence**. Urban areas included large centres with urban core populations greater than 100,000 (i.e., Edmonton and Calgary metropolitan areas) and mid-sized centres with urban cores greater than 10,000; all other areas were categorized as rural.
- **Socio-economic status (SES)** captures the social and material environments in which youth live. A youth was assigned a socio-economic status via an index based on the Statistics Canada dissemination area in which he or she resided[7]. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single families, percent of persons living alone, and percent of persons separated, divorced, or widowed. Socio-economic status values fell into five quintiles.
- **Educational achievement** was computed by Alberta Education using age, grade, school type, special education codes, provincial achievement test scores, home education status, number of high school credits earned, number of higher level courses taken, average grade in higher level courses, possession of an Alberta Education certificate or diploma, and Alexander Rutherford scholarship eligibility. Educational achievement was categorized as *above, meeting,* or *below expectations* for a student's age and grade. An educational achievement rating was not available for 12 to 14 year old youth without scores on provincial achievement tests, for youth in 'other' schools (accredited post-secondary institutions offering high school courses for credit to adults; most youth in these schools were between 18 and 20 years), and for home-schooled high school youth with no credits.

Definitions and notes (continued)

Mental health status was defined by the presence or absence of mental health diagnosis codes in Health's databases (Inpatient—Discharge Abstract Database, Ambulatory Care, and Practitioner Payments), or in the Family Support for Children with Disabilities Information System. Only youth who were registered with the Alberta Health Care Insurance Plan for the full fiscal year were included in the mental health analyses. **Mental health service use is a proxy for presence of a mental health condition:** Some youth with mental health conditions may not have accessed mental health services in Alberta during the year, and some mental health service use may have occurred for youth who did not in fact have mental health conditions.

- **Mental health conditions** were grouped based on The Johns Hopkins ACG® Case-Mix System (version 8.2)[8]. Mental health conditions were *mood/anxiety* (anxiety, depression, bipolar disorder, etc.), *behavioural* (attention-deficit disorder, regulatory disorder, mental or behavioural problems due to substance use, etc.), *neurodevelopmental* (autism, fetal alcohol spectrum disorder, cerebral palsy, etc.), or *schizophrenia/psychoses* (schizophrenia, psychosis, delusional disorder, etc.). Conditions were not mutually exclusive; a youth could have a diagnosis in more than one category.

- **Maltreatment-related interventions** occur when the safety or well-being of a youth is threatened. Categories of intervention include *in care services* (the youth is taken into care, and placed in a foster home, with family, in a group home, etc.), and *out of care services* (the youth remains in the home and the family receives support services). Youth self-identified or were identified by a parent or guardian as Aboriginal or non-Aboriginal.
- **Physician visits** reflect fee claims made by physicians when patients visit their offices. In this report, multiple claims by a given physician for a given patient on the same day were counted as a single visit. Reasons for physician visits were not available for this project.
- **Emergency room visits** refer to visits to emergency departments for assessment or treatment.
- **Hospitalizations** refer to admissions to hospital for assessment or treatment.
- Participation in **education** refers to enrolment in the kindergarten to grade 12 education system in Alberta. No data were available for students who attended schools on First Nations reserves or in Lloydminster.
- **Family Support for Children with Disabilities (FSCD)** is a ministry of Human Services program that provides a range of supports and services to families that strengthen their ability to support and care for their child with a disability based on their needs.
- Youth with **offence charges** include those charged with criminal offences or administrative offences related to criminal offences (e.g., failure to appear in court, breach of probation, etc.).
- Youth with **corrections involvement** have appeared before the Court or a Justice of the Peace for an offence charge and have been remanded in custody or placed under pre-trial supervision in the community awaiting further court dates, or have been found guilty and sentenced to a community disposition (i.e. Fine, Probation, Community Service Work, Deferred Custody) and/or custody (in which the sentence is served in a young offender facility).

Definitions and Notes (continued)

- New and returning Alberta residents, if they are eligible, must register for **Alberta Health Care Insurance Plan** coverage to receive insured health services. Youth in the "**health registry**" refers to all youth who are insured in Alberta. This includes any eligible youth who is a permanent resident of Alberta, living at least 183 days per year in the province. Members of the Canadian Armed Forces, Royal Canadian Mounted Police and federal penitentiary inmates are not eligible (they receive coverage from the federal government), but dependents of these non-eligible residents, who reside in Alberta, are eligible.

Data sources

Ministry	Database	Use in this report
Education	Corporate Data Warehouse (CDW)	Primary and secondary education achievement data
Health	Inpatient – Discharge Abstract Database (DAD)	Hospitalization data
Health	Ambulatory Care (ACCS)	Emergency room visit data
Health	Practitioner Payments (SESE)	Physician visit data
Health	Alberta Health Care Insurance Plan Population Registry (AHCIP registry)	Population registry
Human Services	Child Youth Information Module (CYIM)	Maltreatment and intervention data
Human Services	Family Support for Children with Disabilities Information System (FSCDIS)	Family Supports for Children with Disabilities data
Human Services	Central Client Directory (CCD)	Income support data
Justice and Solicitor General	Justice Online Information Network (JOIN)	Offence data
Justice and Solicitor General	Alberta Community Offender Management System (ACOM)	Corrections data (community)
Justice and Solicitor General	Correctional Offender Management Information System (CoMIS)	Corrections data (custody)

References

1. Public Health Agency of Canada (2010). *Canadian Incidence Study of Reported Child Abuse and Neglect – 2008: Major Findings*. Ottawa.
2. Trocmé, N., MacLaurin, B., Fallon, B., Knoke, D., Pitman, L., & McCormack, M. (2005). *Understanding the Overrepresentation of First Nations Children in Canada's Child Welfare System: An Analysis of the Canadian Incidence Study of Reported Child Abuse and Neglect (CIS-2003)*. Toronto: Centre of Excellence for Child Welfare.
3. World Health Organization and International Society for Prevention of Child Abuse and Neglect (2006). *Preventing child maltreatment: a guide to taking action and generating evidence*. Geneva.
4. Jack, S., Munn, C., Cheng, C., & MacMillan, H. (2006). *Child Maltreatment in Canada: Overview Paper.* Ottawa: Public Health Agency of Canada, National Clearinghouse on Family Violence.
5. World Health Organization and International Society for Prevention of Child Abuse and Neglect (2006). *Preventing child maltreatment: a guide to taking action and generating evidence*, p. 6. Geneva.
6. Farris-Manning, C. & Zandstra, M. (2003). *Children in care in Canada: A summary of current issues and trends with recommendations for future research*. Canada: Child Welfare League of Canada.
7. Pampalon, R., Hamel, D., Garnache, P., Raymond, G. (2009). A deprivation index for health planning in Canada. *Chronic Diseases in Canada, 29(4)*, 178-91.
8. The Johns Hopkins University (2008). *The Johns Hopkins ACG® System Reference Manual, Version 8.2*. Johns Hopkins University: Baltimore.

The Child and Youth Data Laboratory

The **Child and Youth Data Laboratory** (CYDL) links and analyzes administrative data from child- and youth-serving ministries in the Government of Alberta. The ministries participate in research design and provide data elements that contribute to answering research questions.

The CYDL's research provides groundbreaking opportunities to understand relationships between critical factors in the lives of children and youth in Alberta. The research results can be used to inform policy and program development and evaluation, both within and across ministries, and to inspire further research.

The CYDL is managed by the **Alberta Centre for Child, Family and Community Research** (ACCFCR). The Centre has evolved over its eight year history as a public-sector, innovative resource for evidence. The Centre develops, supports and integrates research across sectors and disciplines to provide a strong, evidence-based foundation for identifying and promoting effective public policy and service delivery to improve the well-being of children, families, and communities in Alberta, Canada, and internationally.

Our partners

This project was carried out on behalf of six ministries of the Government of Alberta. Each ministry collaborated extensively with the CYDL on this project, and their dedication to the project is gratefully acknowledged:

Enterprise and Advanced Education
Education
Health
Human Services
Aboriginal Relations
Justice and Solicitor General

Suggested citation

Child and Youth Data Laboratory (2012). *Maltreatment-related intervention services received by Albertan youth.* Edmonton: Alberta Centre for Child, Family and Community Research.

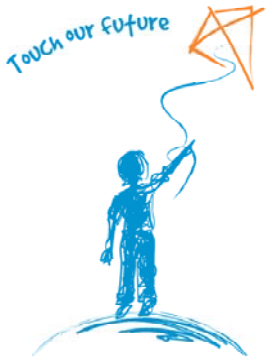
Contact CYDL

www.research4children.com
Click on "Data"

Xinjie Cui, Director
780 944 8631
xcui@research4children.com

Leslie Twilley, Senior Scientist
780 408 8734
ltwilley@research4children.com

Cecilia Bukutu, Research Scientist
780 408 8732
cbukutu@research4children.com



ALBERTA CENTRE FOR
CHILD, FAMILY & COMMUNITY
RESEARCH

Government
of Alberta

Physician visits by Albertan youth

Child and Youth Data Laboratory (CYDL)

Report for *Experiences of Albertan Youth* Project

Key findings

This report is an overview of 2,361,770 physician visits by 496,787 Albertan youth (12 to 24 years) in 2008/09. Physicians were grouped into two types of providers: specialists and general practitioners. Youth not registered with the Alberta Health Care Insurance Plan in 2008/09 were excluded.

The report contains analyses of the relationships between number of physician visits as well as type of physician with region of residence, socio-economic status, age, gender, educational achievement and mental health status. The cross-ministry service use of youth who visited physicians was also described.

- 49% of youth had one to four physician visits and 26% had five or more physician visits, while 24% of youth had no physician visits. 64% of visits were with a general practitioner and 36% were with a specialist.
- Number of physician visits increased with age for females and decreased with age for males. Youth who were performing above educational expectations or who received services for a mental health condition were more likely to visit a physician.
- About two thirds of visits were to general practitioners; visits to specialists were less common among visits for older youth and females. Visits to specialists were more common among visits by youth who were performing above educational expectations than those below, or among those who had *neurodevelopmental* or *schizophrenia/psychoses* conditions than those with other mental health conditions.
- Socio-economic status and region of residence were unrelated to number of physician visits or to provider types.
- Making five or more physician visits in the study year was more common for youth on income support, youth receiving Family Support for Children with Disabilities services, youth who received maltreatment-related intervention services, and youth who were enrolled in a post-secondary institution, compared to the whole population of youth registered with Alberta Health Care.

Contents

Key findings and Context.....1 to 2
Data analyses.....3 to 10
Tables.....11 to 18
Definitions and Notes.....19 to 21
Data sources.....22
References.....22
About CYDL.....23

Physician visits by Albertan youth

Context

Adolescence and early adulthood is a time during which youth develop many of the lifestyle patterns they will follow throughout adulthood, including behaviours that enhance health as well as those that are detrimental to health. Making regular (but not frequent) visits to a primary care physician is a behaviour that is associated with better overall health.[1]

A survey of the health care utilization of Canadian youth aged 12 to 19 years showed that physician visits were more likely for females, older adolescents, youth from single parent families, youth with lower health status or disability, youth with higher rates of distress, and youth whose lifestyle practices compromised health.[2]

In another survey on physician visits by Canadian youth 12 to 24 years old, the effect of age group was studied. The average number of visits in the previous year increased with increasing age, from 1.9 visits for 12 to 14 year olds to 2.4 for 15 to 19 year olds to 2.8 for 20 to 24 year olds. Similarly, the percentage of youth who were high users (4 or more visits in the past year) increased with increasing age group (14.5, 19.0, and 21.7% for the three age groups, respectively). The youngest male and female youth were equally likely to use physician services, while among older youth, females were more likely than males to visit a physician[3].

The project

The current project, **Experiences of Albertan Youth**, is focused on basic understanding of the experiences of Albertan youth within and across ministries, as they relate to key indicators (age, gender, socio-economic status, educational achievement, and mental health status). It is the first project in a planned series that will link and analyze administrative data on children and youth in Alberta to inform policy, programs, and research.

List of reports for the project

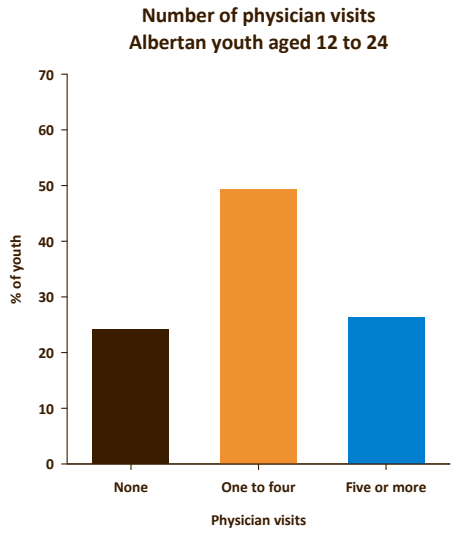
Socio-economic status of Albertan youth
Educational experiences of Albertan youth
Mental health status of Albertan youth
Family Support for Children with Disabilities services received by Albertan youth
Maltreatment-related investigations among Albertan youth
Maltreatment-related intervention services received by Albertan youth
Physician visits by Albertan youth
Emergency room visits by Albertan youth
Hospitalizations of Albertan youth
Offence charges among Albertan youth
Corrections involvement among Albertan youth
Post-secondary students in Alberta
Income support among Albertan youth
Educational experiences of Albertan youth with income support activity
Least advantaged and most advantaged Albertan youth

Physician visits by Albertan youth

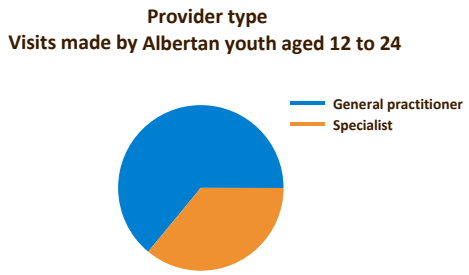
Number of physician visits (Table 1)

This and the following analyses consider youth (aged 12 to 24 years, unless otherwise stated) who were registered with the Alberta Health Care Insurance Plan at any point in 2008/09. See *Definitions and Notes* (p. 20).

- The number of physician visits was analyzed for 655,758 youth.
- 496,787 of youth had one or more physician visits, representing 76% of Albertan youth.
- 49% of youth had one to four physician visits and 26% had five or more physician visits. 24% of youth had no physician visits.



Provider type (Table 2)

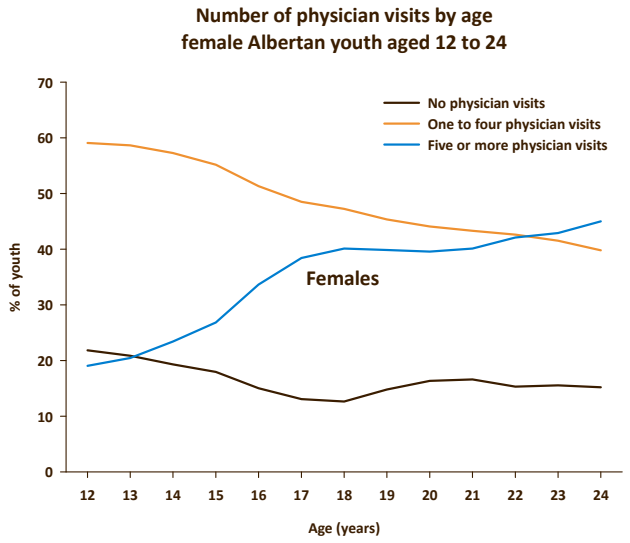


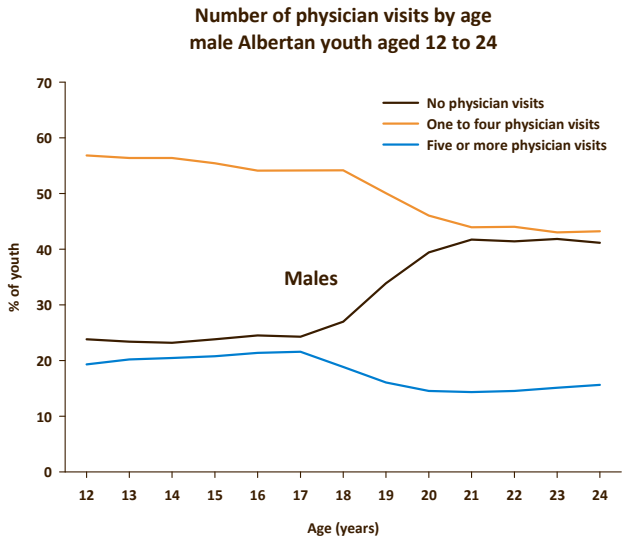
In all analyses in this report for provider type, all physician visits are counted, including multiple visits for a given youth.

- There were a total of 2,361,770 physician visits made by 496,787 youth.
- 64% of visits were with a general practitioner and 36% were with a specialist.

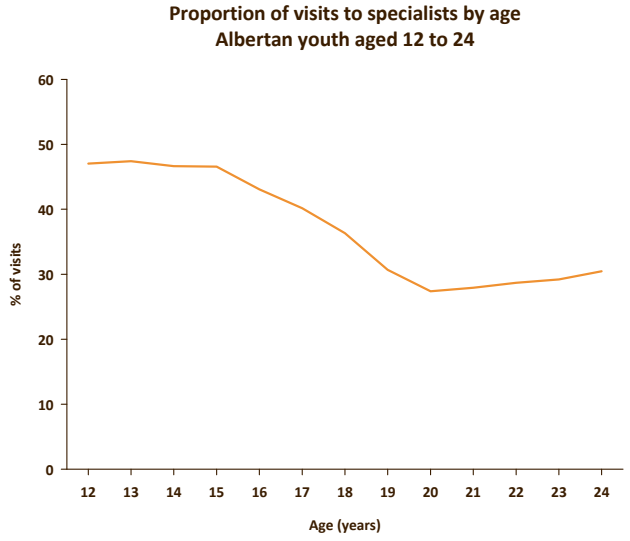
Physician visits by Albertan youth

Number of physician visits by age and gender (Tables 3 and 4)





- Female youth had an increasing rate of high physician visits (five or more) with increasing age. This may be due to use of physician services for prenatal visits in females aged 18 to 24 years.[3]
- For males, the rate of five or more visits was steady at around 20% of males from 12 to 17 years of age. At age 18, a sharp decrease in physician visits was observed for males. This is consistent with past findings of decreased use physician services by males in adulthood.[3]



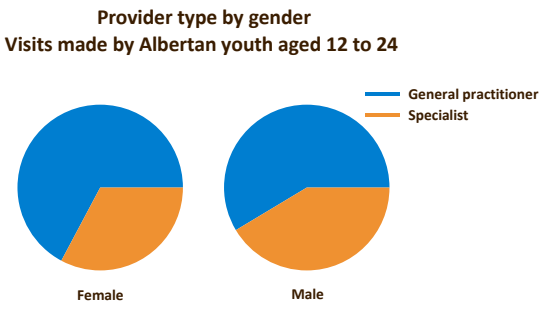
Specialist visits by age (Table 5)

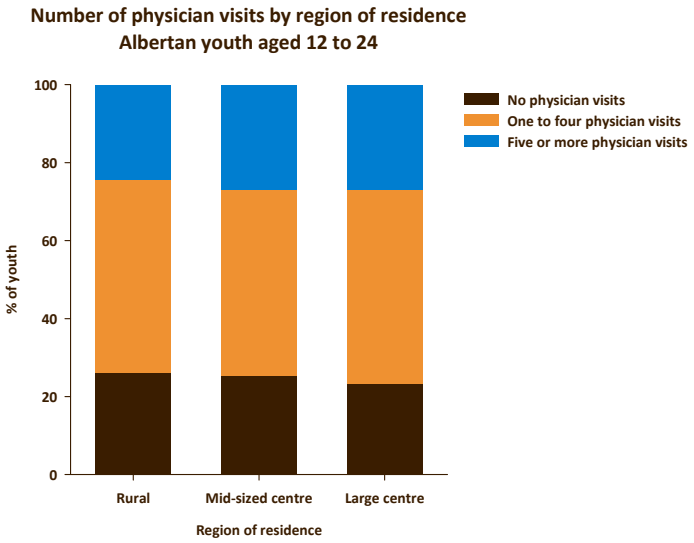
- The percentage of visits to specialists decreased with increasing age.
- Almost half of all visits for youth aged 12 to 15 were with a specialist, whereas less than a third of visits among youth aged 20 to 24 were with a specialist.

Physician visits by Albertan youth

Provider type by gender (Table 6)

- 33% of visits by females were with specialists.
- 41% of visits by males were with specialists.



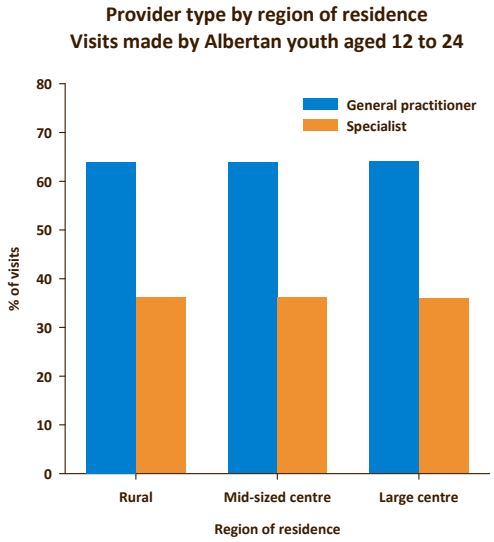


Number of physician visits by region of residence (Table 7)

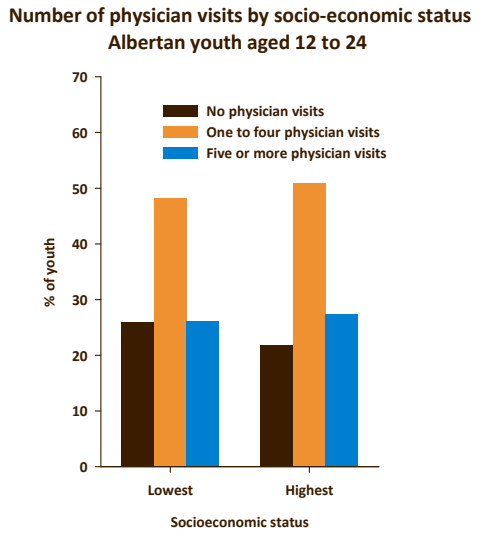
- Number of physician visits did not vary much by region of residence.
- Youth living in rural regions were slightly more likely to have no physician visits (26%) than youth living in large centres (23%).

Provider type by region of residence (Table 8)

- The percentage of visits with specialists did not vary by region of residence.
- Approximately one third of visits were with specialists among visits by youth living in rural regions (36% of visits), mid-sized centres (36%), and large centres (36%).



Physician visits by Albertan youth



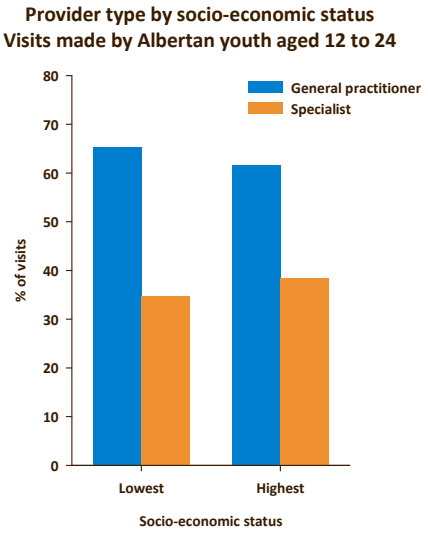
Number of physician visits by socio-economic status (Table 9)

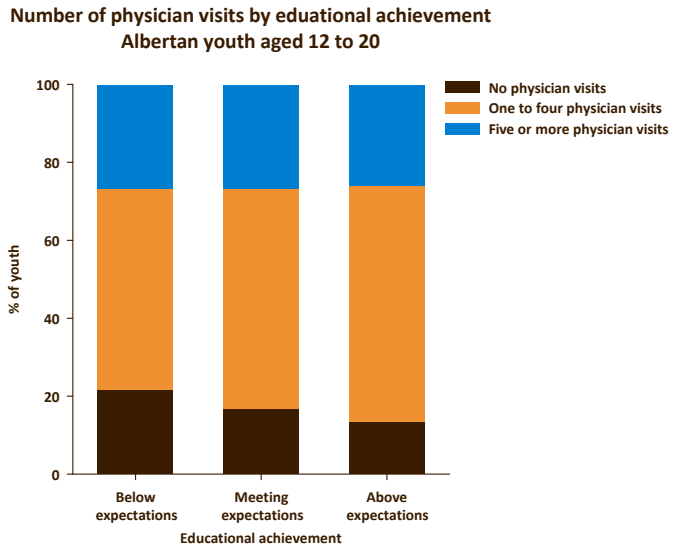
Socio-economic status captures the social and material environments in which youth live. Only the highest and lowest socio-economic status groups are shown in this and the following analysis. See *Definitions and Notes* (p. 19).

- Youth living in the lowest socio-economic status neighbourhoods were slightly more likely to have no physician visits (26%) compared to youth living in the highest socio-economic status neighbourhoods (22%).

Provider type by socio-economic status (Table 10)

- The percentage of visits with specialists and general practitioners was similar in the highest and lowest socio-economic status areas.





Number of physician visits by educational achievement (Table 11)

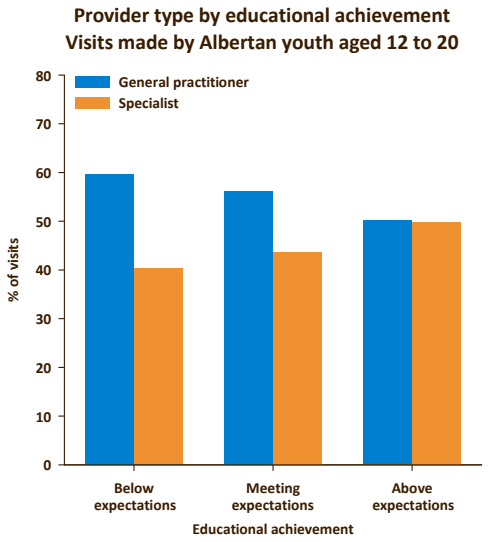
Youth (12 to 20 years) who were enrolled in the K-12 education system in 2008/09 are included in this and the following analysis. See *Definitions and Notes* (p. 19).

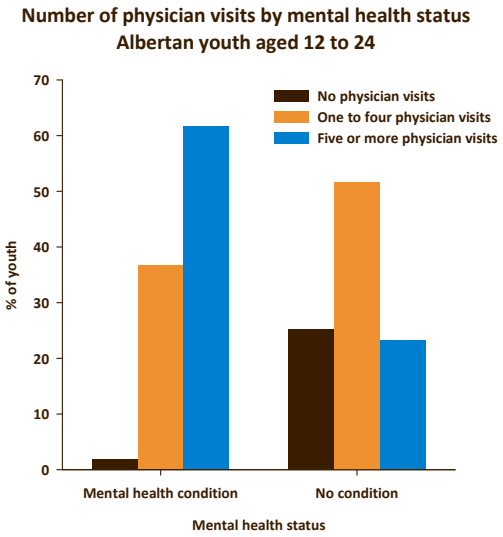
- Youth who were performing below educational expectations accessed physicians less often than youth who were meeting or achieving above expectations.
- 22% of youth performing below expectations had no physician visits, compared to 17% of youth meeting expectations and 14% of youth achieving above expectations.

Physician visits by Albertan youth

Provider type by educational achievement
(Table 12)

- Visits for youth who were exceeding educational expectations were equally likely to be with general practitioners and specialists.
- 50% of visits for youth who were achieving above educational expectations were with specialists. This percentage was slightly lower for youth who were below (40%) or meeting expectations (44%).





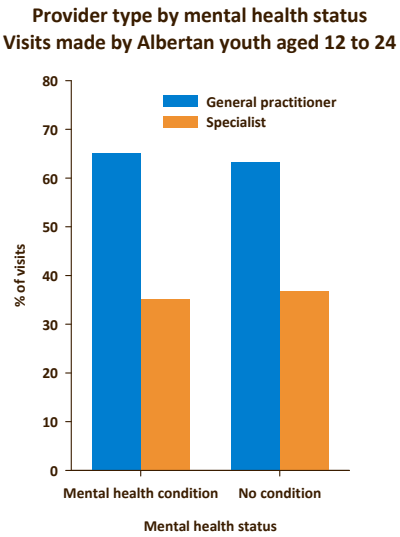
Number of physician visits by mental health status (Table 13)

Mental health status refers to presence or absence of a mental health condition. Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition. See *Definitions and Notes* (p. 20).

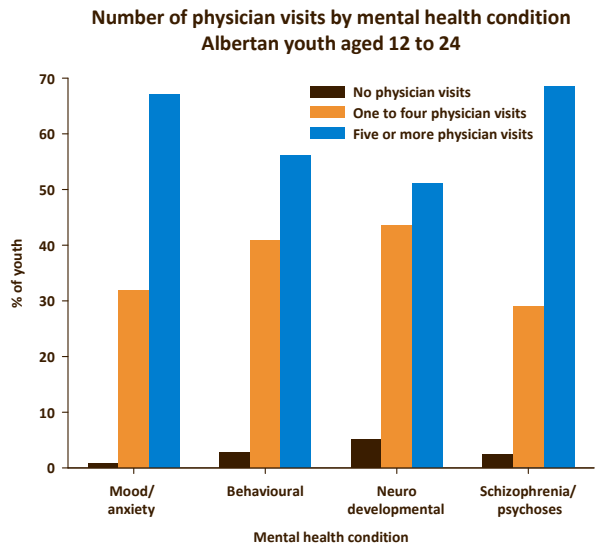
- Youth with a mental health condition were markedly more likely to have a high number of physician visits (62%) compared to youth with no mental health condition (23%) which may be partially due to how mental health status was defined.

Provider type by mental health status
(Table 14)

- The percentage of specialist visits by youth with a mental health condition was not different than the percentage of specialist visits by youth with no mental health condition.



Physician visits by Albertan youth

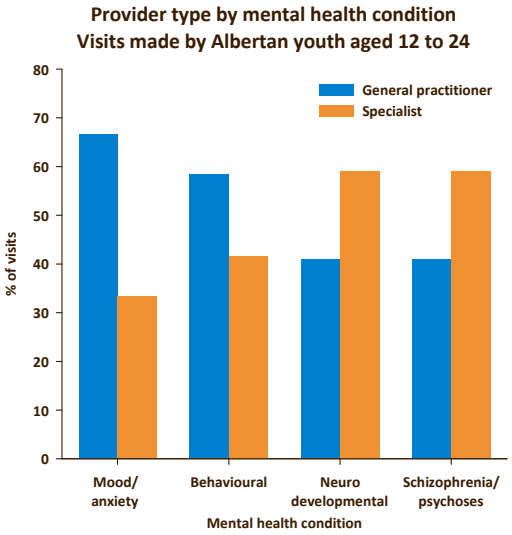


Number of physician visits by mental health condition (Table 13)

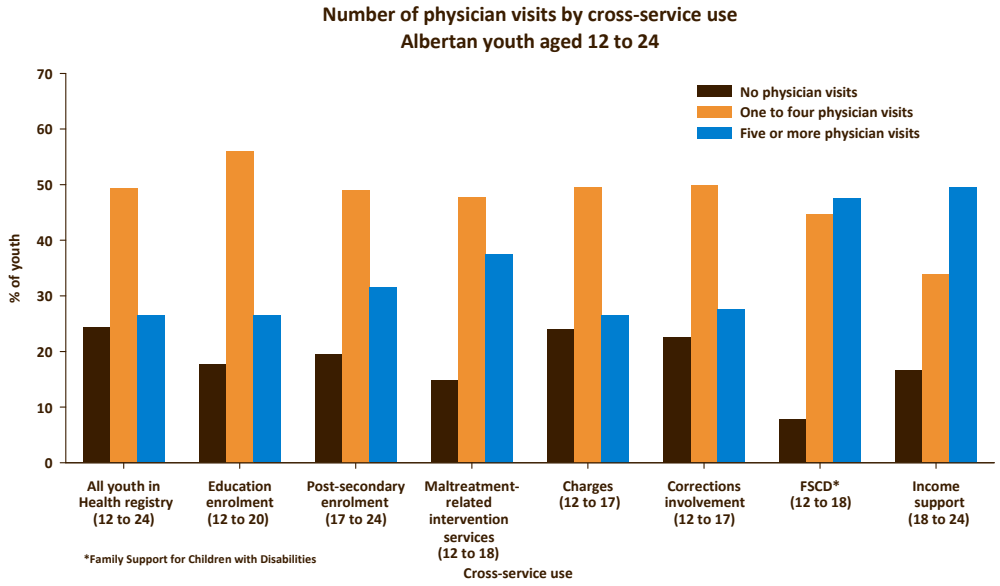
- Youth with *mood/anxiety* (67%) or *schizophrenia/ psychoses* (69%) conditions were more likely to have five or more physician visits than youth with *behavioural* (56%) or *neurodevelopmental* (51%) conditions.

Provider type by mental health condition (Table 14)

- The percentage of visits to specialists varied with mental health condition.
- 33% of visits by youth with a *mood/anxiety* condition were with a specialist, compared to 42% of visits by youth with *behavioural* conditions, 59% of visits by youth with *neurodevelopmental* conditions, and 59% of visits by youth with *schizophrenia/psychoses* conditions.



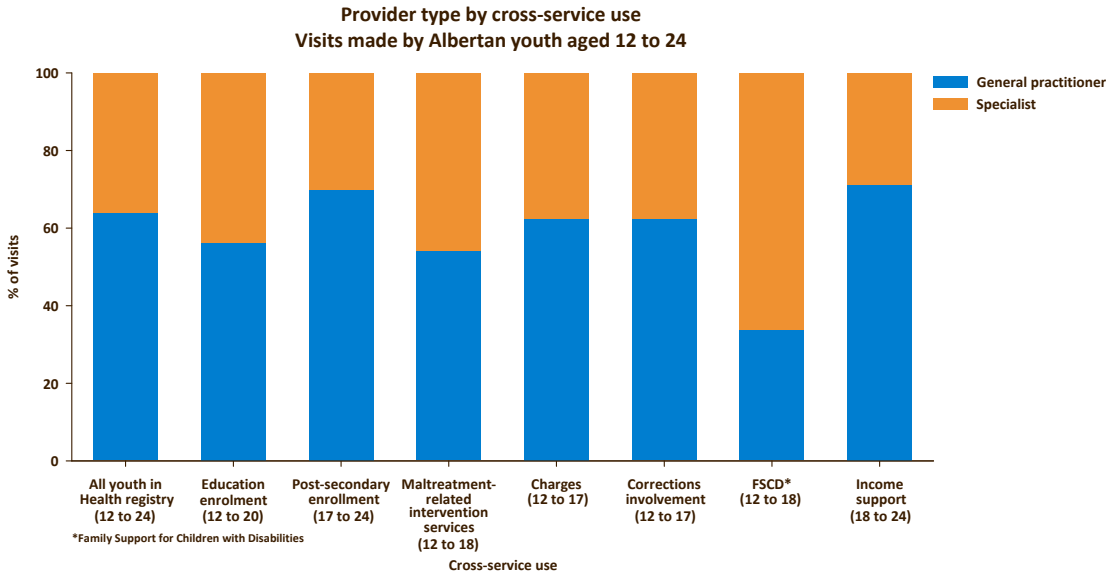
Number of physician visits by cross-service use (Table 15)



Youth were considered in this and the following analysis if they were registered with the Alberta Health Care Insurance Plan (AHCIP; see *Definitions and Notes,* p. 20). The effects should be interpreted with caution; they cannot be generalized to youth not registered with AHCIP.

- A high rate of five or more physician visits was observed for youth receiving income support (50%), youth receiving serviced from the Family Support for Children with Disabilities (FSCD) program (47%), youth who received maltreatment-related intervention services (38%), and youth who were enrolled in a post-secondary institution (32%).
- 26% of all youth registered with the Alberta Health Care Insurance Plan had five or more physician visits.

Provider type by cross-service use (Table 16)



- The percentage of visits to specialists was high among visits by youth who received support from FSCD (66% of visits), visits by youth who received maltreatment-related investigation services (46%), and visits by youth enrolled in the K-12 education system (44%).
- 36% of visits by all youth in the Alberta Health Care Insurance Plan were to specialists.
- Visits made by youth on income support or visits by youth enrolled in a post-secondary institution were mostly to general practitioners (71% and 70% of visits, respectively).

Tables

Table 1. Number and percent of youth by number of physician visits and age group, Albertan youth aged 12 to 24 years, 2008/09

		Age group (years)					
	Number of physician visits	12 to 17	12 to 18	12 to 20	17 to 24	18 to 24	12 to 24
Number of youth	One to four visits	157,466	182,732	230,362	191,229	165,979	323,445
	Five or more visits	67,861	82,393	110,502	120,112	105,481	173,342
	Any visit	225,327	265,125	340,864	311,341	271,460	496,787
	No visits	59,804	69,752	96,648	108,418	99,167	158,971
	Total	285,131	334,877	437,512	419,759	370,627	655,758
Percent of youth	One to four visits	55.2	54.6	52.7	45.6	44.8	49.3
	Five or more visits	23.8	24.6	25.3	28.6	28.5	26.4
	Any visit	79.0	79.2	77.9	74.2	73.2	75.8
	No visits	21.0	20.8	22.1	25.8	26.8	24.2
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Table 2. Number and percentage of physician visits by provider type and age group, Albertan youth aged 12 to 24 years, 2008/09

		Age group (years)					
	Provider type	12 to 17	12 to 18	12 to 20	17 to 24	18 to 24	12 to 24
Number of visits	General practitioner	522,928	644,422	909,981	1,104,539	988,925	1,511,853
	Specialist	424,441	493,728	602,457	503,081	425,476	849,917
	Total visits	947,369	1,138,150	1,512,438	1,607,620	1,414,401	2,361,770
Percent of visits	General practitioner	55.2	56.6	60.2	68.7	69.9	64.0
	Specialist	44.8	43.4	39.8	31.3	30.1	36.0
	Total visits	100.0	100.0	100.0	100.0	100.0	100.0

Tables (continued)

Table 3. Number and percent of female youth by number of physican visits and age, Albertan youth aged 12 to 24 years, 2008/09

	Number of physician visits	Age (years)													
Female		12	13	14	15	16	17	18	19	20	21	22	23	24	Total
Number of youth	One to four visits	12,968	13,360	13,245	12,668	12,170	11,596	11,456	11,484	11,227	11,101	11,506	11,599	11,460	155,840
	Five or more visits	4,179	4,664	5,421	6,167	7,980	9,185	9,726	10,095	10,078	10,284	11,367	11,985	12,954	114,085
	Any visit	17,147	18,024	18,666	18,835	20,150	20,781	21,182	21,579	21,305	21,385	22,873	23,584	24,414	269,925
	No visits	4,796	4,752	4,465	4,126	3,566	3,122	3,067	3,744	4,165	4,257	4,134	4,341	4,371	52,906
	Total	21,943	22,776	23,131	22,961	23,716	23,903	24,249	25,323	25,470	25,642	27,007	27,925	28,785	322,831
Percent of youth	One to four visits	59.1	58.7	57.3	55.2	51.3	48.5	47.2	45.4	44.1	43.3	42.6	41.5	39.8	48.3
	Five or more visits	19.0	20.5	23.4	26.9	33.6	38.4	40.1	39.9	39.6	40.1	42.1	42.9	45.0	35.3
	Any visit	78.1	79.1	80.7	82.0	85.0	86.9	87.4	85.2	83.6	83.4	84.7	84.5	84.8	83.6
	No visits	21.9	20.9	19.3	18.0	15.0	13.1	12.6	14.8	16.4	16.6	15.3	15.5	15.2	16.4
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 4. Number and percent of male youth by number of physician visits and age, Albertan youth aged 12 to 24 years, 2008/09

	Number of physician visits	Age (years)													
Male		12	13	14	15	16	17	18	19	20	21	22	23	24	Total
Number of youth	One to four visits	13,421	13,640	13,825	13,566	13,353	13,654	13,810	13,100	11,819	11,462	11,783	11,920	12,252	167,605
	Five or more visits	4,557	4,890	5,014	5,083	5,275	5,446	4,806	4,203	3,733	3,735	3,895	4,188	4,432	59,257
	Any visit	17,978	18,530	18,839	18,649	18,628	19,100	18,616	17,303	15,552	15,197	15,678	16,108	16,684	226,862
	No visits	5,627	5,657	5,688	5,825	6,051	6,129	6,881	8,859	10,128	10,882	11,078	11,597	11,663	106,065
	Total	23,605	24,187	24,527	24,474	24,679	25,229	25,497	26,162	25,680	26,079	26,756	27,705	28,347	332,927
Percent of youth	One to four visits	56.9	56.4	56.4	55.4	54.1	54.1	54.2	50.1	46.0	44.0	44.0	43.0	43.2	50.3
	Five or more visits	19.3	20.2	20.4	20.8	21.4	21.6	18.8	16.1	14.5	14.3	14.6	15.1	15.6	17.8
	Any visit	76.2	76.6	76.8	76.2	75.5	75.7	73.0	66.1	60.6	58.3	58.6	58.1	58.9	68.1
	No visits	23.8	23.4	23.2	23.8	24.5	24.3	27.0	33.9	39.4	41.7	41.4	41.9	41.1	31.9
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Tables (continued)

Table 5. Number and percent of physician visits by provider type and age, Albertan youth aged 12 to 24 years, 2008/09

	Provider type	Age (years)													
		12	13	14	15	16	17	18	19	20	21	22	23	24	Total
Number of visits	General practitioner	68,169	73,528	79,514	84,496	101,607	115,614	121,494	131,188	134,371	135,812	146,379	155,556	164,125	1,511,853
	Specialist	60,520	66,292	69,504	73,651	76,869	77,605	69,287	58,038	50,691	52,583	58,876	64,142	71,859	849,917
	Total visits	128,689	139,820	149,018	158,147	178,476	193,219	190,781	189,226	185,062	188,395	205,255	219,698	235,984	2,361,770
Percent of visits	General practitioner	53.0	52.6	53.4	53.4	56.9	59.8	63.7	69.3	72.6	72.1	71.3	70.8	69.5	64.0
	Specialist	47.0	47.4	46.6	46.6	43.1	40.2	36.3	30.7	27.4	27.9	28.7	29.2	30.5	36.0
	Total visits	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 6. Number and percent of physician visits by provider type and gender, Albertan youth aged 12 to 24 years, 2008/09

	Provider type	Gender		
		Female	Male	Total
Number of visits	General practitioner	997,646	514,207	1,511,853
	Specialist	486,830	363,087	849,917
	Total visits	1,484,476	877,294	2,361,770
Percent of visits	General practitioner	67.2	58.6	64.0
	Specialist	32.8	41.4	36.0
	Total visits	100.0	100.0	100.0

Tables (continued)

Table 7. Number and percent of youth by number of physician visits and region of residence, Albertan youth aged 12 to 24 years, 2008/09

	Number of physician visits	Region of residence			
		Rural	Mid-sized centre	Large centre	Total
Number of youth	One to four visits	69,125	48,607	205,675	323,407
	Five or more visits	34,171	27,413	111,741	173,325
	Any visit	103,296	76,020	317,416	496,732
	No visits	36,694	25,827	96,391	158,912
	Total	139,990	101,847	413,807	655,644
Percent of youth	One to four visits	49.4	47.7	49.7	49.3
	Five or more visits	24.4	26.9	27.0	26.4
	Any visit	73.8	74.6	76.7	75.8
	No visits	26.2	25.4	23.3	24.2
	Total	100.0	100.0	100.0	100.0

Table 8. Number and percentage of physician visits by provider type and region of residence, Albertan youth aged 12 to 24 years, 2008/09

	Provider type	Region of residence			
		Rural	Mid-sized centre	Large centre	Total
Number of visits	General practitioner	300,073	237,717	973,886	1,511,676
	Specialist	169,349	134,323	546,165	849,837
	Total visits	469,422	372,040	1,520,051	2,361,513
Percent of visits	General practitioner	63.9	63.9	64.1	64.0
	Specialist	36.1	36.1	35.9	36.0
	Total visits	100.0	100.0	100.0	100.0

Tables (continued)

Table 9. Number and percent of youth by number of physician visits and socio-economic status (SES), Albertan youth aged 12 to 24 years, 2008/09

	Number of physician visits	Socio-economic status					
		Lowest SES	Low middle	Middle	High middle	Highest SES	Total
Number of youth	One to four visits	72,079	47,818	74,199	56,993	65,652	316,741
	Five or more visits	38,990	26,321	38,601	30,685	35,311	169,908
	Any visit	111,069	74,139	112,800	87,678	100,963	486,649
	No visits	38,784	26,277	34,992	26,126	28,002	154,181
	Total	149,853	100,416	147,792	113,804	128,965	640,830
Percent of youth	One to four visits	48.1	47.6	50.2	50.1	50.9	49.4
	Five or more visits	26.0	26.2	26.1	27.0	27.4	26.5
	Any visit	74.1	73.8	76.3	77.0	78.3	75.9
	No visits	25.9	26.2	23.7	23.0	21.7	24.1
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Table 10. Number and percentage of physician visits by provider type and socio-economic status (SES), Albertan youth aged 12 to 24 years, 2008/09

	Provider type	Socio-economic status					
		Lowest SES	Low middle	Middle	High middle	Highest SES	Total
Number of visits	General practitioner	347,068	237,353	338,103	263,017	294,298	1,479,839
	Specialist	184,896	122,068	190,978	153,980	183,508	835,430
	Total visits	531,964	359,421	529,081	416,997	477,806	2,315,269
Percent of visits	General practitioner	65.2	66.0	63.9	63.1	61.6	63.9
	Specialist	34.8	34.0	36.1	36.9	38.4	36.1
	Total visits	100.0	100.0	100.0	100.0	100.0	100.0

Tables (continued)

Table 11. Number and of youth by number of physician visits and educational achievement, Albertan youth aged 12 to 20 years, 2008/09

	Number of physician visits	Educational achievement			
		Below expectations	Meeting expectations	Above expectations	Total
Number of youth	One to four visits	23,000	95,722	16,238	134,960
	Five or more visits	11,935	45,061	6,963	63,959
	Any visit	34,935	140,783	23,201	198,919
	No visits	9,671	28,201	3,614	41,486
	Total	44,606	168,984	26,815	240,405
Percent of youth	One to four visits	51.6	56.6	60.6	56.1
	Five or more visits	26.8	26.7	26.0	26.6
	Any visit	78.3	83.3	86.5	82.7
	No visits	21.7	16.7	13.5	17.3
	Total	100.0	100.0	100.0	100.0

Table 12. Number and percentage of physician visits by provider type and educational achievement, Albertan youth aged 12 to 20 years, 2008/09

	Provider type	Educational achievement			
		Below expectations	Meeting expectations	Above expectations	Total
Number of visits	General practitioner	100,004	345,989	49,080	495,073
	Specialist	67,470	269,054	48,799	385,323
	Total visits	167,474	615,043	97,879	880,396
Percent of visits	General practitioner	59.7	56.3	50.1	56.2
	Specialist	40.3	43.7	49.9	43.8
	Total visits	100.0	100.0	100.0	100.0

Tables (continued)

Table 13. Number and percent of youth by number of physician visits and mental health condition, Albertan youth aged 12 to 24 years, 2008/09

	Number of physician visits	Mental health condition*						
		Mood/ anxiety	Behavioural	Neuro developmental	Schizophrenia/ psychoses	Any condition	No condition	Total
Number of youth	One to four visits	15,981	7,964	1,820	664	24,459	287,761	312,220
	Five or more visits	33,497	10,914	2,133	1,571	41,122	128,725	169,847
	Any visit	49,478	18,878	3,953	2,235	65,581	416,486	482,067
	No visits	451	548	217	56	1,211	140,674	141,885
	Total	49,929	19,426	4,170	2,291	66,792	557,160	623,952
Percent of youth	One to four visits	32.0	41.0	43.6	29.0	36.6	51.6	50.0
	Five or more visits	67.1	56.2	51.2	68.6	61.6	23.1	27.2
	Any visit	99.1	97.2	94.8	97.6	98.2	74.8	77.3
	No visits	0.9	2.8	5.2	2.4	1.8	25.2	22.7
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Table 14. Number and percent of physician visits by provider type and mental health condition, Albertan youth aged 12 to 24 years, 2008/09

	Provider type	Mental health condition*						
		Mood/ anxiety	Behavioural	Neuro developmental	Schizophrenia/ psychoses	Any condition	No condition	Total
Number of visits	General practitioner	287,202	83,302	11,391	9,838	340,456	1,130,222	1,470,678
	Specialist	143,354	59,358	16,469	14,158	183,345	655,518	838,863
	Total visits	430,556	142,660	27,860	23,996	523,801	1,785,740	2,309,541
Percent of visits	General practitioner	66.7	58.4	40.9	41.0	65.0	63.3	63.7
	Specialist	33.3	41.6	59.1	59.0	35.0	36.7	36.3
	Total visits	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Tables (continued)

Table 15. Number and percent of youth by number of physician visits and cross-service use, Albertan youth aged 12 to 24 years, 2008/09

	Number of physician visits	Cross-service use							
		All youth in Health registry (12 to 24)	Education enrolment (12 to 20)	Post-secondary enrolment (17 to 24)	Maltreatment intervention (12 to 18)	Charges (12 to 17)	Corrections involvement (12 to 17)	FSCD* (12 to 18)	Income support (18 to 24)
Number of youth	One to four visits	323,445	137,949	41,646	3,188	2,609	2,215	1,572	1,603
	Five or more visits	173,342	64,986	26,801	2,510	1,399	1,223	1,669	2,345
	Any visit	496,787	202,935	68,447	5,698	4,008	3,438	3,241	3,948
	No visits	158,971	43,286	16,497	991	1,258	1,003	277	783
	Total	655,758	246,221	84,944	6,689	5,266	4,441	3,518	4,731
Percent of youth	One to four visits	49.3	56.0	49.0	47.7	49.5	49.9	44.7	33.9
	Five or more visits	26.4	26.4	31.6	37.5	26.6	27.5	47.4	49.6
	Any visit	75.8	82.4	80.6	85.2	76.1	77.4	92.1	83.4
	No visits	24.2	17.6	19.4	14.8	23.9	22.6	7.9	16.6
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Family Support for Children with Disabilities

Table 16. Number and percentage of physician visits by provider type and cross-service use, Albertan youth aged 12 to 24 years, 2008/09

	Provider type	Cross-service use							
		All youth in Health registry (12 to 24)	Education enrolment (12 to 20)	Post-secondary enrolment (17 to 24)	Maltreatment intervention (12 to 18)	Charges (12 to 17)	Corrections involvement (12 to 17)	FSCD* (12 to 18)	Income support (18 to 24)
Number of visits	General practitioner	1,511,853	502,939	247,128	18,269	12,058	10,772	7,921	23,582
	Specialist	849,917	393,234	107,138	15,564	7,302	6,532	15,478	9,599
	Total visits	2,361,770	896,173	354,266	33,833	19,360	17,304	23,399	33,181
Percent of visits	General practitioner	64.0	56.1	69.8	54.0	62.3	62.3	33.9	71.1
	Specialist	36.0	43.9	30.2	46.0	37.7	37.7	66.1	28.9
	Total visits	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Family Support for Children with Disabilities

Definitions and Notes

- The study population for this project consisted of all Albertan youth who were registered with the Alberta Health Care Insurance Plan in 2008/09 or who received selected services from one or more of the participating ministries in 2008/09. "All Albertan youth" refers to this study population.
- The study year was fiscal year 2008/09. With the exception of Education and Enterprise and Advanced Education data, all data were for services provided between April 1, 2008 and March 31, 2009, with age determined on March 31, 2009.
    - Data for Enterprise and Advanced Education were for services provided between September 1, 2008 and June 30, 2009, with age determined on March 31, 2009.
    - Data for Education were for services provided to youth who were 12 to 19 years old on September 30, 2008. As a result, youth turning 12 between October 1, 2008 and March 31, 2009 *were not* included in the Education data but were included in other ministries' data. This resulted in the number of 12 year olds in the Education data being lower (approximately 50% lower) than that of 13 to 17 year olds.
    - Furthermore, although Education only provides services to youth who are under 20, the provision of services is defined by age at September 30. Youth who turned 20 between October 1, 2008 and March 31, 2009 *were* included in the Education data, resulting in the inclusion of 20 year olds in some analyses of Education data.
- **Cross-ministry analyses included only youth that were linked across the relevant ministries**. This means that not all youth in the project were represented in every analysis. As well, only youth with a value for a given indicator were included in analyses involving that indicator (i.e., **missing values** were excluded).
- Age, gender, and postal code (translated into Statistics Canada dissemination areas) were provided for each individual by each participating ministry. In the case of discrepancies between ministries, the most common value for an indicator was chosen. In the event of two or more most common values, the value for the indicator was chosen randomly from the most common values.
- Dissemination areas of residence were used by CYDL to determine **region of residence**. Urban areas included large centres with urban core populations greater than 100,000 (i.e., Edmonton and Calgary metropolitan areas) and mid-sized centres with urban cores greater than 10,000; all other areas were categorized as rural.
- **Socio-economic status (SES)** captures the social and material environments in which youth live. A youth was assigned a socio-economic status via an index based on the Statistics Canada dissemination area in which he or she resided[4]. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single families, percent of persons living alone, and percent of persons separated, divorced, or widowed. Socio-economic status values fell into five quintiles. In this report, "lowest socio-economic status" refers to the lowest quintile of socio-economic status, while "highest" refers to the highest quintile.
- **Educational achievement** was computed by Alberta Education using age, grade, school type, special education codes, provincial achievement test scores, home education status, number of high school credits earned, number of higher level courses taken, average grade in higher level courses, possession of an Alberta Education certificate or diploma, and Alexander Rutherford scholarship eligibility. Educational achievement was categorized as *above, meeting,* or *below expectations* for a student's age and grade. An educational achievement rating was not available for 12 to 14 year old youth without scores on provincial achievement tests, for youth in 'other' schools (accredited post-secondary institutions offering high school courses for credit to adults; most youth in these schools were between 18 and 20 years), and for home-schooled high school youth with no credits.

Definitions and Notes (continued)

- **Mental health status** was defined by the presence or absence of mental health diagnosis codes in Health's databases (Inpatient—Discharge Abstract Database, Ambulatory Care, and Practitioner Payments), or in the Family Support for Children with Disabilities Information System. Only youth who were registered with the Alberta Health Care Insurance Plan or the full fiscal year were included in the mental health analyses. **Mental health service use is a proxy for presence of a mental health condition:** Some youth with mental health conditions may not have accessed mental health services in Alberta during the year, and some mental health service use may have occurred for youth who did not in fact have mental health conditions.
    - **Mental health conditions** were grouped based on The Johns Hopkins ACG® Case-Mix System (version 8.2)[5]. Mental health conditions were *mood/anxiety* (anxiety, depression, bipolar disorder, etc.), *behavioural* (attention-deficit disorder, regulatory disorder, mental or behavioural problems due to substance use, etc.), *neurodevelopmental* (autism, fetal alcohol spectrum disorder, cerebral palsy, etc.), or *schizophrenia/psychoses* (schizophrenia, psychosis, delusional disorder, etc.). Conditions were not mutually exclusive; a youth could have a diagnosis in more than one category.
- **Physician visits** reflect fee claims made by physicians for services provided when patients visit their offices. In this report, multiple claims by a given physician for a given patient on the same day were counted as a single visit. Reasons for physician visits were not available for this project.
- New and returning Alberta residents, if they are eligible, must register for **Alberta Health Care Insurance Plan** coverage to receive insured health services. Youth in the "**health registry**" refers to all youth who are insured in Alberta. This includes any eligible youth who is a permanent resident of Alberta, living at least 183 days per year in the province. Members of the Canadian Armed Forces, Royal Canadian Mounted Police and federal penitentiary inmates are not eligible (they receive coverage from the federal government), but dependents of these non-eligible residents, who reside in Alberta, are eligible.
- Participation in **education** refers to enrolment in the kindergarten to grade 12 education system in Alberta. No data were available for students who attended schools on First Nations reserves or in Lloydminster.
- Participation in **post-secondary** education refers to enrolment in a post-secondary institution in Alberta. Youth enrolled in apprenticeship programs were not included.
- **Maltreatment-related interventions** occur when the safety or well-being of a youth is threatened.
- Youth with **offence charges** include those charged with criminal offences or administrative offences related to criminal offences (e.g., failure to appear in court, breach of probation, etc.). **Number of offences** in the study year was available, but individual incidents were not available. This means that youth charged with multiple offences may have had multiple charges in a single incident, or they may have been charged in multiple incidents.
- Youth with **corrections involvement** have appeared before the Court or a Justice of the Peace for an offence charge and have been remanded in custody or placed under pre-trial supervision in the community awaiting further court dates, or have been found guilty and sentenced to a community disposition (i.e. Fine, Probation, Community Service Work, Deferred Custody) and/or custody (in which the sentence is served in a young offender facility).

Definitions and Notes (continued)

- **Family Support for Children with Disabilities (FSCD)** is a ministry of Human Services program that provides a range of supports and services to families that strengthen their ability to support and care for their child with a disability based on their needs.
- **Income support** refers to financial benefits provided to individuals and couples who cannot meet their basic needs.

Data sources

Ministry	Database	Use in this report
Enterprise and Advanced Education	Learner Enrolment Reporting System (LERS)	Post-secondary education enrolment data
Education	Corporate Data Warehouse (CDW)	Primary and secondary education achievement data
Health	Inpatient – Discharge Abstract Database (DAD)	Hospitalization data
Health	Ambulatory Care (ACCS)	Emergency room visit data
Health	Practitioner Payments (SESE)	Physician visit data
Health	Alberta Health Care Insurance Plan Population Registry (AHCIP registry)	Population registry
Human Services	Child Youth Information Module (CYIM)	Maltreatment and intervention data
Human Services	Family Support for Children with Disabilities Information System (FSCDIS)	Family Supports for Children with Disabilities data
Human Services	Central Client Directory (CCD)	Income support data
Justice and Solicitor General	Justice Online Information Network (JOIN)	Offence data
Justice and Solicitor General	Alberta Community Offender Management System (ACOM)	Corrections data (community)
Justice and Solicitor General	Correctional Offender Management Information System (CoMIS)	Corrections data (custody)

References

1. Starfield, B., Shi, L., & Macinko, J. (2005). Contribution of primary care to health systems and health. *Milbank Quarterly*, *83*, 457-502.
2. Vingilies, E., Wade, T., & Seeley, J. (2006). Predictors of adolescent health care utilization. *Journal of Adolescence*, *30*, 773-800. doi:10.1016/j.adolescence.2006.10.001.
3. Ryan, B. L., Stewart, M., Campbell, M. K., Koval, J., & Thind, A. (2011). Understanding adolescent and young adult use of family physician services: a cross-sectional analysis of the Canadian Community Health Survey. *BMC Family Practice*, *12*. doi: 10.1186/1471-2296-12-118.
4. Pampalon, R., Hamel, D., Garnache, P., Raymond, G. (2009). A deprivation index for health planning in Canada. *Chronic Diseases in Canada, 29(4)*, 178-91.
5. The Johns Hopkins University (2008). *The Johns Hopkins ACG® System Reference Manual, Version 8.2* . Johns Hopkins University: Baltimore.

The Child and Youth Data Laboratory

The **Child and Youth Data Laboratory** (CYDL) links and analyzes administrative data from child- and youth-serving ministries in the Government of Alberta. The ministries participate in research design and provide data elements that contribute to answering research questions.

The CYDL's research provides groundbreaking opportunities to understand relationships between critical factors in the lives of children and youth in Alberta. The research results can be used to inform policy and program development and evaluation, both within and across ministries, and to inspire further research.

The CYDL is managed by the **Alberta Centre for Child, Family and Community Research** (ACCFCR). The Centre has evolved over its eight year history as a public-sector, innovative resource for evidence. The Centre develops, supports and integrates research across sectors and disciplines to provide a strong, evidence-based foundation for identifying and promoting effective public policy and service delivery to improve the well-being of children, families, and communities in Alberta, Canada, and internationally.

Our partners

This project was carried out on behalf of six ministries of the Government of Alberta. Each ministry collaborated extensively with the CYDL on this project, and their dedication to the project is gratefully acknowledged:

Enterprise and Advanced Education
Education
Health
Human Services
Aboriginal Relations
Justice and Solicitor General

Suggested citation

Child and Youth Data Laboratory (2012). *Physician visits by Albertan youth.* Edmonton: Alberta Centre for Child, Family and Community Research.

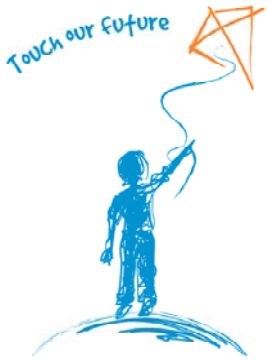
Contact CYDL

www.research4children.com
Click on "Data"

Xinjie Cui, Director
780 944 8631
xcui@research4children.com

Leslie Twilley, Senior Scientist
780 408 8734
ltwilley@research4children.com

Christine Werk, Research Scientist
780 408 8767
cwerk@research4children.com



ALBERTA CENTRE FOR
CHILD, FAMILY & COMMUNITY
RESEARCH

Government
of Alberta

Emergency room visits by Albertan youth

Child and Youth Data Laboratory (CYDL)

Report for *Experiences of Albertan Youth* Project

Key findings

This report is an overview of 326,685 visits to emergency rooms by 163,411 Albertan youth (aged 12 to 24) in 2008/09. Reasons for emergency room visits were derived from primary diagnostic codes. Youth not registered with the Alberta Health Care Insurance Plan in 2008/09 were excluded.

The relationships between emergency room use and age, gender, region of residence, socio-economic status, educational achievement, and mental health status were analyzed, as was the cross-ministry service use of youth who visited emergency rooms.

- 15% of youth had a single emergency room visit and a further 10% had multiple emergency room visits. The most common reason for visit was *injury or poisoning*.
- The number of emergency room visits increased with age to about 19 years, then decreased. Females aged 16 and older were more likely to have multiple emergency room visits than males of those ages. Youth living in rural areas and those living in the lowest socio-economic status neighbourhoods had higher rates of emergency room use than those living in urban areas or in the highest socio-economic status areas. Performing above educational expectations and absence of a mental health condition were associated with lower rates of emergency room use.
- Visits for *injury or poisoning* were most likely for youth aged 12 to 20 while emergency room visits for *other* reasons were most likely for youth aged 21 to 24. Visits for males were most often for *injury or poisoning* whereas visits for females were most likely for *other* reasons. Visits by youth performing below educational expectations were more likely to be for *mental or behavioural* reasons and less likely to be for *injury or poisoning* than visits by youth meeting or above expectations.
- Youth receiving income support were most likely to make multiple emergency room visits and those enrolled in post-secondary education were least likely to do so. Single emergency room visits were most common among youth with offence charges or involved in corrections and least common among post-secondary students.

Contents

Key findings and Context.....1 to 2
Data analyses.....3 to 9
Tables.....10 to 17
Definitions and Notes.....18 to 20
Data sources.....21
References.....21
About CYDL.....23

Emergency room visits by Albertan youth

Context

Emergency rooms are used for a variety of services in Canada. Most patients who visit emergency rooms are classified with neither life-threatening nor potentially life-threatening conditions, though they often require at least semi-urgent care.[1] In general, Canadians with more severe or chronic health problems are more likely to visit emergency rooms than those with fewer health problems,[2] and those who visit emergency rooms tend to be heavy users of other types of medical services.[3] People who have consulted a medical professional about a mental health issue (in particular, mood or anxiety disorders) are more likely to use emergency rooms than those who have not.[3]

Statistics Canada reports that teenagers and young adults have the highest rates of emergency room visits among Canadians 15 years of age and older, reflecting high injury rates in these groups; male youth have slightly higher rates of use than females.[3] Individuals in the lowest income groups are more likely to use emergency rooms than those in the highest income groups.[3,4] Individuals with less than high school education are also more likely to use emergency rooms than those with high levels of education.[4]

Protective factors against visiting emergency rooms include post-secondary graduation and absence of chronic conditions or unmet health needs.[3]

In a 2005 study of health service utilization of Albertan children and youth, those who visited emergency rooms in Alberta were found to have an average of two visits.[4] Among youth under 18 years of age who visited emergency rooms in Alberta between 2002 and 2007, there was an average of 1.5 visits per youth for mental health reasons during that six-year period. Mental health-related emergency room visit rates were lower in urban areas, which may be a function of greater availability of alternative resources in urban areas.[5] Aboriginal youth and youth in families receiving income support were over-represented among youth visiting emergency rooms for mental health reasons.[5]

The project

The current project, **Experiences of Albertan Youth**, is focused on basic understanding of the experiences of Albertan youth within and across ministries, as they relate to key indicators (age, gender, socio-economic status, educational achievement, and mental health status). It is the first project in a planned series that will link and analyze administrative data on children and youth in Alberta to inform policy, programs, and research.

List of reports for the project

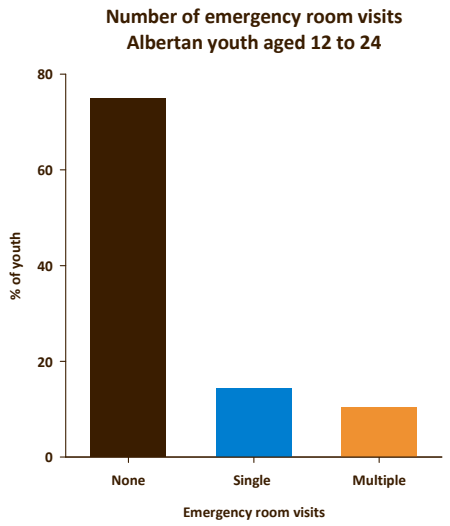
Socio-economic status of Albertan youth
Educational experiences of Albertan youth
Mental health status of Albertan youth
Family Support for Children with Disabilities services received by Albertan youth
Maltreatment-related investigations among Albertan youth
Maltreatment-related intervention services received by Albertan youth
Physician visits by Albertan youth
Emergency room visits by Albertan youth
Hospitalizations of Albertan youth
Offence charges among Albertan youth
Corrections involvement among Albertan youth
Post-secondary students in Alberta
Income support among Albertan youth
Educational experiences of Albertan youth with income support activity
Least advantaged and most advantaged Albertan youth

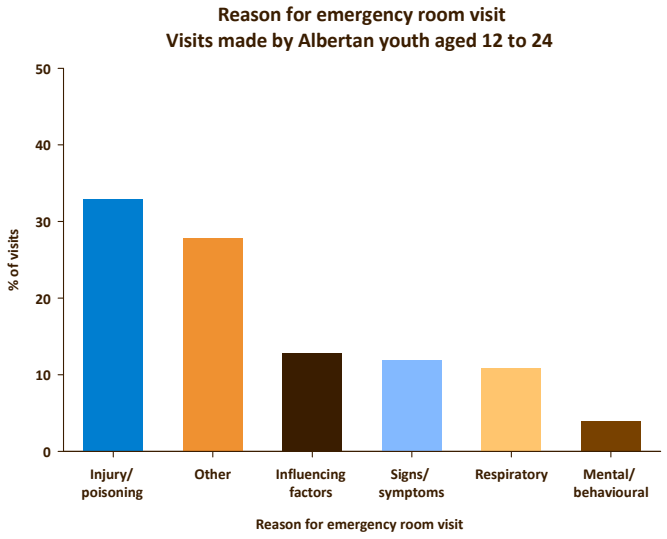
Emergency room visits by Albertan youth

Number of emergency room visits (Table 1)

This and the following analyses consider youth (aged 12 to 24 years, unless otherwise stated) who were registered with the Alberta Health Care Insurance Plan at any point in 2008/09.

- 75% of youth (492,347 youth) registered with Health did not visit an emergency room in the study year.
- 15% of Alberta youth (95,017 youth) had a single emergency room visit and 10% of youth (68,394 youth) had multiple emergency room visits.





Reason for emergency room visit (Table 2)

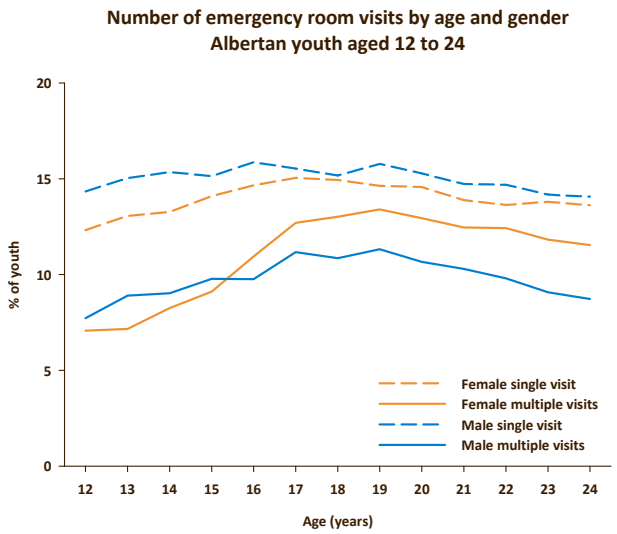
Analyses of reason for emergency room visit are based on all emergency room visits. See table below for examples of each reason and *Definition and Notes* (p. 19) for a description of coding.

- There were a total of 329,697 emergency room visits made by 163,411 youth.
- The most common reason for visiting an emergency room was for *injury or poisoning* (33%) followed closely by *other* reasons (28%).
- Fewer than 5% of emergency room visits were for mental or behavioural disorders.

Sample reasons for emergency room visits

Reason for emergency room visit	Examples
Injury/poisoning	Wound, fracture, sprain, allergy unspecified, etc.
Other	Non-infective gastroenteritis (including diarrhoea), urinary tract infections, lower back pain, etc.
Influencing factors	Cast removal, attention to surgical dressing and sutures, chemotherapy, etc.
Signs/symptoms	Headache, abdominal pain, chest pain, etc.
Respiratory	Sore throat, upper respiratory infection, asthma, etc.
Mental/behavioural	Depression, anxiety, mental and behavioural disorders due to use of alcohol or other drugs or psychoactive substances, etc.

Emergency room visits by Albertan youth

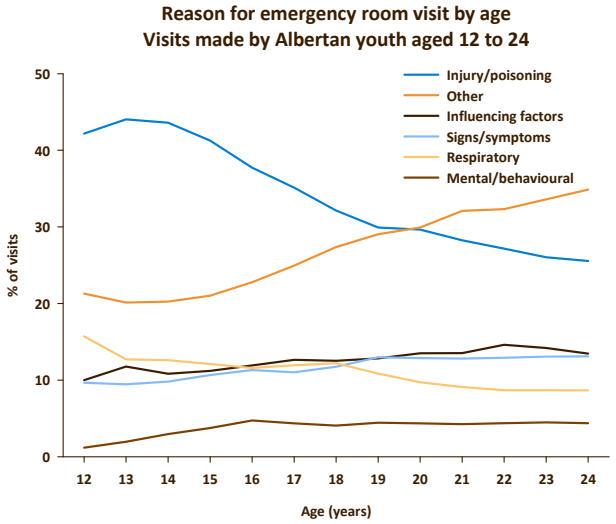


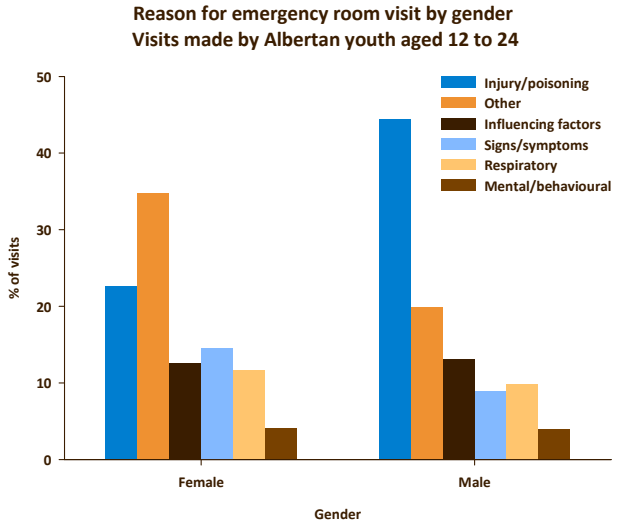
Number of emergency room visits by age and gender (Tables 3 and 4)

- The number of emergency room visits generally increased with age up to age 19 then decreased.
- Males were slightly more likely than females to have a single emergency room visit at each age.
- Females aged 16 and older were more likely to have multiple emergency room visits than males of those ages.

Reason for emergency room visit by age (Table 5)

- Visits for *injury or poisoning* were most likely for youth aged 12 to 20 while emergency room visits for *other* reasons were most likely for youth aged 21 to 24.
- Visits for *respiratory* conditions decreased slightly with age and visits for *influencing factors, signs/symptoms, and mental or behavioural* conditions increased slightly with age.





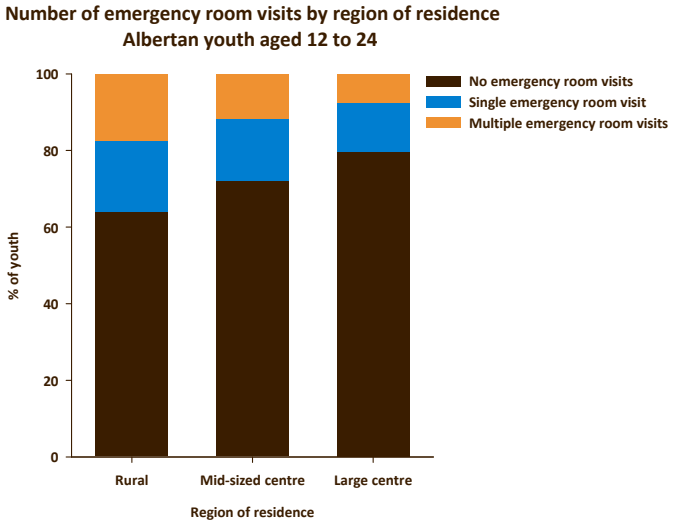
Reason for emergency room visit by gender (Table 6)

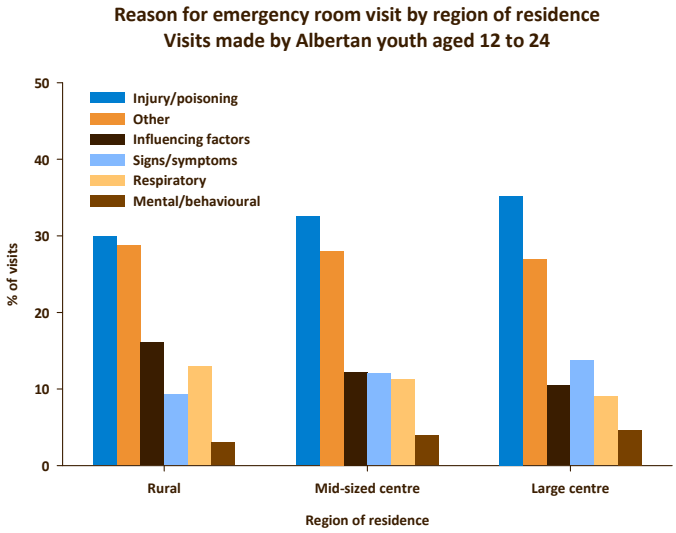
- Visits by males were more likely to be for *injury or poisoning* than visits by females (44% versus 23% of visits respectively).
- Visits for *other* reasons were most common for females (35%)
- Visits for *signs or symptoms* were slightly higher among visits for females (15%) than among visits for males (9%).

Emergency room visits by Albertan youth

Number of emergency room visits by region of residence (Table 7)

- Youth living in rural regions were more likely to have one or multiple visits to emergency rooms than youth living in mid-sized or large centres.
- 18% of youth living in rural regions had multiple emergency room visits compared to 12% of youth living in mid-sized centres and 8% of youth living in large centres.





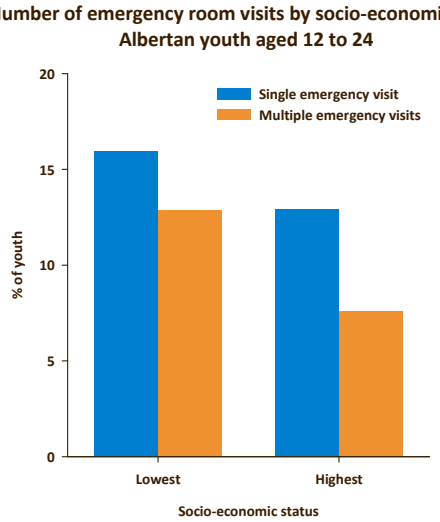
Reason for emergency room visit by region of residence (Table 8)

- Visits for *injury or poisoning* were slightly higher in mid-sized centres (33% of visits) and large centres (35%) than in rural regions (30%).
- Visits by youth living in rural regions (16%) were more likely to be for *influencing factors* than visits by those in mid-sized (12%) or large centres (11%).

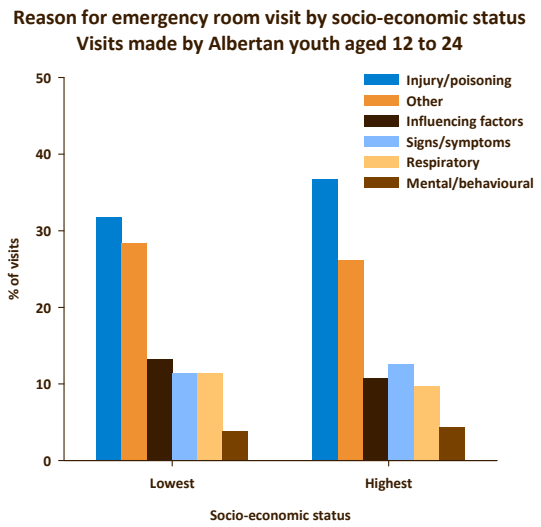
Number of emergency room visits by socio-economic status (Table 9)

Socio-economic status captures the social and material environments in which youth live. Only the highest and lowest socio-economic status groups are shown in this and the following analysis. See *Definitions and Notes* (p. 18).

- Youth living in the lowest socio-economic status neighbourhoods visited emergency rooms more frequently (single 16%, multiple 13%) than youth living in the highest socio-economic status areas (single 13%, multiple 8%).



Emergency room visits by Albertan youth



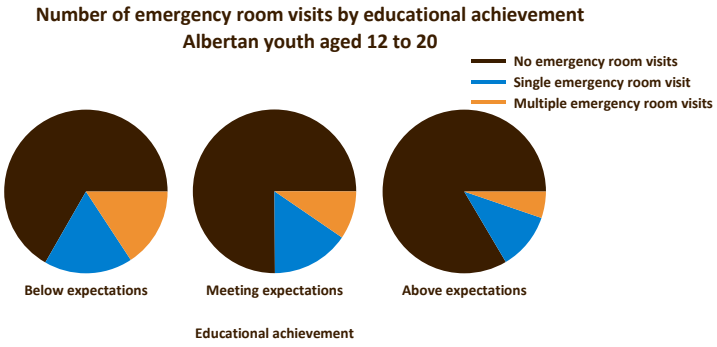
Reason for emergency room visit by socio-economic status (Table 10)

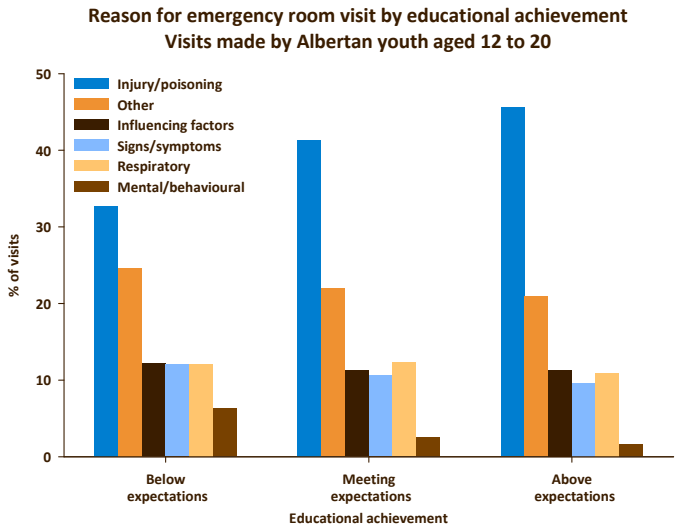
- 37% of emergency room visits for youth living in the highest socio-economic status areas were for *injury or poisoning,* compared to the 32% of visits by youth living in the lowest socio-economic status neighbourhoods.
- Visits for *mental or behavioural* conditions did not vary by socio-economic status.

Number of emergency room visits by educational achievement (Table 11)

Youth (12 to 20 years) included in this and the following analysis are those who were enrolled in K-12 education system in 2008/09. See *Definitions and Notes* (p. 18).

- Youth who were achieving above educational expectations were less likely to use emergency rooms compared to those who were meeting or performing below expectations.
- 16% of youth performing below educational expectations had multiple emergency room visits compared to 10% of youth meeting expectations and 5% of youth achieving above expectations.





Reason for emergency room visit by educational achievement (Table 12)

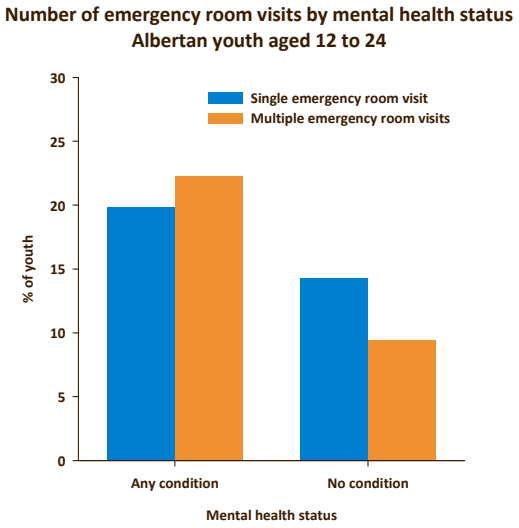
- The percentage of visits for *injury or poisoning* was higher among visits for youth meeting (41%) or achieving above (46%) expectations than among visits for youth performing below expectations (33%).
- Visits for *mental or behavioural* problems (6%) were higher among visits for youth who were performing below expectations than among visits for youth who were meeting (3%) or achieving above (2%) expectations.

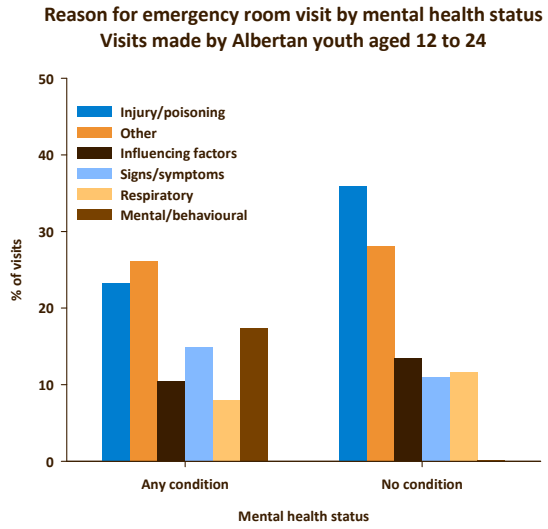
Emergency room visits by Albertan youth

Number of emergency room visits by mental health status (Table 13)

Mental health status refers to presence or absence of a mental health condition. Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition. See *Definitions and Notes* (p. 19).

- Youth with a mental health condition were more likely to use emergency rooms than those without a mental health condition, which may be partially due to the method of defining mental health status (see *Definitions and Notes* p.19).



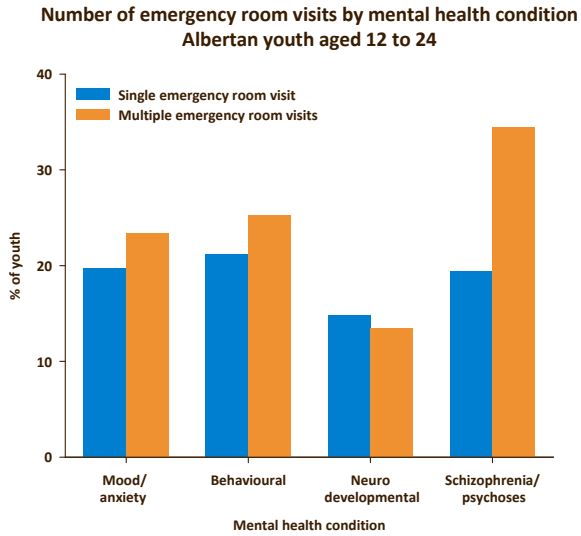


Reason for emergency room visit by mental health status (Table 14)

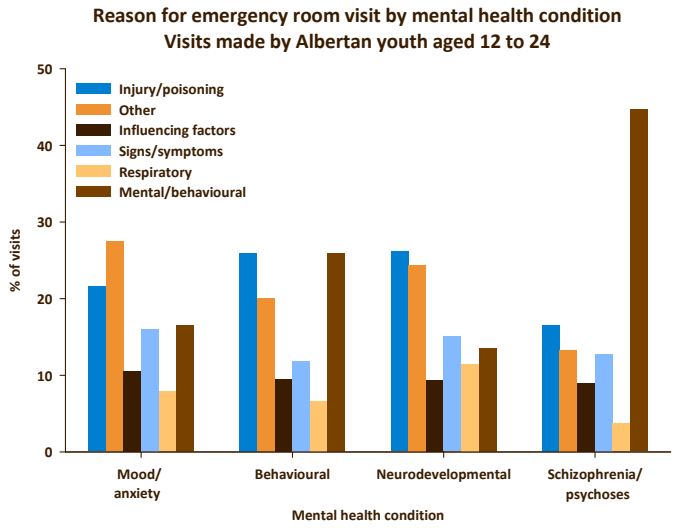
- Visits for youth with a mental health condition were mostly for *other* reasons, while visits for youth with no mental health conditions were mostly for *injury or poisoning*.
- Visits for *mental or behavioural* conditions were substantially more frequent for youth with a mental health condition (17.3%) than for youth with no condition (0.1%). This result may be partially due to the method of defining mental health status (see *Definitions and Notes* p.19).

Number of emergency room visits by mental health condition (Table 13)

- Single emergency room visits were more common among youth with *mood or anxiety* disorders (20%), with *behavioural* conditions (21%), or with *schizophrenia/psychoses* (19%), than among youth with *neurodevelopmental* conditions (15%).
- Youth with *schizophrenia/psychoses* were most likely to have multiple emergency room visits.



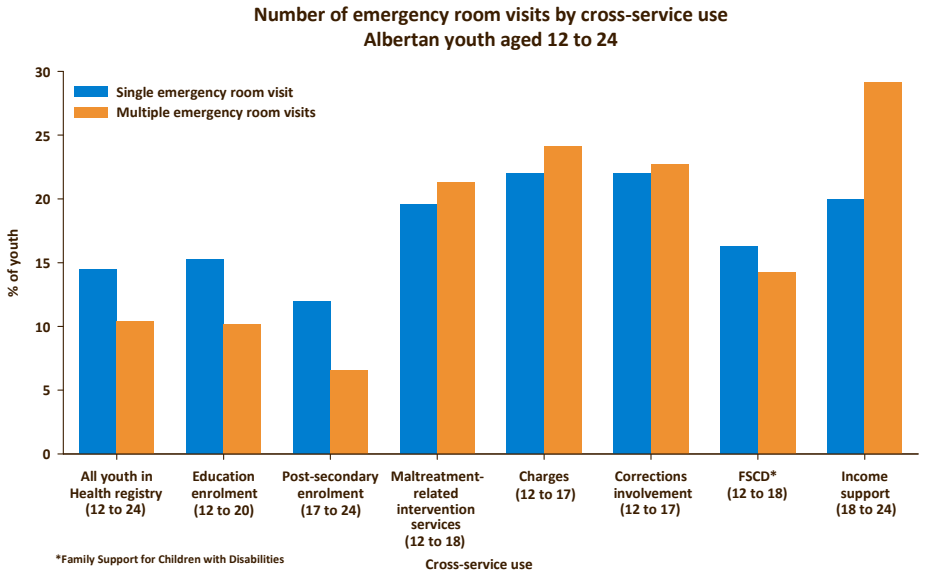
Emergency room visits by Albertan youth



Reason for emergency room visit by mental health condition (Table 14)

- Visits by youth with *schizophrenia or psychoses* were most likely to be for *mental or behavioural* conditions (45%) than for any other reason.
- Visits for youth with *behavioural* mental health conditions were equally likely to be for *injury or poisoning* (26%) or for *mental or behavioural* conditions (26%).
- *Other* reasons for visits were most common among visits by youth with a *mood/anxiety* condition (27%).

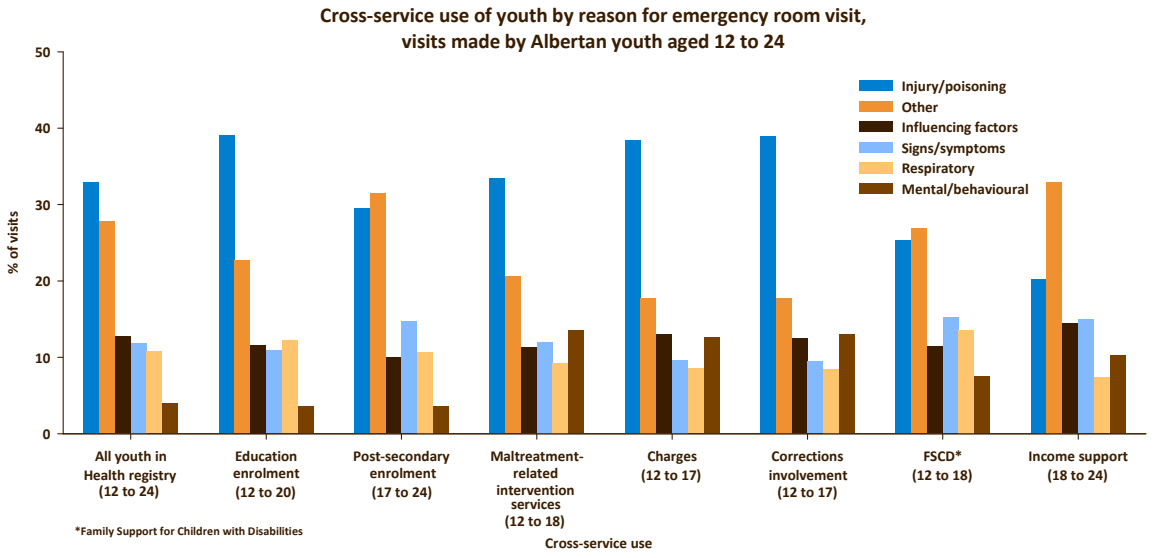
Number of emergency room visits by cross-service use (Table 15)



Youth were considered in this and the following analysis if they were registered with the Alberta Health Care Insurance Plan (AHCIP; see *Definitions and Notes,* p. 19). The effects should be interpreted with caution; they cannot be generalized to youth not registered with AHCIP.

- Youth on income support were most likely to have multiple emergency room visits. Youth enrolled in post-secondary education were the least likely to visit an emergency room.
- Emergency room visits were higher in youth who received maltreatment-related intervention services, or in youth with offence charges or corrections involvement, compared to all youth registered with AHCIP.

Reason for emergency room visit by cross-service use (Table 16)



- The most common reason for youth visiting an emergency room was for *injury or poisoning* across most types of ministry services.
- Visits by youth receiving income support (33% of visits) were most likely to be for *other* reasons.
- Visits for *injury or poisoning* (30%) or for *other* reasons (32%) were equally common for youth enrolled in post-secondary education, and for youth receiving services from Family Support for Children with Disabilities (25%, 27% respectively).
- Visits for *mental or behavioural* conditions were substantially more likely among visits by youth with charges (13%), with corrections involvement (13%), receiving maltreatment-related intervention services (14%), on income support (10%), or receiving services from Family Support for Children with Disabilities (8%) than for visits by all youth registered in AHCIP (4%).

Tables

Table 1. Number and percent of youth by number of emergency room (ER) visits and age group, Albertan youth aged 12 to 24 years, 2008/09

		Age group (years)					
	Number of ER visits	12 to 17	12 to 18	12 to 20	17 to 24	18 to 24	12 to 24
Number of youth	Single visit	41,374	48,862	64,325	61,157	53,643	95,017
	Multiple visits	26,617	32,541	44,930	47,631	41,777	68,394
	No visits	217,140	253,474	328,257	310,971	275,207	492,347
	Total	285,131	334,877	437,512	419,759	370,627	655,758
Percent of youth	Single visit	14.5	14.6	14.7	14.6	14.5	14.5
	Multiple visits	9.3	9.7	10.3	11.3	11.3	10.4
	No visits	76.2	75.7	75.0	74.1	74.3	75.1
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Table 2. Number and percentage of emergency room (ER) visits by reason for emergency room visit and age group, Albertan youth aged 12 to 24 years, 2008/09

		Age group (years)					
	Reason for ER visit	12 to 17	12 to 18	12 to 20	17 to 24	18 to 24	12 to 24
Number of visits	Injury/poisoning	50,105	59,114	76,724	66,883	57,268	107,373
	Other	27,477	35,152	52,568	69,991	63,161	90,638
	Influencing factors	14,391	17,901	25,674	30,727	27,263	41,654
	Signs/symptoms	13,018	16,308	23,947	28,811	25,795	38,813
	Respiratory	15,724	19,144	25,231	22,823	19,555	35,279
	Mental/behavioural	4,189	5,327	7,922	9,929	8,739	12,928
	Total	124,904	152,946	212,066	229,164	201,781	326,685
Percent of visits	Injury/poisoning	40.1	38.7	36.2	29.2	28.4	32.9
	Other	22.0	23.0	24.8	30.5	31.3	27.7
	Influencing factors	11.5	11.7	12.1	13.4	13.5	12.8
	Signs/symptoms	10.4	10.7	11.3	12.6	12.8	11.9
	Respiratory	12.6	12.5	11.9	10.0	9.7	10.8
	Mental/behavioural	3.4	3.5	3.7	4.3	4.3	4.0
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Tables (continued)

Table 3. Number and percent of female youth by number of emergency room (ER) visits and age, Albertan youth aged 12 to 24 years, 2008/09

	Number of ER visits	Age (years)													
Female		12	13	14	15	16	17	18	19	20	21	22	23	24	Total
Number of youth	Single visit	2,703	2,973	3,069	3,236	3,476	3,597	3,620	3,704	3,709	3,560	3,682	3,853	3,919	45,101
	Multiple visits	1,551	1,630	1,907	2,091	2,596	3,036	3,156	3,392	3,296	3,193	3,354	3,302	3,322	35,826
	No visits	17,689	18,173	18,155	17,634	17,644	17,270	17,473	18,227	18,465	18,889	19,971	20,770	21,544	241,904
	Total	21,943	22,776	23,131	22,961	23,716	23,903	24,249	25,323	25,470	25,642	27,007	27,925	28,785	322,831
Percent of youth	Single visit	12.3	13.1	13.3	14.1	14.7	15.0	14.9	14.6	14.6	13.9	13.6	13.8	13.6	14.0
	Multiple visits	7.1	7.2	8.2	9.1	10.9	12.7	13.0	13.4	12.9	12.5	12.4	11.8	11.5	11.1
	No visits	80.6	79.8	78.5	76.8	74.4	72.3	72.1	72.0	72.5	73.7	73.9	74.4	74.8	74.9
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 4. Number and percent of male youth by number of emergency room (ER) visits and age, Albertan youth aged 12 to 24 years, 2008/09

	Number of ER visits	Age (years)													
Male		12	13	14	15	16	17	18	19	20	21	22	23	24	Total
Number of youth	Single visit	3,385	3,636	3,764	3,704	3,914	3,917	3,868	4,127	3,923	3,839	3,928	3,925	3,986	49,916
	Multiple visits	1,822	2,152	2,214	2,392	2,408	2,818	2,768	2,963	2,738	2,684	2,622	2,514	2,473	32,568
	No visits	18,398	18,399	18,549	18,378	18,357	18,494	18,861	19,072	19,019	19,556	20,206	21,266	21,888	250,443
	Total	23,605	24,187	24,527	24,474	24,679	25,229	25,497	26,162	25,680	26,079	26,756	27,705	28,347	332,927
Percent of youth	Single visit	14.3	15.0	15.3	15.1	15.9	15.5	15.2	15.8	15.3	14.7	14.7	14.2	14.1	15.0
	Multiple visits	7.7	8.9	9.0	9.8	9.8	11.2	10.9	11.3	10.7	10.3	9.8	9.1	8.7	9.8
	No visits	77.9	76.1	75.6	75.1	74.4	73.3	74.0	72.9	74.1	75.0	75.5	76.8	77.2	75.2
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Tables (continued)

Table 5. Number and percent of emergency room (ER) visits by reason for emergency room visit and age, Albertan youth aged 12 to 24 years, 2008/09

	Reason for ER visit	Age (years)													
		12	13	14	15	16	17	18	19	20	21	22	23	24	Total
Number of visits	Injury/poisoning	6,742	7,895	8,294	8,609	8,950	9,615	9,009	9,073	8,537	7,991	7,829	7,486	7,343	107,373
	Other	3,403	3,604	3,850	4,385	5,405	6,830	7,675	8,806	8,610	9,075	9,312	9,661	10,022	90,638
	Influencing factors	1,597	2,108	2,060	2,337	2,825	3,464	3,510	3,891	3,882	3,824	4,208	4,083	3,865	41,654
	Signs/symptoms	1,543	1,695	1,864	2,222	2,678	3,016	3,290	3,934	3,705	3,623	3,723	3,755	3,765	38,813
	Respiratory	2,511	2,277	2,395	2,526	2,747	3,268	3,420	3,287	2,800	2,572	2,498	2,491	2,487	35,279
	Mental/behavioural	187	347	562	782	1,121	1,190	1,138	1,343	1,252	1,203	1,258	1,285	1,260	12,928
	Total visits	15,983	17,926	19,025	20,861	23,726	27,383	28,042	30,334	28,786	28,288	28,828	28,761	28,742	326,685
Percent of visits	Injury/poisoning	42.2	44.0	43.6	41.3	37.7	35.1	32.1	29.9	29.7	28.2	27.2	26.0	25.5	32.9
	Other	21.3	20.1	20.2	21.0	22.8	24.9	27.4	29.0	29.9	32.1	32.3	33.6	34.9	27.7
	Influencing factors	10.0	11.8	10.8	11.2	11.9	12.7	12.5	12.8	13.5	13.5	14.6	14.2	13.4	12.8
	Signs/symptoms	9.7	9.5	9.8	10.7	11.3	11.0	11.7	13.0	12.9	12.8	12.9	13.1	13.1	11.9
	Respiratory	15.7	12.7	12.6	12.1	11.6	11.9	12.2	10.8	9.7	9.1	8.7	8.7	8.7	10.8
	Mental/behavioural	1.2	1.9	3.0	3.7	4.7	4.3	4.1	4.4	4.3	4.3	4.4	4.5	4.4	4.0
	Total visits	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 6. Number and percent of emergency room (ER) visits by reason for emergency room visit and gender, Albertan youth aged 12 to 24 years, 2008/09

	Reason for ER visit	Gender		
		Female	Male	Total
Number of visits	Injury/poisoning	38,906	68,467	107,373
	Other	60,007	30,631	90,638
	Influencing factors	21,554	20,100	41,654
	Signs/symptoms	25,133	13,680	38,813
	Respiratory	20,094	15,185	35,279
	Mental/behavioural	6,895	6,033	12,928
	Total visits	172,589	154,096	326,685
Percent of visits	Injury/poisoning	22.5	44.4	32.9
	Other	34.8	19.9	27.7
	Influencing factors	12.5	13.0	12.8
	Signs/symptoms	14.6	8.9	11.9
	Respiratory	11.6	9.9	10.8
	Mental/behavioural	4.0	3.9	4.0
	Total visits	100.0	100.0	100.0

Tables (continued)

Table 7. Number and percent of youth by number of emergency room (ER) visits and region of residence, Albertan youth aged 12 to 24 years, 2008/09

	Number of ER visits	Region of residence			
		Rural	Mid-sized centre	Large centre	Total
Number of youth	Single visit	25,864	16,253	52,892	95,009
	Multiple visits	24,477	12,107	31,800	68,384
	No visits	89,649	73,487	329,115	492,251
	Total	139,990	101,847	413,807	655,644
Percent of youth	Single visit	18.5	16.0	12.8	14.5
	Multiple visits	17.5	11.9	7.7	10.4
	No visits	64.0	72.2	79.5	75.1
	Total	100.0	100.0	100.0	100.0

Table 8. Number and percentage of emergency room (ER) visits by reason for emergency room visit and region of residence, Albertan youth aged 12 to 24 years, 2008/09

	Reason for ER visit	Region of residence			
		Rural	Mid-sized centre	Large centre	Total
Number of visits	Injury/poisoning	34,143	18,717	54,499	107,359
	Other	32,809	16,154	41,666	90,629
	Influencing factors	18,400	7,050	16,197	41,647
	Signs/symptoms	10,652	6,958	21,199	38,809
	Respiratory	14,789	6,485	14,001	35,275
	Mental/behavioural	3,459	2,248	7,221	12,928
	Total visits	114,252	57,612	154,783	326,647
Percent of visits	Injury/poisoning	29.9	32.5	35.2	32.9
	Other	28.7	28.0	26.9	27.7
	Influencing factors	16.1	12.2	10.5	12.7
	Signs/symptoms	9.3	12.1	13.7	11.9
	Respiratory	12.9	11.3	9.0	10.8
	Mental/behavioural	3.0	3.9	4.7	4.0
	Total visits	100.0	100.0	100.0	100.0

Tables (continued)

Table 9. Number and percent of youth by number of emergency room (ER) visits and socio-economic status (SES), Albertan youth aged 12 to 24 years, 2008/09

	Number of ER visits	Socio-economic status					
		Lowest SES	Low middle	Middle	High middle	Highest SES	Total
Number of youth	Single visit	23,924	15,024	21,389	15,671	16,657	92,665
	Multiple visits	19,263	11,996	15,051	10,259	9,767	66,336
	No visits	106,666	73,396	111,352	87,874	102,541	481,829
	Total	149,853	100,416	147,792	113,804	128,965	640,830
Percent of youth	Single visit	16.0	15.0	14.5	13.8	12.9	14.5
	Multiple visits	12.9	11.9	10.2	9.0	7.6	10.4
	No visits	71.2	73.1	75.3	77.2	79.5	75.2
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Table 10. Number and percentage of emergency room (ER) visits by reason for emergency room visit and socio-economic status (SES), Albertan youth aged 12 to 24 years, 2008/09

	Reason for ER visit	Socio-economic status					
		Lowest SES	Low middle	Middle	High middle	Highest SES	Total
Number of visits	Injury/poisoning	28,696	17,413	24,185	16,913	17,397	104,604
	Other	25,647	16,672	19,632	13,377	12,402	87,730
	Influencing factors	11,943	7,838	9,434	5,809	5,081	40,105
	Signs/symptoms	10,324	6,697	8,630	6,140	5,979	37,770
	Respiratory	10,291	6,133	8,034	5,161	4,588	34,207
	Mental/behavioural	3,475	2,277	2,791	1,988	2,028	12,559
	Total visits	90,376	57,030	72,706	49,388	47,475	316,975
Percent of visits	Injury/poisoning	31.8	30.5	33.3	34.2	36.6	33.0
	Other	28.4	29.2	27.0	27.1	26.1	27.7
	Influencing factors	13.2	13.7	13.0	11.8	10.7	12.7
	Signs/symptoms	11.4	11.7	11.9	12.4	12.6	11.9
	Respiratory	11.4	10.8	11.0	10.4	9.7	10.8
	Mental/behavioural	3.8	4.0	3.8	4.0	4.3	4.0
	Total visits	100.0	100.0	100.0	100.0	100.0	100.0

Tables (continued)

Table 11. Number and of youth by number of emergency room (ER) visits and educational achievement, Albertan youth aged 12 to 20 years, 2008/09

	Number of ER visits	Educational achievement			
		Below expectations	Meeting expectations	Above expectations	Total
Number of youth	Single visit	7,831	25,987	3,014	36,832
	Multiple visits	7,023	16,131	1,411	24,565
	No visits	29,752	126,866	22,390	179,008
	Total	44,606	168,984	26,815	240,405
Percent of youth	Single visit	17.6	15.4	11.2	15.3
	Multiple visits	15.7	9.5	5.3	10.2
	No visits	66.7	75.1	83.5	74.5
	Total	100.0	100.0	100.0	100.0

Table 12. Number and percentage of emergency room (ER) visits by reason for emergency room visit and educational achievement, Albertan youth aged 12 to 20 years, 2008/09

	Reason for ER visit	Educational achievement			
		Below expectations	Meeting expectations	Above expectations	Total
Number of visits	Injury/poisoning	10,702	31,345	3,197	45,244
	Other	8,048	16,687	1,470	26,205
	Influencing factors	3,979	8,525	795	13,299
	Signs/symptoms	3,943	8,024	676	12,643
	Respiratory	3,956	9,342	766	14,064
	Mental/behavioural	2,061	1,903	114	4,078
	Total visits	32,689	75,826	7,018	115,533
Percent of visits	Injury/poisoning	32.7	41.3	45.6	39.2
	Other	24.6	22.0	20.9	22.7
	Influencing factors	12.2	11.2	11.3	11.5
	Signs/symptoms	12.1	10.6	9.6	10.9
	Respiratory	12.1	12.3	10.9	12.2
	Mental/behavioural	6.3	2.5	1.6	3.5
	Total visits	100.0	100.0	100.0	100.0

Tables (continued)

Table 13. Number and percent of youth by number of emergency room (ER) visits and mental health condition, Albertan youth aged 12 to 24 years, 2008/09

	Number of ER visits	Mental health condition*						
		Mood/ anxiety	Behavioural	Neuro developmental	Schizophrenia/ psychoses	Any condition	No condition	Total
Number of youth	Single visit	9,860	4,119	619	445	13,240	79,475	92,715
	Multiple visits	11,666	4,903	561	789	14,872	52,393	67,265
	No visits	28,403	10,404	2,990	1,057	38,680	425,292	463,972
	Total	49,929	19,426	4,170	2,291	66,792	557,160	623,952
Percent of youth	Single visit	19.7	21.2	14.8	19.4	19.8	14.3	14.9
	Multiple visits	23.4	25.2	13.5	34.4	22.3	9.4	10.8
	No visits	56.9	53.6	71.7	46.1	57.9	76.3	74.4
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Table 14. Number and percent of emergency room (ER) visits by reason for emergency room visit and mental health condition, Albertan youth aged 12 to 24 years, 2008/09

	Reason for ER visit	Mental health condition*						
		Mood/ anxiety	Behavioural	Neuro developmental	Schizophrenia/ psychoses	Any condition	No condition	Total
Number of visits	Injury/poisoning	12,416	6,381	718	731	16,737	89,218	105,955
	Other	15,777	4,919	669	585	18,862	69,837	88,699
	Influencing factors	6,050	2,334	258	397	7,495	33,405	40,900
	Signs/symptoms	9,219	2,913	413	562	10,783	27,208	37,991
	Respiratory	4,529	1,633	315	164	5,781	28,971	34,752
	Mental/behavioural	9,513	6,376	371	1,971	12,498	227	12,725
	Total visits	57,504	24,556	2,744	4,410	72,156	248,866	321,022
Percent of visits	Injury/poisoning	21.6	26.0	26.2	16.6	23.2	35.8	33.0
	Other	27.4	20.0	24.4	13.3	26.1	28.1	27.6
	Influencing factors	10.5	9.5	9.4	9.0	10.4	13.4	12.7
	Signs/symptoms	16.0	11.9	15.1	12.7	14.9	10.9	11.8
	Respiratory	7.9	6.7	11.5	3.7	8.0	11.6	10.8
	Mental/behavioural	16.5	26.0	13.5	44.7	17.3	0.1	4.0
	Total visits	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Tables (continued)

Table 15. Number and percent of youth by number of emergency (ER) visits and cross-service use, Albertan youth aged 12 to 24 years, 2008/09

	Number of ER visits	Cross-service use							
		All youth in Health registry (12 to 24)	Education enrolment (12 to 20)	Post-secondary enrolment (17 to 24)	Maltreatment intervention (12 to 18)	Charges (12 to 17)	Corrections involvement (12 to 17)	FSCD* (12 to 18)	Income support (18 to 24)
Number of youth	Single visit	95,017	37,552	10,160	1,312	1,160	978	574	947
	Multiple visits	68,394	25,039	5,602	1,428	1,272	1,010	501	1,378
	No visits	492,347	183,630	69,182	3,949	2,834	2,453	2,443	2,406
	Total	655,758	246,221	84,944	6,689	5,266	4,441	3,518	4,731
Percent of youth	Single visit	14.5	15.3	12.0	19.6	22.0	22.0	16.3	20.0
	Multiple visits	10.4	10.2	6.6	21.3	24.2	22.7	14.2	29.1
	No visits	75.1	74.6	81.4	59.0	53.8	55.2	69.4	50.9
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Family Support for Children with Disabilities

Table 16. Number and percentage of emergency room (ER) visits by reason for emergency room visit and cross-service use, Albertan youth aged 12 to 24 years, 2008/09

	Reason for ER visit	Cross-service use							
		All youth in Health registry (12 to 24)	Education enrolment (12 to 20)	Post-secondary enrolment (17 to 24)	Maltreatment intervention (12 to 18)	Charges (12 to 17)	Corrections involvement (12 to 17)	FSCD* (12 to 18)	Income support (18 to 24)
Number of visits	Injury/poisoning	107,373	46,045	8,304	2,250	2,227	1,818	627	1,465
	Other	90,638	26,759	8,866	1,385	1,031	830	664	2,395
	Influencing factors	41,654	13,678	2,823	760	752	582	283	1,048
	Signs/symptoms	38,813	12,854	4,142	809	560	443	375	1,085
	Respiratory	35,279	14,400	3,011	624	497	396	335	531
	Mental/behavioural	12,928	4,162	1,019	908	730	606	187	744
	Total visits	326,685	117,898	28,165	6,736	5,797	4,675	2,471	7,268
Percent of visits	Injury/poisoning	32.9	39.1	29.5	33.4	38.4	38.9	25.4	20.2
	Other	27.7	22.7	31.5	20.6	17.8	17.8	26.9	33.0
	Influencing factors	12.8	11.6	10.0	11.3	13.0	12.4	11.5	14.4
	Signs/symptoms	11.9	10.9	14.7	12.0	9.7	9.5	15.2	14.9
	Respiratory	10.8	12.2	10.7	9.3	8.6	8.5	13.6	7.3
	Mental/behavioural	4.0	3.5	3.6	13.5	12.6	13.0	7.6	10.2
	Total visits	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Family Support for Children with Disabilities

Definitions and Notes

- The study population for this project consisted of all Albertan youth who were registered with the Alberta Health Care Insurance Plan in 2008/09 or who received selected services from one or more of the participating ministries in 2008/09. "All Albertan youth" refers to this study population.
- The study year was fiscal year 2008/09. With the exception of Education and Enterprise and Advanced Education data, all data were for services provided between April 1, 2008 and March 31, 2009, with age determined on March 31, 2009.
    - Data for Enterprise and Advanced Education were for services provided between September 1, 2008 and June 30, 2009, with age determined on March 31, 2009.
    - Data for Education were for services provided to youth who were 12 to 19 years old on September 30, 2008. As a result, youth turning 12 between October 1, 2008 and March 31, 2009 *were not* included in the Education data but were included in other ministries' data. This resulted in the number of 12 year olds in the Education data being lower (approximately 50% lower) than that of 13 to 17 year olds.
    - Furthermore, although Education only provides services to youth who are under 20, the provision of services is defined by age at September 30. Youth who turned 20 between October 1, 2008 and March 31, 2009 *were* included in the Education data, resulting in the inclusion of 20 year olds in some analyses of Education data.
- **Cross-ministry analyses included only youth that were linked across the relevant ministries**. This means that not all youth in the project were represented in every analysis. As well, only youth with a value for a given indicator were included in analyses involving that indicator (i.e., **missing values** were excluded).
- Age, gender, and postal code (translated into Statistics Canada dissemination areas) were provided for each individual by each participating ministry. In the case of discrepancies between ministries, the most common value for an indicator was chosen. In the event of two or more most common values, the value for the indicator was chosen randomly from the most common values.
- Dissemination areas of residence were used by CYDL to determine **region of residence**. Urban areas included large centres with urban core populations greater than 100,000 (i.e., Edmonton and Calgary metropolitan areas) and mid-sized centres with urban cores greater than 10,000; all other areas were categorized as rural.
- **Socio-economic status (SES)** captures the social and material environments in which youth live. A youth was assigned a socio-economic status via an index based on the Statistics Canada dissemination area in which he or she resided[6]. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single families, percent of persons living alone, and percent of persons separated, divorced, or widowed. Socio-economic status values fell into five quintiles. In this report, "lowest socio-economic status" refers to the lowest quintile of socio-economic status, while "highest" refers to the highest quintile.
- **Educational achievement** was computed by Alberta Education using age, grade, school type, special education codes, provincial achievement test scores, home education status, number of high school credits earned, number of higher level courses taken, average grade in higher level courses, possession of an Alberta Education certificate or diploma, and Alexander Rutherford scholarship eligibility. Educational achievement was categorized as *above, meeting,* or *below expectations* for a student's age and grade. An educational achievement rating was not available for 12 to 14 year old youth without scores on provincial achievement tests, for youth in 'other' schools (accredited post-secondary institutions offering high school courses for credit to adults; most youth in these schools were between 18 and 20 years), and for home-schooled high school youth with no credits.

Definitions and Notes (continued)

- **Mental health status** was defined by the presence or absence of mental health diagnosis codes in Health's databases (Inpatient—Discharge Abstract Database, Ambulatory Care, and Practitioner Payments), or in the Family Support for Children with Disabilities Information System. Only youth who were registered with the Alberta Health Care Insurance Plan or the full fiscal year were included in the mental health analyses. **Mental health service use is a proxy for presence of a mental health condition:** Some youth with mental health conditions may not have accessed mental health services in Alberta during the year, and some mental health service use may have occurred for youth who did not in fact have mental health conditions.
    - **Mental health conditions** were grouped based on The Johns Hopkins ACG® Case-Mix System (version 8.2)[7]. Mental health conditions were *mood/anxiety* (anxiety, depression, bipolar disorder, etc.), *behavioural* (attention-deficit disorder, regulatory disorder, mental or behavioural problems due to substance use, etc.), *neurodevelopmental* (autism, fetal alcohol spectrum disorder, cerebral palsy, etc.), or *schizophrenia/psychoses* (schizophrenia, psychosis, delusional disorder, etc.). Conditions were not mutually exclusive; a youth could have a diagnosis in more than one category.
- **Emergency room visits** refer to visits to emergency departments for assessment or treatment. **Reason for emergency room visit** was based on the primary diagnostic code given for each visit. Categories of reasons included *injury/poisoning* (ICD-10-CA[8] Chapter XIX Injury, poisoning and certain other consequences of external causes), *respiratory* (Chapter X Diseases of the respiratory system), *influencing factors* (Chapter XXI Factors influencing health status and contact with health services), *symptoms/signs* (Chapter XVIII Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified), and *other* (all other ICD-10-CA chapters).
- New and returning Alberta residents, if they are eligible, must register for **Alberta Health Care Insurance Plan** coverage to receive insured health services. Youth in the "**health registry**" refers to all youth who are insured in Alberta. This includes any eligible youth who is a permanent resident of Alberta, living at least 183 days per year in the province. Members of the Canadian Armed Forces, Royal Canadian Mounted Police and federal penitentiary inmates are not eligible (they receive coverage from the federal government), but dependents of these non-eligible residents, who reside in Alberta, are eligible.
- Participation in **education** refers to enrolment in the kindergarten to grade 12 education system in Alberta. No data were available for students who attended schools on First Nations reserves or in Lloydminster.
- Participation in **post-secondary** education refers to enrolment in a post-secondary institution in Alberta. Youth enrolled in apprenticeship programs were not included.
- **Maltreatment-related interventions** occur when the safety or well-being of a youth is threatened.
- Youth with **offence charges** include those charged with criminal offences or administrative offences related to criminal offences (e.g., failure to appear in court, breach of probation, etc.). **Number of offences** in the study year was available, but individual incidents were not available. This means that youth charged with multiple offences may have had multiple charges in a single incident, or they may have been charged in multiple incidents.
- Youth with **corrections involvement** have appeared before the Court or a Justice of the Peace for an offence charge and have been remanded in custody or placed under pre-trial supervision in the community awaiting further court dates, or have been found guilty and sentenced to a community disposition (i.e. Fine, Probation, Community Service Work, Deferred Custody) and/or custody (in which the sentence is served in a young offender facility).

Definitions and Notes (continued)

- **Family Support for Children with Disabilities (FSCD)** is a ministry of Human Services program that provides a range of supports and services to families that strengthen their ability to support and care for their child with a disability based on their needs.
- **Income support** refers to financial benefits provided to individuals and couples who cannot meet their basic needs.

Data sources

Ministry	Database	Use in this report
Enterprise and Advanced Education	Learner Enrolment Reporting System (LERS)	Post-secondary education enrolment data
Education	Corporate Data Warehouse (CDW)	Primary and secondary education achievement data
Health	Inpatient – Discharge Abstract Database (DAD)	Hospitalization data
Health	Ambulatory Care (ACCS)	Emergency room visit data
Health	Practitioner Payments (SESE)	Physician visit data
Health	Alberta Health Care Insurance Plan Population Registry (AHCIP registry)	Population registry
Human Services	Child Youth Information Module (CYIM)	Maltreatment and intervention data
Human Services	Family Support for Children with Disabilities Information System (FSCDIS)	Family Supports for Children with Disabilities data
Human Services	Central Client Directory (CCD)	Income support data
Justice and Solicitor General	Justice Online Information Network (JOIN)	Offence data
Justice and Solicitor General	Alberta Community Offender Management System (ACOM)	Corrections data (community)
Justice and Solicitor General	Correctional Offender Management Information System (CoMIS)	Corrections data (custody)

References

1. Canadian Institute for Health Information. (2005). *Understanding emergency department wait times: Who is using the emergency department and how long are they waiting?.* Ottawa.
2. Health Council of Canada. (2011). *How Do Sicker Canadians with Chronic Disease Rate the Health Care System? Results from the 2011 Commonwealth Fund International Health Policy Survey of Sicker Adults. Canadian Health Care Matters, Bulletin 6*. Toronto.
3. Carrière, G. (2004). *Use of hospital emergency rooms* (Statistics Canada Cat. No. 82-003). *Health Reports*, *16*, 35 -39.
4. Child Health Surveillance Project Data Group. (2005). *Alberta Child Health Surveillance Report 2005*. Edmonton: Alberta Health and Wellness.
5. Newton, A.S., Rosychuk, R.J., Ali, S., Cawthorpe, D., Curran, J., Dong, K., Slomp, M., & Urichuk, L. (2011). *The Emergency Department Compass: Children's Mental Health. Pediatric mental health emergencies in Alberta, Canada: Emergency department visits by children and youth aged 0 to 17 years, 2002-2008.* Edmonton.
6. Pampalon, R., Hamel, D., Garnache, P., Raymond, G. (2009). A deprivation index for health planning in Canada. *Chronic Diseases in Canada, 29(4)*, 178-91.
7. The Johns Hopkins University. (2008). *The Johns Hopkins ACG® System Reference Manual, Version 8.2*. Johns Hopkins University: Baltimore.
8. Canadian Institute for Health Information (2001). International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada. CIHI: Ottawa.

The Child and Youth Data Laboratory

The **Child and Youth Data Laboratory** (CYDL) links and analyzes administrative data from child- and youth-serving ministries in the Government of Alberta. The ministries participate in research design and provide data elements that contribute to answering research questions.

The CYDL's research provides groundbreaking opportunities to understand relationships between critical factors in the lives of children and youth in Alberta. The research results can be used to inform policy and program development and evaluation, both within and across ministries, and to inspire further research.

The CYDL is managed by the **Alberta Centre for Child, Family and Community Research** (ACCFCR). The Centre has evolved over its eight year history as a public-sector, innovative resource for evidence. The Centre develops, supports and integrates research across sectors and disciplines to provide a strong, evidence-based foundation for identifying and promoting effective public policy and service delivery to improve the well-being of children, families, and communities in Alberta, Canada, and internationally.

Our partners

This project was carried out on behalf of six ministries of the Government of Alberta. Each ministry collaborated extensively with the CYDL on this project, and their dedication to the project is gratefully acknowledged:

Enterprise and Advanced Education
Education
Health
Human Services
Aboriginal Relations
Justice and Solicitor General

Suggested citation

Child and Youth Data Laboratory (2012). *Emergency room visits by Albertan youth.* Edmonton: Alberta Centre for Child, Family and Community Research.

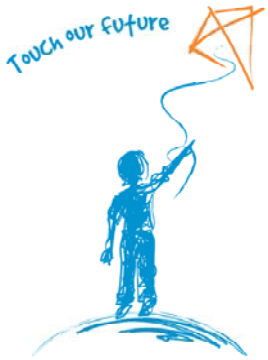
Contact CYDL

www.research4children.com
Click on "Data"

Xinjie Cui, Director
780 944 8631
xcui@research4children.com

Leslie Twilley, Senior Scientist
780 408 8734
ltwilley@research4children.com

Christine Werk, Research Scientist
780 408 8767
cwerk@research4children.com



ALBERTA CENTRE FOR
CHILD, FAMILY & COMMUNITY
RESEARCH

Government
of Alberta

Hospitalizations of Albertan youth

Child and Youth Data Laboratory (CYDL)

Report for *Experiences of Albertan Youth* Project

Key findings

This report is an overview of 29,676 hospitalizations of 24,067 Albertan youth (12 to 24 years) in 2008/09. Type of service was determined from main service codes. Youth not registered with the Alberta Health Care Insurance Plan in 2008/09 were excluded.

The relationships between hospitalizations and age, gender, region of residence, socio-economic status, educational achievement and mental health status were considered. The cross-ministry service use of youth who were hospitalized was also studied.

- 3.1% of youth were hospitalized once and 0.6% had multiple hospitalizations. The most common services were pregnancy-related, surgery or procedures, and general medicine.
- Males and females had similar rates of hospitalization when pregnancy-related hospitalizations for females were excluded.
- Hospitalized youth tended to live in rural or mid-sized regions or in low socio-economic status areas, perform below educational expectations, or receive services for a mental health condition (youth with *schizophrenia/psychoses* were particularly likely to be hospitalized).
- Most hospitalizations for youth aged 17 and under were for a surgery or procedure or for general medicine. Hospitalizations for youth aged 18 and older or youth living in the lowest socio-economic status neighbourhoods were most often pregnancy-related. Youth performing below educational expectations were more likely to have pregnancy-related or psychiatric hospitalizations than youth doing better in school. Hospitalizations among youth with mental health conditions were more likely to be for *psychiatric* services and less likely for *surgery or general procedures* than hospitalizations among youth without mental health conditions.
- Hospitalization rates were highest for youth who received maltreatment-related intervention services, were charged with an offence, were involved in corrections, received Family Support for Children with Disabilities services, or received income support.
- Psychiatric hospitalizations were most common among hospitalizations for youth receiving intervention services or involved in justice or corrections.

Contents

Key findings and Context ..... *1 to 2*
Data analyses ..... *3 to 9*
Tables ..... *10 to 17*
Definitions and Notes ..... *18 to 20*
Data sources *21*
References *21*
About CYDL. *23*

Hospitalizations of Albertan youth

Context

Canadian hospitalization rates are affected by the unique geographic characteristics of Canada. There is regional variation in availability of primary health care providers, such as family physicians, and access to quality primary care services lowers hospitalization rates, particularly for conditions that can be managed on an outpatient basis.[1,2] Hospitalization rates for chronic conditions are higher in rural as compared to urban areas.[1] Social factors also play a role in hospitalization rates; lower socio-economic status is associated with higher hospitalization rates, for example for mental illness and chronic health conditions.[2]

Canadian Institute for Health Information data show that injuries or poisoning, respiratory diseases, digestive system diseases, and mental disorders are common reasons for hospitalizations of both males and females.[3]

Hospitalizations due to injuries for youth under 20 years of age in 2005/06 in Canada were most likely among 15 to 19 year olds. The leading cause of injury hospitalizations for youth under 15 was unintentional falls, with motor vehicle collisions the leading cause for youth 15 to 19 years old.[4]

Childbirth is the most common reason for females of childbearing age to be hospitalized.[5] While fewer than 5% of births in Canada are to females younger than 20 years old,[6] females who give birth at a young age have a higher likelihood of experiencing negative outcomes as young mothers, including low socio-economic status, lower educational achievement, lower employment levels and lower likelihood of having a partner contributing to the household income.[7]

The project

The current project, **Experiences of Albertan Youth**, is focused on basic understanding of the experiences of Albertan youth within and across ministries, as they relate to key indicators (age, gender, socio-economic status, educational achievement, and mental health status). It is the first project in a planned series that will link and analyze administrative data on children and youth in Alberta to inform policy, programs, and research.

List of reports for the project

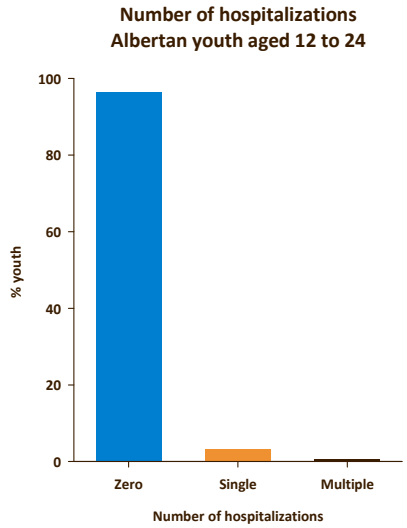
Socio-economic status of Albertan youth
Educational experiences of Albertan youth
Mental health status of Albertan youth
Family Support for Children with Disabilities services received by Albertan youth
Maltreatment-related investigations among Albertan youth
Maltreatment-related intervention services received by Albertan youth
Physician visits by Albertan youth
Emergency room visits by Albertan youth
Hospitalizations of Albertan youth
Offence charges among Albertan youth
Corrections involvement among Albertan youth
Post-secondary students in Alberta
Income support among Albertan youth
Educational experiences of Albertan youth with income support activity
Least advantaged and most advantaged Albertan youth

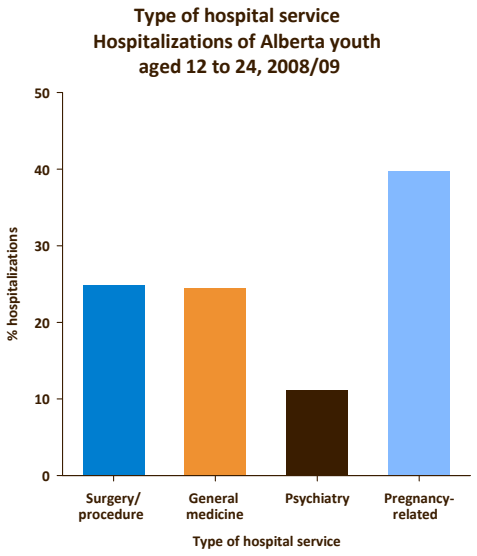
Hospitalizations of Albertan youth

Number of hospitalizations (Tables 1 and 2)

This and the following analyses consider youth (aged 12 to 24 years, unless otherwise stated) who were registered with the Alberta Health Care Insurance Plan at any point in 2008/09.

- Among 655,758 who were registered, 4% had one or more hospitalizations.
- 3.1% of youth were hospitalized once and 0.6% had multiple hospitalizations.



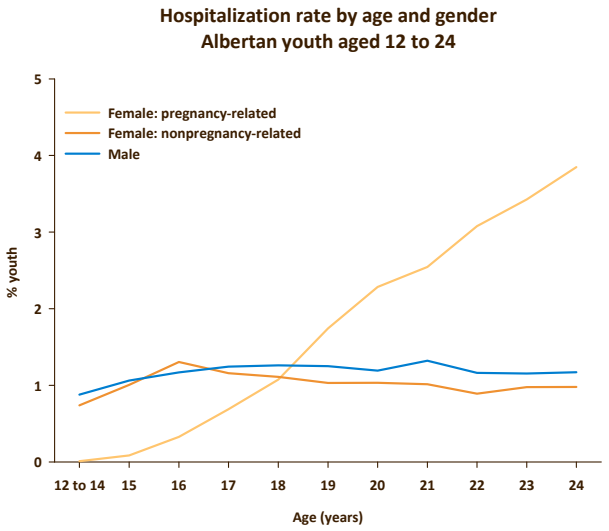


Type of hospital service (Table 3)

- Analyses of type of hospital service are based on all hospitalizations. See the table below for examples of type of hospital service and *Definitions and Notes* (p. 19) for a description of coding.
- There were a total of 29,676 hospitalizations for 24,067 youth.
- 40% of hospitalizations were for pregnancy-related services.
- 25% of hospitalizations were for surgery or procedures, 25% were for general medicine, and 11% were for psychiatry services.

Type of hospital service, main service code examples

Category name	Examples
General medicine	Gastro-intestinal, respirology, allergy, etc.
Surgery/procedure	Orthopaedic surgery, urology, etc.
Psychiatry	Psychiatry or pediatric psychiatry
Pregnancy-related	Deliveries, antepartum obstetrics, or abortions



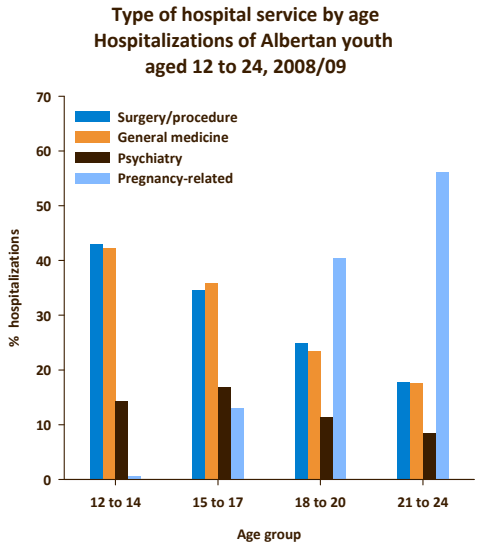
Hospitalization rate by age and gender (Table 4)

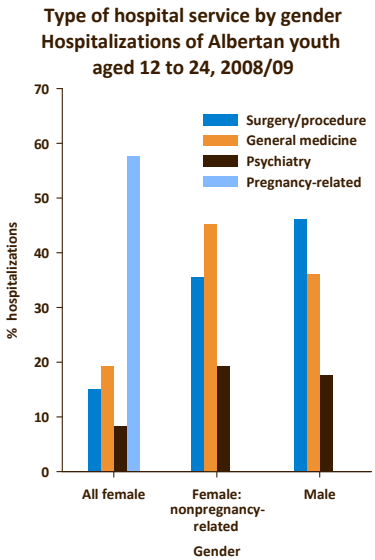
Pregnancy-related and non-pregnancy-related hospitalizations were analyzed separately for females in this and the following gender analyses.

- Female and male youth had similar rates of non-pregnancy-related hospitalizations, and little variation was observed across age.
- After age 18, females were substantially more likely to be hospitalized for pregnancy-related services, with the rate increasing with age.

Type of hospital service by age (Table 5)

- Most hospitalizations for youth aged 17 and under were for either a surgery or procedure or for general medicine.
- Hospitalizations for youth aged 18 and older were most often pregnancy-related. This reflects the fact that these youth are of reproductive age and the majority of births in Alberta occur in hospitals.



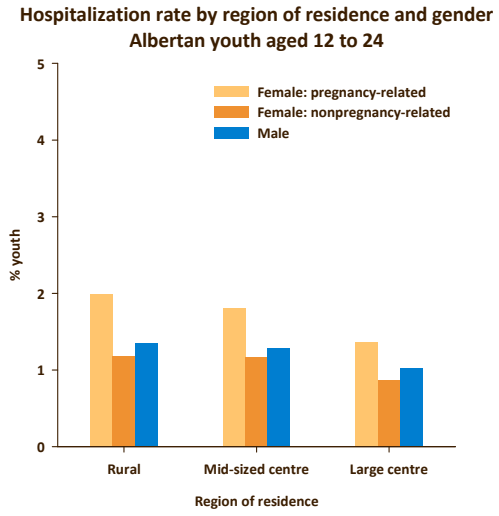


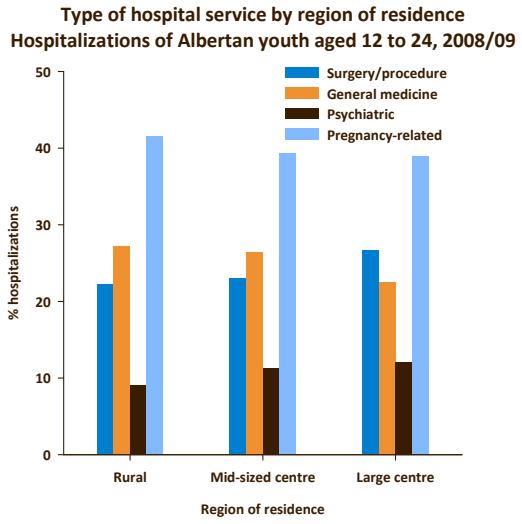
Type of hospital service by gender (Table 6)

- Hospitalizations for female youth were most likely for pregnancy-related reasons (58% of hospitalizations).
- Once pregnancy-related hospitalizations were excluded, hospitalizations for females were most often for general medicine (45%) and hospitalizations for males were most often for surgery or procedure (46%).
- Psychiatry services comprised about 20% of hospitalizations for males and for females who did not receive pregnancy-related services.

Hospitalization rate by region of residence and gender (Table 7)

- Male and female youth living in rural regions or mid-sized centres were more likely to be hospitalized than youth living in large centres (Edmonton or Calgary).
- There were slightly more females with pregnancy-related hospitalizations in rural regions (2.0%) than in mid-sized centres (1.8%) or large (1.4%) centres.





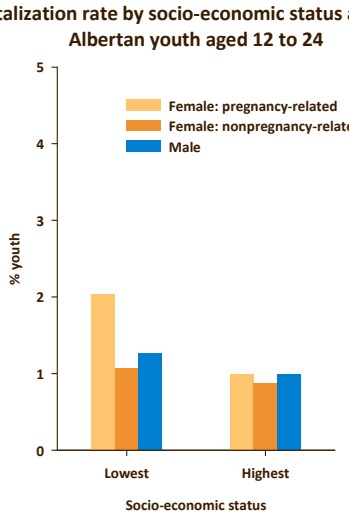
Type of hospital service by region of residence (Table 8)

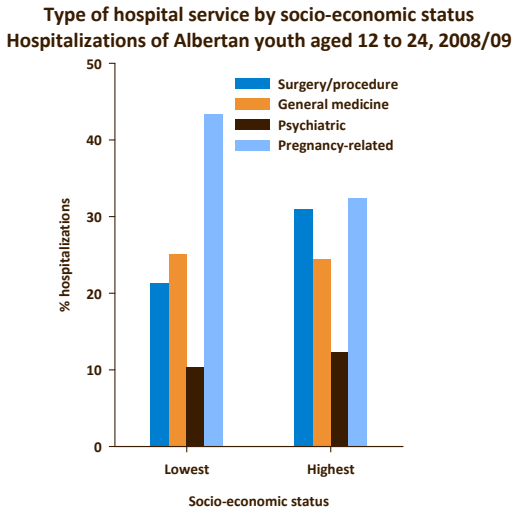
- The majority of hospitalizations in all regions of residence were for pregnancy-related services.
- Surgery or procedures made up a greater percentage of hospitalizations in large centres than in smaller centres, while general medicine hospitalizations were more common in rural and mid-sized centres than in large centres.
- Hospitalizations for psychiatric services were least common in rural regions.

Hospitalization rate by socio-economic status and gender (Table 9)

Socio-economic status captures the social and material environments in which youth live. Only the highest and lowest socio-economic status groups are shown in this and the following analysis. See *Definitions and Notes* (p. 18).

- Youth living in the lowest socio-economic status areas were more likely to be hospitalized than youth living in the highest socio-economic status areas.
- This effect was most pronounced for female youth with pregnancy-related hospitalizations (2.0% in the lowest socio-economic status areas compared to 1.0% in the highest socio-economic status areas).





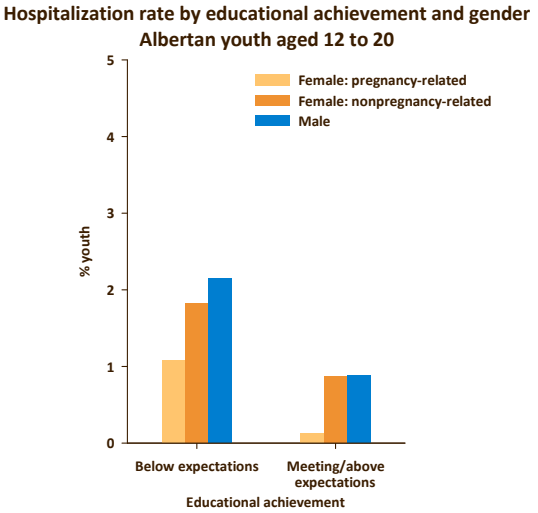
Type of hospital service by socio-economic status (Table 10)

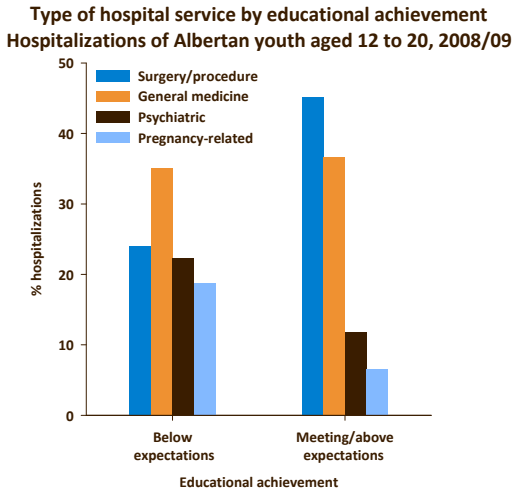
- 43% of hospitalizations for youth in the lowest socio-economic status neighbourhoods were for pregnancy-related services.
- Among hospitalizations of youth living in the highest socio-economic status neighbourhoods, pregnancy-related (32%) and surgery or procedure services (31%) were equally common .

Hospitalization rate by educational achievement and gender (Table 11)

Youth (12 to 20 years) who were enrolled in the K-12 education system in 2008/09 are included in this and the following analysis. See *Definitions and Notes* (p.18).

- Youth who performed below educational expectations were more likely to be hospitalized than youth meeting or above educational expectations.
- The female pregnancy-related hospitalization rate was 10 times higher for youth performing below expectations (1.1%) compared to youth meeting or achieving above expectations (0.1%) but still represented only 1% of youth.





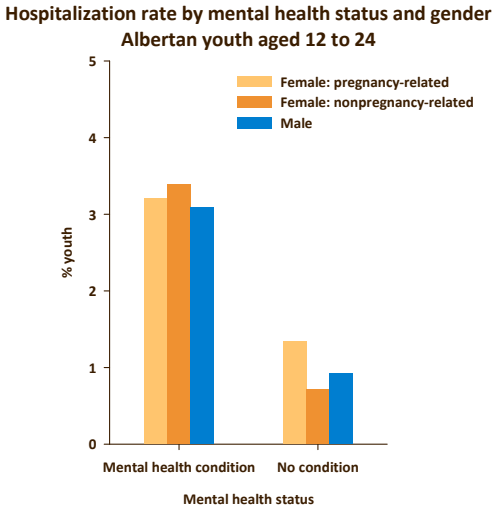
Type of hospital service by educational achievement (Table 12)

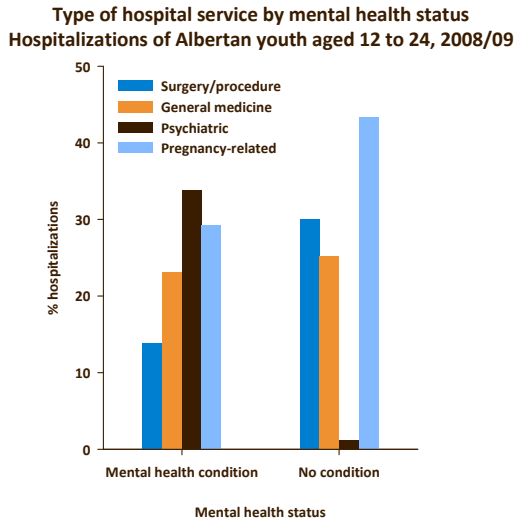
- Surgery or procedure was the most common type of hospital service for hospitalizations of youth meeting or above expectations (45% of hospitalizations) while general medicine hospitalizations were more common for youth performing below expectations (35%).
- Pregnancy-related and psychiatric hospitalizations were more common among hospitalizations of youth performing below expectations (19%, 22% respectively) than among hospitalizations of youth meeting or achieving above expectations (7%, 12% respectively).

Hospitalization rate by mental health status and gender (Table 13)

Mental health status refers to presence or absence of a mental health condition. Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition. See *Definitions and Notes* (p. 19).

- Youth with a mental health condition were more likely to be hospitalized than youth with no mental health condition, which may be partially due to how mental health was defined in this report (see *Definitions and Notes* p. 19).



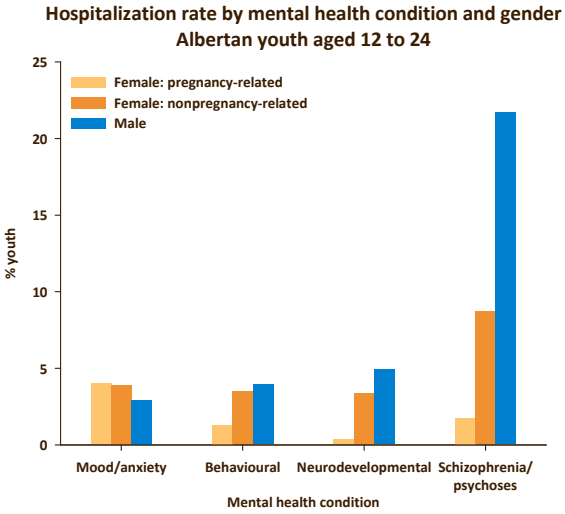


Type of hospital service by mental health status (Table 14)

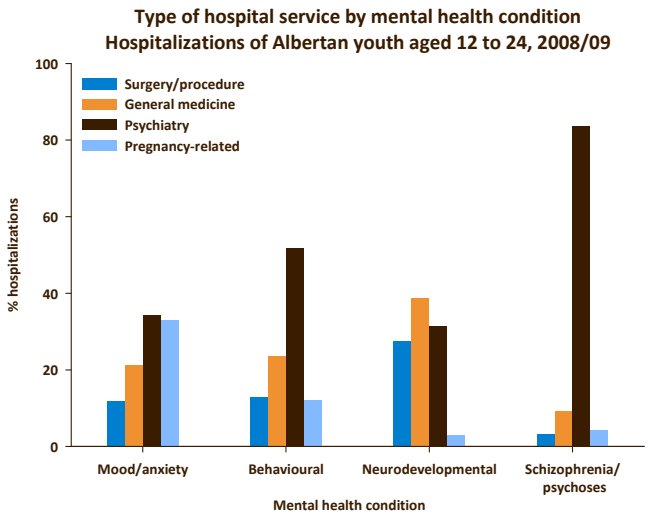
- Hospitalizations for youth with no mental health condition were most likely to be pregnancy-related (43% of hospitalizations).
- Psychiatric hospitalizations were much more common among hospitalizations for youth with a mental health condition (34%) than among hospitalizations of youth with no mental health condition (1%). This may be partially because the definition of mental health status included psychiatric hospitalizations. See *Definitions and Notes* p. 19.

Hospitalization rate by mental health condition and gender (Table 13)

- Male youth with *schizophrenia/ psychoses* disorders were far more likely to be hospitalized than youth with other mental health conditions.
- The hospitalization rate for pregnancy-related services was higher for females with a *mood/ anxiety* disorder than for females with other mental health conditions.



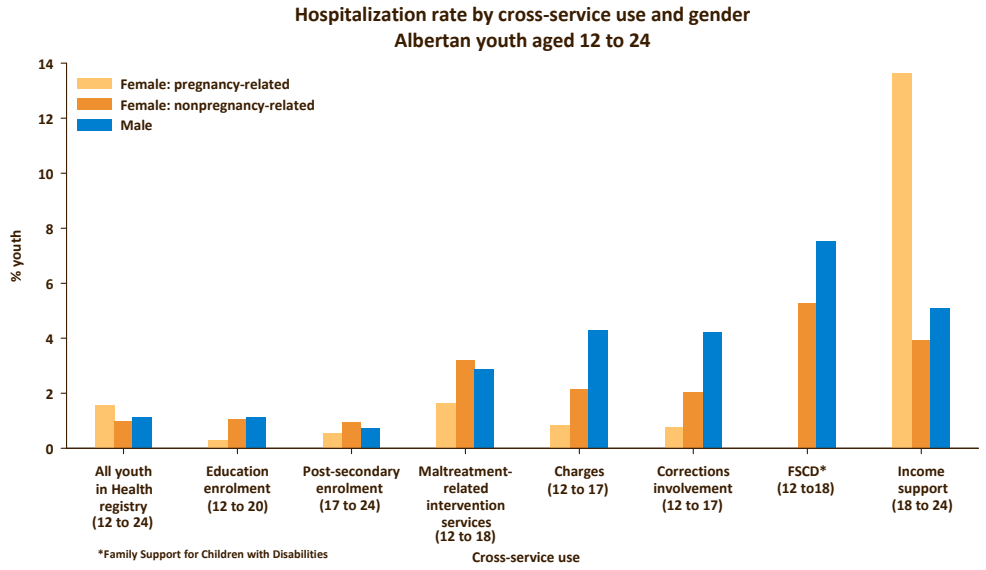
Hospitalizations of Albertan youth



Type of hospital service by mental health condition (Table 14)

- Hospitalizations for youth with *schizophrenia/ psychoses* or *behavioural* conditions were most likely to be for psychiatry services.
- Hospitalizations for youth with *mood/anxiety* conditions were equally likely to be for psychiatry and pregnancy-related services.
- Hospitalizations for youth with *neurodevelopmental* conditions were most commonly for general medicine services.

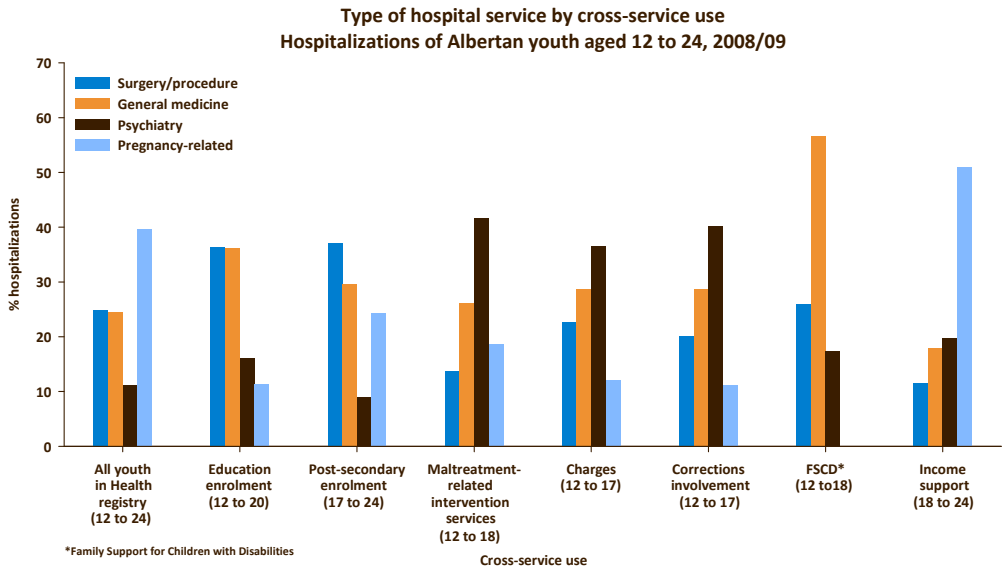
Hospitalization rate by cross-service use and gender (Table 15)



Youth were considered in this and the following analysis if they were registered with the Alberta Health Care Insurance Plan (AHCIP; see *Definitions and Notes,* p. 19). The effects should be interpreted with caution; they cannot be generalized to youth not registered with AHCIP.

- Low rates of hospitalizations were observed for youth registered with the AHCIP, enrolled in the K-12 education system or enrolled in a post-secondary institution.
- Higher hospitalization rates were observed for youth who received maltreatment-related intervention services, youth who received offence charges, youth with corrections involvement, and youth who received support from Family Support for Children with Disabilities (FSCD), among males and females with nonpregnancy-related hospitalizations.
- Youth receiving income support had elevated rates of hospitalizations, especially among females with pregnancy-related hospitalizations.

Type of hospital service by cross-service use (Table 16)



- Hospitalizations for all youth registered with the AHCIP were mostly for pregnancy-related services.
- Hospitalizations for youth enrolled in the K- 12 education system were equally likely to be for a surgery/ procedure or for general medicine whereas surgery/procedure was the most common hospital service among hospitalizations for youth enrolled in a post-secondary institution.
- Psychiatric hospital services were more common in hospitalizations of youth who received maltreatment-related intervention services (41% of hospitalizations), youth with offence charges (37%), and youth with corrections involvement (40%), compared to hospitalizations of all youth registered with the Alberta Health Care Insurance Plan (11%).
- Hospitalizations of youth receiving services from FSCD were most likely to be for general medicine services (57%).
- Pregnancy-related services were most common among hospitalizations of youth receiving income support.

Tables

Table 1. Number and percent of youth by age group and hospitalizations, Albertan youth aged 12 to 24 years, 2008/09

	Hospitalizations	Age group (years)					
		12 to 17	12 to 18	12 to 20	17 to 24	18 to 24	12 to 24
Number of youth	Females: pregnancy-related	550	1,085	3,151	10,014	9,675	10,225
	Females: nonpregnancy-related	2,713	3,265	4,324	4,286	3,717	6,430
	Males	2,913	3,540	4,793	5,110	4,499	7,412
	Any hospitalization	6,176	7,890	12,268	19,410	17,891	24,067
	No hospitalizations	278,955	326,987	425,244	400,349	352,736	631,691
	Total	285,131	334,877	437,512	419,759	370,627	655,758
Percent of youth	Females: pregnancy-related	0.2	0.3	0.7	2.4	2.6	1.6
	Females: nonpregnancy-related	1.0	1.0	1.0	1.0	1.0	1.0
	Males	1.0	1.1	1.1	1.2	1.2	1.1
	Any hospitalization	2.2	2.4	2.8	4.6	4.8	3.7
	No hospitalizations	97.8	97.6	97.2	95.4	95.2	96.3
	Total	100.0	100.0	100.0	100.0	100.0	100.0

*During the linkage process, gender values submitted for a given individual were sometimes discrepant. One gender had to be assigned to each individual. This very occasionally resulted in male gender being assigned to an individual who had pregnancy-related hospitalizations. The few cases to which this applied were included in the male hospitalizations in the analyses in this report.

Table 2. Number and percent of youth by number of hospitalizations, Albertan youth aged 12 to 24 years, 2008/09

	Number of hospitalizations	
Number of youth	Single	20,353
	Multiple	3,714
	Any hospitalization	24,067
	No hospitalizations	631,691
	Total	655,758
Percent of youth	Single	3.1
	Multiple	0.6
	Any hospitalization	3.7
	No hospitalizations	96.3
	Total	100.0

Tables (continued)

Table 3. Number and percentage of hospitalizations by age group and type of hospital service, Albertan youth aged 12 to 24 years, 2008/09

	Type of hospital service	Age group (years)					
		12 to 17	12 to 18	12 to 20	17 to 24	18 to 24	12 to 24
Number of hospitalizations	Surgery/procedure	2,917	3,552	4,792	5,052	4,436	7,353
	General medicine	2,958	3,522	4,728	4,930	4,302	7,260
	Psychiatry	1,225	1,503	2,079	2,339	2,073	3,298
	Pregnancy-related	648	1,274	3,693	11,515	11,117	11,765
	Total hospitalizations	7,748	9,851	15,292	23,836	21,928	29,676
Percent of hospitalizations	Surgery/procedure	37.6	36.1	31.3	21.2	20.2	24.8
	General medicine	38.2	35.8	30.9	20.7	19.6	24.5
	Psychiatry	15.8	15.3	13.6	9.8	9.5	11.1
	Pregnancy-related	8.4	12.9	24.1	48.3	50.7	39.6
	Total hospitalizations	100.0	100.0	100.0	100.0	100.0	100.0

Table 4. Number and percent of youth by age, gender, and hospitalizations, Albertan youth aged 12 to 24 years, 2008/09

	Hospitalizations	Age (years)*											
		12 to 14	15	16	17	18	19	20	21	22	23	24	Total
Number of youth	Females: pregnancy-related	13	40	158	339	535	898	1,168	1,316	1,655	1,905	2,198	10,225
	Females: nonpregnancy-related	1,036	477	631	569	552	531	528	525	479	543	559	6,430
	Males	1,232	504	566	611	627	644	609	683	625	642	669	7,412
	Any hospitalization	2,281	1,021	1,355	1,519	1,714	2,073	2,305	2,524	2,759	3,090	3,426	24,067
	No hospitalizations	137,888	46,414	47,040	47,613	48,032	49,412	48,845	49,197	51,004	52,540	53,706	631,691
	Total	140,169	47,435	48,395	49,132	49,746	51,485	51,150	51,721	53,763	55,630	57,132	655,758
Percent of youth	Females: pregnancy-related	0.0	0.1	0.3	0.7	1.1	1.7	2.3	2.5	3.1	3.4	3.8	1.6
	Females: nonpregnancy-related	0.7	1.0	1.3	1.2	1.1	1.0	1.0	1.0	0.9	1.0	1.0	1.0
	Males	0.9	1.1	1.2	1.2	1.3	1.3	1.2	1.3	1.2	1.2	1.2	1.1
	Any hospitalization	1.6	2.2	2.8	3.1	3.4	4.0	4.5	4.9	5.1	5.6	6.0	3.7
	No hospitalizations	98.4	97.8	97.2	96.9	96.6	96.0	95.5	95.1	94.9	94.4	94.0	96.3
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Due to the low number of pregnancy-related hospitalizations in youth under age 14, ages 12 to 14 were combined.

Tables (continued)

Table 5. Number and percentage of hospitalizations by age group and type of hospital service, Albertan youth aged 12 to 24 years, 2008/09

	Type of hospital service	Age group (years)				
		12 to 14	15 to 17	18 to 20	21 to 24	Total
Number of hospitalizations	Surgery/procedure	1,223	1,694	1,875	2,561	7,353
	General medicine	1,202	1,756	1,770	2,532	7,260
	Psychiatry	404	821	854	1,219	3,298
	Pregnancy-related	15	633	3,045	8,072	11,765
	Total hospitalizations	2,844	4,904	7,544	14,384	29,676
Percent of hospitalizations	Surgery/procedure	43.0	34.5	24.9	17.8	24.8
	General medicine	42.3	35.8	23.5	17.6	24.5
	Psychiatry	14.2	16.7	11.3	8.5	11.1
	Pregnancy-related	0.5	12.9	40.4	56.1	39.6
	Total hospitalizations	100.0	100.0	100.0	100.0	100.0

Table 6. Number and percentage of hospitalizations by gender and type of hospital service, Albertan youth aged 12 to 24 years, 2008/09

	Type of hospital service	Hospitalizations			
		Female	Female: pregnancy-related excluded	Male	Total
Number of hospitalizations	Surgery/procedure	3,061	3,061	4,292	7,353
	General medicine	3,901	3,901	3,359	7,260
	Psychiatry	1,665	1,665	1,633	3,298
	Pregnancy-related*	11,719	0	–	11,765
	Total hospitalizations	20,346	8,627	9,330	29,676
				–	
Percent of hospitalizations	Surgery/procedure	15.0	35.5	46.0	24.8
	General medicine	19.2	45.2	36.0	24.5
	Psychiatry	8.2	19.3	17.5	11.1
	Pregnancy-related*	57.6	0.0		39.6
	Total hospitalizations	100.0	100.0	100.0	100.0

*During the linkage process, gender values submitted for a given individual were sometimes discrepant. One gender had to be assigned to each individual. This very occasionally resulted in male gender being assigned to an individual who had pregnancy-related hospitalizations. The few cases to which this applied were included in the male hospitalizations in the analyses in this report, but they are not reported as "pregnancy-related males" in this table.

Tables (continued)

Table 7. Number and percent of youth by region of residence, gender, and hospitalizations, Albertan youth aged 12 to 24 years, 2008/09

	Hospitalizations	Region of residence			
		Rural	Mid-sized centre	Large centre	Total
Number of youth	Females: pregnancy-related	2,771	1,832	5,622	10,225
	Females: nonpregnancy-related	1,651	1,188	3,590	6,429
	Males	1,882	1,302	4,228	7,412
	Any hospitalization	6,304	4,322	13,440	24,066
	No hospitalizations	133,686	97,525	400,367	631,578
	Total	139,990	101,847	413,807	655,644
Percent of youth	Females: pregnancy-related	2.0	1.8	1.4	1.6
	Females: nonpregnancy-related	1.2	1.2	0.9	1.0
	Males	1.3	1.3	1.0	1.1
	Any hospitalization	4.5	4.2	3.2	3.7
	No hospitalizations	95.5	95.8	96.8	96.3
	Total	100.0	100.0	100.0	100.0

Table 8. Number and percentage of hospitalizations by region of residence and type of hospital service, Albertan youth aged 12 to 24 years, 2008/09

	Type of hospital service	Region of residence			
		Rural	Mid-sized centre	Large centre	Total
Number of hospitalizations	Surgery/procedure	1,776	1,221	4,356	7,353
	General medicine	2,171	1,401	3,687	7,259
	Psychiatry	723	599	1,976	3,298
	Pregnancy-related	3,312	2,083	6,370	11,765
	Total hospitalizations	7,982	5,304	16,389	29,675
Percent of hospitalizations	Surgery/procedure	22.3	23.0	26.6	24.8
	General medicine	27.2	26.4	22.5	24.5
	Psychiatry	9.1	11.3	12.1	11.1
	Pregnancy-related	41.5	39.3	38.9	39.6
	Total hospitalizations	100.0	100.0	100.0	100.0

Tables (continued)

Table 9. Number and percent of youth by socio-economic status (SES), gender, and hospitalizations, Albertan youth aged 12 to 24 years, 2008/09

	Hospitalizations	Socio-economic status					
		Lowest SES	Low middle	Middle	High middle	Highest SES	Total
Number of youth	Females: pregnancy-related	3,046	2,039	2,053	1,436	1,277	9,851
	Females: nonpregnancy-related	1,605	1,022	1,407	1,090	1,132	6,256
	Males	1,896	1,201	1,618	1,207	1,283	7,205
	Any hospitalization	6,547	4,262	5,078	3,733	3,692	23,312
	No hospitalizations	143,306	96,154	142,714	110,071	125,273	617,518
	Total	149,853	100,416	147,792	113,804	128,965	640,830
Percent of youth	Females: pregnancy-related	2.0	2.0	1.4	1.3	1.0	1.5
	Females: nonpregnancy-related	1.1	1.0	1.0	1.0	0.9	1.0
	Males	1.3	1.2	1.1	1.1	1.0	1.1
	Any hospitalization	4.4	4.2	3.4	3.3	2.9	3.6
	No hospitalizations	95.6	95.8	96.6	96.7	97.1	96.4
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Table 10. Number and percentage of hospitalizations by socio-economic status (SES) and type of hospital service, Albertan youth aged 12 to 24 years, 2008/09

	Type of hospital service	Socio-economic status					
		Lowest SES	Low middle	Middle	High middle	Highest SES	Total
Number of hospitalizations	Surgery/procedure	1,728	1,150	1,610	1,265	1,402	7,155
	General medicine	2,044	1,225	1,548	1,131	1,104	7,052
	Psychiatry	845	555	726	531	557	3,214
	Pregnancy-related	3,525	2,368	2,312	1,651	1,470	11,326
	Total hospitalizations	8,142	5,298	6,196	4,578	4,533	28,747
Percent of hospitalizations	Surgery/procedure	21.2	21.7	26.0	27.6	30.9	24.9
	General medicine	25.1	23.1	25.0	24.7	24.4	24.5
	Psychiatry	10.4	10.5	11.7	11.6	12.3	11.2
	Pregnancy-related	43.3	44.7	37.3	36.1	32.4	39.4
	Total hospitalizations	100.0	100.0	100.0	100.0	100.0	100.0

Tables (continued)

Table 11. Number and percent of youth by educational achievement, gender, and hospitalizations, Albertan youth aged 12 to 20 years, 2008/09

	Hospitalizations	Educational achievement		
		Below expectations	Meeting/above expectations	Total
Number of youth	Females: pregnancy-related	483	246	729
	Females: nonpregnancy-related	816	1,722	2,538
	Males	959	1,734	2,693
	Any hospitalization	2,258	3,702	5,960
	No hospitalizations	42,348	192,097	234,445
	Total	44,606	195,799	240,405
Percent of youth	Females: pregnancy-related	1.1	0.1	0.3
	Females: nonpregnancy-related	1.8	0.9	1.1
	Males	2.1	0.9	1.1
	Any hospitalization	5.1	1.9	2.5
	No hospitalizations	94.9	98.1	97.5
	Total	100.0	100.0	100.0

Table 12. Number and percentage of hospitalizations by educational achievement and type of hospital service, Albertan youth aged 12 to 20 years, 2008/09

	Type of hospital service	Educational achievement		
		Below expectation	Meeting/above expectations	Total
Number of hospitalizations	Surgery/procedure	726	1,996	2,722
	General medicine	1,062	1,619	2,681
	Psychiatry	676	519	1,195
	Pregnancy-related	569	286	855
	Total hospitalizations	3,033	4,420	7,453
Percent of hospitalizations	Surgery/procedure	23.9	45.2	36.5
	General medicine	35.0	36.6	36.0
	Psychiatry	22.3	11.7	16.0
	Pregnancy-related	18.8	6.5	11.5
	Total hospitalizations	100.0	100.0	100.0

Tables (continued)

Table 13. Number and percent of youth by mental health condition, gender, and hospitalizations, Albertan youth aged 12 to 24 years, 2008/09

	Hospitalizations	Mental health conditions*						
		Mood/ anxiety	Behavioural	Neuro developmental	Schizophrenia/ psychoses	Any condition	No condition	Total
Number of youth	Females: pregnancy-related	1,994	248	14	40	2,147	7,528	9,675
	Females: nonpregnancy-related	1,939	675	140	199	2,271	3,988	6,259
	Males	1,451	766	205	497	2,068	5,135	7,203
	Any hospitalization	5,384	1,689	359	736	6,486	16,651	23,137
	No hospitalizations	44,545	17,737	3,811	1,555	60,306	540,509	600,815
	Total	49,929	19,426	4,170	2,291	66,792	557,160	623,952
Percent of youth	Females: pregnancy-related	4.0	1.3	0.3	1.7	3.2	1.4	1.6
	Females: nonpregnancy-related	3.9	3.5	3.4	8.7	3.4	0.7	1.0
	Males	2.9	3.9	4.9	21.7	3.1	0.9	1.2
	Any hospitalization	10.8	8.7	8.6	32.1	9.7	3.0	3.7
	No hospitalizations	89.2	91.3	91.4	67.9	90.3	97.0	96.3
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Table 14. Number and percentage of hospitalizations by mental health condition and type of hospital service, Albertan youth aged 12 to 24 years, 2008/09

	Type of hospital service	Mental health conditions*						
		Mood/ anxiety	Behavioural	Neuro developmental	Schizophrenia /psychoses	Any condition	No condition	Total
Number of hospitalizations	Surgery/procedure	863	319	159	40	1,210	5,957	7,167
	General medicine	1,543	577	225	119	2,034	5,003	7,037
	Psychiatry	2,478	1,273	182	1,082	2,966	243	3,209
	Pregnancy-related	2,382	297	16	54	2,564	8,597	11,161
	Total hospitalizations	7,266	2,466	582	1,295	8,774	19,800	28,574
Percent of hospitalizations	Surgery/procedure	11.9	12.9	27.3	3.1	13.8	30.1	25.1
	General medicine	21.2	23.4	38.7	9.2	23.2	25.3	24.6
	Psychiatry	34.1	51.6	31.3	83.6	33.8	1.2	11.2
	Pregnancy-related	32.8	12.0	2.7	4.2	29.2	43.4	39.1
	Total hospitalizations	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Tables (continued)

Table 15. Number and percent of youth by cross-service use, gender, and hospitalizations, Albertan youth aged 12 to 24 years, 2008/09

	Hospitalizations	Cross-service use							
		All youth in Health registry (12 to 24)	Education enrolment (12 to 20)	Post-secondary enrolment (17 to 24)	Maltreatment intervention (12 to 18)	Charges (12 to 17)	Corrections involvement (12 to 17)	FSCD* (12 to 18)	Income support (18 to 24)
Number of youth	Females: pregnancy-related	10,225	740	474	110	44	34	–**	644
	Females: nonpregnancy-related	6,430	2,589	794	215	113	91	185	186
	Males	7,412	2,745	622	191	226	187	265	241
	Any hospitalization	24,067	6,074	1,890	516	383	312	450	1,071
	No hospitalizations	631,691	240,147	83,054	6,173	4,883	4,129	3,066	3,660
	Total	655,758	246,221	84,944	6,689	5,266	4,441	3,516	4,731
Percent of youth	Females: pregnancy-related	1.6	0.3	0.6	1.6	0.8	0.8	–**	13.6
	Females: nonpregnancy-related	1.0	1.1	0.9	3.2	2.1	2.0	5.3	3.9
	Males	1.1	1.1	0.7	2.9	4.3	4.2	7.5	5.1
	Any hospitalization	3.7	2.5	2.2	7.7	7.3	7.0	12.8	22.6
	No hospitalizations	96.3	97.5	97.8	92.3	92.7	93.0	87.2	77.4
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Family Support for Children with Disabilities

**Too few youth in FSCD had pregnancy-related hospitalizations to report.

Table 16. Number and percentage of hospitalizations by cross-service use and type of hospital service, Albertan youth aged 12 to 24 years, 2008/09

	Type of hospital service	Cross-service use							
		All youth in Health registry (12 to 24)	Education enrolment (12 to 20)	Post-secondary enrolment (17 to 24)	Maltreatment intervention (12 to 18)	Charges (12 to 17)	Corrections involvement (12 to 17)	FSCD* (12 to 18)	Income support (18 to 24)
Number of hospitalizations	Surgery/procedure	7,353	2,758	831	94	106	77	233	172
	General medicine	7,260	2,740	665	179	134	110	508	267
	Psychiatry	3,298	1,228	202	285	171	154	155	293
	Pregnancy-related	11,765	866	543	128	56	43	–**	758
	Total hospitalizations	29,676	7,592	2,241	686	467	384	896	1,490
Percent of hospitalizations	Surgery/procedure	24.8	36.3	37.1	13.7	22.7	20.1	26.0	11.5
	General medicine	24.5	36.1	29.7	26.1	28.7	28.6	56.7	17.9
	Psychiatry	11.1	16.2	9.0	41.5	36.6	40.1	17.3	19.7
	Pregnancy-related	39.6	11.4	24.2	18.7	12.0	11.2	–**	50.9
	Total hospitalizations	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Family Support for Children with Disabilities

**Too few youth in FSCD had pregnancy-related hospitalizations to report.

Definitions and Notes

- The study population for this project consisted of all Albertan youth who were registered with the Alberta Health Care Insurance Plan in 2008/09 or who received selected services from one or more of the participating ministries in 2008/09. "All Albertan youth" refers to this study population.
- The study year was fiscal year 2008/09. With the exception of Education and Enterprise and Advanced Education data, all data were for services provided between April 1, 2008 and March 31, 2009, with age determined on March 31, 2009.
    - Data for Enterprise and Advanced Education were for services provided between September 1, 2008 and June 30, 2009, with age determined on March 31, 2009.
    - Data for Education were for services provided to youth who were 12 to 19 years old on September 30, 2008. As a result, youth turning 12 between October 1, 2008 and March 31, 2009 *were not* included in the Education data but were included in other ministries' data. This resulted in the number of 12 year olds in the Education data being lower (approximately 50% lower) than that of 13 to 17 year olds.
    - Furthermore, although Education only provides services to youth who are under 20, the provision of services is defined by age at September 30. Youth who turned 20 between October 1, 2008 and March 31, 2009 *were* included in the Education data, resulting in the inclusion of 20 year olds in some analyses of Education data.
- **Cross-ministry analyses included only youth that were linked across the relevant ministries**. This means that not all youth in the project were represented in every analysis. As well, only youth with a value for a given indicator were included in analyses involving that indicator (i.e., **missing values** were excluded).
- Age, gender, and postal code (translated into Statistics Canada dissemination areas) were provided for each individual by each participating ministry. In the case of discrepancies between ministries, the most common value for an indicator was chosen. In the event of two or more most common values, the value for the indicator was chosen randomly from the most common values.
- Dissemination areas of residence were used by CYDL to determine **region of residence**. Urban areas included large centres with urban core populations greater than 100,000 (i.e., Edmonton and Calgary metropolitan areas) and mid-sized centres with urban cores greater than 10,000; all other areas were categorized as rural.
- **Socio-economic status (SES)** captures the social and material environments in which youth live. A youth was assigned a socio-economic status via an index based on the Statistics Canada dissemination area in which he or she resided[8]. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single families, percent of persons living alone, and percent of persons separated, divorced, or widowed. Socio-economic status values fell into five quintiles. In this report, "lowest socio-economic status" refers to the lowest quintile of socio-economic status, while "highest" refers to the highest quintile.
- **Educational achievement** was computed by Alberta Education using age, grade, school type, special education codes, provincial achievement test scores, home education status, number of high school credits earned, number of higher level courses taken, average grade in higher level courses, possession of an Alberta Education certificate or diploma, and Alexander Rutherford scholarship eligibility. Educational achievement was categorized as *above, meeting,* or *below expectations* for a student's age and grade. An educational achievement rating was not available for 12 to 14 year old youth without scores on provincial achievement tests, for youth in 'other' schools (accredited post-secondary institutions offering high school courses for credit to adults; most youth in these schools were between 18 and 20 years), and for home-schooled high school youth with no credits.

Definitions and Notes (continued)

- **Mental health status** was defined by the presence or absence of mental health diagnosis codes in Health's databases (Inpatient—Discharge Abstract Database, Ambulatory Care, and Practitioner Payments), or in the Family Support for Children with Disabilities Information System. Only youth who were registered with the Alberta Health Care Insurance Plan or the full fiscal year were included in the mental health analyses. **Mental health service use is a proxy for presence of a mental health condition:** Some youth with mental health conditions may not have accessed mental health services in Alberta during the year, and some mental health service use may have occurred for youth who did not in fact have mental health conditions.
    - **Mental health conditions** were grouped based on The Johns Hopkins ACG® Case-Mix System (version 8.2[9]. Mental health conditions were *mood/anxiety* (anxiety, depression, bipolar disorder, etc.), *behavioural* (attention-deficit disorder, regulatory disorder, mental or behavioural problems due to substance use, etc.), *neurodevelopmental* (autism, fetal alcohol spectrum disorder, cerebral palsy, etc.), or *schizophrenia/psychoses* (schizophrenia, psychosis, delusional disorder, etc.). Conditions were not mutually exclusive; a youth could have a diagnosis in more than one category.
- **Hospitalizations** refer to admissions to hospital for assessment or treatment. **Hospital service type** was defined by the main patient service code (the patient service that contributes to the longest portion of a patient's stay; see the Canadian Institute for Health Information's DAD Abstracting Manual[10] for codes). Categories of services were labeled *general medicine* (patient service codes 01 to 29, 55, 56, 58, 60 to 63, 66 to 76, 82, 91, 96, 99), *surgery/procedure* (patient service codes 30 to 49, 81, 87), *psychiatry* (patient service codes 64, 65), or *pregnancy-related* (patient service codes 51 to 54, 59).
- New and returning Alberta residents, if they are eligible, must register for **Alberta Health Care Insurance Plan** coverage to receive insured health services. Youth in the "**health registry**" refers to all youth who are insured in Alberta. This includes any eligible youth who is a permanent resident of Alberta, living at least 183 days per year in the province. Members of the Canadian Armed Forces, Royal Canadian Mounted Police and federal penitentiary inmates are not eligible (they receive coverage from the federal government), but dependents of these non-eligible residents, who reside in Alberta, are eligible.
- Participation in **education** refers to enrolment in the kindergarten to grade 12 education system in Alberta. No data were available for students who attended schools on First Nations reserves or in Lloydminster.
- Participation in **post-secondary** education refers to enrolment in a post-secondary institution in Alberta. Youth involved in apprenticeship programs were not included.
- **Maltreatment-related interventions** occur when the safety or well-being of a youth is threatened.
- Youth with **offence charges** include those charged with criminal offences or administrative offences related to criminal offences (e.g., failure to appear in court, breach of probation, etc.). **Number of offences** in the study year was available, but individual incidents were not available. This means that youth charged with multiple offences may have had multiple charges in a single incident, or they may have been charged in multiple incidents.

Definitions and Notes (continued)

- Youth with **corrections involvement** have appeared before the Court or a Justice of the Peace for an offence charge and have been remanded in custody or placed under pre-trial supervision in the community awaiting further court dates, or have been found guilty and sentenced to a community disposition (i.e. Fine, Probation, Community Service Work, Deferred Custody) and/or custody (in which the sentence is served in a young offender facility).
- **Family Support for Children with Disabilities (FSCD)** is a ministry of Human Services program that provides a range of supports and services to families that strengthen their ability to support and care for their child with a disability based on their needs.
- **Income support** refers to financial benefits provided to individuals and couples who cannot meet their basic needs.

Data sources

Ministry	Database	Use in this report
Enterprise and Advanced Education	Learner Enrolment Reporting System (LERS)	Post-secondary education enrolment data
Education	Corporate Data Warehouse (CDW)	Primary and secondary education achievement data
Health	Inpatient – Discharge Abstract Database (DAD)	Hospitalization data
Health	Ambulatory Care (ACCS)	Emergency room visit data
Health	Practitioner Payments (SESE)	Physician visit data
Health	Alberta Health Care Insurance Plan Population Registry (AHCIP registry)	Population registry
Human Services	Child Youth Information Module (CYIM)	Maltreatment and intervention data
Human Services	Family Support for Children with Disabilities Information System (FSCDIS)	Family Supports for Children with Disabilities data
Human Services	Central Client Directory (CCD)	Income support data
Justice and Solicitor General	Justice Online Information Network (JOIN)	Offence data
Justice and Solicitor General	Alberta Community Offender Management System (ACOM)	Corrections data (community)
Justice and Solicitor General	Correctional Offender Management Information System (CoMIS)	Corrections data (custody)

References

1. Sanchez, M., Vellanky, S., Herring, J., Liang, J., & Jia, H. (2008). Variations in Canadian rates of hospitalizations for ambulatory care sensitive conditions, *Healthcare Quarterly*, *11*, 20-11.
2. Canadian Institute for Health Information. (2010). *Hospitalization disparities by socio-economic status for males and females*. Retrieved from https://secure.cihi.ca/estore/productFamily.htm?pf=PFC1552&lang=en&media=0
3. Canadian Institute for Health Information. (2002). *Hospital morbidity database tabular reports*. Ottawa.
4. Canadian Institute for Health Information (2008). *National Trauma Registry: 2007 Injury Hospitalizations Report (In Focus: Pediatric Injury Hospitalizations in Canada, 2005-2006)*. CIHI: Ottawa.
5. Canadian Population Health Initiative & Health Canada.(2003). *Women's health surveillance report*. Ottawa: Canadian Institute for Health Information.
6. Statistics Canada. (2012). *Births 2009* (Cat. No. 84F0210X). Ottawa.
7. The Chief Public Health Officer. (2011). *Report on the state of public health in Canada youth and young adults – Life in Transition* (Cat. HP2-10/2011E-PDF). Canada.
8. Pampalon, R., Hamel, D., Garnache, P., & Raymond, G. (2009). A deprivation index for health planning in Canada. *Chronic Diseases in Canada, 29(4)*, 178-91.
9. The Johns Hopkins University. (2008). *The Johns Hopkins ACG® System Reference Manual, Version 8.2*. Johns Hopkins University: Baltimore.
10. Canadian Institute for Health Information. (2006). DAD Abstracting Manual All Provinces Information 2006-2007 Edition. CIHI: Ottawa.

The Child and Youth Data Laboratory

The **Child and Youth Data Laboratory** (CYDL) links and analyzes administrative data from child- and youth-serving ministries in the Government of Alberta. The ministries participate in research design and provide data elements that contribute to answering research questions.

The CYDL's research provides groundbreaking opportunities to understand relationships between critical factors in the lives of children and youth in Alberta. The research results can be used to inform policy and program development and evaluation, both within and across ministries, and to inspire further research.

The CYDL is managed by the **Alberta Centre for Child, Family and Community Research** (ACCFCR). The Centre has evolved over its eight year history as a public-sector, innovative resource for evidence. The Centre develops, supports and integrates research across sectors and disciplines to provide a strong, evidence-based foundation for identifying and promoting effective public policy and service delivery to improve the well-being of children, families, and communities in Alberta, Canada, and internationally.

Our partners

This project was carried out on behalf of six ministries of the Government of Alberta. Each ministry collaborated extensively with the CYDL on this project, and their dedication to the project is gratefully acknowledged:

Enterprise and Advanced Education
Education
Health
Human Services
Aboriginal Relations
Justice and Solicitor General

Suggested citation

Child and Youth Data Laboratory (2012). *Hospitalizations of Albertan youth.* Edmonton: Alberta Centre for Child, Family and Community Research.

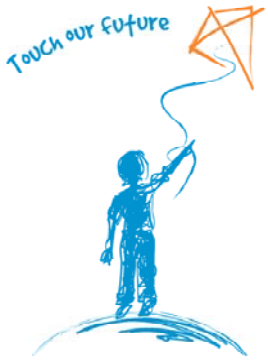
Contact CYDL

www.research4children.com
Click on "Data"

Xinjie Cui, Director
780 944 8631
xcui@research4children.com

Leslie Twilley, Senior Scientist
780 408 8734
ltwilley@research4children.com

Christine Werk, Research Scientist
780 408 8767
cwerk@research4children.com



ALBERTA CENTRE FOR
CHILD, FAMILY & COMMUNITY
RESEARCH

Government
of Alberta

Offence charges among Albertan youth

Child and Youth Data Laboratory (CYDL)

Report for *Experiences of Albertan Youth* Project

Key findings

This report is an overview of 6,311 Albertan youth (12 to 17 years) charged with offences in 2008/09. Youth with offence charges include those charged with criminal offences or administrative offences related to criminal offences (e.g., failure to appear in court, breach of probation, etc.). Number of offences in the study year was available, but individual incidents were not available. This means that youth charged with multiple offences may have had multiple charges in a single incident, or they may have been charged in multiple incidents.

The relationships between number of charges and age, gender, region of residence, socio-economic status, educational achievement and mental health status were considered. Youth charged with offences in the study year were compared to youth of the same ages not charged with offences in the study year. The cross-ministry service use of youth with offence charges was also studied.

- 2.1% of youth were charged with an offence in the study year. Of these, 44% had one charge in the year, 29% had two or three charges, and 27% had four or more charges.
- Offence charges were most common among youth aged 16 to 17.
- Males were more than twice as likely as females to be charged with offences, particularly multiple offences.
- Youth charged with offences were more likely than youth not charged with offences to live in lower socio-economic status neighbourhoods, to perform below educational expectations, to receive services for a mental health condition, or to visit an emergency room or be hospitalized.
- Youth with offence charges, particularly those with four or more charges, were more likely to receive maltreatment-related intervention services than youth without offence charges.

Contents

Key findings and Context ..... *1 to 2*
Data analyses ..... *3 to 6*
Tables ..... *7 to 11*
Definitions and Notes ..... *12 to 13*
Data sources *14*
References *14*
About CYDL *15*

Offence charges among Albertan youth

Context

Youth who are charged with offences constitute a small proportion of the total youth population. According to Statistics Canada, the number of charges per 100 youth in Canada in 2010 ranged from 2.2 (for 12 year olds) to 14.3 (for 17 year olds), with some youth committing multiple offences.[1] Property offences, such as theft or break and enter, are the most common offences for which youth are charged.[2]

Societal concern over young offenders is high. A solid knowledge of risk and protective factors for these youth is critical in reducing the number of young offenders and in reducing the number of young offenders who become repeat offenders in the youth or adult criminal justice systems.

Previous research has identified a number of risk factors for offending. Young offenders are more often male than female, and are more often older youth than younger youth.[2] Aggressive childhood behaviour, disruptive family life, family adversity, poor school performance, poor peer relations, substance use, and low socio-economic status are risk factors that increase the likelihood of youth committing an offence.[3,4] The more risk factors youth experience, the more likely they are to become repeat offenders.[3]

Protective factors, associated with reduced risk of being charged with an offence, include positive social attitudes, supportive relationships with adults, appropriate discipline and limit-setting from parents, positive social skills, and problem solving skills.[5]

The project

The current project, **Experiences of Albertan Youth**, is focused on basic understanding of the experiences of Albertan youth within and across ministries, as they relate to key indicators (age, gender, socio-economic status, educational achievement, and mental health status). It is the first project in a planned series that will link and analyze administrative data on children and youth in Alberta to inform policy, programs, and research.

List of reports for the project

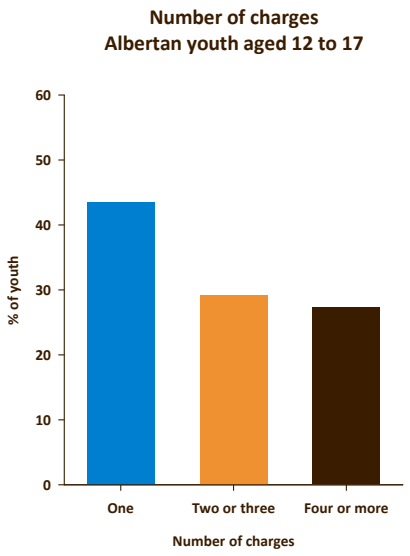
Socio-economic status of Albertan youth
Educational experiences of Albertan youth
Mental health status of Albertan youth
Family Support for Children with Disabilities services received by Albertan youth
Maltreatment-related investigations among Albertan youth
Maltreatment-related intervention services received by Albertan youth
Physician visits by Albertan youth
Emergency room visits by Albertan youth
Hospitalizations of Albertan youth
Offence charges among Albertan youth
Corrections involvement among Albertan youth
Post-secondary students in Alberta
Income support among Albertan youth
Educational experiences of Albertan youth with income support activity
Least advantaged and most advantaged Albertan youth

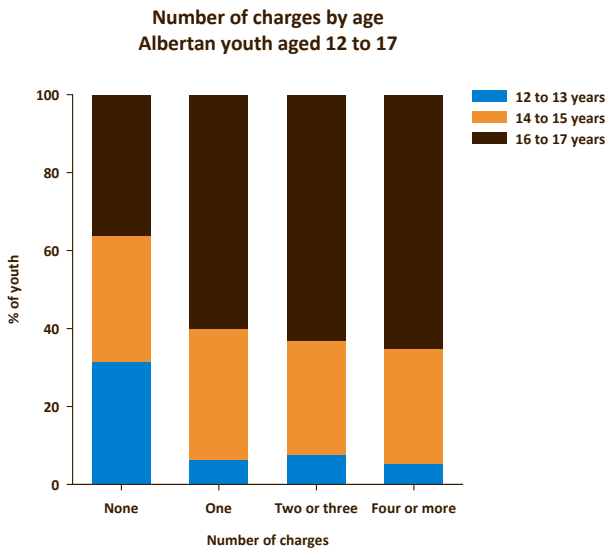
Offence charges among Albertan youth

Number of charges (Table 1)

This and the following analyses consider all Albertan youth (12 to 17 years) in 2008/09. See *Definitions and Notes* (p. 13).

- 6,311 youth (2.1%) were charged with an offence.
- 2,747 youth who were charged with an offence received one charge (44%), 1,843 received two or three charges (29%) and 1,721 received four or more charges (27%).
- 301,392 youth (97.9%) of the same age group had no charges (graph not shown).



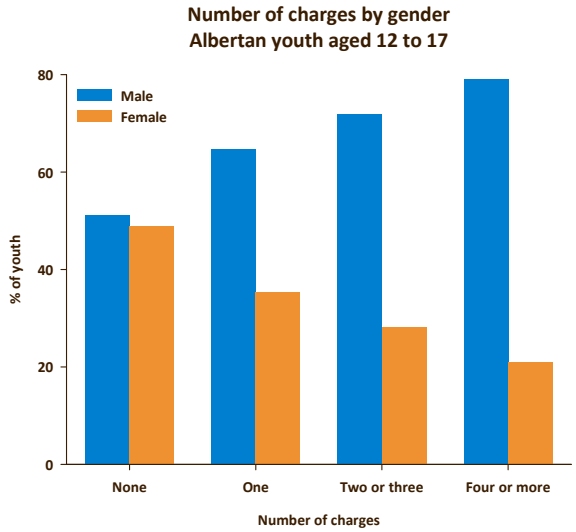


Number of charges by age (Tables 2 and 3)

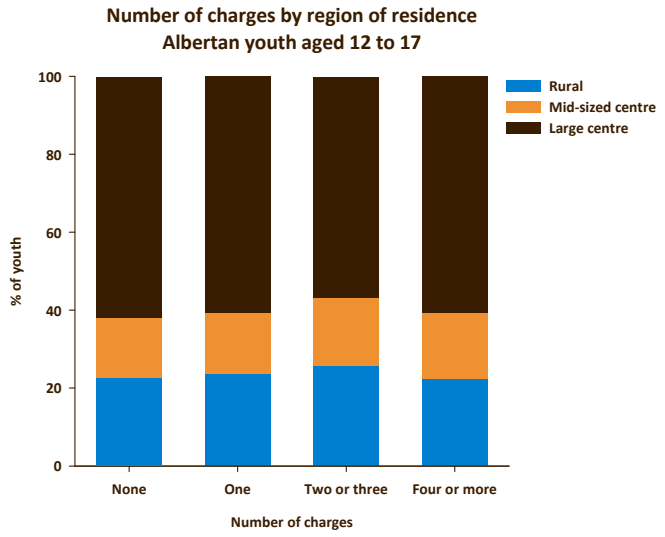
- Older youth were more likely to be charged with an offence than younger youth.
- 0.4% of youth aged 12 to 13 were charged with an offence compared to 2.0% of youth aged 14 to 15 and 3.5% of youth aged 16 to 17 (graph not shown).
- Among youth with one or more charges, the most common age group was 16 to 17 years old, with the percentage of youth in this group increasing slightly with increasing number of charges.

Number of charges by gender (Tables 4 and 5)

- Males were more likely than females to be charged with an offence.
- 3% of males and 1% of females were charged with at least one offence (graph not shown).
- Males were more likely to have multiple charges than females. 79% of youth with four or more charges were male.



Offence charges among Albertan youth



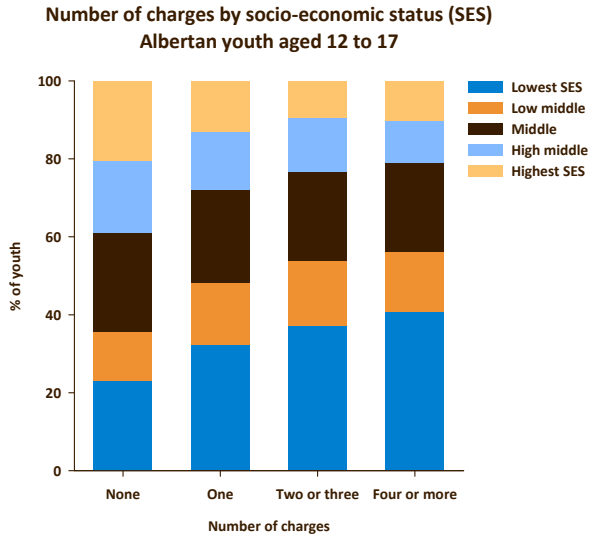
Number of charges by region of residence (Table 6)

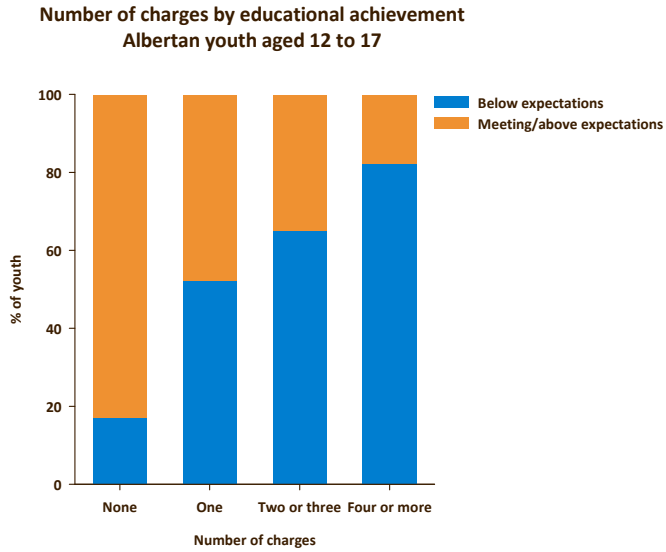
- The percentage of youth charged with multiple offences differed slightly by region of residence.
- Youth with two or three charges were slightly more likely to live in rural regions than youth with more or less charges.

Number of charges by socio-economic status (Table 7)

Socio-economic status captures the social and material environments in which youth live. See *Definitions and Notes* (p. 12).

- 23% of youth with no charges lived in the lowest socio-economic status areas compared to 32% of youth with one charge, 37% with two or three charges, and 41% with four or more charges.
- Youth who were charged with an offence were less likely to live in the highest socio-economic status neighbourhoods than youth who were not charged.





Number of charges by educational achievement (Table 8)

This analysis considers youth (aged 12 to 20 years) who were enrolled in the K-12 education system in Alberta in 2008/09. See *Definitions and Notes* (p. 12).

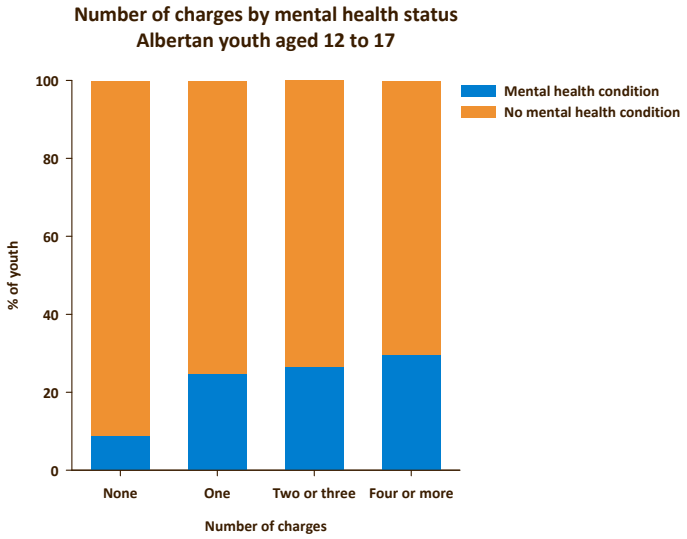
- A higher number of charges was associated with poorer school performance.
- 83% of youth with no charges were meeting or above educational expectations, compared to 48% of youth with one charge, 35% with two or three charges, and 18% of youth with four or more charges.

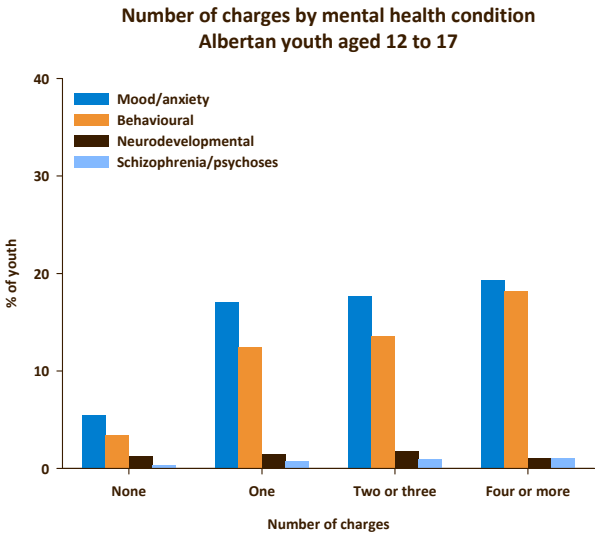
Offence charges among Albertan youth

Number of charges by mental health status
(Table 9)

Mental health status refers to presence or absence of a mental health condition. Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition. See *Definitions and Notes* (p. 13).

- Youth with one or more charges were more likely to have a mental health condition than youth with no charges. This may be partially due to increased access to mental health services for youth charged with an offence.



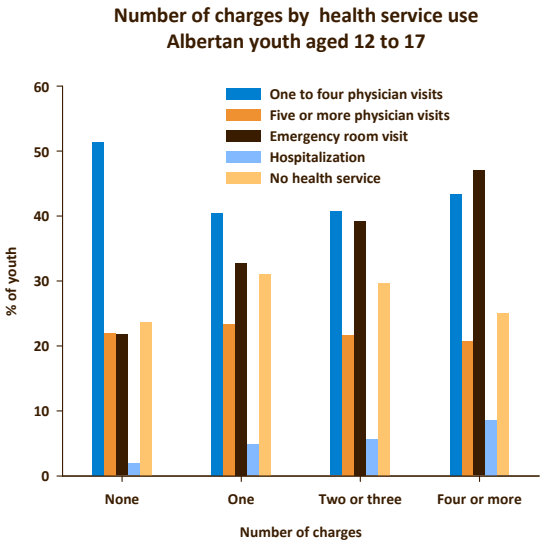


Number of charges by mental health conditions (Table 9)

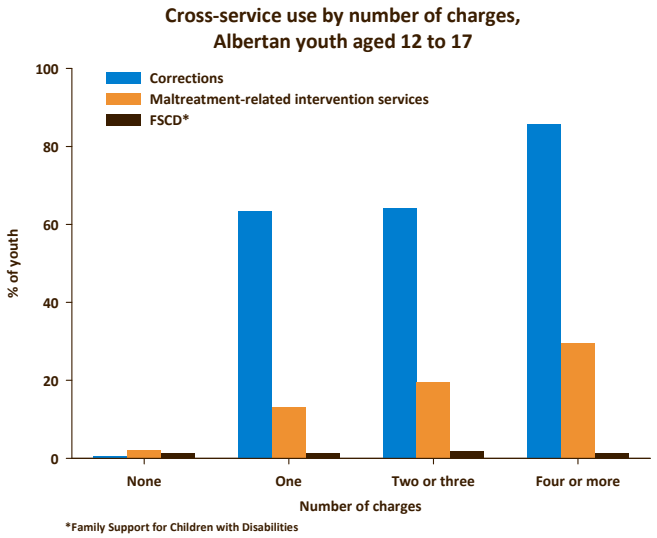
- *Mood/anxiety* conditions were the most common mental health condition in all groups and were markedly more common among charged youth.
- Youth with four or more charges were more likely to have *behavioural* conditions (18%) than youth with two or three charges (14%), youth with one charge (13%) and youth with no charges (3%).
- Rates of *schizophrenia/psychoses* also increased with number of charges.
- Rates of neurodevelopmental conditions varied little across number of charges.

Number of charges by health service use
(Table 10)

- The rate of high numbers of physician visits (five or more) varied little with number of charges.
- Emergency room use did vary across number of charges. 47% of youth with four or more charges visited an emergency room, compared to 39% of youth with two or three charges, 33% of youth with one charge, and 22% of youth with no charges.
- Youth with more charges were also more likely to be hospitalized than youth with fewer or no charges.



Number of charges by cross-service involvement (Table 11)



Youth were considered in this analysis if they were registered with the Alberta Health Care Insurance Plan (AHCIP; see *Definitions and Notes*, p. 13). The effects should be interpreted with caution; they cannot be generalized to youth not registered with AHCIP. 17% of youth with offence charges were not registered with AHCIP.

- Receipt of services from Family Support for Children with Disabilities varied little by number of charges.
- 2% of youth with no charges received maltreatment-related intervention services, compared to 13% with one charge, 19% with two or three charges, and 29% of youth with four or more charges.
- Corrections involvement increased with number of charges. 78% of youth with four or more charges had some involvement with corrections.

Tables

Table 1. Number and percent of youth by number of charges, Albertan youth aged 12 to 17 years, 2008/09

	Number of charges	
Number of youth	No charges	301,392
	One charge	2,747
	Two or three charges	1,843
	Four or more charges	1,721
	One or more charges	6,311
	Total	307,703
Percent of Albertan youth	No charges	97.9
	One charge	0.9
	Two or three charges	0.6
	Four or more charges	0.6
	One or more charges	2.1
	Total	100.0
Percent of youth with one or more charges	One charge	43.5
	Two to three charges	29.2
	Four or more charges	27.3

Table 2. Number and percent of youth by number of charges and age, Albertan youth aged 12 to 17 years, 2008/09

	Age group (years)	Number of charges				
		None	One	Two or three	Four or more	Total charged with an offence
Number of youth	12 to 13	95,040	170	141	92	403
	14 to 15	97,417	929	538	507	1,974
	16 to 17	108,935	1,648	1,164	1,122	3,934
	Total	301,392	2,747	1,843	1,721	6,311
Percent of youth	12 to 13	31.5	6.2	7.7	5.3	6.4
	14 to 15	32.3	33.8	29.2	29.5	31.3
	16 to 17	36.1	60.0	63.2	65.2	62.3
	Total	100.0	100.0	100.0	100.0	100.0

Tables (continued)

Table 3. Number and percent of youth by age and charge status, Albertan youth aged 12 to 17 years, 2008/09

	Charge status	Age group (years)			
		12 to 13	14 to 15	16 to 17	Total
Number of youth	One or more charges	403	1,974	3,934	6,311
	No charge	95,040	97,417	108,935	301,392
	Total	95,443	99,391	112,869	307,703
Percent of youth	One or more charges	0.4	2.0	3.5	2.1
	No charge	99.6	98.0	96.5	97.9
	Total	100.0	100.0	100.0	100.0

Table 4. Number and percent of youth by number of charges and gender, Albertan youth aged 12 to 17 years, 2008/09

	Gender	Number of charges				
		None	One	Two or three	Four or more	Total charged with an offence
Number of youth	Female	147,360	972	520	362	1,334
	Male	154,031	1,775	1,323	1,359	3,134
	Total	301,391	2,747	1,843	1,721	4,468
Percent of youth	Female	48.9	35.4	28.2	21.0	29.9
	Male	51.1	64.6	71.8	79.0	70.1
	Total	100.0	100.0	100.0	100.0	100.0

Table 5. Number and percent of youth by gender and charge status, Albertan youth aged 12 to 17 years, 2008/09

	Charge status	Gender		
		Female	Male	Total
Number of youth	One or more charges	1,854	4,457	6,311
	No charge	147,360	154,031	301,391
	Total	149,214	158,488	307,702
Percent of youth	One or more charges	1.2	2.8	2.1
	No charge	98.8	97.2	97.9
	Total	100.0	100.0	100.0

Tables (continued)

Table 6. Number and percent of youth by number of charges and region of residence, Albertan youth aged 12 to 17 years, 2008/09

	Region of residence	Number of charges				
		None	One	Two or three	Four or more	Total charged with an offence
Number of youth	Rural	68,398	582	432	370	1,384
	Mid-sized centre	46,002	379	297	274	950
	Large centre	186,367	1,487	959	997	3,443
	Total	300,767	2,448	1,688	1,641	5,777
Percent of youth	Rural	22.7	23.8	25.6	22.5	24.0
	Mid-sized centre	15.3	15.5	17.6	16.7	16.4
	Large centre	62.0	60.7	56.8	60.8	59.6
	Total	100.0	100.0	100.0	100.0	100.0

Table 7. Number and percent of youth by number of charges and socio-economic status (SES), Albertan youth aged 12 to 17 years, 2008/09

	Socio-economic status	Number of charges				
		None	One	Two or three	Four or more	Total charged with an offence
Number of youth	Lowest SES	68,009	782	612	661	2,055
	Low middle	37,682	386	279	250	915
	Middle	75,109	573	378	366	1,317
	High middle	54,220	361	229	176	766
	Highest SES	60,599	316	156	165	637
	Total	295,619	2,418	1,654	1,618	5,690
Percent of youth	Lowest SES	23.0	32.3	37.0	40.9	36.1
	Low middle	12.7	16.0	16.9	15.5	16.1
	Middle	25.4	23.7	22.9	22.6	23.1
	High middle	18.3	14.9	13.8	10.9	13.5
	Highest SES	20.5	13.1	9.4	10.2	11.2
	Total	100.0	100.0	100.0	100.0	100.0

Tables (continued)

Table 8. Number and percent of youth by number of charges and educational achievement, Albertan youth aged 12 to 17 years, 2008/09

	Educational achievement	Number of charges				
		None	One	Two or three	Four or more	Total charged with an offence
Number of youth	Below expectations	39,829	1,076	841	966	2,883
	Meeting/above expectations	192,517	986	452	209	1,647
	Total	232,346	2,062	1,293	1,175	4,530
Percent of youth	Below expectations	17.1	52.2	65.0	82.2	63.6
	Meeting/above expectations	82.9	47.8	35.0	17.8	36.4
	Total	100.0	100.0	100.0	100.0	100.0

Table 9. Number and percent of youth by number of charges and mental health condition, Albertan youth aged 12 to 17 years, 2008/09

	Mental health condition*	Number of charges				
		None	One	Two or three	Four or more	Total charged with an offence
Number of youth	Mood/anxiety	14,853	371	266	287	924
	Behavioural	9,222	271	203	271	745
	Neurodevelopmental	3,239	31	26	15	72
	Schizophrenia/psychoses	859	15	14	16	45
	Any condition	24,063	539	398	442	1,379
	No condtition	247,617	1,637	1,105	1,049	3,791
	Total	271,680	2,176	1,503	1,491	5,170
Percent of youth	Mood/anxiety	5.5	17.0	17.7	19.2	17.9
	Behavioural	3.4	12.5	13.5	18.2	14.4
	Neurodevelopmental	1.2	1.4	1.7	1.0	1.4
	Schizophrenia/psychoses	0.3	0.7	0.9	1.1	0.9
	Any condition	8.9	24.8	26.5	29.6	26.7
	No condtition	91.1	75.2	73.5	70.4	73.3
	Total	100.0	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Tables (continued)

Table 10. Number and percent of youth by number of charges and health service use, Albertan youth aged 12 to 17 years, 2008/09

	Health service use*	Number of charges				
		None	One	Two or three	Four or more	Total charged with an offence
Number of youth	One to four physician visits	154,857	1,113	750	746	2,609
	Five or more physician visits	66,462	642	400	357	1,399
	Emergency room visit	65,559	901	722	809	2,432
	Hospitalization	5,793	133	103	147	383
	Any health service	229,795	1,894	1,297	1,291	4,482
	No health service	71,597	853	546	430	1,829
	Total	301,392	2,747	1,843	1,721	6,311
Percent of youth	One to four physician visits	51.4	40.5	40.7	43.3	41.3
	Five or more physician visits	22.1	23.4	21.7	20.7	22.2
	Emergency room visit	21.8	32.8	39.2	47.0	38.5
	Hospitalization	1.9	4.8	5.6	8.5	6.1
	Any health service	76.2	68.9	70.4	75.0	71.0
	No health service	23.8	31.1	29.6	25.0	29.0
	Total	100.0	100.0	100.0	100.0	100.0

*Health service use categories are not mutually exclusive

Table 11. Number and percent of youth by number of charges and cross-service involvement, Alberta youth aged 12 to 17 years, 2008/09*

	Cross-service involvement	Number of charges				
		None	One	Two or three	Four or more	Total charged with an offence
Number of youth	Corrections involvement	1,171	1,212	884	1,174	3,270
	Maltreatment-related intervention	4,955	280	286	431	997
	FSCD**	3,159	29	25	21	75
	Health registry	279,865	2,212	1,540	1,514	5,266
Percent of youth	Corrections involvement	0.4	54.8	57.4	77.5	62.1
	Maltreatment-related intervention	1.8	12.7	18.6	28.5	18.9
	FSCD**	1.1	1.3	1.6	1.4	1.4
	Health registry	100.0	100.0	100.0	100.0	100.0

*Only youth registered in the Alberta Health Care Insurance Plan were included in this analysis

**Family Support for Children with Disabilities

Definitions and Notes

- The study population for this project consisted of all Albertan youth who were registered with the Alberta Health Care Insurance Plan in 2008/09 or who received selected services from one or more of the participating ministries in 2008/09. "All Albertan youth" refers to this study population.
- The study year was fiscal year 2008/09. With the exception of Education and Enterprise and Advanced Education data, all data were for services provided between April 1, 2008 and March 31, 2009, with age determined on March 31, 2009.
    - Data for Enterprise and Advanced Education were for services provided between September 1, 2008 and June 30, 2009, with age determined on March 31, 2009.
    - Data for Education were for services provided to youth who were 12 to 19 years old on September 30, 2008. As a result, youth turning 12 between October 1, 2008 and March 31, 2009 *were not* included in the Education data but were included in other ministries' data. This resulted in the number of 12 year olds in the Education data being lower (approximately 50% lower) than that of 13 to 17 year olds.
    - Furthermore, although Education only provides services to youth who are under 20, the provision of services is defined by age at September 30. Youth who turned 20 between October 1, 2008 and March 31, 2009 *were* included in the Education data, resulting in the inclusion of 20 year olds in some analyses of Education data.
- **Cross-ministry analyses included only youth that were linked across the relevant ministries**. This means that not all youth in the project were represented in every analysis. As well, only youth with a value for a given indicator were included in analyses involving that indicator (i.e., **missing values** were excluded).
- Age, gender, and postal code (translated into Statistics Canada dissemination areas) were provided for each individual by each participating ministry. In the case of discrepancies between ministries, the most common value for an indicator was chosen. In the event of two or more most common values, the value for the indicator was chosen randomly from the most common values.
- Dissemination areas of residence were used by CYDL to determine **region of residence**. Urban areas included large centres with urban core populations greater than 100,000 (i.e., Edmonton and Calgary metropolitan areas) and mid-sized centres with urban cores greater than 10,000; all other areas were categorized as rural.
- **Socio-economic status (SES)** captures the social and material environments in which youth live. A youth was assigned a socio-economic status via an index based on the Statistics Canada dissemination area in which he or she resided[6]. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single families, percent of persons living alone, and percent of persons separated, divorced, or widowed. Socio-economic status values fell into five quintiles.
- **Educational achievement** was computed by Alberta Education using age, grade, school type, special education codes, provincial achievement test scores, home education status, number of high school credits earned, number of higher level courses taken, average grade in higher level courses, possession of an Alberta Education certificate or diploma, and Alexander Rutherford scholarship eligibility. Educational achievement was categorized as *above, meeting,* or *below expectations* for a student's age and grade. An educational achievement rating was not available for 12 to 14 year old youth without scores on provincial achievement tests, for youth in 'other' schools (accredited post-secondary institutions offering high school courses for credit to adults; most youth in these schools were between 18 and 20 years), and for home-schooled high school youth with no credits.

Definitions and Notes (continued)

- **Mental health status** was defined by the presence or absence of mental health diagnosis codes in Health's databases (Inpatient—Discharge Abstract Database, Ambulatory Care, and Practitioner Payments), or in the Family Support for Children with Disabilities Information System. Only youth who were registered with the Alberta Health Care Insurance Plan or the full fiscal year were included in the mental health analyses. **Mental health service use is a proxy for presence of a mental health condition:** Some youth with mental health conditions may not have accessed mental health services in Alberta during the year, and some mental health service use may have occurred for youth who did not in fact have mental health conditions.
    - **Mental health conditions** were grouped based on The Johns Hopkins ACG® Case-Mix System (version 8.2)[7]. Mental health conditions were *mood/anxiety* (anxiety, depression, bipolar disorder, etc.), *behavioural* (attention-deficit disorder, regulatory disorder, mental or behavioural problems due to substance use, etc.), *neurodevelopmental* (autism, fetal alcohol spectrum disorder, cerebral palsy, etc.), or *schizophrenia/psychoses* (schizophrenia, psychosis, delusional disorder, etc.). Conditions were not mutually exclusive; a youth could have a diagnosis in more than one category.
- Youth with **offence charges** include those charged with criminal offences or administrative offences related to criminal offences (e.g., failure to appear in court, breach of probation, etc.). **Number of offences** in the study year was available, but individual incidents were not available. This means that youth charged with multiple offences may have had multiple charges in a single incident, or they may have been charged in multiple incidents.
- **Physician visits** reflect fee claims made by physicians when patients visit their offices. In this report, multiple claims by a given physician for a given patient on the same day were counted as a single visit.
- **Emergency room visits** refer to visits to emergency departments for assessment or treatment.
- **Hospitalizations** refer to admissions to hospital for assessment or treatment.
- New and returning Alberta residents, if they are eligible, must register for **Alberta Health Care Insurance Plan** coverage to receive insured health services. Youth in the "**health registry**" refers to all youth who are insured in Alberta. This includes any eligible youth who is a permanent resident of Alberta, living at least 183 days per year in the province. Members of the Canadian Armed Forces, Royal Canadian Mounted Police and federal penitentiary inmates are not eligible (they receive coverage from the federal government), but dependents of these non-eligible residents, who reside in Alberta, are eligible.
- **Family Support for Children with Disabilities (FSCD)** is a ministry of Human Services program that provides a range of supports and services to families that strengthen their ability to support and care for their child with a disability based on their needs.
- **Maltreatment-related interventions** occur when the safety or well-being of a youth is threatened.
- Youth with **corrections involvement** have appeared before the Court or a Justice of the Peace for an offence charge and have been remanded in custody or placed under pre-trial supervision in the community awaiting further court dates, or have been found guilty and sentenced to a community disposition (i.e. Fine, Probation, Community Service Work, Deferred Custody) and/or custody (in which the sentence is served in a young offender facility).

Data sources

Ministry	Database	Use in this report
Education	Corporate Data Warehouse (CDW)	Primary and secondary education achievement data
Health	Inpatient – Discharge Abstract Database (DAD)	Hospitalization data
Health	Ambulatory Care (ACCS)	Emergency room visit data
Health	Practitioner Payments (SESE)	Physician visit data
Health	Alberta Health Care Insurance Plan Population Registry (AHCIP registry)	Population registry
Human Services	Child Youth Information Module (CYIM)	Maltreatment and intervention data
Human Services	Family Support for Children with Disabilities Information System (FSCDIS)	Family Supports for Children with Disabilities data
Justice and Solicitor General	Justice Online Information Network (JOIN)	Offence data
Justice and Solicitor General	Alberta Community Offender Management System (ACOM)	Corrections data (community)
Justice and Solicitor General	Correctional Offender Management Information System (CoMIS)	Corrections data (custody)

References

1. Brennan, S., and Dauvergne, M. (2011). Police-reported crime statistics in Canada, 2010. (Statistics Canada Cat. No. 85-002X). *Juristat.*
2. Canadian Centre for Justice Statistics (1998). *A profile of youth justice in Canada* (Statistics Canada Cat. No. 85-544-XIE). Minister of Industry: Ottawa.
3. Yessine, C. (2011). *Risk factors for delinquency among Canadian youth: Current knowledge and future directions* (Public Safety Canada Research Report). Retrieved from http://www.publicsafety.gc.ca/res/cp/res/rfdcy-eng.aspx
4. Shader, M. (2003). *Risk factors for delinquency: An overview.* Washington: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.
5. Dell, C.A. (2009). Issues paper and guiding questions, National Invitational Symposium on Youth, Illicit Substance Abuse and the Justice System. Retrieved from http://www.addictionresearchchair.ca/wp-content/uploads/Issues-Paper-and-Guiding-Questions.pdf
6. Pampalon, R., Hamel, D., Garnache, P., Raymond, G. (2009). A deprivation index for health planning in Canada. *Chronic Diseases in Canada, 29(4)*, 178-91.
7. The Johns Hopkins University (2008). *The Johns Hopkins ACG® System Reference Manual, Version 8.2* . Johns Hopkins University: Baltimore.

The Child and Youth Data Laboratory

The **Child and Youth Data Laboratory** (CYDL) links and analyzes administrative data from child- and youth-serving ministries in the Government of Alberta. The ministries participate in research design and provide data elements that contribute to answering research questions.

The CYDL's research provides groundbreaking opportunities to understand relationships between critical factors in the lives of children and youth in Alberta. The research results can be used to inform policy and program development and evaluation, both within and across ministries, and to inspire further research.

The CYDL is managed by the **Alberta Centre for Child, Family and Community Research** (ACCFCR). The Centre has evolved over its eight year history as a public-sector, innovative resource for evidence. The Centre develops, supports and integrates research across sectors and disciplines to provide a strong, evidence-based foundation for identifying and promoting effective public policy and service delivery to improve the well-being of children, families, and communities in Alberta, Canada, and internationally.

Our partners

This project was carried out on behalf of six ministries of the Government of Alberta. Each ministry collaborated extensively with the CYDL on this project, and their dedication to the project is gratefully acknowledged:

Enterprise and Advanced Education
Education
Health
Human Services
Aboriginal Relations
Justice and Solicitor General

Suggested citation

Child and Youth Data Laboratory (2012). *Offence charges among Albertan youth.* Edmonton: Alberta Centre for Child, Family and Community Research.

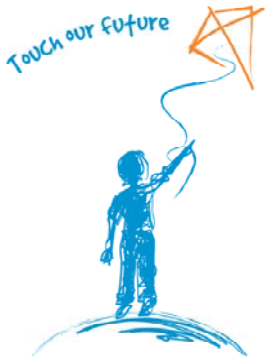
Contact CYDL

www.research4children.com
Click on "Data"

Xinjie Cui, Director
780 944 8631
xcui@research4children.com

Leslie Twilley, Senior Scientist
780 408 8734
ltwilley@research4children.com

Christine Werk, Research Scientist
780 408 8767
cwerk@research4children.com



ALBERTA CENTRE FOR
CHILD, FAMILY & COMMUNITY
RESEARCH

Government
of Alberta

Corrections involvement among Albertan youth

Child and Youth Data Laboratory (CYDL)

Report for *Experiences of Albertan Youth* Project

Key findings

This report is an overview of 5,178 Albertan youth (2% of youth aged 12 to 17 years) who were involved in corrections in 2008/09. Youth with corrections involvement have appeared before the Court or a Justice of the Peace for an offence charge and have been remanded in custody or placed under pre-trial supervision in the community awaiting further court dates, or have been found guilty and sentenced to a community disposition (in which the sentence is served in the community) or custody (in which the sentence is served in a young offender facility).

Type of corrections involvement and Aboriginal status of youth involved in corrections were considered, along with age, gender, region of residence, socio-economic status, educational achievement, and health service use. Youth involved in corrections were compared to youth not involved in corrections. The cross-ministry service use of youth involved in corrections was also studied.

- 1.7% of Albertan youth were involved in corrections in 2008/09; 18% of these were in custody at some point in the year.
- Youth involved in corrections were primarily older teenagers who were male. One in four youth involved in corrections was Aboriginal.
- Compared to youth not involved in corrections, youth involved in corrections were more likely to live in the lowest socio-economic status neighbourhoods, to perform below educational expectations, to receive services for a mental health condition, to visit an emergency room, to be hospitalized, or to receive maltreatment-related intervention services. All of these effects were larger for youth in custody than for youth with community sentences or pre-trial supervision.
- Aboriginal youth involved in corrections were more likely than non-Aboriginal youth involved in corrections to live in rural regions or the lowest socio-economic status neighbourhoods, to visit emergency rooms, to be hospitalized, or to receive maltreatment-related intervention services. They were less likely to meet or exceed educational expectations.

Contents

Key findings and Context.....1 to 2
Data analyses.....3 to 10
Tables.....11 to 19
Definitions and Notes.....20 to 21
Data sources.....22
References.....22
About CYDL.....23

Corrections involvement among Albertan youth

Context

A small minority of youth in Alberta becomes involved in corrections. Understanding the factors associated with corrections involvement, or the lack thereof, can inform policies and programs whose aim is to reduce the risk that youth will find themselves in the corrections system.

Known risk factors for youth involvement in the corrections system by Canadian youth are male gender, older age (corrections involvement is more common for older youth than younger), low socio-economic status, poor school engagement, and presence of a mental health condition, notably depression, anxiety or substance abuse disorder.[1,2]

Aboriginal ethnicity is also associated with risk for corrections involvement. Aboriginal youth made up 6% of the population of 12 to 17 year olds in Alberta in 2006.[4] However, as shown in this report and others, the proportion of Aboriginal youth in corrections is much greater than 6%.[4] This over-representation may be at least partially due to risks associated with lower socio-economic status (there are lower levels of parental education, higher unemployment rates, and a greater proportion of lone parent families among the Aboriginal population than the non-Aboriginal population).[3,4]

Protective factors, associated with youth who are not involved in corrections, include high socio-economic status, remaining in school, absence of substance use issues, and achieving good academic standing.[1,2]

The project

The current project, **Experiences of Albertan Youth**, is focused on basic understanding of the experiences of Albertan youth within and across ministries, as they relate to key indicators (age, gender, socio-economic status, educational achievement, and mental health status). It is the first project in a planned series that will link and analyze administrative data on children and youth in Alberta to inform policy, programs, and research.

List of reports for the project

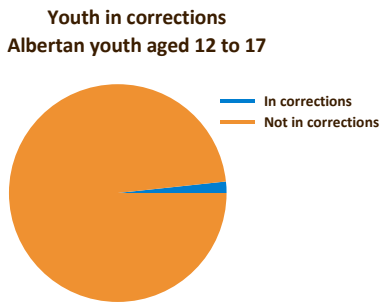
Socio-economic status of Albertan youth
Educational experiences of Albertan youth
Mental health status of Albertan youth
Family Support for Children with Disabilities services received by Albertan youth
Maltreatment-related investigations among Albertan youth
Maltreatment-related intervention services received by Albertan youth
Physician visits by Albertan youth
Emergency room visits by Albertan youth
Hospitalizations of Albertan youth
Offence charges among Albertan youth
Corrections involvement among Albertan youth
Post-secondary students in Alberta
Income support among Albertan youth
Educational experiences of Albertan youth with income support activity
Least advantaged and most advantaged Albertan youth

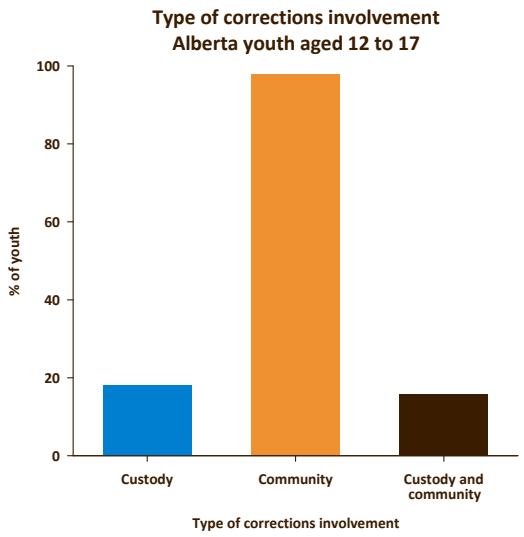
Corrections involvement among Albertan youth

Type of corrections involvement (Table 1)

This and the following analyses consider youth (aged 12 to 17 years) living in Alberta in 2008/09. See *Definitions and Notes* (p. 20).

- 5,178 (1.7%) of Albertan youth were involved with corrections in 2008/09.





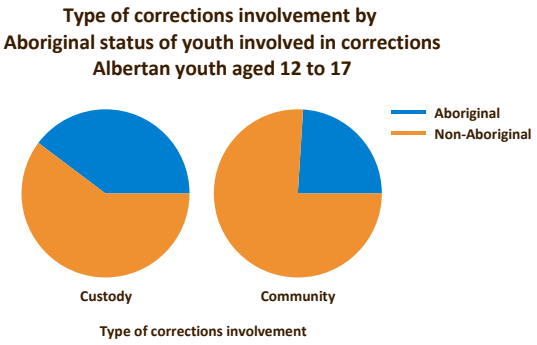
Type of corrections involvement (Table 1)

- 5,060 (98%) youth involved in corrections received a community sentence or pre-trial supervision and 941 (18%) youth involved in corrections were in custody for part of 2008/09.
- Most youth who were in custody also had a community sentence or pre-trial supervision in 2008/09 (823 youth). All custodial sentences are comprised of two parts: a custodial portion and a community portion. Therefore most of the youth in custody should be in 'custody and community' as well.

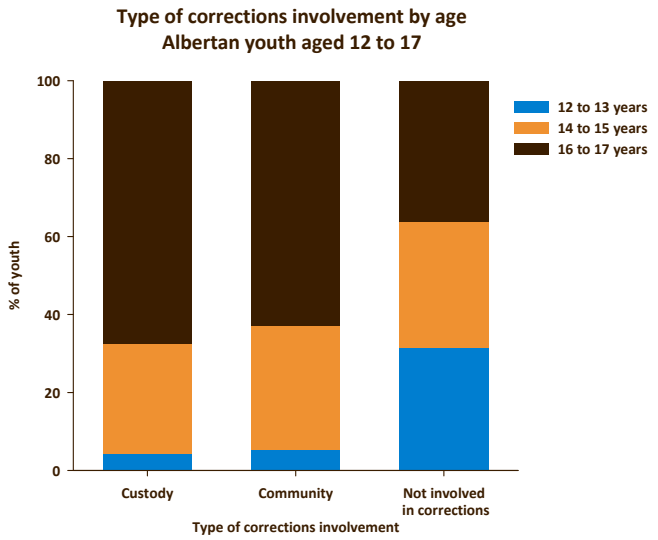
Type of corrections involvement by Aboriginal status (Table 2)

The Aboriginal status of youth not involved in corrections was unavailable for this project.

- Among all youth in corrections in 2008/09, 24% were Aboriginal (not shown in graph).
- 40% of youth in custody were Aboriginal while 24% of youth who received a community sentence or pre-trial supervision were Aboriginal.



Corrections involvement among Albertan youth

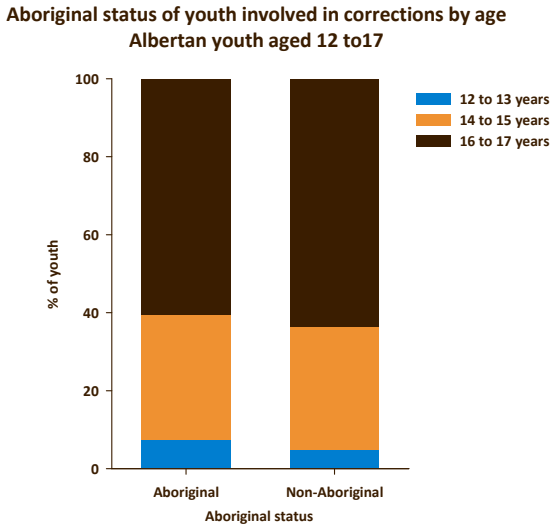


Type of corrections involvement by age (Table 3)

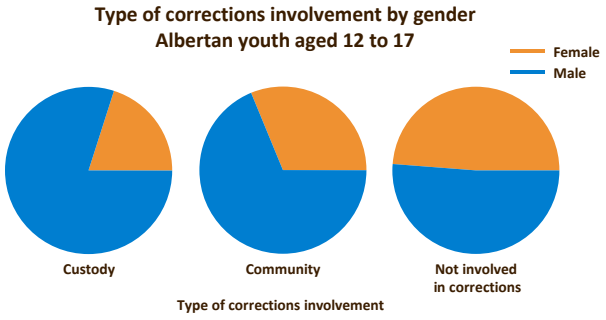
- 68% of youth in custody were 16 to 17 years old, compared to 63% of youth with a community sentence or pre-trial supervision who were in this age group.
- For youth not involved in corrections, the proportions of youth in each age group (12 to 13, 14 to 15, and 16 to 17) were similar.

Aboriginal status by age (Table 4)

- Aboriginal youth involved in corrections were slightly younger than non-Aboriginal youth involved in corrections.
- The majority of youth involved in corrections were 16 to 17 years old (60% of Aboriginal and 64% of non-Aboriginal youth).



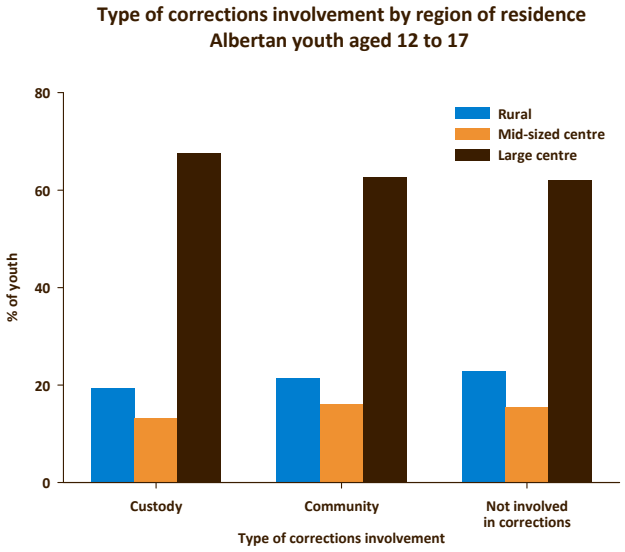
Type of corrections involvement by gender (Table 5)



- Youth involved in corrections were predominantly male (69% of youth).
- 80% of youth in custody and 69% of youth with a community sentence or pre-trial supervision were male.

Aboriginal status by gender (Table 6)

- 66% of Aboriginal youth involved in corrections were male while 70% of non-Aboriginal youth involved in corrections were male.

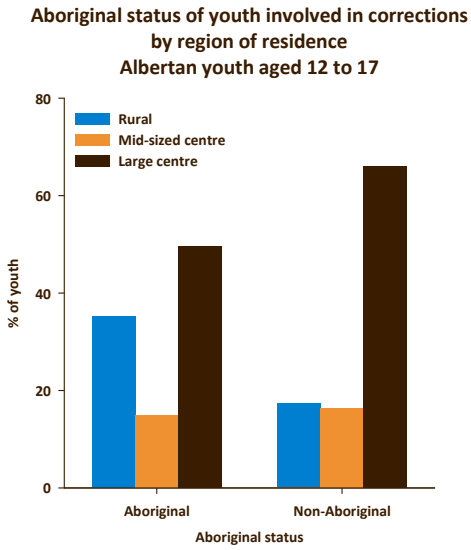


Type of corrections involvement by region of residence (Table 7)

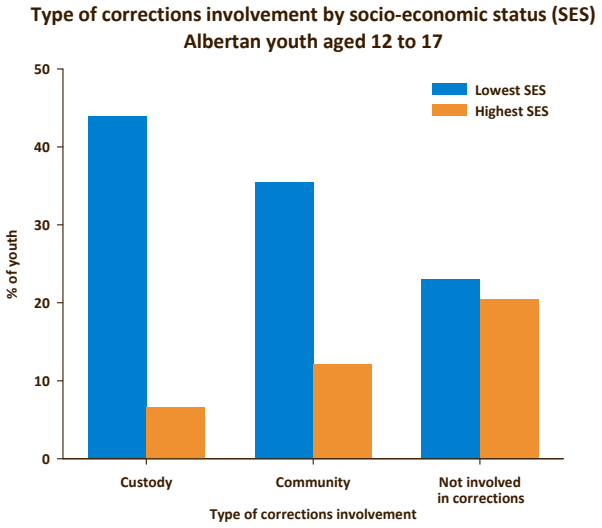
- Among youth in custody, 68% lived in large centres (Edmonton or Calgary) compared to 63% of youth with a community sentence or pre-trial supervision and 62% of youth not involved in corrections.
- About 20% of youth in all groups lived in rural areas.

Aboriginal status by region of residence (Table 8)

- 50% of Aboriginal youth involved in corrections lived in large centres (Edmonton or Calgary) whereas 66% of non-Aboriginal youth involved in corrections lived in large centres.
- Twice as many Aboriginal youth (35%) than non-Aboriginal youth (17%) involved in corrections lived in rural regions.



Corrections involvement among Albertan youth



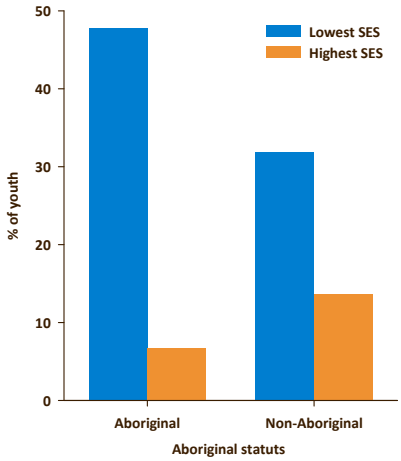
Type of corrections involvement by socio-economic status (Table 9)

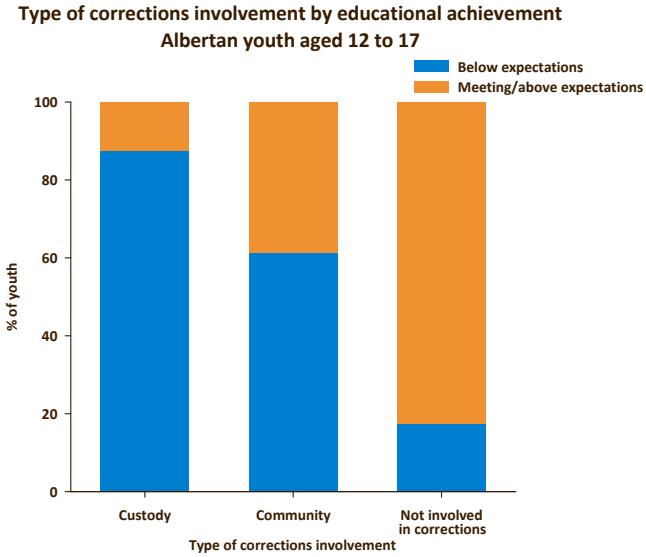
Socio-economic status captures the social and material environments in which youth live. Only the highest and lowest socio-economic status groups are shown in this and the following analysis. See *Definitions and Notes* (p. 20).

- Almost half of youth in custody lived in the lowest socio-economic status neighbourhoods (44%) compared to 36% of youth with a community sentence or pre-trial supervision and 23% of youth not involved in corrections.

Aboriginal status by socio-economic status (Table 10)

- 48% of Aboriginal youth involved in corrections lived in the lowest socio-economics status neighbourhoods, compared to 32% of non-Aboriginal youth involved in corrections.
- 7% of Aboriginal youth involved in corrections lived in the highest socio-economic status neighbourhoods, compared to 14% of non-Aboriginal youth involved in corrections.





Type of corrections involvement by educational achievement (Table 11)

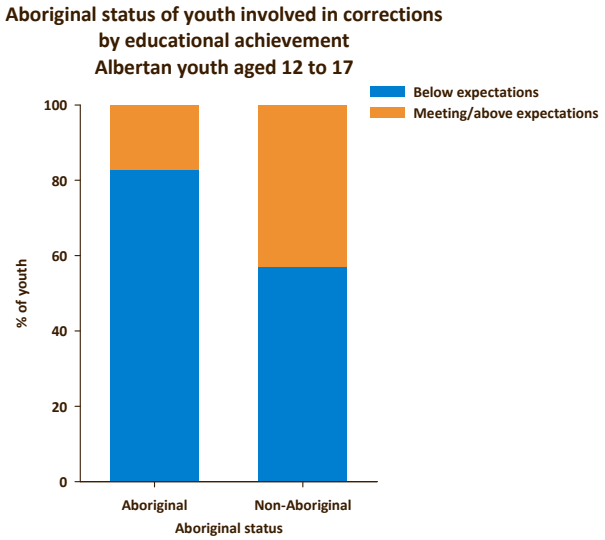
This and the following analysis are limited to youth who were enrolled in the K-12 education system in Alberta in 2008/09. See *Definitions and Notes* (p. 20).

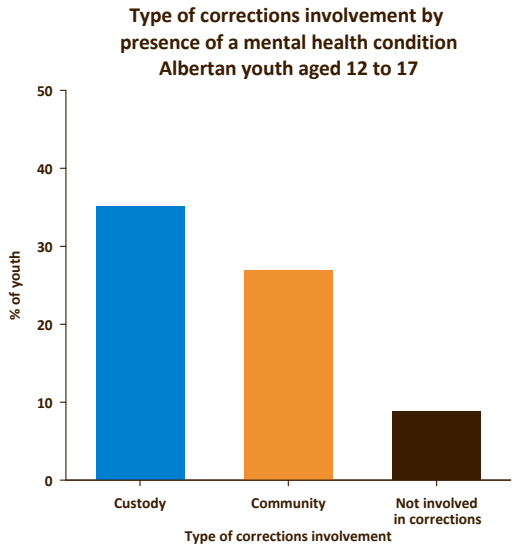
- 39% of youth with a community sentence or pre-trial supervision were meeting or achieving above educational expectations, compared to 13% of youth in custody and 83% of youth not involved in corrections.

Aboriginal status by educational achievement (Table 12)

Aboriginal status was determined by Justice and Solicitor General records only. Comparisons between Aboriginal and non-Aboriginal students should be interpreted with caution, because no data were available for students who attended schools on First Nations reserves.

- 17% of Aboriginal youth involved in corrections were meeting or achieving above educational expectations compared to 43% of non-Aboriginal youth involved in corrections.





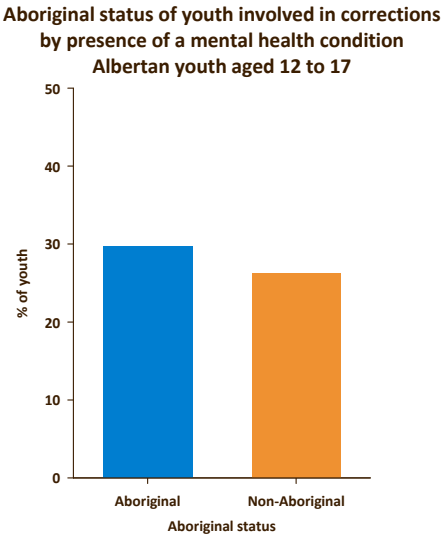
Type of corrections involvement by mental health status (Table 13)

Mental health status refers to presence or absence of a mental health condition. Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition. See *Definitions and Notes* (p. 21).

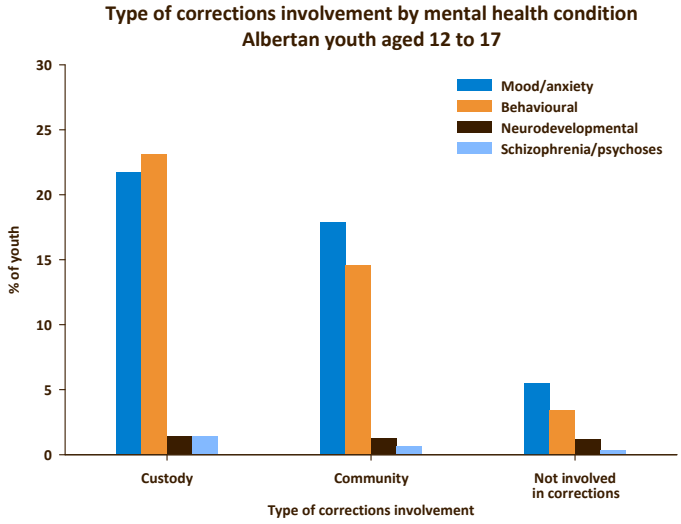
- Mental health conditions were more common among youth in custody (35%) and youth with a community sentence or pre-trial supervision (27%) than those not involved in corrections (9%). This may be partially due to enhanced access to mental health services by youth involved in corrections.

Aboriginal status by mental health status (Table 14)

- 30% of Aboriginal youth involved in corrections had a mental health condition, compared to 26% of non-Aboriginal youth involved in corrections.



Corrections involvement among Albertan youth

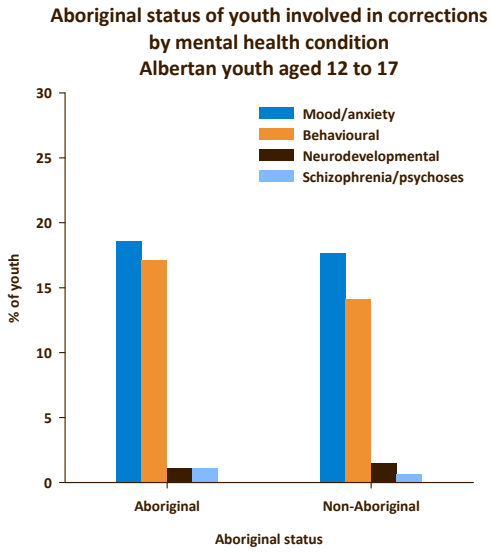


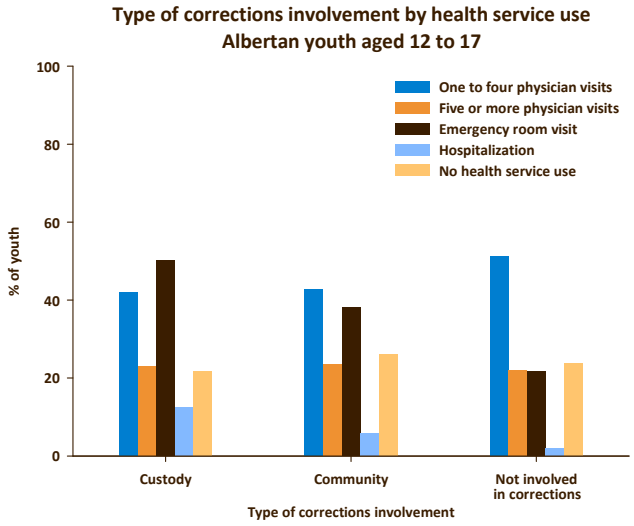
Type of corrections involvement by mental health condition (Table 13)

- *Behavioural* conditions (23%) and *mood/anxiety* conditions (22%) were equally likely among youth in custody.
- *Mood/anxiety* conditions (18%) were slightly more common than *behavioural* conditions (15%) among youth with a community sentence or pre-trial supervision.
- Note that *neurodevelopmental* conditions, including fetal alcohol spectrum disorder, were under-represented because data from community mental health clinics were not available for this project.

Aboriginal status by mental health condition (Table 14)

- The rates of mental health conditions were similar for Aboriginal and non-Aboriginal youth involved in corrections.
- *Behavioural* conditions were slightly more common in Aboriginal (17%) than non-Aboriginal (14%) youth.
- *Schizophrenia/psychoses* conditions were also more common in Aboriginal (1.1%) than non-Aboriginal (0.6%) youth involved in corrections.



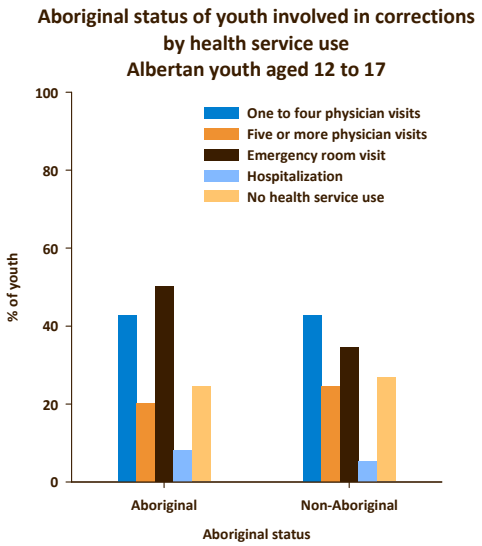


Type of corrections involvement by use of health services (Table 15)

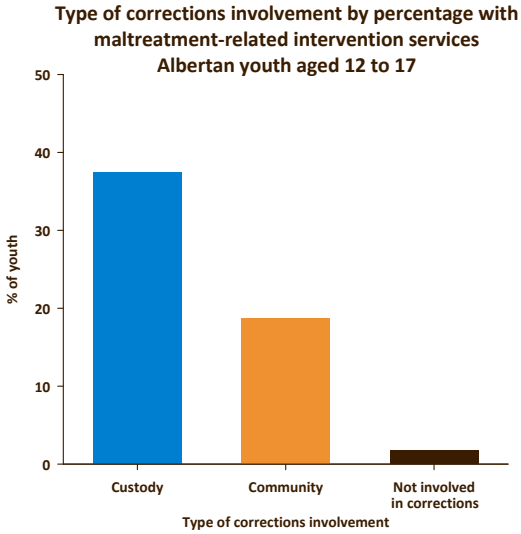
- Youth in custody were most likely to visit an emergency room (50%) in comparison to youth receiving a community sentence or pre-trial supervision (38%) and youth not involved in corrections (22%).
- Hospitalizations were substantially more likely among youth in custody (13%) and with a community sentence or pre-trial supervision (6%) than among youth not involved in corrections (2%).

Aboriginal status by use of health services
(Table 16)

- Non-Aboriginal youth (25%) involved in corrections were more likely to have five or more physician visits than Aboriginal youth (20%) involved in corrections.
- Emergency room visits and hospitalizations were higher among Aboriginal (50%, 8%) than non-Aboriginal (35%, 5%) youth involved in corrections.

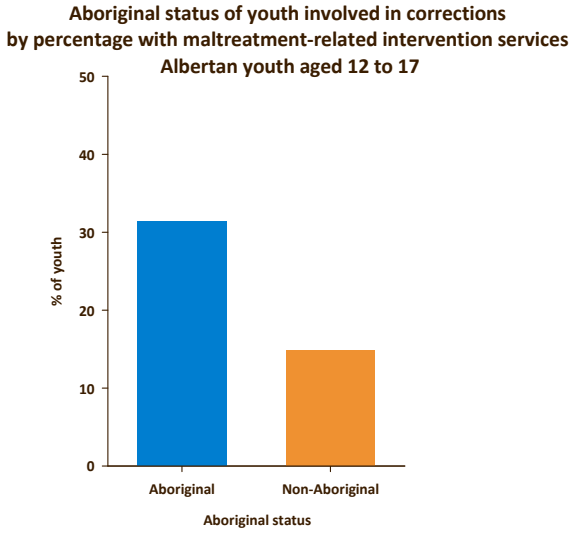


Type of corrections involvement by maltreatment-related intervention services (Table 17)



Youth were considered in this and the following analysis if they were registered with the Alberta Health Care Insurance Plan (AHCIP; see *Definitions and Notes*, p. 21). The effects should be interpreted with caution; they cannot be generalized to youth not registered with AHCIP. 14% of youth with corrections involvement were not registered with AHCIP.

- Youth involved in corrections were more likely to have received maltreatment-related intervention services than youth not involved in corrections.
- 37% of youth in custody also received maltreatment-related intervention services compared to 19% of youth with a community sentence or pre-trial supervision and 2% of youth with no corrections involvement.



Aboriginal status by maltreatment-related intervention services (Table 18)

- Aboriginal youth involved in corrections were more likely to receive maltreatment-related intervention services than non-Aboriginal youth involved in corrections.
- 31% of Aboriginal youth involved in corrections, compared to 15% of non-Aboriginal youth involved in corrections, received maltreatment-related intervention services.

Tables

Table 1. Number and percent of youth by type of corrections involvement, Albertan youth aged 12 to 17 years, 2008/09

	Type of corrections involvement*	
Number of youth	Custody	941
	Community	5,060
	Custody and community	823
	Any corrections involvement	5,178
	No corrections involvement	302,525
	Total	307,703
Percent of Alberta youth	Custody	0.3
	Community	1.6
	Custody and community	0.3
	Any corrections involvement	1.7
	No corrections invovlement	98.3
	Total	100.0
Percent of youth in corrections	Custody	18.2
	Community	97.7
	Both community and custody	15.9

*Type of corrections involvement categories are not mutually exclusive

Table 2. Number and percent of youth involved in corrections by type of corrections involvement and Aboriginal status, Albertan youth aged 12 to 17 years, 2008/09

	Aboriginal status	Type of corrections involvement*		
		Custody	Community	Any corrections involvement
Number of youth	Aboriginal in corrections	374	1,214	1,257
	Non-Aboriginal in corrections	567	3,846	3,921
	Total	941	5,060	5,178
Percent of youth in corrections	Aboriginal	39.7	24.0	24.3
	Non-Aboriginal	60.3	76.0	75.7
	Total	100.0	100.0	100.0

*Type of corrections involvement categories are not mutually exclusive

Tables (continued)

Table 3. Number and percent of youth by type of corrections involvement and age, Albertan youth aged 12 to 17 years, 2008/09

	Age group (years)	Type of corrections involvment*			
		Custody	Community	Any corrections involvement	Not involved in corrections
Number of youth	12 to 13	40	273	279	95,164
	14 to 15	265	1,602	1,639	97,752
	16 to 17	636	3,185	3,260	109,609
	Total	941	5,060	5,178	302,525
Percent of youth	12 to 13	4.3	5.4	5.4	31.5
	14 to 15	28.2	31.7	31.7	32.3
	16 to 17	67.6	62.9	63.0	36.2
	Total	100.0	100.0	100.0	100.0

*Type of corrections involvement categories are not mutually exclusive

Table 4. Number and percent of youth involved in corrections by Aboriginal status and age, Albertan youth aged 12 to 17 years, 2008/09

	Age group (years)	Aboriginal status		
		Aboriginal	Non-Aboriginal	Any corrections involvement
Number of youth	12 to 13	92	187	279
	14 to 15	405	1,234	1,639
	16 to 17	760	2,500	3,260
	Total	1,257	3,921	5,178
Percent of youth	12 to 13	7.3	4.8	5.4
	14 to 15	32.2	31.5	31.7
	16 to 17	60.5	63.8	63.0
	Total	100.0	100.0	100.0

Tables (continued)

Table 5. Number and percent of youth by type of corrections involvement and gender, Albertan youth aged 12 to 17 years, 2008/09

	Gender	Type of corrections involvment*			
		Custody	Community	Any corrections involvement	Not involved in corrections
Number of youth	Female	189	1,580	1,608	147,606
	Male	752	3,480	3,570	154,918
	Total	941	5,060	5,178	302,524
Percent of youth	Female	20.1	31.2	31.1	48.8
	Male	79.9	68.8	68.9	51.2
	Total	100.0	100.0	100.0	100.0

*Type of corrections involvement categories are not mutually exclusive

Table 6. Number and percent of youth involved in corrections by Aboriginal status and gender, Albertan youth aged 12 to 17 years, 2008/09

	Gender	Aboriginal status		
		Aboriginal	Non-Aboriginal	Any corrections involvement
Number of youth	Female	428	1,180	1,608
	Male	829	2,741	3,570
	Total	1,257	3,921	5,178
Percent of youth	Female	34.0	30.1	31.1
	Male	66.0	69.9	68.9
	Total	100.0	100.0	100.0

Tables (continued)

Table 7. Number and percent of youth by type of corrections involvement and region of residence, Albertan youth aged 12 to 17 years, 2008/09

	Region of residence	Type of corrections involvement*			
		Custody	Community	Any corrections involvement	Not involved in corrections
Number of youth	Rural	178	1,045	1,076	68,706
	Mid-sized centre	121	782	804	46,148
	Large centre	622	3,054	3,106	186,704
	Total	921	4,881	4,986	301,558
Percent of youth	Rural	19.3	21.4	21.6	22.8
	Mid-sized centre	13.1	16.0	16.1	15.3
	Large centre	67.5	62.6	62.3	61.9
	Total	100.0	100.0	100.0	100.0

*Type of corrections involvement categories are not mutually exclusive

Table 8. Number and percent of youth involved in corrections by Aboriginal status and region of residence, Albertan youth aged 12 to 17 years, 2008/09

	Region of residence	Aboriginal status		
		Aboriginal	Non-Aboriginal	Any corrections involvement
Number of youth	Rural	417	659	1,076
	Mid-sized centre	177	627	804
	Large centre	588	2,518	3,106
	Total	1,182	3,804	4,986
Percent of youth	Rural	35.3	17.3	21.6
	Mid-sized centre	15.0	16.5	16.1
	Large centre	49.7	66.2	62.3
	Total	100.0	100.0	100.0

Tables (continued)

Table 9. Number and percent of youth by type of corrections involvement and socio-economic status (SES), Albertan youth aged 12 to 17 years, 2008/09

	Socio-economic status	Type of corrections involvement*			
		Custody	Community	Any corrections involvement	Not involved in corrections
Number of youth	Lowest SES	399	1,713	1,752	68,312
	Low middle	148	800	819	37,778
	Middle	199	1,052	1,068	75,358
	High middle	103	678	697	54,289
	Highest SES	60	581	591	60,645
	Total	909	4,824	4,927	296,382
Percent of youth	Lowest SES	43.9	35.5	35.6	23.0
	Low middle	16.3	16.6	16.6	12.7
	Middle	21.9	21.8	21.7	25.4
	High middle	11.3	14.1	14.1	18.3
	Highest SES	6.6	12.0	12.0	20.5
	Total	100.0	100.0	100.0	100.0

*Type of corrections involvement categories are not mutually exclusive

Table 10. Number and percent of youth involved in corrections by Aboriginal status and socio-economic status (SES), Albertan youth aged 12 to 17 years, 2008/09

	Socio-economic status	Aboriginal status		
		Aboriginal	Non-Aboriginal	Any corrections involvement
Number of youth	Lowest SES	550	1,202	1,752
	Low middle	178	641	819
	Middle	233	835	1,068
	High middle	113	584	697
	Highest SES	77	514	591
	Total	1,151	3,776	4,927
Percent of youth	Lowest SES	47.8	31.8	35.6
	Low middle	15.5	17.0	16.6
	Middle	20.2	22.1	21.7
	High middle	9.8	15.5	14.1
	Highest SES	6.7	13.6	12.0
	Total	100.0	100.0	100.0

Tables (continued)

Table 11. Number and percent of youth by type of corrections involvement and educational achievement, Albertan youth aged 12 to 17 years, 2008/09

	Educational achievement	Type of corrections involvement*			
		Custody	Community	Any corrections involvement	Not involved in corrections
Number of youth	Below expectations	564	2,364	2,418	40,294
	Meeting/above expectations	82	1,489	1,504	192,660
	Total	646	3,853	3,922	232,954
Percent of youth	Below expectations	87.3	61.4	61.7	17.3
	Meeting/above expectations	12.7	38.6	38.3	82.7
	Total	100.0	100.0	100.0	100.0

*Type of corrections involvement categories are not mutually exclusive

Table 12. Number and percent of youth involved in corrections by Aboriginal status and educational achievement, Albertan youth aged 12 to 17 years, 2008/09

	Educational achievement	Aboriginal status		
		Aboriginal	Non-Aboriginal	Any corrections involvement
Number of youth	Below expectations	599	1,819	2,418
	Meeting/above expectations	125	1,379	1,504
	Total	724	3,198	3,922
Percent of youth	Below expectations	82.7	56.9	61.7
	Meeting/above expectations	17.3	43.1	38.3
	Total	100.0	100.0	100.0

Tables (continued)

Table 13. Number and percent of youth by type of corrections involvement and mental health condition, Albertan youth aged 12 to 17 years, 2008/09

	Mental health condition*	Type of corrections involvement**			
		Custody	Community	Any corrections involvement	Not involved in corrections
Number of youth	Mood/anxiety	184	762	779	14,998
	Behavioural	196	621	646	9,321
	Neurodevelopmental	12	54	60	3,251
	Schizophrenia/psychoses	12	28	32	872
	Any condition	298	1,146	1,183	24,259
	No condition	550	3,115	3,177	248,231
	Total	848	4,261	4,360	272,490
Percent of youth	Mood/anxiety	21.7	17.9	17.9	5.5
	Behavioural	23.1	14.6	14.8	3.4
	Neurodevelopmental	1.4	1.3	1.4	1.2
	Schizophrenia/psychoses	1.4	0.7	0.7	0.3
	Any condition	35.1	26.9	27.1	8.9
	No condition	64.9	73.1	72.9	91.1
	Total	100.0	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

**Type of corrections involvement categories are not mutually exclusive

Table 14. Number and percent of youth involved in corrections by Aboriginal status and mental health condition, Albertan youth aged 12 to 17 years, 2008/09

	Mental health condition*	Aboriginal status		
		Aboriginal	Non-Aboriginal	Any corrections involvement
Number of youth	Mood/anxiety	201	578	779
	Behavioural	185	461	646
	Neurodevelopmental	12	48	60
	Schizophrenia/psychoses	12	20	32
	Any condition	323	860	1,183
	No condition	761	2,416	3,177
	Total	1,084	3,276	4,360
Percent of youth	Mood/anxiety	18.5	17.6	17.9
	Behavioural	17.1	14.1	14.8
	Neurodevelopmental	1.1	1.5	1.4
	Schizophrenia/psychoses	1.1	0.6	0.7
	Any condition	29.8	26.3	27.1
	No condition	70.2	73.7	72.9
	Total	100.0	100.0	100.0

*Mental health condition categories are not mutually exclusive

Tables (continued)

Table 15. Number and percent of youth by type of corrections involvement and health service use, Albertan youth aged 12 to 17 years, 2008/09

	Health service use*	Type of corrections involvement**			
		Custody	Community	Any corrections involvement	Not involved in corrections
Number of youth	One to four physician visits	396	2,170	2,215	155,251
	Five or more physician visits	217	1,198	1,223	66,638
	Emergency room visit	473	1,938	1,988	66,003
	Hospitalization	118	294	312	5,864
	Any health service	735	3,735	3,818	230,459
	No health service	206	1,325	1,360	72,066
	Total	941	5,060	5,178	302,525
Percent of youth	One to four physician visits	42.1	42.9	42.8	51.3
	Five or more physician visits	23.1	23.7	23.6	22.0
	Emergency room visit	50.3	38.3	38.4	21.8
	Hospitalization	12.5	5.8	6.0	1.9
	Any health service	78.1	73.8	73.7	76.2
	No health service	21.9	26.2	26.3	23.8
	Total	100.0	100.0	100.0	100.0

*Health service use categories are not mutually exclusive

**Type of corrections involvement categories are not mutually exclusive

Table 16. Number and percent of youth involved in corrections by Aboriginal status and health service use, Albertan youth aged 12 to 17 years, 2008/09

	Health service use*	Aboriginal status		
		Aboriginal	Non-Aboriginal	Any corrections involvement
Number of youth	One to four physician visits	539	1,676	2,215
	Five or more physician visits	254	969	1,223
	Emergency room visit	632	1,356	1,988
	Hospitalization	103	209	312
	Any health service	949	2,869	3,818
	No health service	308	1,052	1,360
	Total	1,257	3,921	5,178
Percent of youth	One to four physician visits	42.9	42.7	42.8
	Five or more physician visits	20.2	24.7	23.6
	Emergency room visit	50.3	34.6	38.4
	Hospitalization	8.2	5.3	6.0
	Any health service	75.5	73.2	73.7
	No health service	24.5	26.8	26.3
	Total	100.0	100.0	100.0

*Health service use categories are not mutually exclusive

Tables (continued)

Table 17. Number and percent of youth by type of corrections involvement and cross service use, Albertan youth aged 12 to 17 years, 2008/09*

	Cross- service use	Type of corrections involvment**			
		Custody	Community	Any corrections involvement	Not involved in corrections
Number of youth	Maltreatment-related intervention	322	813	842	5,110
	Offence charges	833	3,177	3,270	1,996
	Health registry	860	4,342	4,441	280,690
Percent of youth	Maltreatment-related intervention	37.4	18.7	19.0	1.8
	Offence charges	96.9	73.2	73.6	0.7
	Health registry	100.0	100.0	100.0	100.0

*Only youth registered in the Alberta Health Care Insurance Plan were included in this analysis

**Type of corrections involvement categories are not mutually exclusive

Table 18. Number and percent of youth involved in corrections by Aboriginal status and cross-service use, Albertan youth aged 12 to 17 years, 2008/09*

	Cross-service use	Aboriginal status		
		Aboriginal	Non-Aboriginal	Any corrections involvement
Number of youth	Maltreatment-related intervention	345	497	842
	Offence charges	926	2,344	3,270
	Health registry	1,098	3,343	4,441
Percent of youth	Maltreatment-related intervention	31.4	14.9	19.0
	Offence charges	84.3	70.1	73.6
	Health registry	100.0	100.0	100.0

*Only youth registered in the Alberta Health Care Insurance Plan were included in this analysis

Definitions and notes

- The study population for this project consisted of all Albertan youth who were registered with the Alberta Health Care Insurance Plan in 2008/09 or who received selected services from one or more of the participating ministries in 2008/09. "All Albertan youth" refers to this study population.
- The study year was fiscal year 2008/09. With the exception of Education and Enterprise and Advanced Education data, all data were for services provided between April 1, 2008 and March 31, 2009, with age determined on March 31, 2009.
    - Data for Enterprise and Advanced Education were for services provided between September 1, 2008 and June 30, 2009, with age determined on March 31, 2009.
    - Data for Education were for services provided to youth who were 12 to 19 years old on September 30, 2008. As a result, youth turning 12 between October 1, 2008 and March 31, 2009 *were not* included in the Education data but were included in other ministries' data. This resulted in the number of 12 year olds in the Education data being lower (approximately 50% lower) than that of 13 to 17 year olds.
    - Furthermore, although Education only provides services to youth who are under 20, the provision of services is defined by age at September 30. Youth who turned 20 between October 1, 2008 and March 31, 2009 *were* included in the Education data, resulting in the inclusion of 20 year olds in some analyses of Education data.
- **Cross-ministry analyses included only youth that were linked across the relevant ministries**. This means that not all youth in the project were represented in every analysis. As well, only youth with a value for a given indicator were included in analyses involving that indicator (i.e., **missing values** were excluded).
- Age, gender, and postal code (translated into Statistics Canada dissemination areas) were provided for each individual by each participating ministry. In the case of discrepancies between ministries, the most common value for an indicator was chosen. In the event of two or more most common values, the value for the indicator was chosen randomly from the most common values.
- Dissemination areas of residence were used by CYDL to determine **region of residence**. Urban areas included large centres with urban core populations greater than 100,000 (i.e., Edmonton and Calgary metropolitan areas) and mid-sized centres with urban cores greater than 10,000; all other areas were categorized as rural.
- **Socio-economic status (SES)** captures the social and material environments in which youth live. A youth was assigned a socio-economic status via an index based on the Statistics Canada dissemination area in which he or she resided[5]. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single families, percent of persons living alone, and percent of persons separated, divorced, or widowed. Socio-economic status values fell into five quintiles. In this report, "lowest socio-economic status" refers to the lowest quintile of socio-economic status, while "highest" refers to the highest quintile.
- **Educational achievement** was computed by Alberta Education using age, grade, school type, special education codes, provincial achievement test scores, home education status, number of high school credits earned, number of higher level courses taken, average grade in higher level courses, possession of an Alberta Education certificate or diploma, and Alexander Rutherford scholarship eligibility. Educational achievement was categorized as *above, meeting,* or *below expectations* for a student's age and grade. An educational achievement rating was not available for 12 to 14 year old youth without scores on provincial achievement tests, for youth in 'other' schools (accredited post-secondary institutions offering high school courses for credit to adults; most youth in these schools were between 18 and 20 years), and for home-schooled high school youth with no credits.

Definitions and notes (continued)

- **Mental health status** was defined by the presence or absence of mental health diagnosis codes in Health's databases (Inpatient—Discharge Abstract Database, Ambulatory Care, and Practitioner Payments), or in the Family Support for Children with Disabilities Information System. Only youth who were registered with the Alberta Health Care Insurance Plan for the full fiscal year were included in the mental health analyses. **Mental health service use is a proxy for presence of a mental health condition:** Some youth with mental health conditions may not have accessed mental health services in Alberta during the year, and some mental health service use may have occurred for youth who did not in fact have mental health conditions.
    - **Mental health conditions** were grouped based on The Johns Hopkins ACG® Case-Mix System (version 8.2)[6]. Mental health conditions were *mood/anxiety* (anxiety, depression, bipolar disorder, etc.), *behavioural* (attention-deficit disorder, regulatory disorder, mental or behavioural problems due to substance use, etc.), *neurodevelopmental* (autism, fetal alcohol spectrum disorder, cerebral palsy, etc.), or *schizophrenia/psychoses* (schizophrenia, psychosis, delusional disorder, etc.). Conditions were not mutually exclusive; a youth could have a diagnosis in more than one category.
- Youth with **corrections involvement** have appeared before the Court or a Justice of the Peace for an offence charge and have been remanded in custody or placed under pre-trial supervision in the community awaiting further court dates, or have been found guilty and sentenced to a community disposition (i.e. Fine, Probation, Community Service Work, Deferred Custody) and/or custody (in which the sentence is served in a young offender facility). Youth self-identified as Aboriginal or non-Aboriginal.
- **Physician visits** reflect fee claims made by physicians when patients visit their offices. In this report, multiple claims by a given physician for a given patient on the same day were counted as a single visit.
- **Emergency room visits** refer to visits to emergency departments for assessment or treatment.
- **Hospitalizations** refer to admissions to hospital for assessment or treatment.
- New and returning Alberta residents, if they are eligible, must register for **Alberta Health Care Insurance Plan** coverage to receive insured health services. Youth in the "**health registry**" refers to all youth who are insured in Alberta. This includes any eligible youth who is a permanent resident of Alberta, living at least 183 days per year in the province. Members of the Canadian Armed Forces, Royal Canadian Mounted Police and federal penitentiary inmates are not eligible (they receive coverage from the federal government), but dependents of these non-eligible residents, who reside in Alberta, are eligible.
- **Maltreatment-related interventions** occur when the safety or well-being of a youth is threatened.
- Youth with **offence charges** include those charged with criminal offences or administrative offences related to criminal offences (e.g., failure to appear in court, breach of probation, etc.).

Data sources

Ministry	Database	Use in this report
Education	Corporate Data Warehouse (CDW)	Primary and secondary education achievement data
Health	Inpatient – Discharge Abstract Database (DAD)	Hospitalization data
Health	Ambulatory Care (ACCS)	Emergency room visit data
Health	Practitioner Payments (SESE)	Physician visit data
Health	Alberta Health Care Insurance Plan Population Registry (AHCIP registry)	Population registry
Human Services	Child Youth Information Module (CYIM)	Maltreatment and intervention data
Justice and Solicitor General	Justice Online Information Network (JOIN)	Offence data
Justice and Solicitor General	Alberta Community Offender Management System (ACOM)	Corrections data (community)
Justice and Solicitor General	Correctional Offender Management Information System (CoMIS)	Corrections data (custody)

References

1. Canadian Institute for Health Information. (2008). *Improving the health of Canadians: Mental health, delinquency, and criminal activity*. Ottawa.
2. Canadian Centre for Justice Statistics (1998). *A profile of youth justice in Canada* (Statistics Canada Cat. No. 85-544-XIE). Minister of Industry: Ottawa.
3. Moloughney, B. (2004). A Health Care Needs Assessment of Federal Inmates in Canada. *Canadian Journal of Public Health*, *95 (Suppl 1)*, S1–S63.
4. Calverley, D., Cotter, A, & Halla, E. (2010). Youth custody and community services in Canada, 2008/09 (Statistics Canada, Cat. no. 85-002-X). *Juristat*, *30*.
5. Pampalon, R., Hamel, D., Garnache, P., Raymond, G. (2009). A deprivation index for health planning in Canada. *Chronic Diseases in Canada, 29(4)*, 178-91.
6. The Johns Hopkins University (2008). *The Johns Hopkins ACG® System Reference Manual, Version 8.2* . Johns Hopkins University: Baltimore.

The Child and Youth Data Laboratory

The **Child and Youth Data Laboratory** (CYDL) links and analyzes administrative data from child- and youth-serving ministries in the Government of Alberta. The ministries participate in research design and provide data elements that contribute to answering research questions.

The CYDL's research provides groundbreaking opportunities to understand relationships between critical factors in the lives of children and youth in Alberta. The research results can be used to inform policy and program development and evaluation, both within and across ministries, and to inspire further research.

The CYDL is managed by the **Alberta Centre for Child, Family and Community Research** (ACCFCR). The Centre has evolved over its eight year history as a public-sector, innovative resource for evidence. The Centre develops, supports and integrates research across sectors and disciplines to provide a strong, evidence-based foundation for identifying and promoting effective public policy and service delivery to improve the well-being of children, families, and communities in Alberta, Canada, and internationally.

Our partners

This project was carried out on behalf of six ministries of the Government of Alberta. Each ministry collaborated extensively with the CYDL on this project, and their dedication to the project is gratefully acknowledged:

Enterprise and Advanced Education
Education
Health
Human Services
Aboriginal Relations
Justice and Solicitor General

Suggested citation

Child and Youth Data Laboratory (2012). *Corrections involvement among Albertan youth.* Edmonton: Alberta Centre for Child, Family and Community Research.

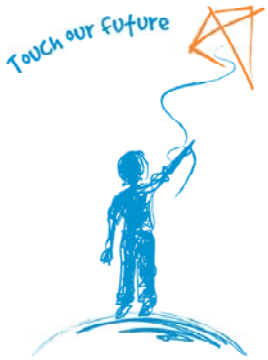
Contact CYDL

www.research4children.com
Click on "Data"

Xinjie Cui, Director
780 944 8631
xcui@research4children.com

Leslie Twilley, Senior Scientist
780 408 8734
ltwilley@research4children.com

Christine Werk, Research Scientist
780 408 8767
cwerk@research4children.com



ALBERTA CENTRE FOR
CHILD, FAMILY & COMMUNITY
RESEARCH

Government
of Alberta

Post-secondary students in Alberta

Child and Youth Data Laboratory (CYDL)

Report for *Experiences of Albertan Youth* Project

Key findings

This report profiles 113,154 youth (aged 17 to 24 years) who were enrolled in Alberta's post-secondary institutions in 2008/09. *Credential types* for post-secondary programs include bachelor/applied/graduate programs (also called degree-granting), certificate/diploma programs, and programs with no credential received upon completion. *Enrolment status* refers to full-time or part-time enrolment. Youth enrolled in apprenticeship programs were not available in this study.

Age, gender, region of residence, socio-economic status, mental health status, health service use, credential type, enrolment status, receipt of maltreatment-related intervention services, and receipt of income support are detailed. Comparisons are made with youth of the same ages who were not post-secondary students.

- 24% of all youth 17 to 24 years old were attending post-secondary institutions, with the highest rate (35%) for 20 year olds.
- More females than males were pursuing a post-secondary education. Females were also more likely than males to be enrolled in degree-granting programs.
- Post-secondary students, especially those enrolled in degree-granting or full-time programs, were more likely to be living in the highest socio-economic status neighborhoods than youth not enrolled in post-secondary institutions. Youth not enrolled in post-secondary studies were more likely to have visited an emergency room or to have been hospitalized at least once during the year, and were more likely to have five or more physician visits during the year.
- Post-secondary students enrolled part-time or in *no credential* programs were more likely than those enrolled full-time or in credential programs to have a mental health condition or to have been hospitalized at least once during the year.
- Youth receiving maltreatment-related intervention services or income support were over-represented in *no credential* programs and part-time programs compared to other post-secondary students.

Contents

Key findings and Context.....1 to 2
Data analyses.....3 to 10
Tables.....11 to 18
Definitions and Notes.....19 to 20
Data sources.....21
References.....21
About CYDL.....23

Context

The benefits of a post-secondary education have been well documented at both individual and societal levels. In addition to securing a higher income on average, individuals with an advanced education can look forward to greater employment opportunities[1]. Almost two-thirds of jobs opening in Canada over the next ten years will require a post-secondary education[1]. In addition, people with a post-secondary education are more likely to experience greater levels of job satisfaction and long-term employment, and benefit from positive health and well-being outcomes.[1]

According to Human Resources and Skill Development Canada, between 2003/04 and 2005/06, 23% of Canadian youth and 17% of Albertan youth aged 18 to 24 years old were enrolled in university, with a further 15% of Canadian youth and 14% of Albertan youth enrolled in colleges or trades programs. Enrolment rates were higher for females than for males, and for youth in large urban centres compared with rural areas.[2]

Contact with health services for mental health issues appears to be on the rise among Canada's post-secondary students.[3] Adequacy of income is also an issue; post-secondary students comprised 4.8% of those visiting food banks in Alberta between 2001 and 2011.[4]

The service use patterns of post-secondary students in other areas are less well documented. This report provides new data on service use for post-secondary students, including health services, intervention services, and income support.

The project

The current project, **Experiences of Albertan Youth**, is focused on basic understanding of the experiences of Albertan youth within and across ministries, as they relate to key indicators (age, gender, socio-economic status, educational achievement, and mental health status). It is the first project in a planned series that will link and analyze administrative data on children and youth in Alberta to inform policy, programs, and research.

List of reports for the project

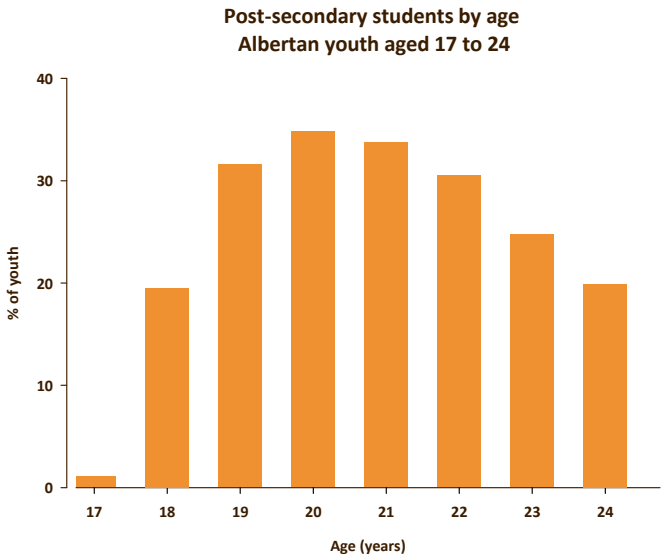
Socio-economic status of Albertan youth
Educational experiences of Albertan youth
Mental health status of Albertan youth
Family Support for Children with Disabilities services received by Albertan youth
Maltreatment-related investigations among Albertan youth
Maltreatment-related intervention services received by Albertan youth
Physician visits by Albertan youth
Emergency room visits by Albertan youth
Hospitalizations of Albertan youth
Offence charges among Albertan youth
Corrections involvement among Albertan youth
Post-secondary students in Alberta
Income support among Albertan youth
Educational experiences of Albertan youth with income support activity
Least advantaged and most advantaged Albertan youth

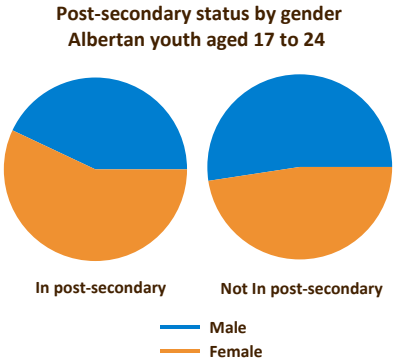
Post-secondary students in Alberta

Post-secondary status by age (Table 1)

This analysis considers youth (aged 17 to 24 years) who were registered in post-secondary institutions in Alberta in 2008/09.

- Students between 19 and 22 years were the most likely to be enrolled in post-secondary studies, with more than 30% of students in this age group enrolled in a post-secondary program.
- Enrolment climbed from 1% for 17 year olds to 20% for 18 year olds, peaked at 35% for 20 year olds, and declined to 20% by age 24.





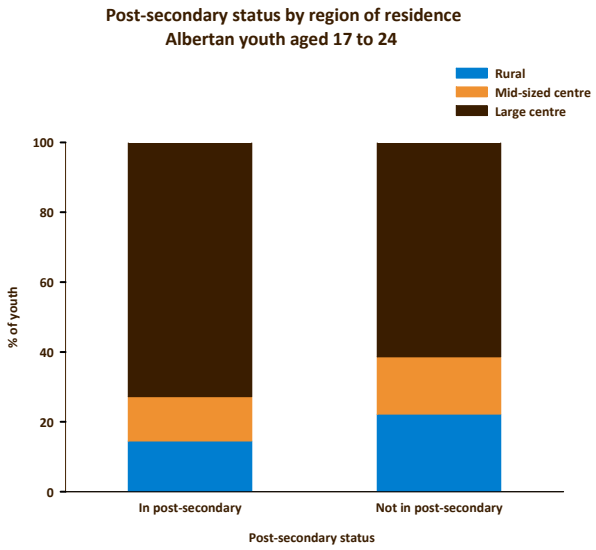
Post-secondary status by gender (Table 2)

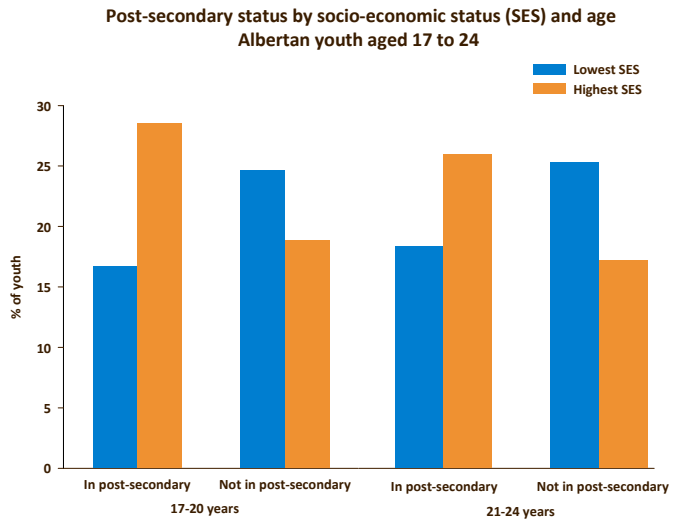
This analysis and the following four analyses include youth (aged 17 to 24 years) enrolled in post-secondary studies in 2008/09, compared with youth not enrolled.

- A greater proportion of females (57%) compared to males (43%) were enrolled in post-secondary institutions.

Post-secondary status by region of residence (Table 3)

- Post-secondary students were more likely to live in large urban centres (Edmonton and Calgary) than youth not enrolled in post-secondary studies.
- Conversely, youth not pursuing post-secondary studies were more likely to be living in mid-sized centres or rural regions across Alberta.
- These findings may be partially due to the concentration of post-secondary institutions in larger centres.





Post-secondary status by socio-economic status and age (Table 4)

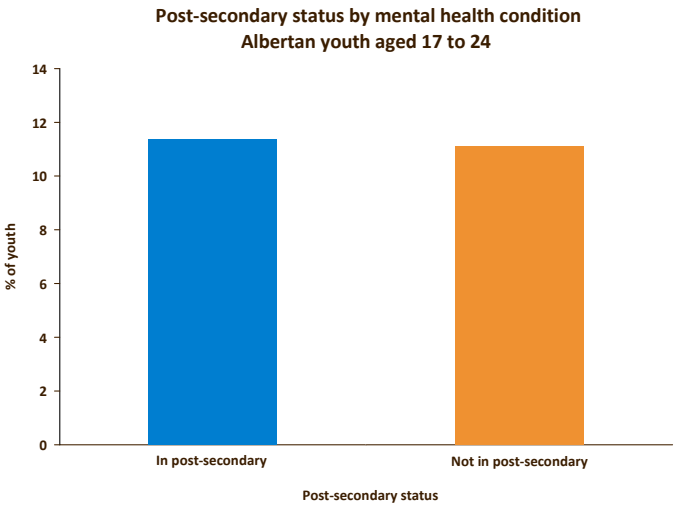
Socio-economic status (SES) captures the social and material environments in which youth lived. In this report, "lowest socio-economic status" refers to the lowest socio-economic status group, while "highest" refers to the highest group. See *Definitions and Notes* (p. 19).

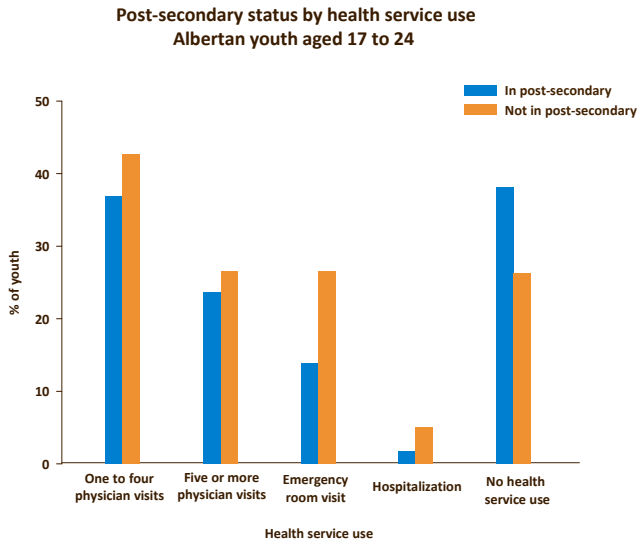
- Youth enrolled in post-secondary institutions were more likely to live in the highest socio-economic status neighbourhoods and less likely to live in the lowest than youth not enrolled in post-secondary institutions.
- This effect was more pronounced for the 17 to 20 year olds than the 21 to 24 year olds. A greater proportion of younger students may have lived with their parents.

Post-secondary status by mental health condition (Table 5)

Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition. See *Definitions and Notes* (p. 20).

- The vast majority of youth (almost 90%) between 17 and 24 years old did not have a mental health condition during 2008/09.
- Whether they were enrolled in post-secondary studies or not, the percent of youth with a mental health condition during 2008/09 was between 11 and 12%.





Post-secondary status by health service use (Table 6)

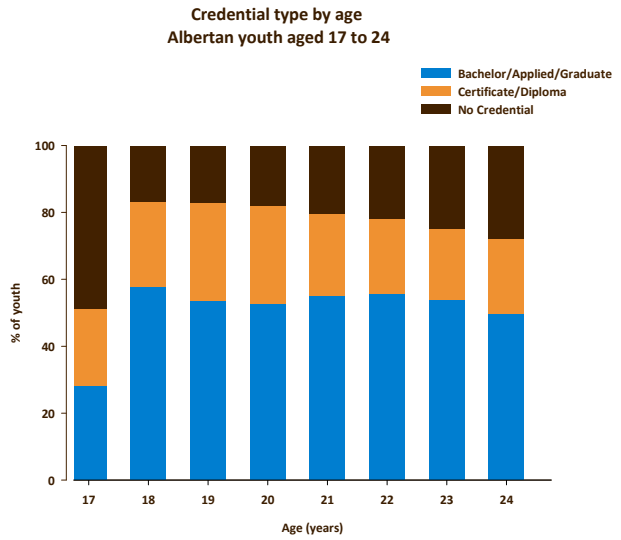
This analysis considers youth (aged 17 to 24 years) registered in the Alberta Health Care Insurance Plan in 2008/09.

- A lower percentage of health services use was evident among post-secondary students than non-students.
- Post-secondary students were less likely to visit physicians, visit emergency rooms, or be hospitalized, than those not attending post-secondary institutions.
- Among post-secondary youth, 38% had not used any health service during the year, compared to 26% of youth not enrolled in a post-secondary institution.

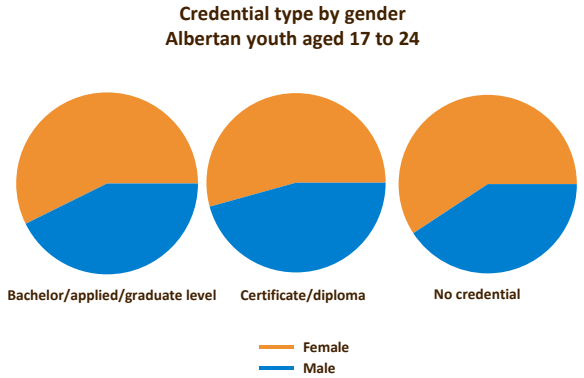
Credential type by age (Table 7)

This analysis and the following five analyses consider the credential type pursued by youth (aged 17 to 24 years) in Alberta post-secondary institutions in 2008/09.

- 50 to 57% of youth 18 to 24 years old were enrolled in *bachelor/applied/graduate level* programs.
- 49% of 17 year old youth were in *no credential* programs, perhaps due to attending high school upgrading programs or enrolling in post-secondary programs during the summer after high school.
- The percentage of youth 18 and older enrolled in *no credential* programs, such as Open Studies, increased with age.



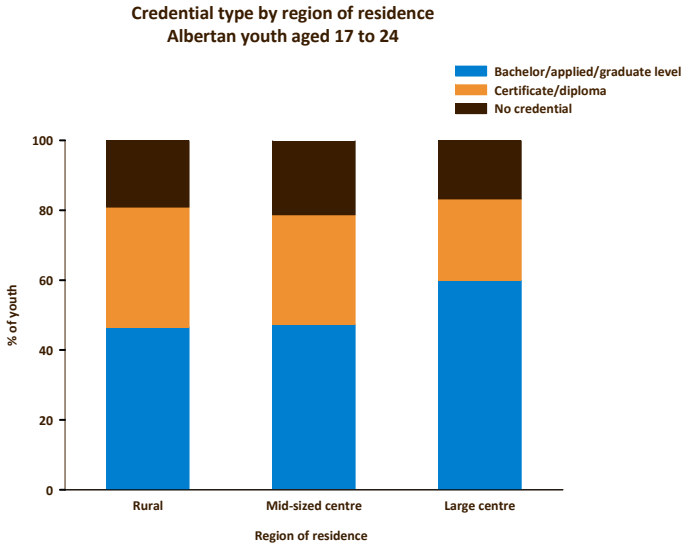
Credential type by gender (Table 8)

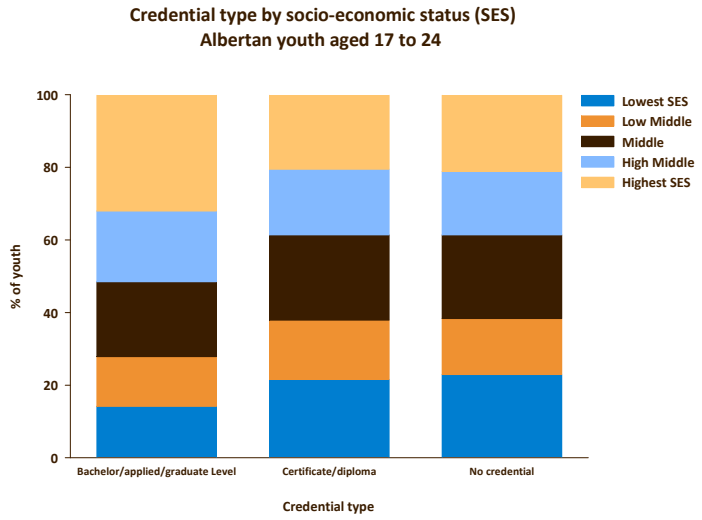


- Females made up a higher percentage of post-secondary students than males, across all credential types.
- The gender difference was greatest in non-credential programs, in which 59% of students were females, compared with 57% in degree-granting (*bachelor/applied/graduate level*) programs and 54% in *certificate/diploma* programs.

Credential type by region of residence (Table 9)

- A greater percentage of students living in large centres (Edmonton and Calgary) were enrolled in *bachelor/applied/graduate level* programs than in other regions. This pattern reflects the concentration of degree-granting institutions in these centres.
- 34% of students in rural regions were enrolled in *certificate/diploma* programs, compared with 31% and 23% in mid-sized and large centres, respectively.
- *No credential* programs captured 19%, 21%, and 17% of students in rural, mid-sized, and large centres, respectively.





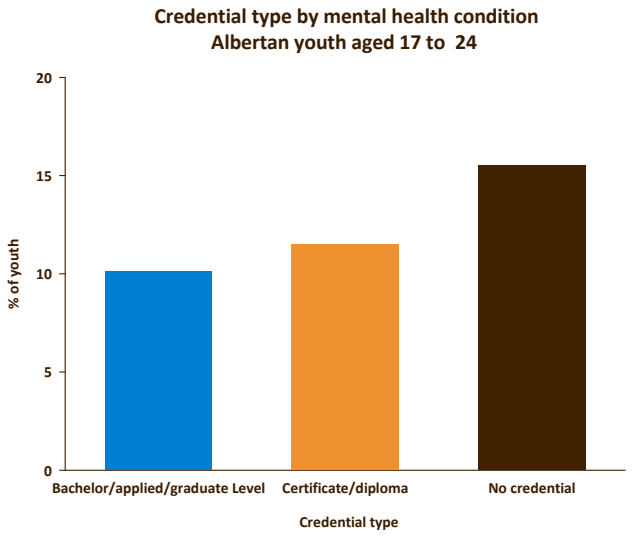
Credential type by socio-economic status
(Table 10)

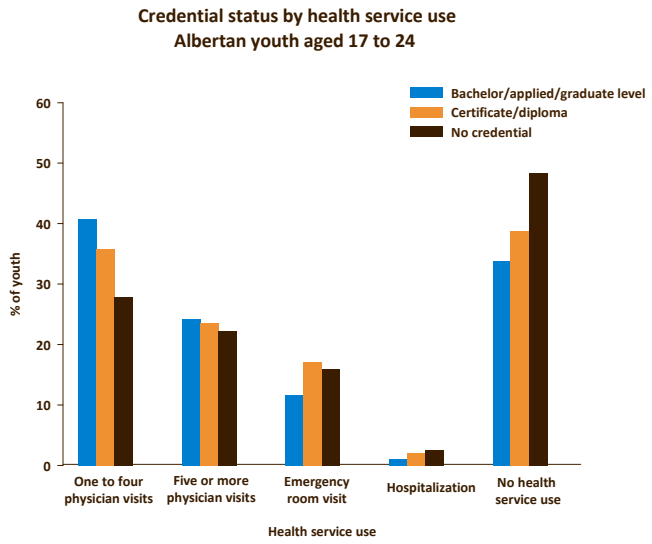
- Students in degree-granting programs lived in higher socio-economic status neighbourhoods on average than other post-secondary students.
- 52% of students in degree-granting programs were living in the high middle or highest socio-economic status neighbourhoods, compared with 39% in each of *certificate/diploma* and *no credential* programs.
- 28% of students in degree-granting programs and 39% in each of *certificate/diploma* and *no credential* programs were living in the low middle or lowest socio-economic status neighbourhoods.

Credential type by mental health condition
(Table 11)

Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition. See *Definitions and Notes* (p.20).

- Students enrolled in *no credential* programs were more likely than students pursuing credentials to have a mental health condition.
- 16% of students in a *no credential* program had a mental health condition.





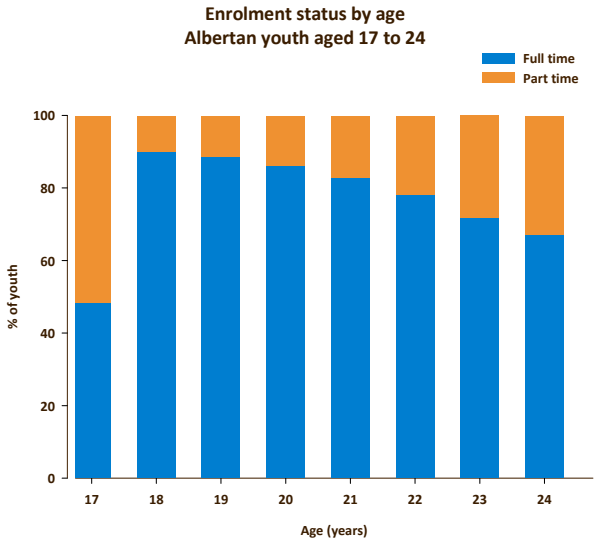
Credential type by health service use
(Table 12)

- Among youth not pursuing a credential, 48% had not used a health service during the year, compared to 38% of youth enrolled in *certificate/diploma* programs, and 34% of youth enrolled in *bachelor/applied/graduate level* programs.
- Hospitalizations were more common among youth enrolled in *no credential* programs than the other types of programs.
- Among youth enrolled in *bachelor/applied/graduate* programs, 41% visited a physician between one and four times, compared to 28% of youth not enrolled in a credentialed program.

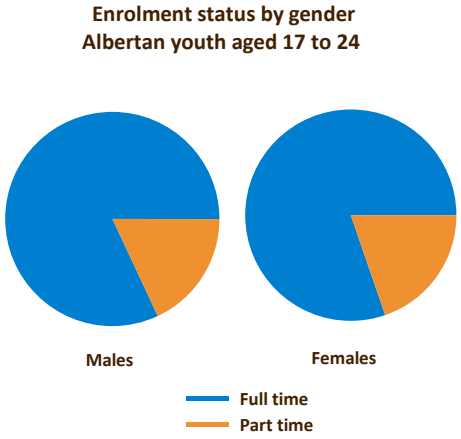
Enrolment status by age (Table 13)

This analysis and the following five analyses consider the full- and part-time enrolment status of youth (aged 17 to 24 years) who were pursuing a post-secondary education in Alberta in 2008/09.

- For students aged 18 to 24 years, the percentage of students who were enrolled in full-time programs decreased with increasing age.
- 17 year old youth were much more likely to be enrolled in part-time programs than older youth. This may be because they attended high school upgrading programs or enrolled in post-secondary programs during the summer after high school.



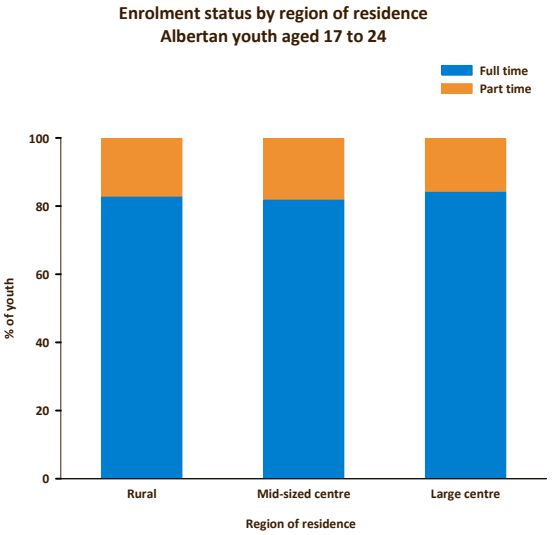
Enrolment status by gender (Table 14)

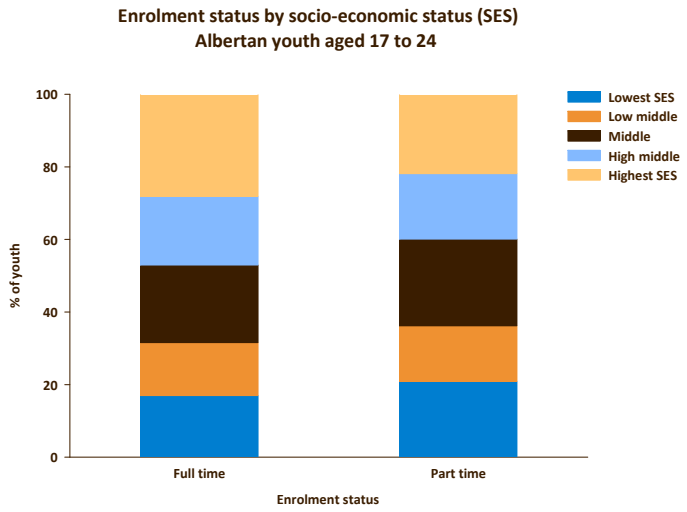


- Males and females had similar proportions of full- and part-time post-secondary enrolment status.

Enrolment status by region of residence (Table 15)

- Full- and part-time enrolment status did not vary substantially by region of residence.
- Rural, mid-sized, and large centres had similar proportions of part-time post-secondary students (17%, 18% and 16%, respectively).





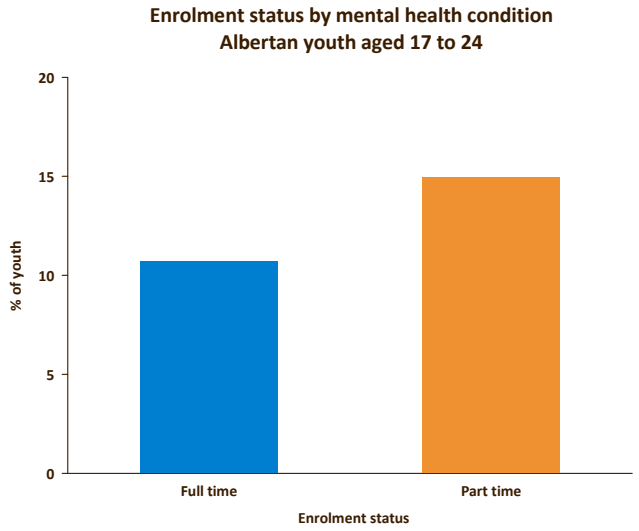
Enrolment status by socio-economic status (Table 16)

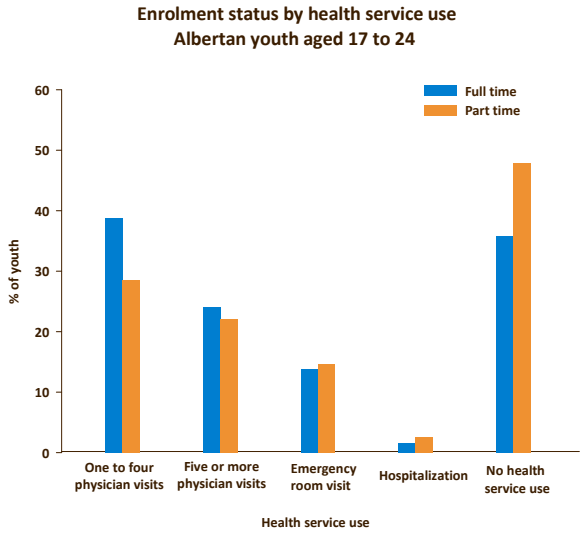
- In general, full-time students had higher socio-economic status than part-time students.
- Among full-time students, 47% were living in the high middle or highest socio-economic status neighbourhoods, compared to 41% of part-time students.
- Among part-time students, 36% were living in the low middle or lowest socio-economic status neighbourhoods, compared to 32% of full-time students.

Enrolment status by mental health condition (Table 17)

Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition. See *Definitions and Notes* (p.20).

- Among full-time post-secondary students, 11% had a mental health condition in 2008/09, compared to 15% of part-time post-secondary students in the same period.

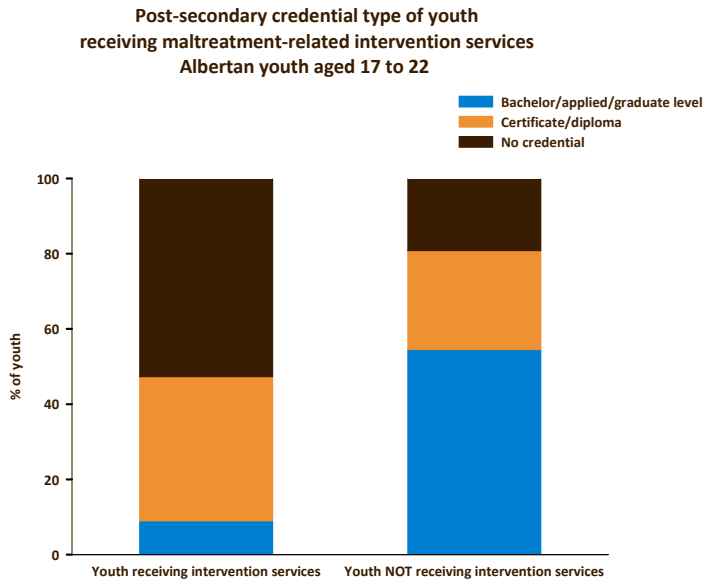




Enrolment status by health service use (Table 18)

- Among part-time post-secondary students, 48% had not used a health service during the year, compared to 36% of full-time students.
- Emergency room visits and hospitalizations were more common among part-time than full-time students. In contrast, physician visits were more common among full-time students.

Credential type of youth receiving maltreatment-related intervention services (Table 19)

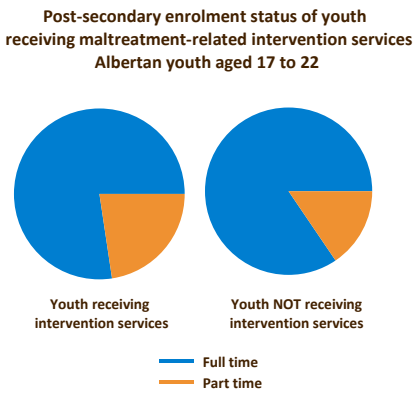


This analysis and the one below include youth (aged 17 to 22 years) enrolled in post-secondary institutions in 2008/09 and receiving maltreatment intervention services. Students who were aged 23 and 24 years were excluded because intervention services are only provided up to age 22. Note that 6% of youth receiving intervention services were attending post-secondary institutions (133 youth).

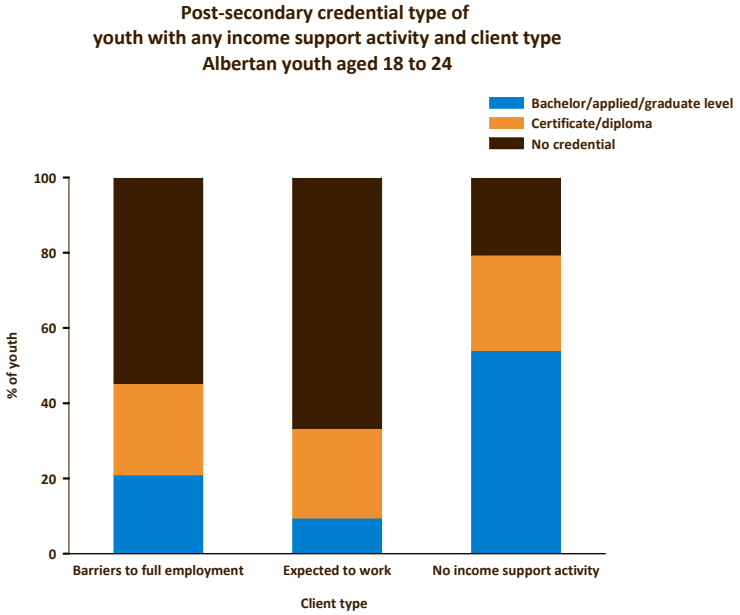
- Over half (53%) of post-secondary students receiving intervention services were enrolled in *no credential* programs. In contrast, over half (55%) of students not receiving such services were enrolled in degree-granting programs.
- 38% of students receiving intervention services were pursuing a certificate or diploma, compared with 26% of those not receiving intervention services.

Enrolment status of youth receiving maltreatment -related intervention services (Table 20)

- 77% of students aged 17 to 22 years old who were receiving maltreatment-related intervention services and were enrolled in post-secondary programs were full-time students.
- 85% of students not receiving intervention services were attending post-secondary institutions full-time.

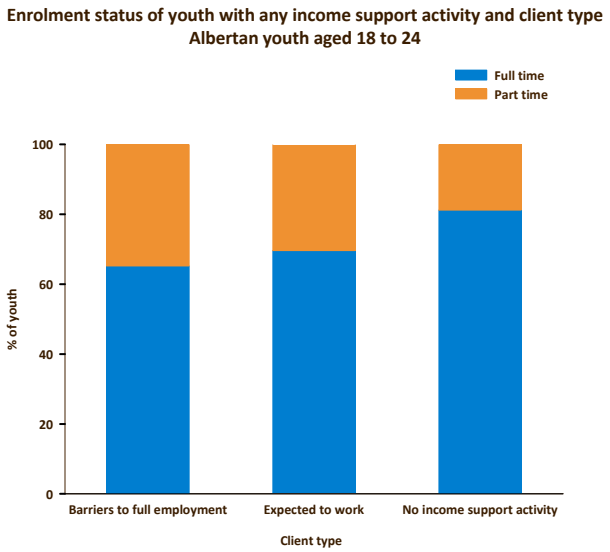


Credential type of youth with any income support activity by client type (Table 21)



This analysis and the one below include youth (aged 18 to 24 years) enrolled in post-secondary institutions with any income support activity during 2008/09. Youth with any income support activity are classified as *expected to work* or *barriers to full employmen*t in Human Services' income support system. For context, note that 6% of youth with any income support activity were attending post-secondary institutions, compared with 28% of post-secondary youth in the same age group with no income support activity.

- Among youth with any income support activity, youth experiencing *barriers to full employment* were more likely to be enrolled in degree-granting programs (21% of students) than youth *expected to work* (10%). Conversely, youth experiencing *barriers to full employment* were less likely to be enrolled in *no credential* programs (55% of students) than youth *expected to work* (67%).



Enrolment status of youth with any income support activity by client type (Table 22)

- Part-time status was more prevalent among post-secondary students with any income support activity than among students with no income support activity.
- Among students with any income support activity and *experiencing barriers to full employment*, 35% were enrolled in part-time programs, compared to 30% of students *expected to work* and 19% of students with no income support activity.

Tables

Table 1. Number and percent of youth by post-secondary status and age, Albertan youth aged 17 to 24 years, 2008/09

	Post-secondary status	Age in years								
		17	18	19	20	21	22	23	24	Total
Number of youth	In post-secondary	634	11,208	18,035	19,565	19,067	17,831	14,722	12,092	113,154
	Not in post-secondary	57,123	46,201	39,041	36,629	37,484	40,564	44,943	48,632	350,617
	Total	57,757	57,409	57,076	56,194	56,551	58,395	59,665	60,724	463,771
Percent of youth	In post-secondary	1.1	19.5	31.6	34.8	33.7	30.5	24.7	19.9	24.4
	Not in post-secondary	98.9	80.5	38.4	65.2	66.3	69.5	75.3	80.1	75.6
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 2. Number and percent of youth by post-secondary status and gender, Albertan youth aged 17 to 24 years, 2008/09

	Gender	Pursuing post-secondary education		
		Yes	No	Total
Number of youth	Females	64,450	166,943	231,393
	Males	48,678	183,674	232,352
	Total	113,128	350,617	463,745
Percent of youth	Females	57.0	47.6	49.9
	Males	43.0	52.4	50.1
	Total	100.0	100.0	100.0

Table 3. Number and percent of youth by post-secondary status and region of residence, Albertan youth aged 17 to 24 years, 2008/09

	Region of residence	Pursuing post-secondary education		
		Yes	No	Total
Number of youth	Rural	14,021	77,525	91,546
	Mid-sized centre	12,336	57,270	69,606
	Large centre	70,404	215,169	285,573
	Total	96,761	349,964	446,725
Percent of youth	Rural	14.5	22.2	20.5
	Mid-sized centre	12.7	16.4	15.6
	Large centre	72.8	61.5	63.9
	Total	100.0	100.0	100.0

Table 4. Number and percent of youth by post-secondary status and socio-economic status (SES) and age, Albertan youth aged 17 to 24 years, 2008/09

	Socio-economic status (SES)	Pursuing post-secondary education		
		Yes	No	Total
Number of youth, 17 to 20 years	Lowest SES	7,261	42,839	50,100
	Highest SES	12,424	32,791	45,215
	Total (all quintiles)	43,521	173,687	217,208
Percent of youth, 17 to 20 years	Lowest SES	16.7	24.7	23.1
	Highest SES	28.6	18.9	20.8
Number of youth, 21 to 24 years	Lowest SES	9,648	41,904	51,552
	Highest SES	13,624	28,443	42,067
	Total (all quintiles)	52,451	165,349	217,800
Percent of youth, 21 to 24 years	Lowest SES	18.4	25.3	23.7
	Highest SES	26.0	17.2	19.3

Tables (continued)

Table 5. Number and percent of youth by post-secondary status and mental health status, Albertan youth aged 17 to 24 years, 2008/09

	Mental health status	Pursuing post-secondary education		
		Yes	No	Total
Number of youth	Any mental health condition	9,330	37,292	46,622
	No mental health condition	72,641	275,776	348,417
	Total	81,971	313,068	395,039
Percent of youth	Any mental health condition	11.4	11.9	11.8
	No mental health condition	88.6	88.1	88.2
	Total	100.0	100.0	100.0

Table 6. Number and percent of youth by post-secondary status and health service use, Albertan youth aged 17 to 24 years, 2008/09

	Health service use*	Purusing post-secondary education		
		Yes	No	Total
Number of youth	One to four physician visits	41,646	149,583	191,229
	Five or more physician visits	26,801	93,311	120,112
	Emergency room visit	15,762	93,026	108,788
	Hospitalization	1,890	17,520	19,410
	No health service use	43,096	92,293	135,389
	Total	113,154	350,617	463,771
Percent of youth	One to four physician visits	36.8	42.7	41.2
	Five or more physician visits	23.7	26.6	25.9
	Emergency room visit	13.9	26.5	23.5
	Hospitalization	1.7	5.0	4.2
	No health service use	38.1	26.3	29.2
	Total	100.0	100.0	100.0

*Health service use categories are not mutually exclusive

Table 7. Number and percent of youth enrolled in a post-secondary institution in Alberta by credential type and age, Albertan youth aged 17 to 24 years, 2008/09

	Credential type	Age (years)								
		17	18	19	20	21	22	23	24	Total
Number of youth	Bachelor/applied/graduate level	179	6484	9641	10324	10,461	9,942	7,930	6,001	60,962
	Certificate/diploma	146	2833	5297	5695	4,727	4,013	3,136	2,719	28,566
	No credential	309	1891	3097	3546	3,879	3,876	3,656	3,372	23,626
	Total	634	11208	18035	19565	19,067	17,831	14,722	12,092	113,154
Percent of youth	Bachelor/applied/graduate level	28.2	57.9	53.5	52.8	54.9	55.8	53.9	49.6	53.9
	Certificate/diploma	23.0	25.3	29.4	29.1	24.8	22.5	21.3	22.5	25.3
	No credential	48.7	16.9	17.2	18.1	20.3	21.7	24.8	27.9	20.9
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Tables (continued)

Table 8. Number and percent of youth enrolled in post-secondary institution in Alberta by credential type and gender, Albertan youth aged 17 to 24 years, 2008/09

	Gender	Credential type			
		Bachelor/ applied/ graduate level	Certificate/ diploma	No credential	Total
Number of youth	Female	34,945	15,515	13,990	64,450
	Male	26,016	13,048	9,614	48,678
	Total	60,961	28,563	23,604	113,128
Percent of youth	Female	57.3	54.3	59.3	57.0
	Male	42.7	45.7	40.7	43.0
	Total	100.0	100.0	100.0	100.0

Table 9. Number and percent of youth enrolled in a post-secondary institution in Alberta by credential type and region of residence, Albertan youth aged 17 to 24 years, 2008/09

	Credential type	Region of residence			
		Rural	Mid-sized	Large	Total
Number of youth	Bachelor/applied/ graduate level	6,522	5,839	42,217	54,578
	Certificate/Diploma	4,820	3,874	16,297	24,991
	No credential	2,679	2,623	11,890	17,192
	Total	14,021	12,336	70,404	96,761
Percent of youth	Bachelor/applied/ graduate level	46.5	47.3	60.0	56.4
	Certificate/Diploma	34.4	31.4	23.2	25.8
	No credential	19.1	21.3	16.9	17.8
	Region of residence	**Credential type**			
		Bachelor/applied/ graduate level	Certificate/diploma	No credential	Total
Number of youth	Rural	6,522	4,820	2,679	14,021
	Mid-sized centre	5,839	3,874	2,623	12,336
	Large centre	42,217	16,297	11,890	70,404
	Total	54,578	24,991	17,192	96,761
Percent of youth	Rural	12.0	19.3	15.6	14.5
	Mid-sized centre	10.7	15.5	15.3	12.7
	Large centre	77.4	65.2	69.2	72.8
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 10. Number and percent of youth enrolled in a post-secondary institution in Alberta by credential type and socio-economic status (SES), Albertan youth aged 17 to 24 years, 2008/09

	Socio-economic status	Credential type			
		Bachelor/applied/ graduate level	Certificate/ diploma	No credential	Total
Number of youth	Lowest SES	7,666	5,339	3,904	16,909
	Low middle	7,429	4,048	2,625	14,102
	Middle	11,186	5,824	3,917	20,927
	High middle	10,545	4,472	2,969	17,986
	Highest SES	17,353	5,093	3,602	26,048
	Total	54,179	24,776	17,017	95,972
Percent of youth	Lowest SES	14.2	21.6	22.9	17.6
	Low middle	13.7	16.3	15.4	14.7
	Middle	20.7	23.5	23.0	21.8
	High middle	19.5	18.1	17.5	18.7
	Highest SES	32.0	20.6	21.2	27.1
	Total	100.0	100.0	100.0	100.0

Table 11. Number and percent of youth enrolled in a post-secondary insitution in Alberta by credential type and mental health status, Albertan youth aged 17- 24 years, 2008/09

	Mental health status	Credential type			
		Bachelor/applied/ graduate level	Certificate/ diploma	No credential	Total
Number of youth	Any mental health condition	4,831	2,357	2,142	9,330
	No mental health condition	42,898	18,093	11,650	72,641
	Total	47,729	20,450	13,792	81,971
Percent of youth	Any mental health condition	10.1	11.5	15.5	11.4
	No mental health condition	89.9	88.5	84.5	88.6
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 12. Number and percent of youth by post-secondary credential type and health service use, Albertan youth aged 17 to 24 years, 2008/09

	Health service use*	Credential type			
		Bachelor/applied/ graduate level	Certificate/ diploma	No credential	Total
Number of youth	One to four physician visits	24,858	10,222	6,566	41,646
	Five or more physician visits	14,812	6,733	5,256	26,801
	Emergency room visit	7,090	4,894	3,778	15,762
	Hospitalization	701	571	618	1,890
	No health service use	20,607	11,087	11,402	43,096
	Total	60,962	28,566	23,626	113,154
Percent of youth	One to four physician visits	40.8	35.8	27.8	36.8
	Five or more physician visits	24.3	23.6	22.2	23.7
	Emergency room visit	11.6	17.1	16.0	13.9
	Hospitalization	1.1	2.0	2.6	1.7
	No health service use	33.8	38.8	48.3	38.1
	Total	100.0	100.0	100.0	100.0

*Health service use categories are not mutually exclusive

Table 13. Number and percent of youth enrollled in a post-secondary institution in Alberta by enrolment status and age, Albertan youth aged 17 to 24 years, 2008/09

	Enrolment status	Age in years								
		17	18	19	20	21	22	23	24	Total
Number of youth	Full time	308	10,080	15,993	16,838	15,814	13,935	10,556	8,122	91,646
	Part time	326	1,128	2,042	2,727	3,253	3,896	4,166	3,970	21,508
	Total	634	11,208	18,035	19,565	19,067	17,831	14,722	12,092	113,154
Percent of youth	Full time	48.6	89.9	88.7	86.1	82.9	78.2	71.7	67.2	81.0
	Part time	51.4	10.1	11.3	13.9	17.1	21.8	28.3	32.8	19.0
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 14. Number and percent of youth enrolled in a post-secondary institution in Alberta by enrolment status and gender, Albertan youth aged 17-24 years, 2008/09

	Enrolment status	Gender		
		Female	Male	Total
Number of youth	Full time	51,732	39,903	91,635
	Part time	12,718	8,775	21,493
	Total	64,450	48,678	113,128
Percent of youth	Full time	80.3	82.0	81.0
	Part time	19.7	18.0	19.0
	Total	100.0	100.0	100.0

Tables (continued)

Table 15. Number and percent of youth enrolled in a post-secondary institution in Alberta by enrolment status and region of residence, Albertan youth aged 17 to 24 years, 2008/09

	Enrolment Status	Region of residence			
		Rural	Mid-sized	Large	Total
Number of youth	Full time	11,626	10,110	59,320	81,056
	Part time	2,395	2,226	11,084	15,705
	Total	14,021	12,336	70,404	96,761
Percent of youth	Full time	82.9	82.0	84.3	83.8
	Part time	17.1	18.0	15.7	16.2
	Total	100.0	100.0	100.0	100.0

Table 16. Number and percent of youth enrolled in a post-secondary institution in Alberta by enrolment status and socio-economic status (SES), Albertan youth aged 17 to 24 years, 2008/09

	Socio-economic status	Enrolment status		
		Full time	Part time	Total
Number of youth	Lowest SES	13,656	3,253	16,909
	Low middle	11,713	2,389	14,102
	Middle	17,206	3,721	20,927
	High middle	15,182	2,804	17,986
	Highest SES	22,636	3,412	26,048
	Total	80,393	15,579	95,972
Percent of youth	Lowest SES	17.0	20.9	17.6
	Low middle	14.6	15.3	14.7
	Middle	21.4	23.9	21.8
	High middle	18.9	18.0	18.7
	Highest SES	28.2	21.9	27.1
	Total	100.0	100.0	100.0

Table 17. Number and percent of youth enrolled in a post-secondary institution in Alberta by enrolment status and mental health status, Albertan youth aged 17 to 24 years, 2008/09

	Mental health status	Enrolment status		
		Full time	Part time	Total
Number of youth	Any mental health condition	7,420	1,910	9,330
	No mental health condition	61,797	10,844	72,641
	Total	69,217	12,754	81,971
Percent of youth	Any mental health condition	10.7	15.0	11.4
	No mental health condition	89.3	85.0	88.6
	Total	100.0	100.0	100.0

Tables (continued)

Table 18. Number and percent of youth by post-secondary enrolment status and health service use, Albertan youth aged 17 to 24 years, 2008/09

	Health service use*	Enrolment status		
		Full time	Part time	Total
Number of youth	One to four physician visits	35,525	6,121	41,646
	Five or more physician visits	22,042	4,759	26,801
	Emergency room visit	12,615	3,147	15,762
	Hospitalization	1,355	535	1,890
	No health service use	32,817	10,279	43,096
	Total	91,646	21,508	113,154
Percent of youth	One to four physician visits	38.8	28.5	36.8
	Five or more physician visits	24.1	22.1	23.7
	Emergency room visits	13.8	14.6	13.9
	Hospitalization	1.5	2.5	1.7
	No health service use	35.8	47.8	38.1
	Total	100.0	100.0	100.0

*Health service use categories not mutually exclusive

Table 19. Number and percent of youth enrolled in a post-secondary institution in Alberta by credential type and receipt of maltreatment-related intervention services, Albertan youth aged 17 to 22 years, 2008/09

	Credential type	Receiving child intervention services		
		Yes	No	Total
Number of youth	Bachelor/applied/graduate level	12	47,019	47,031
	Certificate/diploma	51	22,660	22,711
	No credential	70	16,528	16,598
	Total	133	86,207	86,340
Percent of youth	Bachelor/applied/graduate level	9.0	54.5	54.5
	Certificate/diploma	38.3	26.3	26.3
	No credential	52.6	19.2	19.2
	Total	100.0	100.0	100.0

Table 20. Number and percent of youth enrolled in a post-secondary institution in Alberta by enrolment status and receipt of child intervention services, Albertan youth aged 17-22 years, 2008/09

	Enrolment status	Receiving child intevention services		
		Yes	No	Total
Number of youth	Full time	103	72,865	72,968
	Part time	30	13,342	13,372
	Total	133	86,207	86,340
Percent of youth	Full time	77.4	84.5	84.5
	Part time	22.6	15.5	15.5
	Total	100.0	100.0	100.0

Tables (continued)

Table 21. Number and percent of youth enrolled in a post-secondary institution in Alberta by credential type and income support activity and client type, Albertan youth aged 18 to 24 years, 2008/09

	Credential type	Client type			
		Barriers to full employment	Expected to work	Total	No income support activity
Number of youth	Bachelor/applied/graduate level	44	16	60	60,723
	Certificate/diploma	51	40	91	28,329
	No credential	115	112	227	23,090
	Total	210	168	378	112,142
Percent of youth	Bachelor/applied/graduate level	21.0	9.5	15.9	54.1
	Certificate/diploma	24.3	23.8	24.1	25.3
	No credential	54.8	66.7	60.1	20.6
	Total	100.0	100.0	100.0	100.0

Table 22. Number and percent of youth enrolled in a post-secondary institution in Alberta by enrolment status and income support activity and client type, Albertan youth aged 18 to 24 years, 2008/09

	Enrolment status	Client type			
		Barriers to full employment	Expected to work	Total	No income support activity
Number of youth	Full time	137	117	254	91,084
	Part time	73	51	124	21,058
	Total	210	168	378	112,142
Percent of youth	Full time	65.2	69.6	67.2	81.2
	Part time	34.8	30.4	32.8	18.8
	Total	100.0	100.0	100.0	100.0

Definitions and Notes

- The study population for this project consisted of all Albertan youth who were registered with the Alberta Health Care Insurance Plan in 2008/09 or who received selected services from one or more of the participating ministries in 2008/09. "All Albertan youth" refers to this study population.
- The study year was fiscal year 2008/09. With the exception of Education and Enterprise and Advanced Education data, all data were for services provided between April 1, 2008 and March 31, 2009, with age determined on March 31, 2009.
    - Data for Enterprise and Advanced Education were for services provided between September 1, 2008 and June 30, 2009, with age determined on March 31, 2009.
    - Data for Education were for services provided to youth who were 12 to 19 years old on September 30, 2008. As a result, youth turning 12 between October 1, 2008 and March 31, 2009 *were not* included in the Education data but were included in other ministries' data. This resulted in the number of 12 year olds in the Education data being lower (approximately 50% lower) than that of 13 to 17 year olds.
    - Furthermore, although Education only provides services to youth who are under 20, the provision of services is defined by age at September 30. Youth who turned 20 between October 1, 2008 and March 31, 2009 *were* included in the Education data, resulting in the inclusion of 20 year olds in some analyses of Education data.
- The study population inclusion criteria for the Enterprise and Advanced Technology population include "active learner" youth up to 25 years (as of March 31, 2009) who were enrolled in or completed a credit program in publicly funded post-secondary credit program institutions in Alberta (excluding Taylor University College and Seminary) in the 2008/09 academic year. An academic year constitutes the full year (i.e., all sessions offered by an institution during a year). The study population excludes students who completed an apprenticeship program or enrolled in a university transfer program.
- **Cross-ministry analyses included only youth that were linked across the relevant ministries**. This means that not all youth in the project were represented in every analysis. As well, only youth with a value for a given indicator were included in analyses involving that indicator (i.e., **missing values** were excluded).
- Age, gender, and postal code (translated into Statistics Canada dissemination areas) were provided for each individual by each participating ministry. In the case of discrepancies between ministries, the most common value for an indicator was chosen. In the event of two or more most common values, the value for the indicator was chosen randomly from the most common values.
- Dissemination areas of residence were used by CYDL to determine **region of residence**. Urban areas included large centres with urban core populations greater than 100,000 (i.e., Edmonton and Calgary metropolitan areas) and mid-sized centres with urban cores greater than 10,000; all other areas were categorized as rural.
- **Socio-economic status (SES)** captures the social and material environments in which youth live. A youth was assigned a socio-economic status via an index based on the Statistics Canada dissemination area in which he or she resided[5]. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single families, percent of persons living alone, and percent of persons separated, divorced, or widowed. Socio-economic status values fell into five quintiles. In this report, "lowest socio-economic status" refers to the lowest quintile of socio-economic status, while "highest" refers to the highest quintile.

Definitions and Notes

- **Mental health status** was defined by the presence or absence of mental health diagnosis codes in Health's databases (Inpatient—Discharge Abstract Database, Ambulatory Care, and Practitioner Payments), or in the Family Support for Children with Disabilities Information System. Only youth who were registered with Health for the full fiscal year were included in the mental health analyses. **Mental health service use is a proxy for presence of a mental health condition:** Some youth with mental health conditions may not have accessed mental health services in Alberta during the year, and some mental health service use may have occurred for youth who did not in fact have mental health conditions.
    - **Mental health conditions** were grouped based on The Johns Hopkins ACG® Case-Mix System (version 8.2)[6]. Mental health conditions were *mood/anxiety* (anxiety, depression, bipolar disorder, etc.), *behavioural* (attention-deficit disorder, regulatory disorder, mental or behavioural problems due to substance use, etc.), *neurodevelopmental* (autism, fetal alcohol spectrum disorder, cerebral palsy, etc.), or *schizophrenia/psychoses* (schizophrenia, psychosis, delusional disorder, etc.). Conditions were not mutually exclusive; a youth could have a diagnosis in more than one category.
- Participation in **post-secondary** education refers to enrolment in a post-secondary institution in Alberta. Youth enrolled in apprenticeship programs were not included.
- **Credential types** for post-secondary programs include bachelor/applied/graduate programs (also called degree -granting), certificate/diploma programs, and programs with no credential received upon completion.
- **Enrolment status** consists of full-time (students who enrolled in at least 60% of a full course load in at least one session in the academic year) or part-time (students who were enrolled in less than 60% of full course load in all sessions attended for the academic year).
- **Physician visits** reflect fee claims made by physicians when patients visit their offices. In this report, multiple claims by a given physician for a given patient on the same day were counted as a single visit.
- **Emergency room visits** refer to visits to emergency departments for assessment or treatment.
- **Hospitalizations** refer to admissions to hospital for assessment or treatment.
- **Maltreatment-related interventions** occur when the safety or well-being of a youth is threatened. Categories of intervention include *in care services* (the youth is taken into care, and placed in a foster home, with family, in a group home, etc.), and *out of care services* (the youth remains in the home and the family receives support services).
- **Income support** refers to financial benefits provided to individuals and couples who cannot meet their basic needs. The **client types** for income support clients are *expected to work* (clients who are looking for work, working, or unable to work in the short term) and *barriers to full employment* (clients who have difficulty working because of a chronic mental or physical health problem or because of multiple barriers to employment).

Data sources

Ministry	Database	Use in this report
Enterprise and Advanced Education	Learner Enrolment Reporting System (LERS)	Post-secondary education enrolment
Health	Inpatient – Discharge Abstract Database (DAD)	Hospitalization data
Health	Ambulatory Care (ACCS)	Emergency room visit data
Health	Practitioner Payments (SESE)	Physician visit data
Health	Alberta Health Care Insurance Plan Population	Population registry
Human Services	Child Youth Information Module (CYIM)	Maltreatment and intervention data
Human Services	Central Client Directory (CCD)	Income support data

References

1. Torjman, S. (2010). *The power of post-secondary education*. Ottawa: The Caledon Institute of Social Policy.
2. Human Resources and Skill Development Canada. (2011). *Indicators of Well-Being in Canada*. Retrieved from http://www4.hrsdc.gc.ca/.3ndic.1t.4r@-eng.jsp?iid=29
3. MacKean, G. (2011). *Mental health and well-being in postsecondary education settings: A literature and environmental scan to support planning and action in Canada*. Kingston, ON: Canadian Association of College and University Student Services.
4. Food Banks Canada. (2011). *HungerCount: A comprehensive report on hunger and food bank use in Canada, and recommendations for change*. Canada.
5. Pampalon, R., Hamel, D., Garnache, P., Raymond, G. (2009). A deprivation index for health planning in Canada. *Chronic Diseases in Canada, 29(4)*, 178-91.
6. The Johns Hopkins University (2008). *The Johns Hopkins ACG® System Reference Manual, Version 8.2* . Johns Hopkins University: Baltimore.

The Child and Youth Data Laboratory

The **Child and Youth Data Laboratory** (CYDL) links and analyzes administrative data from child- and youth-serving ministries in the Government of Alberta. The ministries participate in research design and provide data elements that contribute to answering research questions.

The CYDL's research provides groundbreaking opportunities to understand relationships between critical factors in the lives of children and youth in Alberta. The research results can be used to inform policy and program development and evaluation, both within and across ministries, and to inspire further research.

The CYDL is managed by the **Alberta Centre for Child, Family and Community Research** (ACCFCR). The Centre has evolved over its eight year history as a public-sector, innovative resource for evidence. The Centre develops, supports and integrates research across sectors and disciplines to provide a strong, evidence-based foundation for identifying and promoting effective public policy and service delivery to improve the well-being of children, families, and communities in Alberta, Canada, and internationally.

Our partners

This project was carried out on behalf of six ministries of the Government of Alberta. Each ministry collaborated extensively with the CYDL on this project, and their dedication to the project is gratefully acknowledged:

Enterprise and Advanced Education
Education
Health
Human Services
Aboriginal Relations
Justice and Solicitor General

Suggested citation

Child and Youth Data Laboratory (2012). *Post-secondary students in Alberta.* Edmonton: Alberta Centre for Child, Family and Community Research.

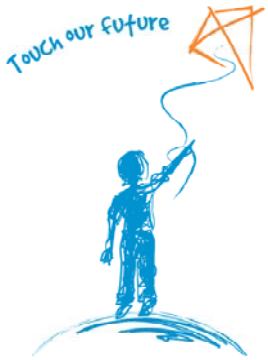
Contact CYDL

www.research4children.com
Click on "Data"

Xinjie Cui, Director
780 944 8631
xcui@research4children.com

Leslie Twilley, Senior Scientist
780 408 8734
ltwilley@research4children.com

Navjot (Jo) Lamba, Research Scientist
780 408 8735
jlamba@research4children.com



ALBERTA CENTRE FOR
CHILD, FAMILY & COMMUNITY
RESEARCH

Government
of Alberta

Income support among Albertan youth

Child and Youth Data Laboratory (CYDL)

Report for *Experiences of Albertan Youth* Project

Key findings

This report provides a profile of 6,599 Albertan youth (aged 18 to 24 years old) who received income support at any point in 2008/09. Human Services provides financial benefits to individuals and families who do not have the resources to meet their basic needs, such as food, clothing and shelter. Client types are those with *barriers to full employment* and those *expected to work*. Youth who received income support while upgrading or training (*learners*) were excluded. Household types are singles or couples, with or without children. See *Definitions and Notes* (p.21) for details.

The report looks at the relationships between income support client type and household type and age, gender, region of residence, socio-economic status, educational achievement, mental health status, and health service use for youth who received income support. These youth are compared with youth who did not receive income support. An overview of cross-ministry service use for youth receiving income support is also included.

- 1.6% of youth received income support at some point in 2008/09. 54% of these were *barriers to full employment* clients and 46% were *expected to work* clients. 60% were *singles.*
- Females were over-represented among income support clients who were *singles* with children or *expected to work*; males were predominant among *singles* without children.
- Income support clients were more likely than youth (aged 18 to 20 years) not receiving income support to live in mid-sized centres, to live in low to middle socio-economic status neighbourhoods, to perform below expectations in high school, to receive services for a mental health condition, and to have high health service use or no health service use.
- Compared to youth who did not receive income support, income support clients were less likely to be in the Alberta Health Care Insurance Plan (AHCIP) registry or enrolled in a post-secondary institution, but were more likely to be receiving maltreatment-related intervention services. *Barriers to full employment* clients or *singles* without children were more likely than youth who did not receive income support to be enrolled in high school.

Contents

Key findings and Context.....1 to 2
Data analyses.....3 to 9
Tables.....10 to 19
Definitions and Notes.....20 to 21
Data sources.....22
References.....22
About CYDL.....23

Income support among Albertan youth

Context

Income support is one of a broader suite of social programs provided by the various levels of government; other programs include supports for the elderly, the disabled, families, and the unemployed. Expenditures on income supports in Canada (known as *social assistance* in many jurisdictions) are the second largest of such programs, next to old age security programs.[1]

A 2006 Albertan study found the largest proportion of income support clients was 20-29 years old (31%), while 9% of income support clients were 0-19 years old. The majority of individuals on income support who were working and *expected to work* were single parents (62%).[2] International literature suggests that youth are more likely to be on income support if they grew up in a family that relied on income support.[3,4]

Key barriers to permanent employment for individuals who are able to work include mental health and addiction problems, lack of affordable childcare, lack of transportation, and poor skills in areas such as stress and conflict management or problem solving. The most common barriers to leaving income support include lack of work experience, health problems, child care issues, lack of a high school diploma, and lack of self-confidence. [2] Single parents and clients who have not graduated from high school are most likely to return to income support after leaving it.[5]

The project

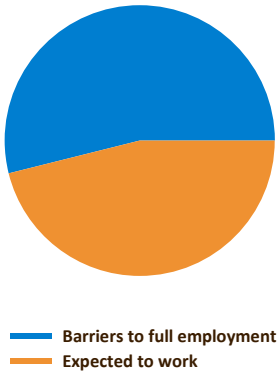
The current project, **Experiences of Albertan Youth**, is focused on basic understanding of the experiences of Albertan youth within and across ministries, as they relate to key indicators (age, gender, socio-economic status, educational achievement, and mental health status). It is the first project in a planned series that will link and analyze administrative data on children and youth in Alberta to inform policy, programs, and research.

List of reports for the project

Socio-economic status of Albertan youth
Educational experiences of Albertan youth
Mental health status of Albertan youth
Family Support for Children with Disabilities services received by Albertan youth
Maltreatment-related investigations among Albertan youth
Maltreatment-related intervention services received by Albertan youth
Physician visits by Albertan youth
Emergency room visits by Albertan youth
Hospitalizations of Albertan youth
Offence charges among Albertan youth
Corrections involvement among Albertan youth
Post-secondary students in Alberta
Income support among Albertan youth
Educational experiences of Albertan youth with income support activity
Least advantaged and most advantaged Albertan youth

Income support among Albertan youth

Income support client type
Albertan youth aged 18 to 24



Income support client type (Table 1)

These analyses look at Albertan youth (aged 18 to 24 years) who received income support at any point in 2008/09 by income support client type.

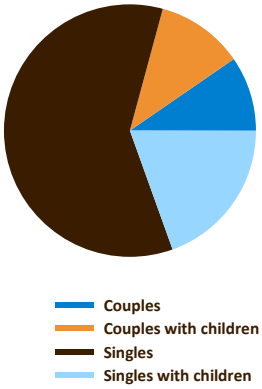
- 6,599 youth received income support services in 2008/09, representing 1.6% of 406,014 Albertan youth (aged 18 to 24 years).
- 54% of youth who received income support services were *barriers to full employment* clients, and 46% were *expected to work* clients.

Income support household type (Table 2)

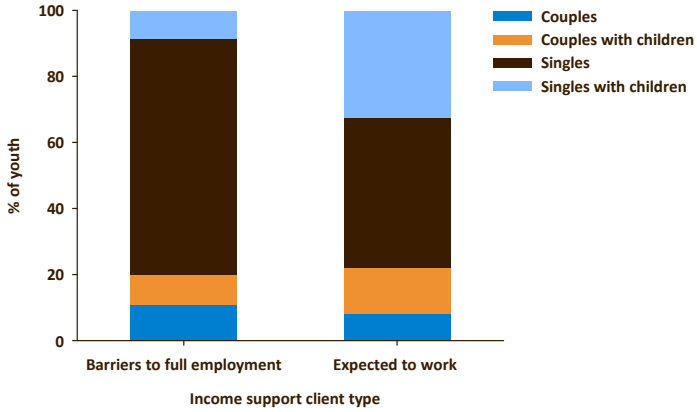
Household type refers to the family composition of income support clients (aged 18 to 24 years).

- 60% of youth who received income support services were *singles*, followed by *singles with children* (19%), *couples with children* (11%) and *couples* (10%).

Income support household type
Albertan youth aged 18 to 24



Income support client type by income support household type
Albertan youth aged 18 to 24

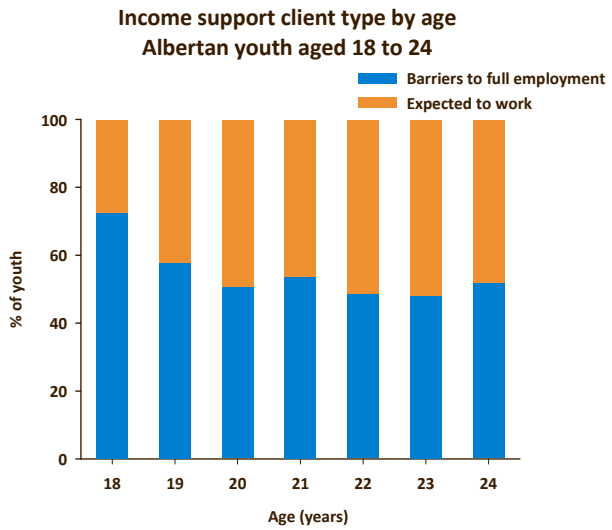


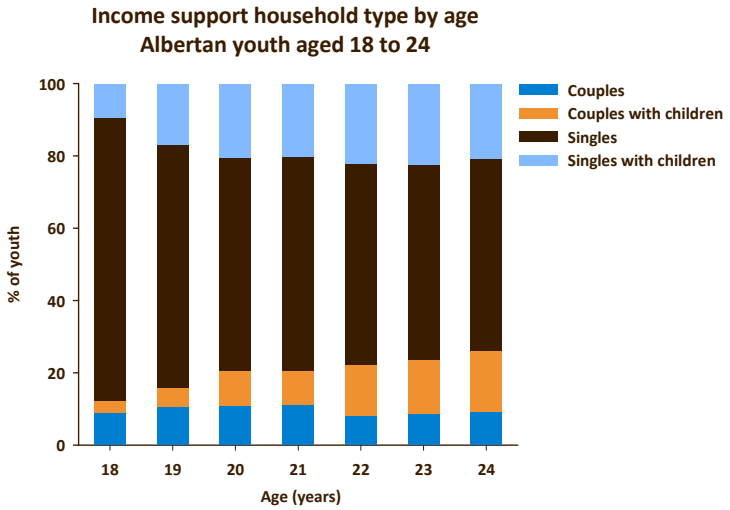
Income support client type by household type (Table 3)

- Youth with *barriers to full employment* were more likely to be *singles* (72%) than youth *expected to work* (46%).
- Among youth *expected to work* there were more *singles with children* (32%) than among youth with *barriers to full employment* (8%).

Income support client type by age (Table 4)

- At age 22 and 23 years, more youth were classified as *expected to work* than with *barriers to full employment*.
- In contrast, across all other ages there were more youth with *barriers to full employment*. The highest percentage (72%) of youth with *barriers to full employment* was among 18 year olds.



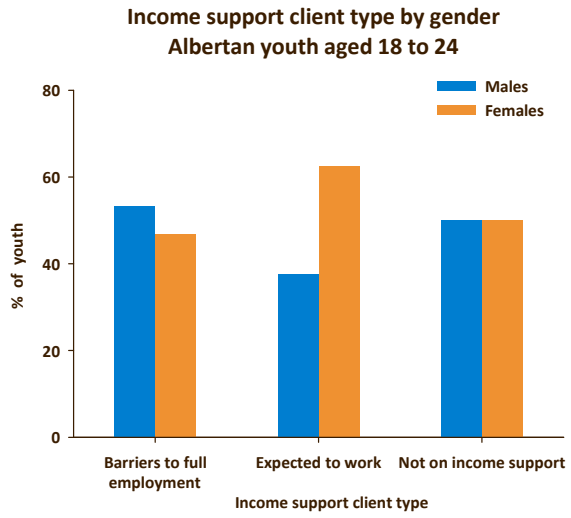


Income support household type by age (Table 5)

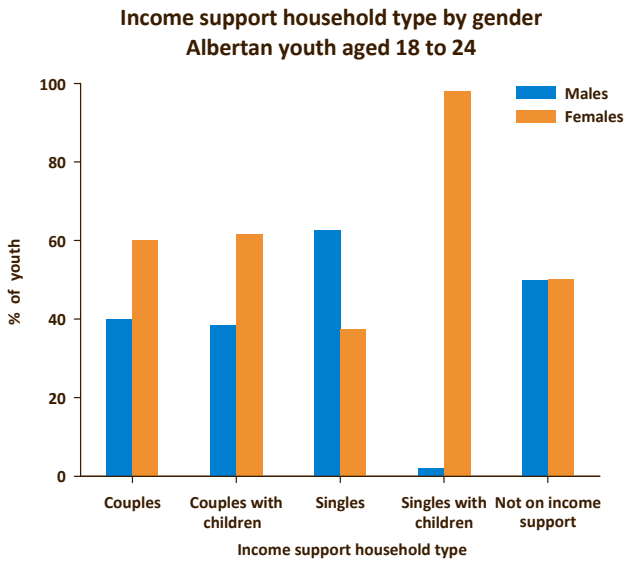
- The percentage of youth who were *singles* without children was highest among 18 year olds (78%). The percentage of *singles* without children decreased as youth got older.
- Conversely the percentage of youth who were *couples with* or *without children* increased as youth got older.
- The percentage of youth on income support who were *singles with children* varied slightly across the age range for 19 to 24 year olds.

Income support client type by gender (Table 6)

- There were considerably more females (63%) than males among youth *expected to work*.
- There were slightly more males (53%) than females among youth with *barriers to full employment*.
- There were no gender differences for youth who did not receive income support.



Income support among Albertan youth

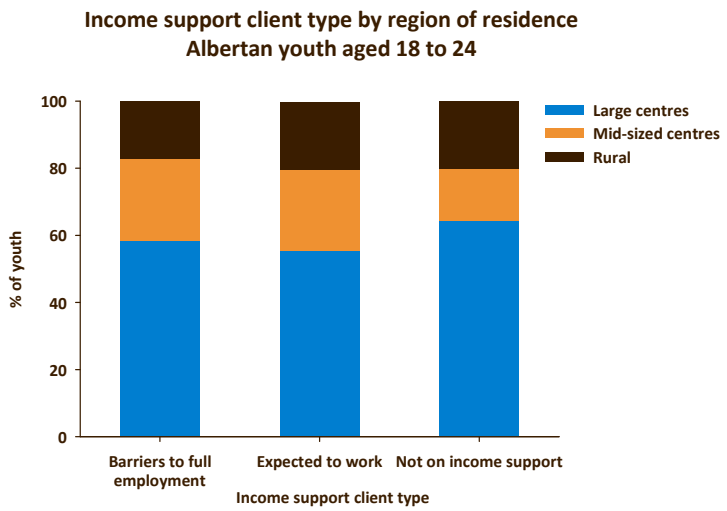


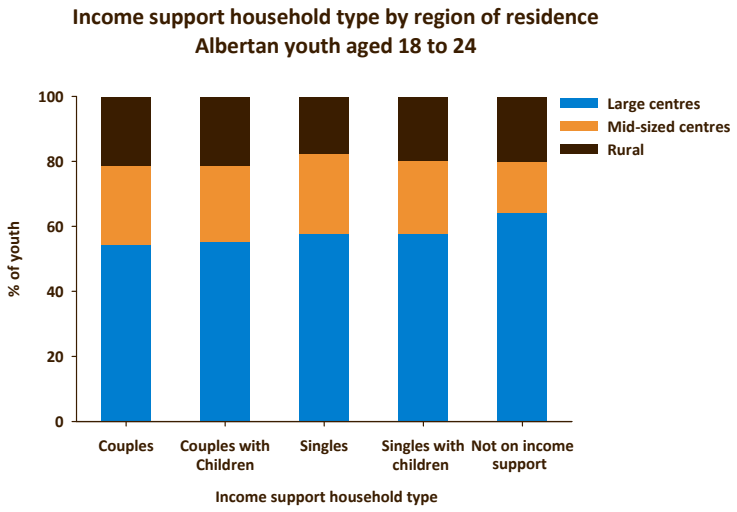
Income support household type by gender (Table 7)

- *Singles with children* were overwhelmingly female (98%), while *singles* without children were predominantly male (63%) .
- Female clients comprised a higher percentage of *couples with children* (60%) and *couples* without children (62%) than male clients (40% and 39% respectively).
- The percentage of females and males was equal among youth who did not receive income support .

Income support client type by region of residence (Table 8)

- Nearly a quarter of youth who received income support (whether *expected to work* or *with barriers to full employment*) lived in mid-sized centres, compared to 16% of youth who did not receive income support.





Income support household type by region of residence (Table 9)

- Youth who received income support were more likely to live in mid-sized centres than youth who did not receive income support.
- Region of residence varied only slightly across the different household types.

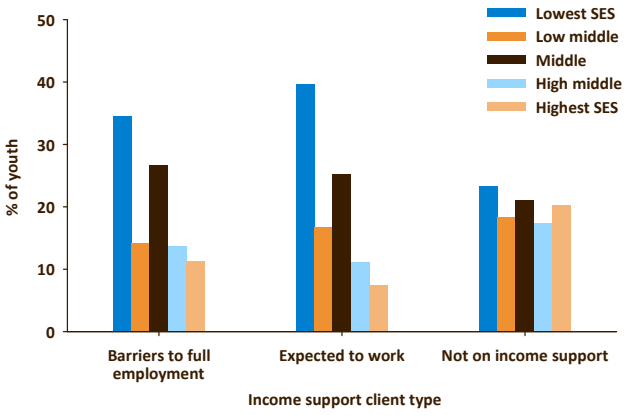
Income support among Albertan youth

Income support client type by socio-economic status (Table 10)

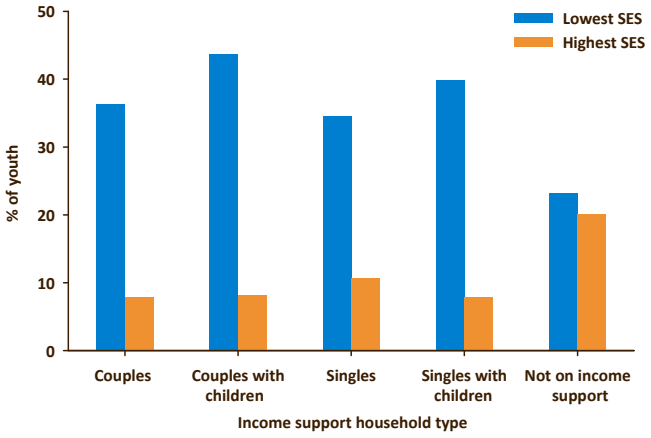
Socio-economic status captures the social and material environments in which youth live. See *Definitions and Notes* (p.20).

- Youth who received income support (*with barriers to full employment* and *expected to work*) were more likely to live in the lowest or middle socio-economic status neighbourhoods than youth who did not receive income support.

Income support client type by socio-economic status (SES)
Albertan youth aged 18 to 24



Income support household type by socio-economic status (SES)
Albertan youth aged 18 to 24



Income support household type by socio-economic status (Table 11)

Only the highest and lowest socio-economic status groups are shown in this analysis. See *Definitions and Notes* (p.20).

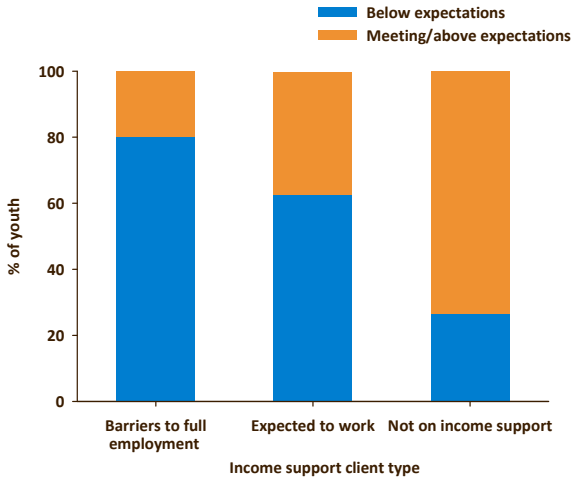
- Youth who received income support tended to live in lower socio-economic status neighbourhoods than youth who did not, regardless of household type.
- *Singles* without children tended to live in slightly better socio-economic status neighbourhoods than *singles with children*, *couples,* and *couples without children.*

Income support client type by educational achievement (Table 12)

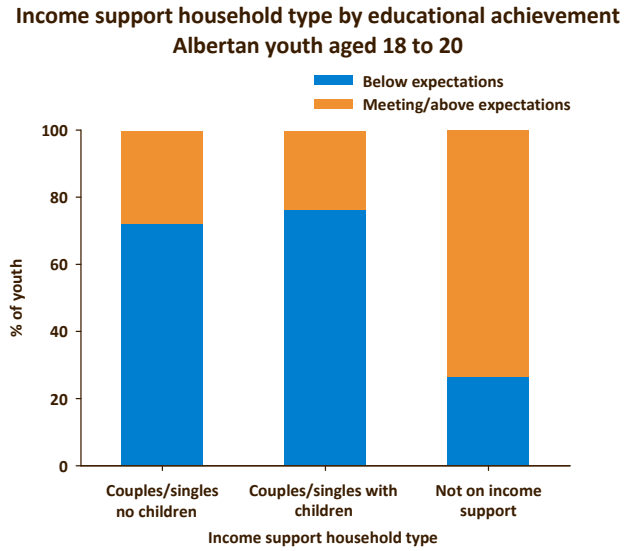
This analysis describes youth (aged 18 to 20 years) who received any income support and were registered in Alberta's K-12 education system (not necessarily simultaneously) in 2008/09 and had educational achievement information available.

- 20% of youth with *barriers to full employment* and 37% of youth who were *expected to work* at some point in the year met or exceeded educational expectations. In contrast, 74% of youth who had not received income support at any time in the year met or exceeded educational expectations.

Income support client type by educational achievement
Albertan youth aged 18 to 20



Income support among Albertan youth



Income support household type by educational achievement (Table 13)

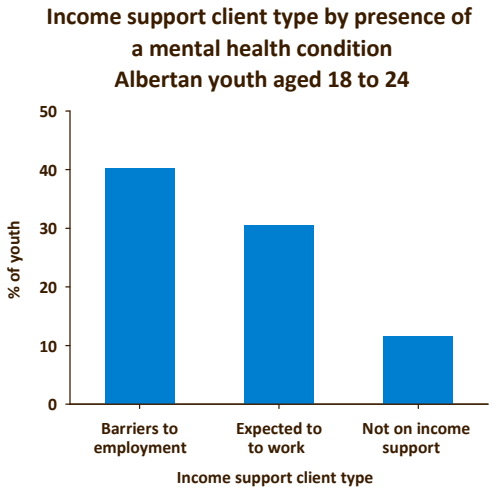
Due to small numbers, household types were re-grouped into two categories; according to presence of children in the household.

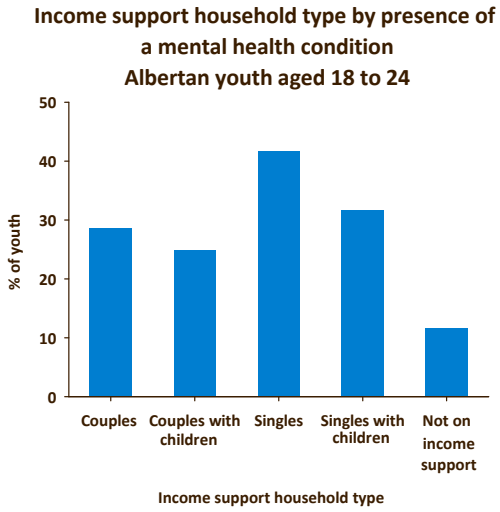
- Youth who received income support at any point in the year were less likely to meet or exceed educational expectations than youth who had not received income support, regardless of household type.
- *Couples and singles without children* who received income support at any point in the year were slightly more likely to have met or exceeded educational expectations (26%) compared to *singles and couples with children* (24%).

Income support client type by mental health status (Table 14)

Mental health status refers to presence or absence of a mental health condition. Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition. See *Definitions and Notes* (p.21).

- Service use for mental health conditions was more common among youth who received income support than youth who did not.
- The highest rate of service use for mental health conditions (40%) was among youth who received income support with *barriers to full employment*, compared with 31% among youth *expected to work*, and 12% among youth who did not receive income support.



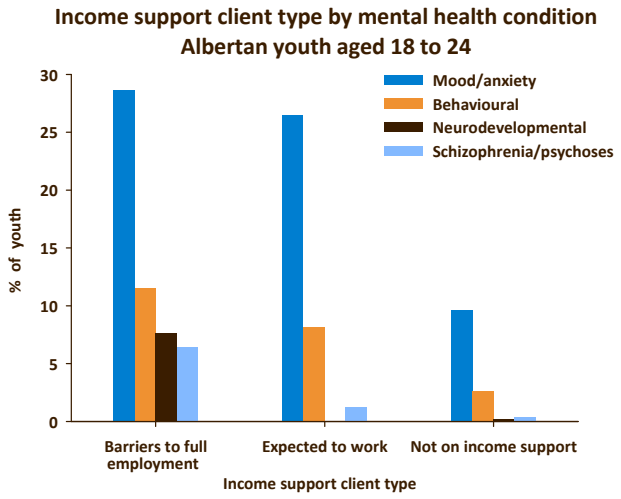


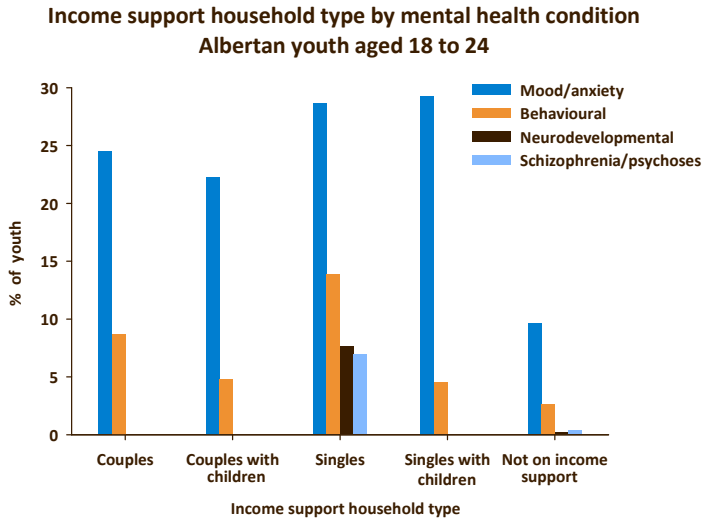
Income support household type by mental health status (Table 15)

- Service use for mental health conditions was higher among youth who received income support than among youth who did not.
- The highest rate (41%) was among *single* youth who received income support, compared with 32% among *singles with children*, 29% among *couples*, 25% among *couples with children* and 12% among youth who did not receive income support.
- Service use for mental health conditions was higher among *singles* with or without children, and lower among *couples* with or without children.

Income support client type by mental health conditions (Table 16)

- All types of mental health conditions were most common among youth who received income support with *barriers to employment.*
- *Mood* or *anxiety* mental health conditions were almost three times higher among youth with *barriers to full employment* (29%) and those *expected to work* (27%) than among youth who did not receive income support (10%).



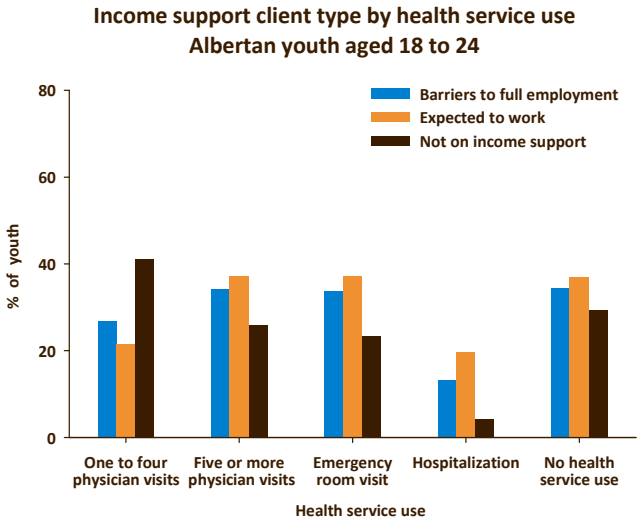


Income support household type by mental health condition (Table 17)

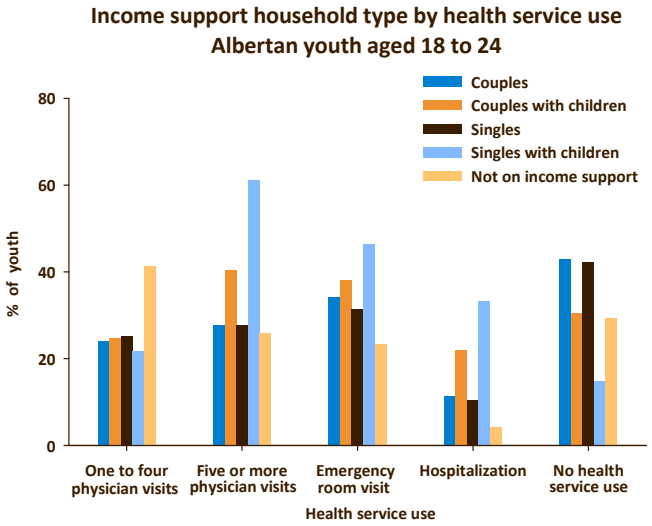
- All types of mental health conditions were most common among *singles* who received income support than among other groups, with the exception of mood/anxiety.
- The percentage of *mood or anxiety* mental health conditions among youth who received income support (range from 22% to 29%) was more than twice that of youth who did not receive income support (10%).
- *Singles* had the highest rate of *behavioural* conditions (14%), compared with 5% to 9% of other income support groups and 3% of youth who did not receive income support.

Income support client type by health service use (Table 18)

- Emergency room visits, hospitalizations and five or more physician visits were highest among youth *expected to work* than any other group.
- Youth *expected to work* were also more likely to have used no health services than any other group.
- Youth who did not receive income support had a higher percentage of one to four physician visits that youth who received income support.



Income support among Albertan youth



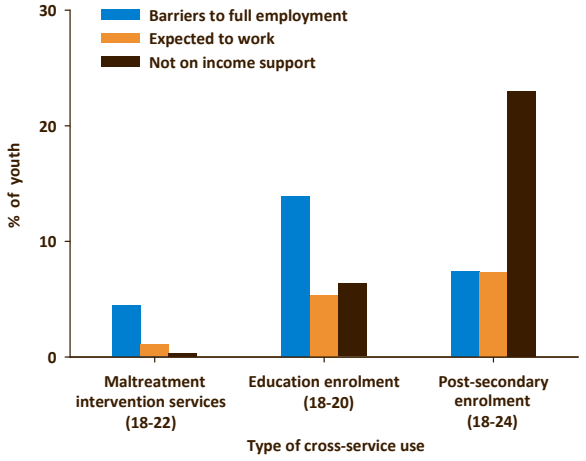
Income support household type by health service use (Table 19)

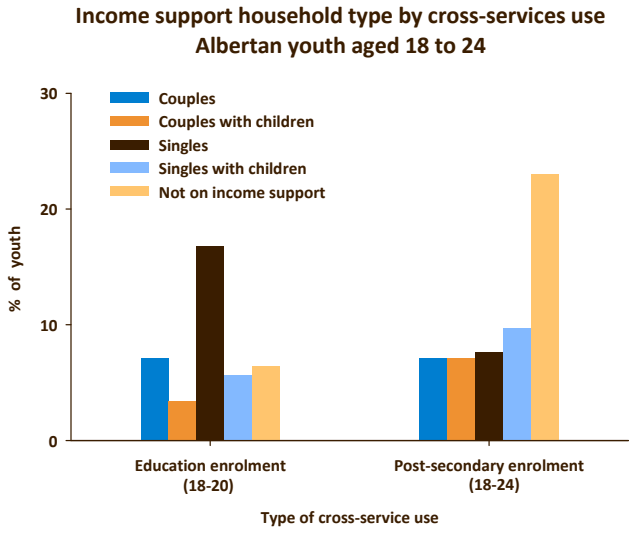
- *Singles with children* were more likely to have five or more physician visits, to have had an emergency room visit, or to have been hospitalized than any other group.
- *Couples* and *singles* were more likely to have no health service use than any other group.
- Youth who did not receive income support were more likely to have one to four physician visits than all other groups.

Income support client type by cross-service use (Table 20)

Youth were considered in this analysis if they were registered with the Alberta Health Care Insurance Plan (AHCIP; See *Definitions and Notes* (p.20). The effects should be interpreted with caution; they cannot be generalized to youth not registered with AHCIP (28% of youth who received income support were not registered with AHCIP).

- Youth who received income support with *barriers to full employment* were more likely to have received maltreatment-related intervention services and to be enrolled in the K-12 education system (not necessarily simultaneously) than youth *expected to work* and those that did not receive income support.





Income support household type by cross-service use (Table 21)

- *Singles* who received income support in 2008/09 were more likely to have enrolled in Alberta's K-12 education system (not necessarily simultaneously) than all other income support household groups, including youth who did not receive income support.
- More *singles with children* who received income support in 2008/09 were enrolled in post-secondary institutions (not necessarily simultaneously) than any other income support household group.

Tables

Table 1. Number and percent of youth by income support client type, Albertan youth aged 18 to 24 years, 2008/09

	Income support client type	Total
Number of youth	Barriers to full employment	3,557
	Expected to work	3,042
	Any income support	6,599
	Not on income support	399,415
	Total (aged 18 to 24 years)	406,014
Percent of youth	Barriers to full employment	0.9
	Expected to work	0.7
	Any income support	1.6
	Not on income support	98.4
	Total (aged 18 to 24 years)	100.0
Percent of youth on income support	Barriers to full employment	53.9
	Expected to work	46.1
	Total (aged 18 to 24 years)	100.0

Table 2. Number and percent of youth by income support household type, Albertan youth aged 18 to 24 years, 2008/09

	Income support household type	Total
Number of youth	Couples	632
	Couples with children	740
	Singles	3,941
	Singles with children	1,286
	Any income support	6,599
	Not on income support	399,415
	Total (aged 18 to 24 years)	406,014
Percent of youth	Couples	0.2
	Couples with children	0.2
	Singles	1.0
	Singles with children	0.3
	Any income support	1.6
	Not on income support	98.4
	Total (aged 18 to 24 years)	100.0
Percent of youth on income support	Couples	9.6
	Couples with children	11.2
	Singles	59.7
	Singles with children	19.5
	Total (aged 18 to 24 years)	100.0

Tables (continued)

Table 3. Number and percent of youth by income support client type and income support household type, Albertan youth aged 18 to 24 years, 2008/09

	Household type	Client type		
		Barriers to full employment	Expected to work	Total
Number of youth	Couples	386	246	632
	Couples with children	320	420	740
	Singles	2,551	1,390	3,941
	Singles with children	300	986	1,286
	Total	3,557	3,042	6,599
Percent of youth	Couples	10.9	8.1	9.6
	Couples with children	9.0	13.8	11.2
	Singles	71.7	45.7	59.7
	Singles with children	8.4	32.4	19.5
	Total	100.0	100.0	100.0

Table 4. Number and percent of youth by income support client type and age, Albertan youth aged 18 to 24 years, 2008/09

	Client type	Age (years)							
		18	19	20	21	22	23	24	Total
Number of youth	Barriers to full employment	507	510	439	511	505	521	564	3,557
	Expected to work	193	370	426	441	531	560	521	3,042
	Total	700	880	865	952	1,036	1,081	1,085	6,599
Percent of youth	Barriers to full employment	72.4	58.0	50.8	53.7	48.7	48.2	52.0	53.9
	Expected to work	27.6	42.0	49.2	46.3	51.3	51.8	48.0	46.1
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Tables (continued)

Table 5. Number and percent of youth by income support household type and age, Albertan youth aged 18 to 24 years, 2008/09

	Household type	Age (years)							
		18	19	20	21	22	23	24	Total
Number of youth	Couples	62	92	94	106	83	95	100	632
	Couples with children	24	48	85	91	148	162	182	740
	Singles	547	592	508	561	574	581	578	3,941
	Singles with children	67	148	178	194	231	243	225	1,286
	Total	700	880	865	952	1,036	1,081	1,085	6,599
Percent of youth	Couples	8.9	10.5	10.9	11.1	8.0	8.8	9.2	9.6
	Couples with children	3.4	5.5	9.8	9.6	14.3	15.0	16.8	11.2
	Singles	78.1	67.3	58.7	58.9	55.4	53.7	53.3	59.7
	Singles with children	9.6	16.8	20.6	20.4	22.3	22.5	20.7	19.5
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 6. Number and percent youth by income support client type and gender, Albertan youth aged 18 to 24 years , 2008/09

	Gender	Income support client type			
		Barriers to full employment	Expected to work	Total	Not receiving income support
Number of youth	Female	1,665	1,902	3,567	199,888
	Male	1,892	1,140	3,032	199,501
	Total	3,557	3,042	6,599	399,389
Percent of youth	Female	46.8	62.5	54.1	50.0
	Male	53.2	37.5	45.9	50.0
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 7. Number and percent youth by income support household type and gender, Albertan youth aged 18 to 24 years, 2008/09

	Gender	Income support household type					
		Couples	Couples with children	Singles	Singles with children	Total	Not receiving income support
Number of youth	Female	379	455	1,471	1,262	3,567	199,888
	Male	253	285	2,470	24	3,032	199,501
	Total	632	740	3,941	1,286	6,599	399,389
Percent of youth	Female	60.0	61.5	37.3	98.1	54.1	50.0
	Male	40.0	38.5	62.7	1.9	45.9	50.0
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Table 8. Number and percent of youth by income support client type and region of residence, Albertan youth aged 18 to 24 years, 2008/09

	Region of residence	Income support client type			
		Barriers to full employment	Expected to work	Total	Not receiving income support
Number of youth	Rural	606	618	1,224	77,230
	Mid-sized centres	850	730	1,580	59,282
	Large centres	2,052	1,678	3,730	246,359
	Total	3,508	3,026	6,534	382,871
Percent of youth	Rural	17.3	20.4	18.7	20.2
	Mid-sized centres	24.2	24.1	24.2	15.5
	Large centres	58.5	55.5	57.1	64.3
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 9. Number and percent of youth by income support household type and region of residence, Albertan youth aged 18 to 24 years, 2008/09

	Region of residence	Income support household type					
		Couples	Couples with children	Singles	Singles with children	Total	Not receiving income support
Number of youth	Rural	133	157	682	252	1,224	77,230
	Mid-sized centres	150	174	966	290	1,580	59,282
	Large centres	339	404	2,246	741	3,730	246,359
	Total	622	735	3,894	1,283	6,534	382,871
Percent of youth	Rural	21.4	21.4	17.5	19.6	18.7	20.2
	Mid-sized centres	24.1	23.7	24.8	22.6	24.2	15.5
	Large centres	54.5	55.0	57.7	57.8	57.1	64.3
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Table 10. Number and percent of youth by income support client type and socio-economic status (SES), Albertan youth aged 18 to 24 years, 2008/09

	Socio-economic status	Income support client type			
		Barriers to full employment	Expected to work	Total	Not receiving income support
Number of youth	Lowest SES	1,183	1,151	2,334	86,429
	Low middle	489	487	976	68,133
	Middle	915	729	1,644	77,924
	High middle	469	324	793	64,886
	Highest SES	386	217	603	75,012
	Total	3,442	2,908	6,350	372,384
Percent of youth	Lowest SES	34.4	39.6	36.8	23.2
	Low middle	14.2	16.7	15.4	18.3
	Middle	26.6	25.1	25.9	20.9
	High middle	13.6	11.1	12.5	17.4
	Highest SES	11.2	7.5	9.5	20.1
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 11. Number and percent of youth by income support household type and socio-economic status (SES), Albertan youth aged 18 to 24 years, 2008/09

	Socio-economic status	Income support household type					
		Couples	Couples with children	Singles	Singles with children	Total	Not receiving income support
Number of youth	Lowest SES	219	314	1,298	503	2,334	86,429
	Low middle	94	114	570	198	976	68,133
	Middle	174	166	973	331	1,644	77,924
	High middle	70	69	520	134	793	64,886
	Highest SES	47	59	397	100	603	75,012
	Total	604	722	3,758	1,266	6,350	372,384
Percent of youth	Lowest SES	36.3	43.5	34.5	39.7	36.8	23.2
	Low middle	15.6	15.8	15.2	15.6	15.4	18.3
	Middle	28.8	23.0	25.9	26.1	25.9	20.9
	High middle	11.6	9.6	13.8	10.6	12.5	17.4
	Highest SES	7.8	8.2	10.6	7.9	9.5	20.1
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Table 12. Number and percent of youth by income support client type and educational achievement, Albertan youth aged 18 to 20 years, 2008/09

	Educational achievement	Income support client type			
		Barriers to full employment	Expected to work	Total	Not receiving income support
Number of youth	Below expectations	336	77	413	7,506
	Meeting/above expectations	84	46	130	20,929
	Total	420	123	543	28,435
Percent of youth	Below expectations	80.0	62.6	76.1	26.4
	Meeting/above expectations	20.0	37.4	23.9	73.6
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 13. Number and percent of youth by income support household type and educational achievement, Albertan youth aged 18 to 20 years, 2008/09

	Educational achievement	Income support household type			
		Couples and singles	Couples and singles with children	Total	Not receiving income support
Number of youth	Below expectations	353	60	413	7,506
	Meeting/above expectations	109	21	130	20,929
	Total	462	81	543	28,435
Percent of youth	Below expectations	76.4	74.1	76.1	26.4
	Meeting/above expectations	23.6	25.9	23.9	73.6
	Total	100.0	100.0	100.0	100.0

Table 14.Number and percent of youth by income support client type and mental health status, Albertan youth aged 18 to 24 years, 2008/09

	Mental health status	Income support client type			
		Barriers to full employment	Expected to work	Total	Not receiving income support
Number of youth	Any mental health condition	966	592	1,558	39,792
	No mental health condition	1,441	1,339	2,780	302,972
	Total	2,407	1,931	4,338	342,764
Percent of youth	Any mental health condition	40.1	30.7	35.9	11.6
	No mental health condition	59.9	69.3	64.1	88.4
	Total	100.0	100.0	100.0	100.0

Table 15. Number and percent of youth by income support household type and mental health status, Albertan youth aged 18 to 24 years, 2008/09

	Mental health status	Income support household type					
		Couples	Couples with children	Singles	Singles with children	Total	Not receiving income support
Number of youth	Any mental health condition	105	135	981	337	1,558	39,792
	No mental health condition	263	408	1,380	729	2,780	302,972
	Total	368	543	2,361	1,066	4,338	342,764
Percent of youth	Any mental health condition	28.5	24.9	41.6	31.6	35.9	11.6
	No mental health condition	71.5	75.1	58.4	68.4	64.1	88.4
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Tables (continued)

Table 16. Number and percent of youth by income support client type and mental health condtition, Albertan youth aged 18 to 24 years, 2008/09

	Mental health condition*	Income support client type			
		Barriers to full employment	Expected to work	Total	Not receiving income support
Number of youth	Mood/anxiety	688	511	1,199	32,953
	Behavioural	276	157	433	9,026
	Neurodevelopmental**	184	–	–	673
	Schizophrenia/psychoses	154	23	177	1,210
	Total (income support category)	2,407	1,931	4,338	342,764
Percent of youth	Mood/anxiety	28.6	26.5	27.6	9.6
	Behavioural	11.5	8.1	10.0	2.6
	Neurodevelopmental**	7.6	–	–	0.2
	Schizophrenia/psychoses	6.4	1.2	4.1	0.4

*Mental health condition categories are not mutually exclusive

**Due to small cell numbers neurodevelopmental conditions are not shown for some income support client types

Table 17. Number and percent of youth by income support household type and mental health condtition, Albertan youth aged 18 to 24 years, 2008/09

	Mental health condition*	Income support household type					
		Couples	Couples with children	Singles	Singles with children	Total	Not receiving income support
Number of youth	Mood/anxiety	90	121	676	312	1,199	32,953
	Behavioural	32	26	327	48	433	9,026
	Neurodevelopmental**	–	–	180	–	–	673
	Schizophrenia/psychoses**	–	–	164	–	–	1,210
	Total (income support category)	368	543	2,361	1,066	4,338	342,764
Percent of youth	Mood/anxiety	24.5	22.3	28.6	29.3	27.6	9.6
	Behavioural	8.7	4.8	13.9	4.5	10.0	2.6
	Neurodevelopmental**	–	–	7.6	–	–	0.2
	Schizophrenia/psychoses**	–	–	6.9	–	–	0.4

*Mental health condition categories are not mutually exclusive

**Due to small cell numbers neurodevelopmental and Schizophrenia/psychoses conditions are not shown for some household types

Tables (continued)

Table 18. Number and percent of youth by income support client type and health service use, Albertan youth aged 18 to 24 years, 2008/09

	Health service use*	Income support client type			
		Barriers to full employment	Expected to work	Total	Not receiving income support
Number of youth	One to four physician visits	950	653	1,603	164,376
	Five or more physician visits	1,214	1,131	2,345	103,136
	Emergency room visit	1,195	1,130	2,325	93,095
	Hospitalization	471	600	1,071	16,820
	Any health service use	2,333	1,917	4,250	282,675
	No health service use	1,224	1,125	2,349	116,740
	Total health service use	3,557	3,042	6,599	399,415
Percent of youth	One to four physician visits	26.7	21.5	24.3	41.2
	Five or more physician visits	34.1	37.2	35.5	25.8
	Emergency room visit	33.6	37.1	35.2	23.3
	Hospitalization	13.2	19.7	16.2	4.2
	Any helath service use	65.6	63.0	64.4	70.8
	No health service use	34.4	37.0	35.6	29.2

*Health service use categories are not mutually exclusive

Table 19. Number and percent of youth by income support household type and health service use, Albertan youth aged 18 to 24 years, 2008/09

	Health service use*	Income support client type					
		Couples	Couples with children	Singles	Singles with children	Total	Not receiving income support
Number of youth	One to four physician visits	152	183	989	279	1,603	164,376
	Five or more physician visits	175	298	1,087	785	2,345	103,136
	Emergency room visit	216	281	1,232	596	2,325	93,095
	Hospitalization	71	162	412	426	1,071	16,820
	Any health service use	361	514	2,280	1,095	4,250	282,675
	No health service use	271	226	1,661	191	2,349	116,740
	Total health service use	632	740	3,941	1,286	6,599	399,415
Percent of youth	One to four physician visits	24.1	24.7	25.1	21.7	24.3	41.2
	Five or more physician visits	27.7	40.3	27.6	61.0	35.5	25.8
	Emergency room visit	34.2	38.0	31.3	46.3	35.2	23.3
	Hospitalization	11.2	21.9	10.5	33.1	16.2	4.2
	Any health service use	57.1	69.5	57.9	85.1	64.4	70.8
	No health service use	42.9	30.5	42.1	14.9	35.6	29.2

*Health service use categories are not mutually exclusive

Tables (continued)

Table 20. Number and percent of youth by income support client type and cross-service use, Albertan youth aged 18 to 24 years, 2008/09*

	Type of cross-service use	Income support client type			
		Barriers to full employment	Expected to work	Total	Not receiving income support
Number of youth	Maltreatment intervention services	119	20	139	1,213
	Education enrolment	423	126	549	28,931
	Post-secondary enrolment	210	168	378	112,142
	Health registry	2,611	2,120	4,731	365,896
Percent of youth	Maltreatment intervention services	4.6	0.9	2.9	0.3
	Education enrolment	16.2	5.9	11.6	7.9
	Post-secondary enrolment	8.0	7.9	8.0	30.6
	Health registry	100.0	100.0	100.0	100.0

*Only youth registered in the Alberta Health Care Insurance Plan were included in this analysis

Table 21. Number and percent of youth by income support household type and cross-service use, Albertan youth aged 18 to 24 years, 2008/09*

	Type of cross-service use	Income support client type					
		Couples	Couples with children	Singles	Singles with children	Total	Not receiving income support
Number of youth	Education enrolment	29	20	436	64	549	28,931
	Post secondary enrolment	29	42	197	110	378	112,142
	Health registry	409	593	2,598	1,131	4,731	365,896
Percent of youth	Education enrolment	7.1	3.4	16.8	5.7	11.6	7.9
	Post secondary enrolment	7.1	7.1	7.6	9.7	8.0	30.6
	Health registry	100.0	100.0	100.0	100.0	100.0	100.0

*Only youth registered in the Alberta Health Care Insurance Plan were included in this analysis

Definitions and Notes

- The study population for this project consisted of all Albertan youth who were registered with the Alberta Health Care Insurance Plan in 2008/09 or who received selected services from one or more of the participating ministries in 2008/09. "All Albertan youth" refers to this study population.
- The study year was fiscal year 2008/09. With the exception of Education and Enterprise and Advanced Education data, all data were for services provided between April 1, 2008 and March 31, 2009, with age determined on March 31, 2009.
    - Data for Enterprise and Advanced Education were for services provided between September 1, 2008 and June 30, 2009, with age determined on March 31, 2009.
    - Data for Education were for services provided to youth who were 12 to 19 years old on September 30, 2008. As a result, youth turning 12 between October 1, 2008 and March 31, 2009 *were not* included in the Education data but were included in other ministries' data. This resulted in the number of 12 year olds in the Education data being lower (approximately 50% lower) than that of 13 to 17 year olds.
    - Furthermore, although Education only provides services to youth who are under 20, the provision of services is defined by age at September 30. Youth who turned 20 between October 1, 2008 and March 31, 2009 *were* included in the Education data, resulting in the inclusion of 20 year olds in some analyses of Education data.
- **Cross-ministry analyses included only youth that were linked across the relevant ministries**. This means that not all youth in the project were represented in every analysis. As well, only youth with a value for a given indicator were included in analyses involving that indicator (i.e., **missing values** were excluded).
- Age, gender, and postal code (translated into Statistics Canada dissemination areas) were provided for each individual by each participating ministry. In the case of discrepancies between ministries, the most common value for an indicator was chosen. In the event of two or more most common values, the value for the indicator was chosen randomly from the most common values.
- Dissemination areas of residence were used by CYDL to determine **region of residence**. Urban areas included large centres with urban core populations greater than 100,000 (i.e., Edmonton and Calgary metropolitan areas) and mid-sized centres with urban cores greater than 10,000; all other areas were categorized as rural.
- **Socio-economic status (SES)** captures the social and material environments in which youth live. A youth was assigned a socio-economic status via an index based on the Statistics Canada dissemination area in which he or she resided[6]. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single families, percent of persons living alone, and percent of persons separated, divorced, or widowed. Socio-economic status values fell into five quintiles. In this report, "lowest socio-economic status" refers to the lowest quintile of socio-economic status, while "highest" refers to the highest quintile.
- **Educational achievement** was computed by Alberta Education using age, grade, school type, special education codes, provincial achievement test scores, home education status, number of high school credits earned, number of higher level courses taken, average grade in higher level courses, possession of an Alberta Education certificate or diploma, and Alexander Rutherford scholarship eligibility. Educational achievement was categorized as *above, meeting,* or *below expectations* for a student's age and grade. An educational achievement rating was not available for 12 to 14 year old youth without scores on provincial achievement tests, for youth in 'other' schools (accredited post-secondary institutions offering high school courses for credit to adults; most youth in these schools were between 18 and 20 years), and for home-schooled high school youth with no credits.

Definitions and Notes (continued)

- **Mental health status** was defined by the presence or absence of mental health diagnosis codes in Health 's databases (Inpatient—Discharge Abstract Database, Ambulatory Care, and Practitioner Payments), or in the Family Support for Children with Disabilities Information System. Only youth who were registered with the Alberta Health Care Insurance Plan for the full fiscal year were included in the mental health analyses. **Mental health service use is a proxy for presence of a mental health condition:** Some youth with mental health conditions may not have accessed mental health services in Alberta during the year, and some mental health service use may have occurred for youth who did not in fact have mental health conditions.
    - **Mental health conditions** were grouped based on The Johns Hopkins ACG® Case-Mix System (version 8.2)[7]. Mental health conditions were *mood/anxiety* (anxiety, depression, bipolar disorder, etc.), *behavioural* (attention-deficit disorder, regulatory disorder, mental or behavioural problems due to substance use, etc.), *neurodevelopmental* (autism, fetal alcohol spectrum disorder, cerebral palsy, etc.), or *schizophrenia/psychoses* (schizophrenia, psychosis, delusional disorder, etc.). Conditions were not mutually exclusive; a youth could have a diagnosis in more than one category.
- **Income support** refers to financial benefits provided to individuals and couples who cannot meet their basic needs.
- The **client types** for income support clients are *expected to work* (clients who are looking for work, working, or unable to work in the short term) and *barriers to full employment* (clients who have difficulty working because of a chronic mental or physical health problem or because of multiple barriers to employment). *Use this note only if you use client type in your analyses.*
- **Household types** include singles (one adult in the household) with or without children, and couples (two adults in the household) with or without children.
- **Physician visits** reflect fee claims made by physicians for services provided when patients visit their offices. In this report, multiple claims by a given physician for a given patient on the same day were counted as a single visit. Reasons for physician visits were not available for this project.
- **Emergency room visits** refer to visits to emergency departments for assessment or treatment.
- **Hospitalizations** refer to admissions to hospital for assessment or treatment.
- **Maltreatment-related interventions** occur when the safety or well-being of a youth is threatened.
- Participation in **education** refers to enrolment in the kindergarten to grade 12 education system in Alberta.
- Participation in **post-secondary** education refers to enrolment in a post-secondary institution in Alberta. Youth enrolled in apprenticeship programs were not included.
- New and returning Alberta residents, if they are eligible, must register for **Alberta Health Care Insurance Plan** coverage to receive insured health services. Youth in the "**health registry**" refers to all youth who are insured in Alberta. This includes any eligible youth who is a permanent resident of Alberta, living at least 183 days per year in the province. Members of the Canadian Armed Forces, Royal Canadian Mounted Police and federal penitentiary inmates are not eligible (they receive coverage from the federal government), but dependents of these non-eligible residents, who reside in Alberta, are eligible. *Use this note only if you have an analysis subset to those in the registry.*

Data sources

Ministry	Database	Use in this report
Enterprise and Advanced Education	Learner Enrolment Reporting System (LERS)	Post-secondary education enrolment data
Education	Corporate Data Warehouse (CDW)	Primary and secondary education achievement data
Health	Inpatient – Discharge Abstract Database (DAD)	Hospitalization data
Health	Ambulatory Care (ACCS)	Emergency room visit data
Health	Practitioner Payments (SESE)	Physician visit data
Health	Alberta Health Care Insurance Plan Population Registry (AHCIP registry)	Population registry
Human Services	Child Youth Information Module (CYIM)	Maltreatment and intervention data
Human Services	Family Support for Children with Disabilities Information System (FSCDIS)	Family Supports for Children with Disabilities data
Human Services	Central Client Directory (CCD)	Income support data
Justice and Solicitor General	Justice Online Information Network (JOIN)	Offence data
Justice and Solicitor General	Alberta Community Offender Management System (ACOM)	Corrections data (community)
Justice and Solicitor General	Correctional Offender Management Information System (CoMIS)	Corrections data (custody)

References

1. Fortin, P. (2011). Income support in the Canadian federation: International and Interprovincial comparisons and future directions. In *New Directions for Intelligent Government in Canada: Papers in Honour of Ian Stewart*, F. Gorbet and A. Sharpe (Eds.), pp. 211-26. Centre for the Study of Living Standards: Ottawa.
2. Alberta Human Resources and Employment. (2006). *Working, Expected to Work Project (ETW)*. Retrieved from: http://employment.alberta.ca/documents/FCH/FCH-IS_working_expectedtowork.pdf
3. Brownell, M. D., Roos, N. P., MacWililma, L., Leclair, L., Ekuma, O., & Fransoo, R. (2010). Academic and social outcomes for high-risk youths in Manitoba. *Canadian Journal of Education*, *33*, 804-836.
4. Baron, J. D., Cobb-Clark, D. A., & Erkal, N. (2008). *Cultural transmission of work-welfare attitudes and the inter-generational correlation in welfare receipt* (IZA Discussion Paper. No. 3904). Retrieved from http://ftp.iza.org/dp3904.pdf
5. Alberta Human Resources and Employment, People and Skills Investment Division, Steering Committee. (2006). *Analysis of reentry into income support program in Alberta project phase one*. Retrieved from http://employment.alberta.ca/documents/FCH/FCH-IS_is_reentry_analysis.pdf
6. Pampalon, R., Hamel, D., Garnache, P., & Raymond, G. (2009). A deprivation index for health planning in Canada. *Chronic Diseases in Canada, 29(4)*, 178-91.
7. The Johns Hopkins University. (2008). *The Johns Hopkins ACG® System Reference Manual, Version 8.2*. Johns Hopkins University: Baltimore.

The Child and Youth Data Laboratory

The **Child and Youth Data Laboratory** (CYDL) links and analyzes administrative data from child- and youth-serving ministries in the Government of Alberta. The ministries participate in research design and provide data elements that contribute to answering research questions.

The CYDL's research provides groundbreaking opportunities to understand relationships between critical factors in the lives of children and youth in Alberta. The research results can be used to inform policy and program development and evaluation, both within and across ministries, and to inspire further research.

The CYDL is managed by the **Alberta Centre for Child, Family and Community Research** (ACCFCR). The Centre has evolved over its eight year history as a public-sector, innovative resource for evidence. The Centre develops, supports and integrates research across sectors and disciplines to provide a strong, evidence-based foundation for identifying and promoting effective public policy and service delivery to improve the well-being of children, families, and communities in Alberta, Canada, and internationally.

Our partners

This project was carried out on behalf of six ministries of the Government of Alberta. Each ministry collaborated extensively with the CYDL on this project, and their dedication to the project is gratefully acknowledged:

Enterprise and Advanced Education
Education
Health
Human Services
Aboriginal Relations
Justice and Solicitor General

Suggested citation

Child and Youth Data Laboratory (2012). *Income support among Albertan youth.* Edmonton: Alberta Centre for Child, Family and Community Research.

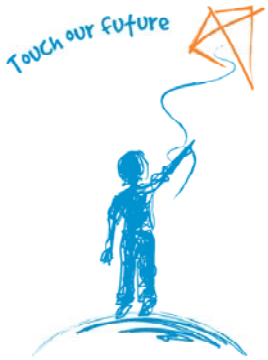
Contact CYDL

www.research4children.com
Click on "Data"

Xinjie Cui, Director
780 944 8631
xcui@research4children.com

Leslie Twilley, Senior Scientist
780 408 8734
ltwilley@research4children.com

Cecilia Bukutu, Research Scientist
780 408 8732
cbukutu@research4children.com



ALBERTA CENTRE FOR
CHILD, FAMILY & COMMUNITY
RESEARCH

Government
of Alberta

Educational experiences of Albertan youth with income support activity

Child and Youth Data Laboratory (CYDL)

Report for *Experiences of Albertan Youth* Project

Key findings

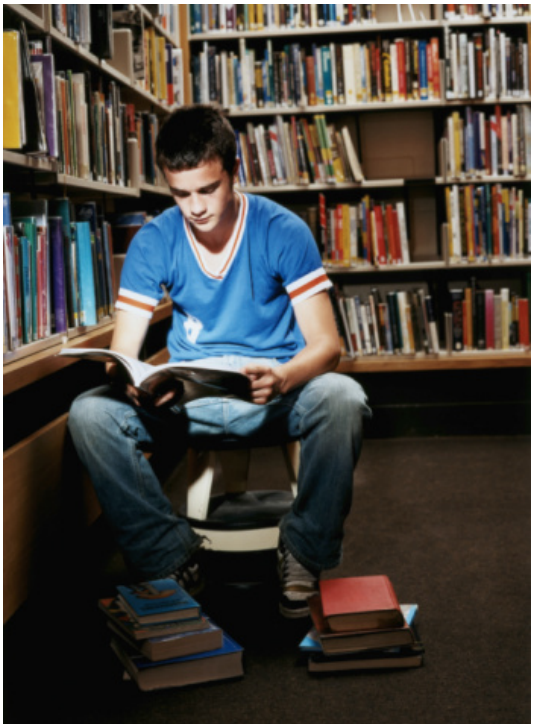
This report is an overview of the educational experiences of 2,445 Albertan youth (aged 18 to 24 years old) who at any point in 2008/09 received income support. Human Services provides financial benefits to individuals and families who do not have the resources to meet their basic needs, such as food, clothing and shelter. Client types are those with *barriers to full employment* and those *expected to work*. Youth who received income support while upgrading or training (*learners*) were excluded. Household types are singles or couples, with or without children. For high school students, school authority type is considered. For post-secondary students, institution type, credential type, and enrolment status are considered. See *Definitions and Notes* for details. *Youth were not necessarily simultaneously receiving income support and attending high school or post-secondary institutions.*

The report describes client types and household types of youth with any income support activity who were enrolled (not necessarily at the same time) in an educational program, as well as relationships with age, gender, region of residence, socio-economic status, mental health status, and health service use. These youth were compared to youth enrolled in high school or post-secondary programs but not receiving income support.

- 549 Albertan youth (aged 18 to 20) who had any income support activity were registered in high school, and 378 Albertan youth (aged 18 to 24) who had any income support activity were enrolled in post-secondary institutions at some point in 2008/09.
- Youth with any income support activity who were registered in high school were most likely to be clients with *barriers to full employment*, single, female, living in large city centres, living in the lowest socio-economic status neighbourhoods, receiving services for a mental health condition, having a high rate of health service use, and performing below educational expectations.
- Youth with any income support activity who were enrolled in post-secondary institutions were likely to be clients with *barriers to full employment*, female, single, part-time students, enrolled in community or independent institutions and enrolled in *no credential* programs.

Contents

Key findings and Context.....1 to 2
Data analyses.....3 to 10
Tables.....11 to 22
Definitions and Notes.....23 to 25
Data sources.....26
References.....26
About CYDL.....27



Context

Income support is one of a broader suite of social programs provided by the various levels of government; other programs include supports for the elderly, the disabled, families, and the unemployed. Income support programs are designed to assist individuals in striving toward self-sufficiency; obtaining an education is a potential road to self-sufficiency.

Previous Alberta data indicate that the largest proportion of income support clients is 20-29 years old (31%), while 9% of income support clients are 0-19 years old. Approximately one third of these individuals identify themselves as Aboriginal and one quarter identify themselves as someone with a disability.[1] International literature suggests that youth are more likely to be on income support if they grew up in a family that relied on income support.[2,3]

Barriers to permanent employment for individuals who are able to work include lack of affordable childcare, lack of transportation, existence of mental health and addiction conditions, and poor skills in areas such as stress and conflict management or problem solving.[1]

Lack of education has been shown to be a key barrier to leaving income support. Compared to those with higher education, individuals without a high school diploma have a greater likelihood of re-entering income support after leaving it.[4] Income support recipients who graduate from college are also more likely to leave income support compared to those with less education.[3]

The project

The current project, **Experiences of Albertan Youth**, is focused on basic understanding of the experiences of Albertan youth within and across ministries, as they relate to key indicators (age, gender, socio-economic status, educational achievement, and mental health status). It is the first project in a planned series that will link and analyze administrative data on children and youth in Alberta to inform policy, programs, and research.

List of reports for the project

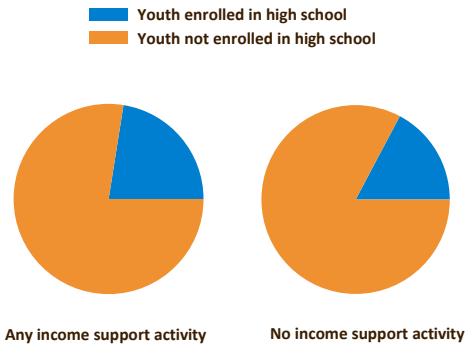
Socio-economic status of Albertan youth
Educational experiences of Albertan youth
Mental health status of Albertan youth
Family Support for Children with Disabilities services received by Albertan youth
Maltreatment-related investigations among Albertan youth
Maltreatment-related intervention services received by Albertan youth
Physician visits by Albertan youth
Emergency room visits by Albertan youth
Hospitalizations of Albertan youth
Offence charges among Albertan youth
Corrections involvement among Albertan youth
Post-secondary students in Alberta
Income support among Albertan youth
Educational experiences of Albertan youth with income support activity
Least advantaged and most advantaged Albertan youth

Income support status by high school enrolment (Table 1)

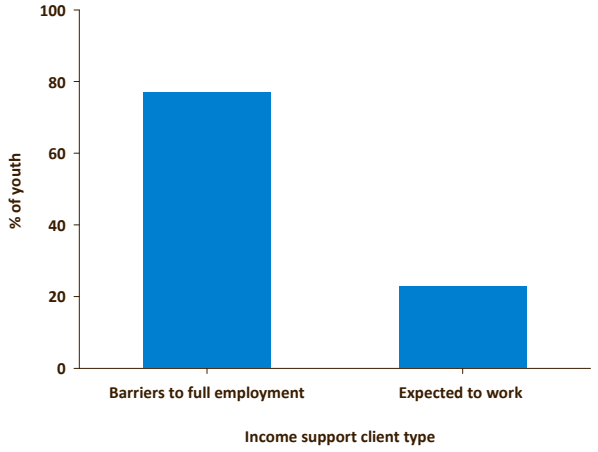
The first part of this report considers analyses of youth (aged 18 to 20 years) who were enrolled in Albertan high schools in 2008/09 by their income support status.

- Of 2,445 youth (18 to 20 years old) who had any income support activity in 2008/09, 23% (549 youth) were enrolled in high school at some point in the year.
- 17%, 28,931 youth out of 170,679 Albertan youth (18 to 20 years old) with no income support activity in 2008/09 were enrolled in high school. The fact that youth with no income support activity were less likely to be enrolled in high school may be partially due to many youth completing high school education by 18 years of age and transitioning into post-secondary or into the work force.

Income support status by high school enrolment status
Albertan youth aged 18 to 20



Income support client type
Albertan youth aged 18 to 20 enrolled in high school



Income support client type by high school enrolment (Table 2)

- The majority (77%) of high school students with any income support activity were youth that had *barriers to full employment.*

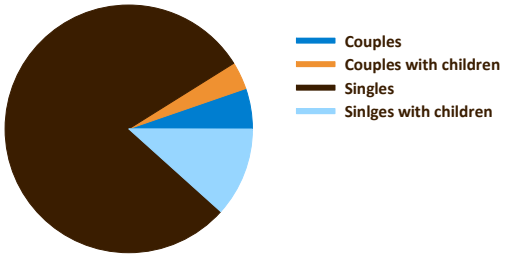
Income support household type by high school enrolment (Table 3)

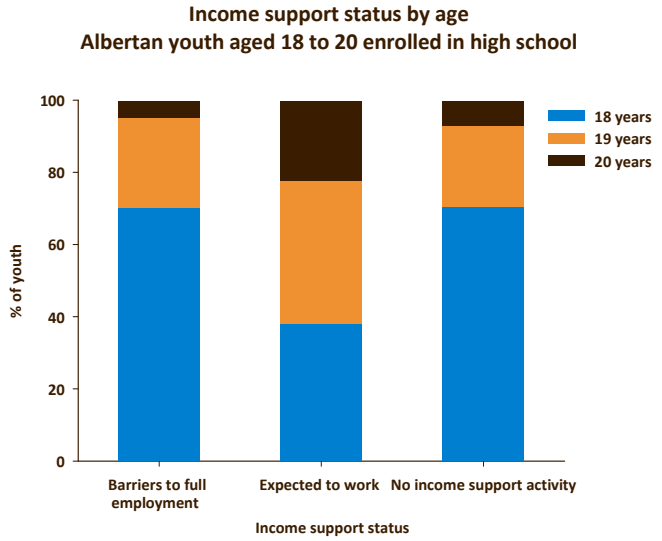
In this analysis, youth (18 to 20 years old) with any income support activity who enrolled in high school at some point in 2008/09 were analyzed by household type (or family composition).

- The majority of high school students with any income support activity were *singles* (79%), followed by *singles with children* (12%), *couples* (5%) and lastly *couples with children* (4%).

No further analysis by household type was conducted due to small numbers in some categories.

Income support household type
Albertan youth aged 18 to 20 enrolled in high school



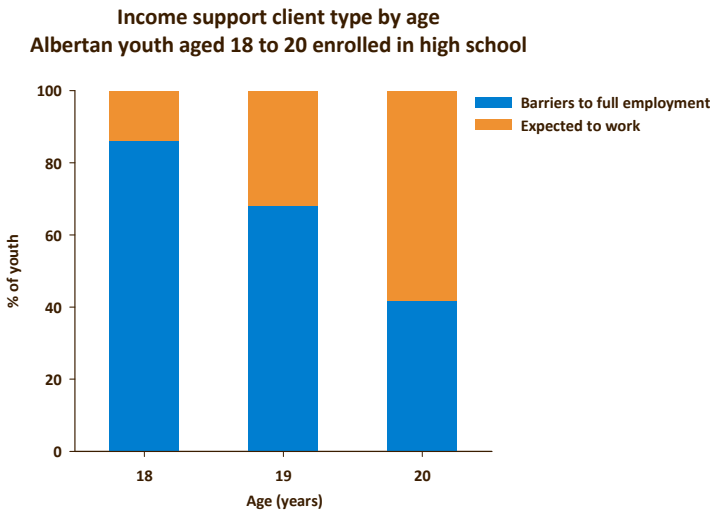


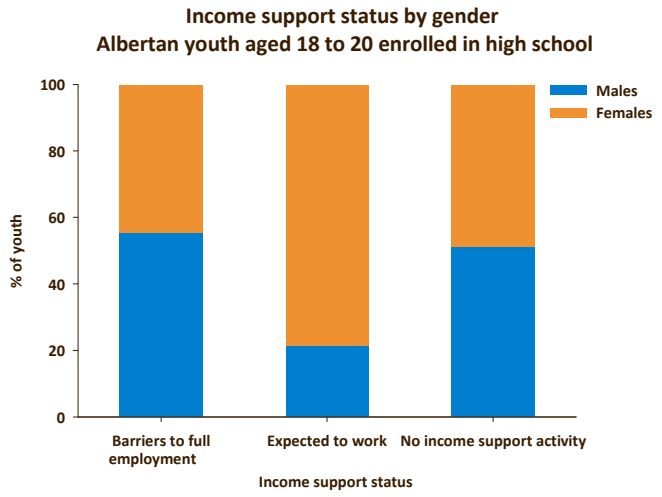
Income support status by age, high school students (Table 4)

- Youth enrolled in high school who received any income support as *expected to work clients* at some point in the year were most likely to be aged 19 years (40%).
- The majority of youth with no income support activity or with any income support activity with *barriers to full employment* were 18 years old (70% and 71% respectively). In contrast among youth *expected to work*, 18 year olds comprised 38% of the population.

Income support client type by age, high school students (Table 5)

- The majority of 18 and 19 year old high school students with any income support activity had *barriers to full employment* (86% and 68% respectively).
- Most 20 year old high school students with any income support activity were *expected to work* (58%).



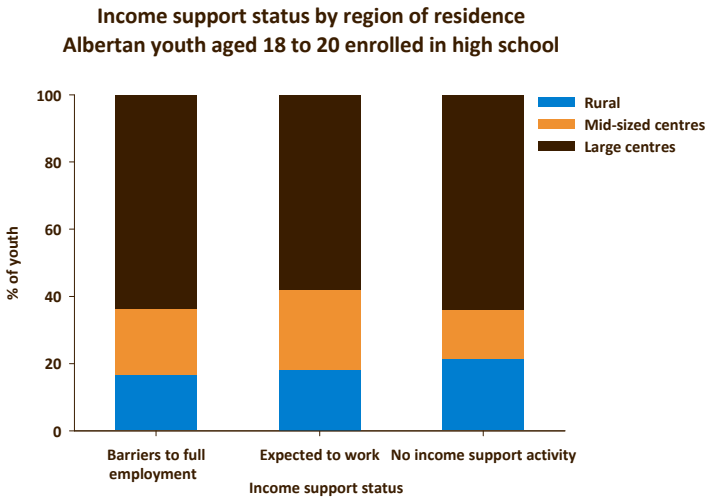


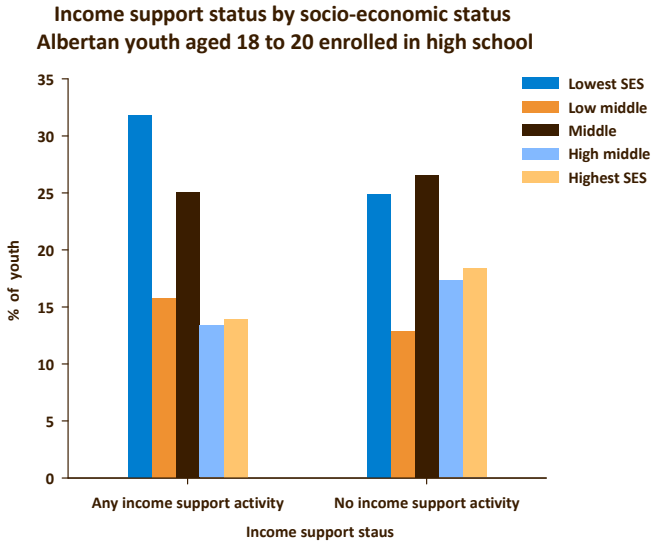
Income support status by gender, high school students (Table 6)

- Youth enrolled in high school with any income support activity as *expected to work* clients were predominantly females (79%), compared to 44% females among youth with any income support activity with *barriers to full employment* and 49% female among youth with no income support activity.

Income support status by region of residence, high school students (Table 7)

- Youth enrolled in high school with any income support activity were most likely to live in large city centres, regardless of their income support status.
- Youth enrolled in high school with any income support activity as *expected to work* clients were more likely to live in mid-sized centres than other groups.





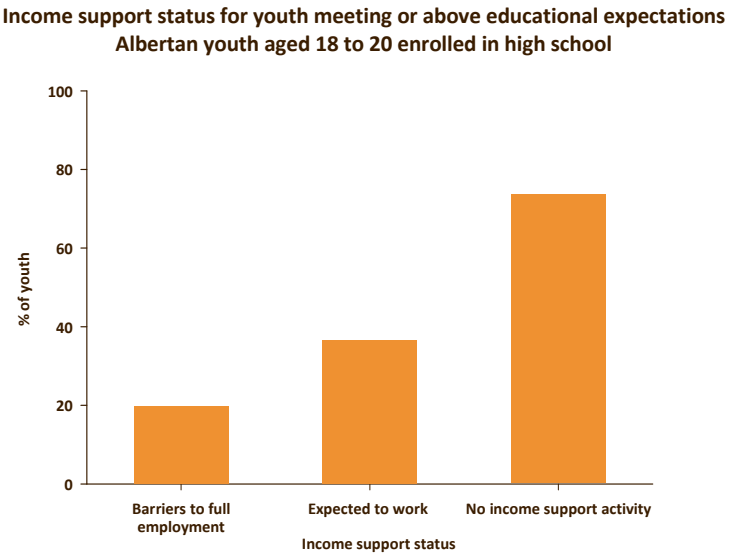
Income support status by socio-economic status, high school students (Table 8)

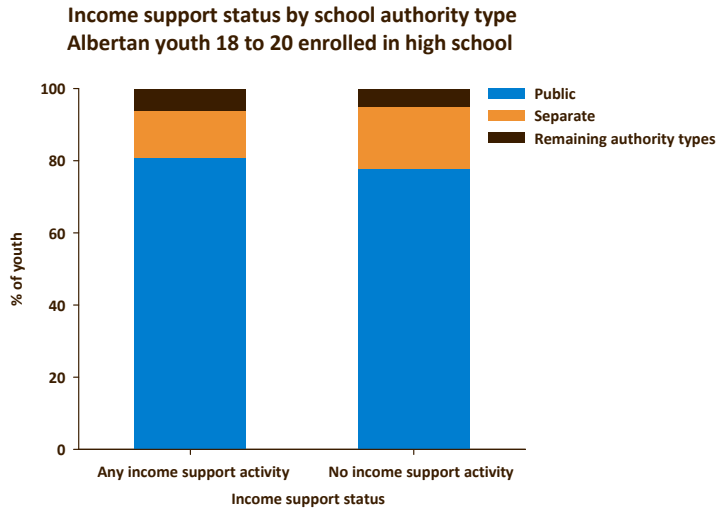
Socio-economic status (SES) captures the social and material environments in which youth live. See *Definitions and Notes* (p.23).

- High school students with any income support activity were more likely to come from the lowest socio-economic status neighbourhoods than high school students without any income support activity.

Income support status by educational achievement, high school students (Table 9)

- High school students with any income support activity as *expected to work* clients were nearly twice as likely (37%) to meet or exceed educational expectations than high school students with any income support activity as *barriers to full employment* clients(20%).
- High school students with no income support activity were twice as likely to meet or exceed educational expectations, than those with any income support activity.





Income support status by school authority type, high school students (Table 10)

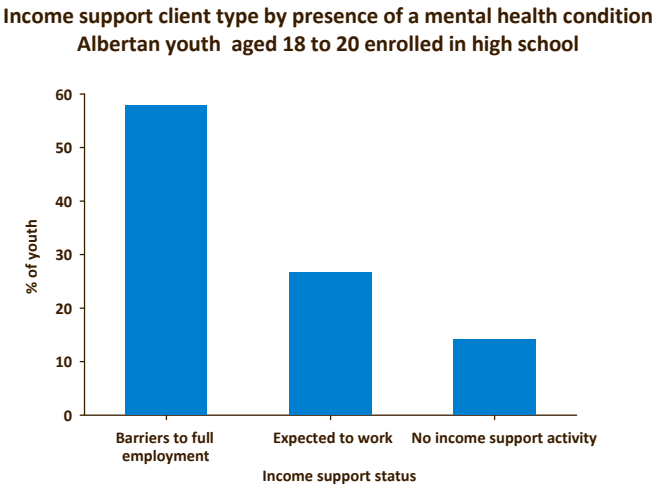
School authority types within the K-12 education system include public, separate, Francophone, charter, private and other. See *Definitions and Notes* (p.24).

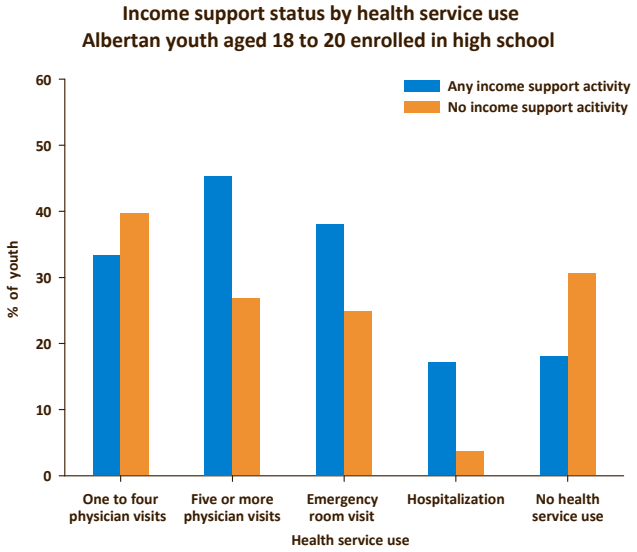
- High school students (aged 18 to 20 years) with any income support activity were slightly more likely to be enrolled in a public school (81%) than youth with no income support activity (78%).

Income support status by mental health status, high school students (Table 11)

Mental health status refers to presence or absence of a mental health condition. Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition. See *Definitions and Notes* (p.24).

- Of youth who attended high school with any income support activity as *barriers to full employment* clients, 58% used services for a mental health condition.
- The rate was lower for youth enrolled in high school with any income support activity as *expected to work* clients (27%) and for youth with no income support activity (14%).





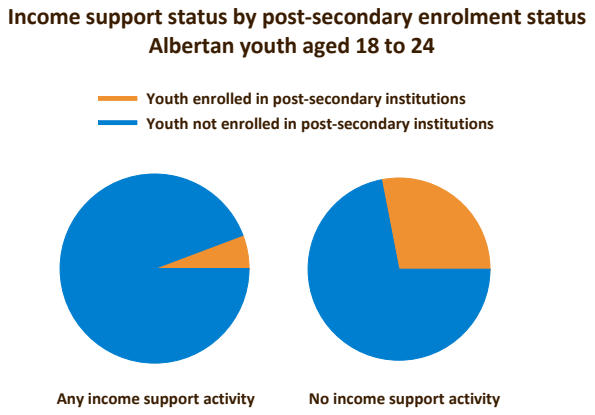
Income support status by health service use, high school students (Table 12)

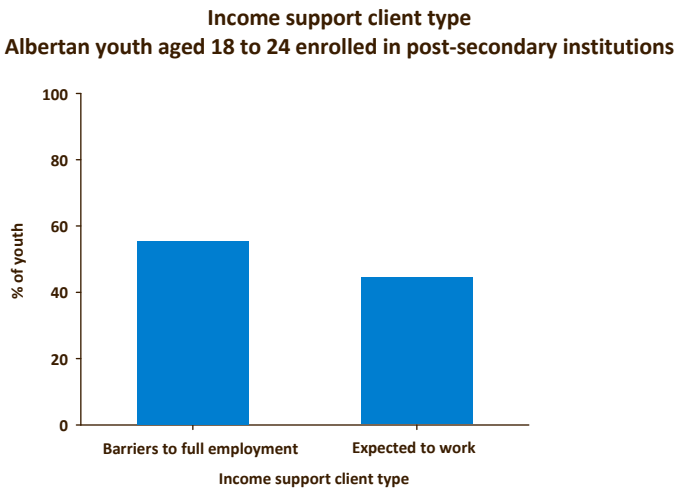
- High school students who had any income support activity were more likely to have five or more physician visits, to have visited an emergency room, or to have been hospitalized than youth enrolled in high school with no income support activity.

Income support status by post secondary enrolment (Table 13)

From this point onward, analyses focus on youth (aged 18 to 24 years) with any income support activity in 2008/09 who were enrolled in post-secondary institutions at some other point in the year.

- Of 6,599 Albertan youth (18 to 24 years old) with any income support activity, 6%,378 youth were enrolled in post-secondary institutions.
- 28%, 399,415 youth out of 399,415 Albertan youth (18 to 24 years old) with no income support activity were enrolled in post-secondary institutions.





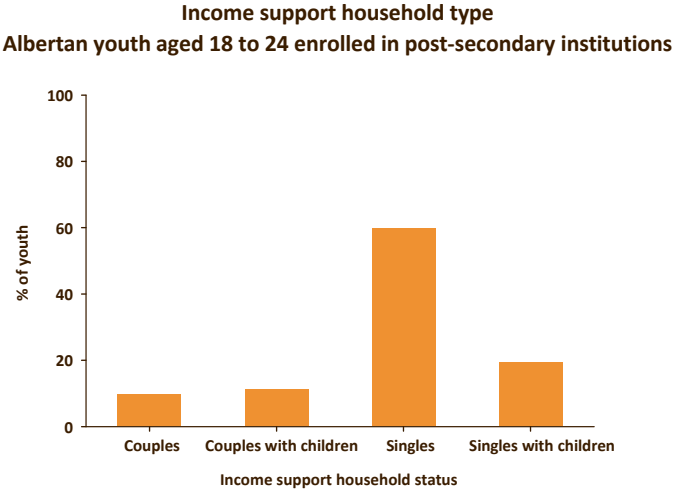
Income support status by post-secondary enrolment (Table 14)

- Over half (56%) of post-secondary institution students with any income support activity were youth with *barriers to full employment.*

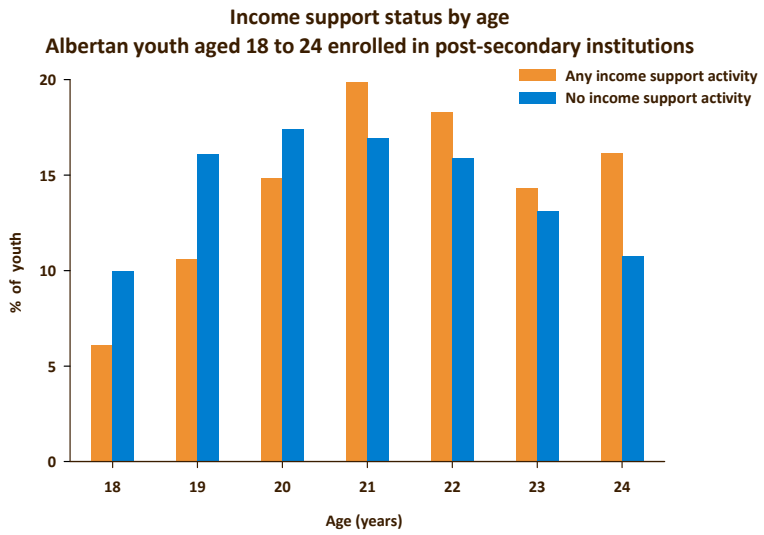
Income support household type by post-secondary institution enrolment (Table 15)

- Over half (52%) of youth enrolled in post-secondary institutions with any income support activity were *singles*.
- A small proportion (8%) of youth enrolled in post-secondary institutions with any income support activity were *couples*.

No further analysis by household type was conducted due to small numbers in some of the categories.



Educational experiences of Albertan youth with income support activity

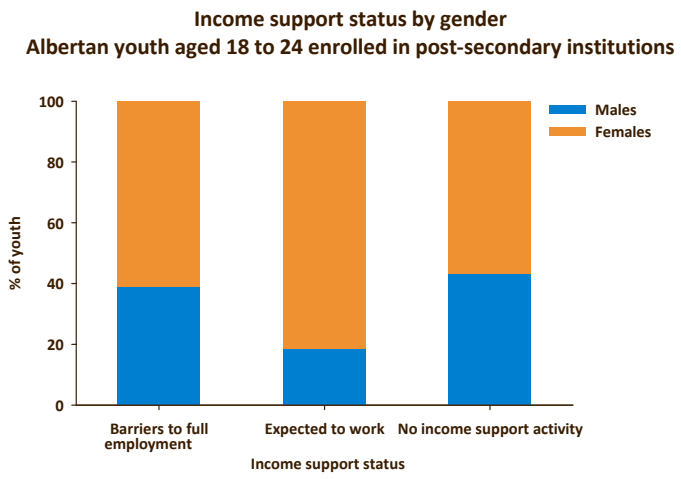


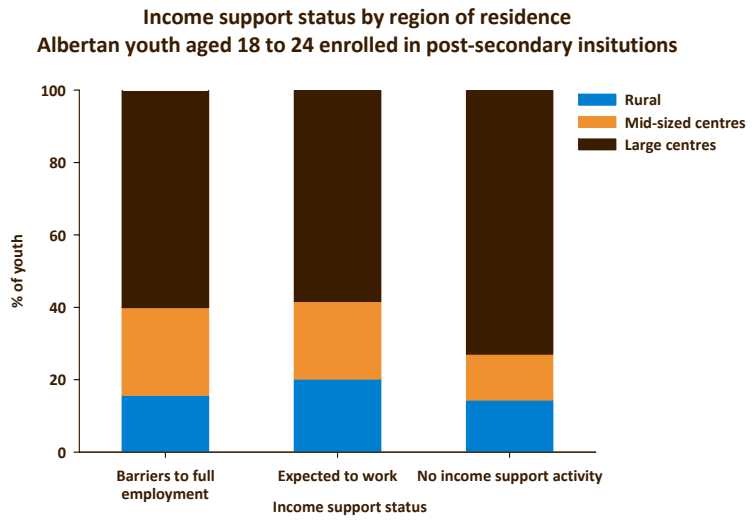
Income support status by age, post-secondary students (Table 16)

- Youth enrolled in post-secondary institutions with any income support activity were older on average than youth enrolled in post-secondary institutions with no income support activity.

Income support status by gender, post-secondary students (Table 17)

- A higher proportion (82%) of youth enrolled in post-secondary institutions with any income support activity who were *expected to work* were female, compared to 61% among youth with any income support activity with *barriers to full employment*, and 57% among youth with no income support activity.





Income support status by region of residence, post-secondary students (Table 18)

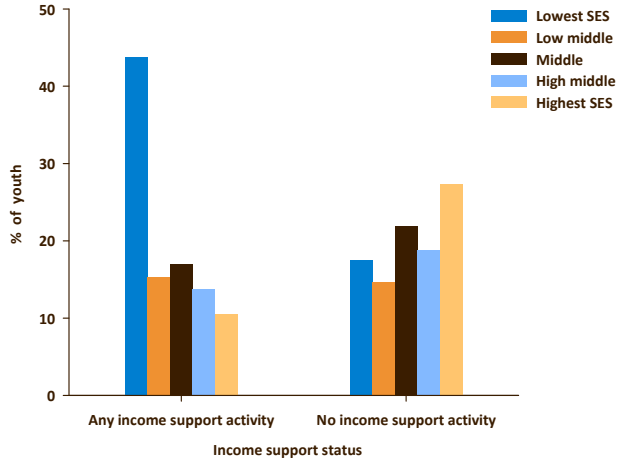
- More youth with any income support activity were from mid-sized centres than youth with no income support activity.
- 20% of youth with any income support activity who were *expected to work* resided in rural areas, compared to 16% among youth with any income support activity with *barriers to full employment* and 14% among youth with no income support activity.

Income support status by socio-economic status, post-secondary students (Table 19)

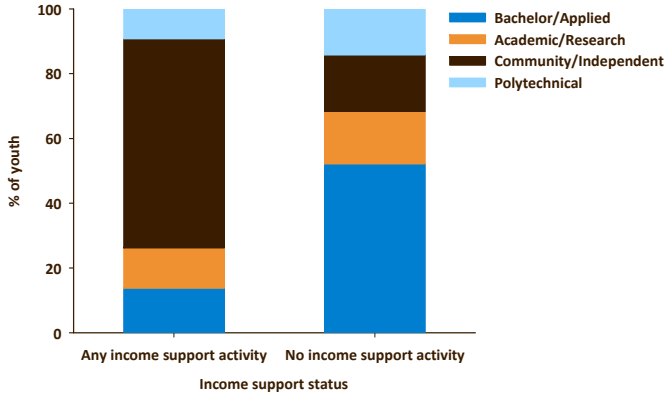
Socio-economic status captures the social and material environments in which youth live. See *Definitions and Notes* (p.23).

- 44% of youth with any income support activity who were enrolled in post-secondary institutions lived in the lowest socio-economic status neighbourhoods, compared to 18% of youth with no income support activity.
- Youth with no income support activity who were enrolled in post-secondary institutions were more likely (27%) to live in the highest socio-economic status neighbourhoods than youth with any income support activity (11%).

Income support status by socio-economic status
Albertan youth aged 18 to 24 enrolled in post-secondary insitutions



Income support status by institution type
Albertan youth aged 18 to 24 enrolled in post-secondary institutions



Income support status by institution type, post-secondary students (Table 20)

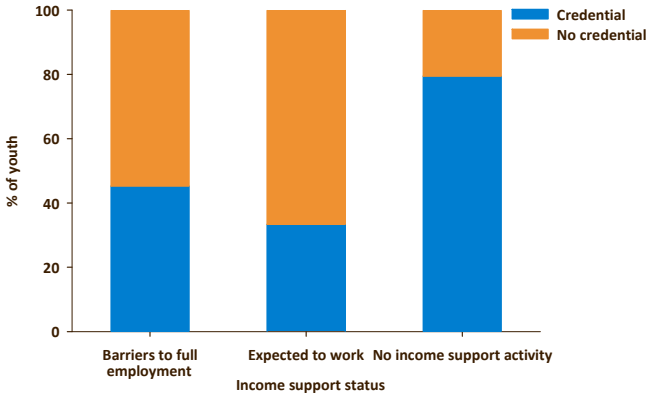
- The majority (65%) of post-secondary students with any income support activity were enrolled in community (e.g. Norquest College) or independent institutions (e.g. St. Mary's University College), compared to 17% of post-secondary students with no income support activity.

Income support status by credential type, post-secondary students (Table 21)

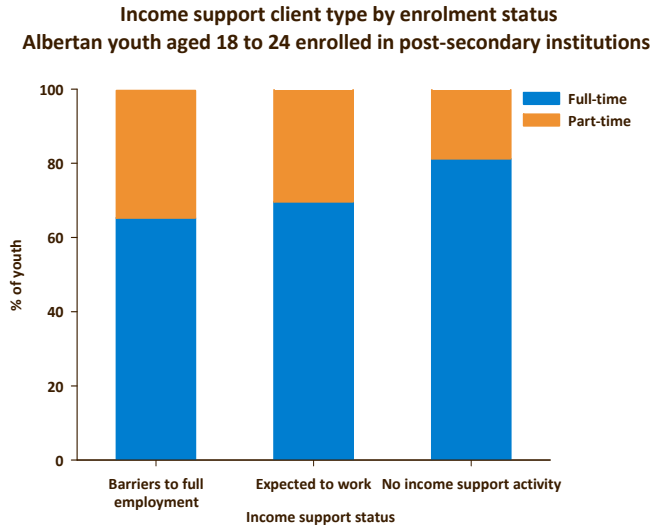
Credential post-secondary programs include bachelor/ applied/graduate level programs and certificate/ diploma programs; other programs with *no credential* received upon completion. See *Definitions and Notes* (p.25).

- Youth enrolled in post-secondary institutions with any income support activity who were *expected to work* were less likely (33%) to be enrolled in a *credential* program than youth with any income support activity with *barriers to full employment* (45%) or youth with no income support activity 79%).

Income support status by credential type
Albertan youth aged 18 to 24 enrolled in post-secondary institutions



Educational experiences of Albertan youth with income support activity



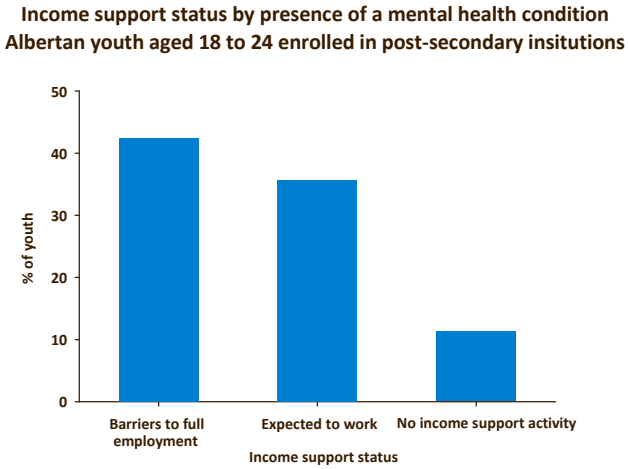
Income support status by enrolment status, post-secondary students (Table 22)

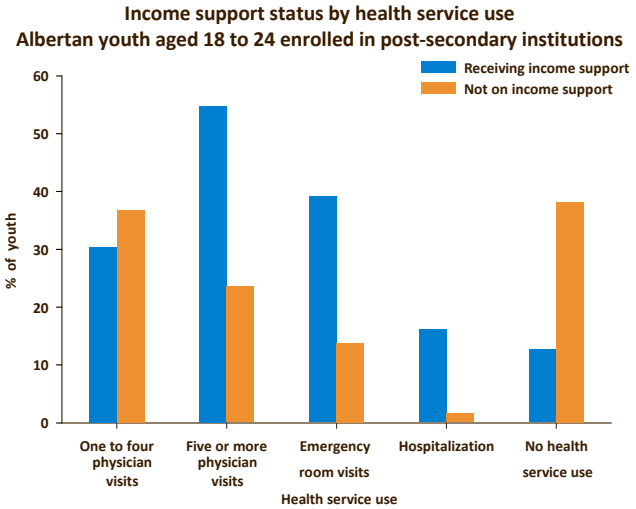
- Youth who had any income support activity with *barriers to full employment* were most likely (35%) among the three groups to enroll on a part-time basis, followed by youth *expected to work* (30%) and youth with no income support activity (19%).

Income support status by mental health status, post-secondary students (Table 23)

Mental health status refers to presence or absence of a mental health condition. Mental health conditions are defined as receipt of services related to mental health conditions; that is, receipt of services is used here as a proxy for confirmed presence of a mental health condition. See *Definitions and Notes* (p.24).

- Post-secondary students with any income support activity were over three times as likely to have received services for a mental health condition than youth with no income support activity.





Income support status by health service use, post-secondary students (Table 24)

- Post-secondary students with any income support activity were more likely than youth with no income support activity to have had five or more physician visits, to have visited an emergency room, or to have been hospitalized at least once.
- Youth with no income support activity were more likely to have one or more physician visits, or to have had no health service use.

Tables

Table 1. Number and percent of youth enrolled in high school by income support status, Albertan youth aged 18 to 20 years, 2008/09

	Enrolled in high school	Income support status		
		Any income support activity	No income support activity	Total
Number of youth	Yes	549	28,931	29,480
	No	1,896	139,303	141,199
	Total	2,445	168,234	170,679
Percent of youth	Yes	22.5	17.2	17.3
	No	77.5	82.8	82.7
	Total	100.0	100.0	100.0

Table 2. Number and percent of youth enrolled in high school by income support client type, Albertan youth aged 18 to 20 years, 2008/09

	Income support client type	Enrolled in high school
Number of youth	Barriers to full employment	423
	Expected to work	126
	Total	549
Percent of youth	Barriers to full employment	77.0
	Expected to work	23.0
	Total	100.0

Tables (continued)

Table 3. Number and percent of youth with any income support activity enrolled in high school by household type, Albertan youth aged 18 to 20 years, 2008/09

	Household type	Enrolled in high school
Number of youth	Couples	29
	Couples with children	20
	Singles	436
	Singles with children	64
	Total	549
Percent of youth	Couples	5.3
	Couples with children	3.6
	Singles	79.4
	Singles with children	11.7
	Total	100.0

Table 4. Number and percent of youth enrolled in high school by income support status and age, Albertan youth aged 18 to 20 years, 2008/09

	Age (years)	Income support status			
		Barriers to full employment	Expected to work	Total	No income support activity
Number of youth	18	297	48	345	20,384
	19	106	50	156	6,542
	20	20	28	48	2,005
	Total	423	126	549	28,931
Percent of youth	18	70.2	38.1	62.8	70.5
	19	25.1	39.7	28.4	22.6
	20	4.7	22.2	8.7	6.9
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 5. Number and percent of youth enrolled in high school by income support client type and age, Albertan youth aged 18 to 20 years, 2008/09

	Income support client type	Age (years)			
		18	19	20	Total
Number of youth	Barriers to full employment	297	106	20	423
	Expected to work	48	50	28	126
	Total	345	156	48	549
Percent of youth	Barriers to full employment	86.1	67.9	41.7	77.0
	Expected to work	13.9	32.1	58.3	23.0
	Total	100.0	100.0	100.0	100.0

Table 6. Number and percent of youth enrolled in high school by income support status and gender, Albertan youth aged 18 to 20 years, 2008/09

	Gender	Income support status			
		Barriers to full employment	Expected to work	Total	No income support activity
Number of youth	Males	235	27	262	14,796
	Females	188	99	287	14,135
	Total	423	126	549	28,931
Percent of youth	Males	55.6	21.4	47.7	51.1
	Females	44.4	78.6	52.3	48.9
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 7. Number and percent of youth enrolled in high school by income support status and region of residence, Albertan youth aged 18 to 20 years, 2008/09

	Region of residence	Income support status			
		Barriers to full employment	Expected to work	Total	No income support activity
Number of youth	Rural	71	23	94	6,220
	Mid-sized centres	83	30	113	4,167
	Large centres	269	73	342	18,425
	Total	423	126	549	28,812
Percent of youth	Rural	16.8	18.3	17.1	21.6
	Mid-sized centres	19.6	23.8	20.6	14.5
	Large centres	63.6	57.9	62.3	63.9
	Total	100.0	100.0	100.0	100.0

Table 8. Number and percent of youth enrolled in high school by income support status and socio-economic status (SES), Albertan youth aged 18 to 20 years, 2008/09

	Socio-economic status	Income support status	
		Any income support activity	No income support activity
Number of youth	Lowest SES	174	7,068
	Low middle	86	3,652
	Middle	137	7,545
	High middle	73	4,914
	Highest SES	76	5,220
	Total	546	28,399
Percent of youth	Lowest SES	31.9	24.9
	Low middle	15.8	12.9
	Middle	25.1	26.6
	High middle	13.4	17.3
	Highest SES	13.9	18.4
	Total	100.0	100.0

Tables (continued)

Table 9. Number and percent of youth enrolled in high school by income support status and educational achievement, Albertan youth aged 18 to 20 years, 2008/09

	Educational achievement	Income support status			
		Barriers to full employment	Expected to work	Total	No income support activity
Number of youth	Below expectations	336	77	413	7,506
	Meeting/above expectations	84	46	130	20,929
	Total	420	123	543	28,435
Percent of youth	Below expectations	80.0	62.6	76.1	26.4
	Meeting/above expectations	20.0	37.4	23.9	73.6
	Total	100.0	100.0	100.0	100.0

Table 10. Number and percent of youth enrolled in high school by income support status and school authority type, Albertan youth aged 18 to 20 years, 2008/09

	School authority type	Income support status	
		Any income support activity	No income support activity
Number of youth	Public	443	22,529
	Separate	73	4,973
	Remaining authority type	33	1,429
	Total	549	28,931
Percent of youth	Public	80.7	77.9
	Separate	13.3	17.2
	Remaining authority type	6.0	4.9
	Total	100.0	100.0

Tables (continued)

Table 11. Number and percent of youth enrolled in high school by income support status and mental health status, Albertan youth aged 18 to 20 years, 2008/09

	Mental health status	Income support status			
		Barriers to full employment	Expected to work	Total	No income support activity
Number of youth	Any mental health condition	207	30	237	3,223
	No mental health condition	150	82	232	19,463
	Total	357	112	469	22,686
Percent of youth	Any mental health condition	58.0	26.8	50.5	14.2
	No mental health condition	42.0	73.2	49.5	85.8
	Total	100.0	100.0	100.0	100.0

Table 12. Number and percent of youth enrolled in high school by income support status and health service use, Albertan youth, aged 18 to 20 years, 2008/09

	Health service use*	Income support status	
		Any income support activity	No income support activity
Number of youth	One to four physician visits	183	11,470
	Five or more physician visits	249	7,764
	Emergency room visit	209	7,196
	Hospitalization	94	1,060
	Any health service use	450	20,079
	No health service use	99	8,852
	Total	549	28,931
Percent of youth	One to four physician visits	33.3	39.6
	Five or more physician visits	45.4	26.8
	Emergency room visit	38.1	24.9
	Hospitalization	17.1	3.7
	Any health service use	82.0	69.4
	No health service use	18.0	30.6

*Health service use categories are not mutually exclusive

Tables (continued)

Table 13. Number and percent of youth enrolled in post-secondary institutions by income support status, Albertan youth aged 18 to 24 years, 2008/09

	Enrolled in post-secondary institutions	Income support status		
		Any income support activity	No income support activity	Total
Number of youth	Yes	378	112,142	112520
	No	6,221	287,273	293,494
	Total	6,599	399,415	406,014
Percent of youth	Yes	5.7	28.1	27.7
	No	94.3	71.9	72.3
	Total	100.0	100.0	100.0

Table 14. Number and percent of youth enrolled in post-secondary institutions by income support client type, Albertan youth aged 18 to 24 years, 2008/09

	Income support client type	Enrolled in post-secondary institutions
Number of youth	Barriers to full employment	210
	Expected towork	168
	Total	378
Percent of youth	Barriers to full employment	55.6
	Expected towork	44.4
	Total	100.0

Tables (continued)

Table 15. Number and percent of youth with any income support activity enrolled in post-secondary institutions by household type, Albertan youth aged 18 to 24 years, 2008/09

	Household type	Enrolled in post-secondary institutions
Number of youth	Couples	29
	Couples with children	42
	Singles	197
	Singles with children	110
	Total	378
Percent of youth	Couples	7.7
	Couples with children	11.1
	Singles	52.1
	Singles with children	29.1
	Total	100.0

Table 16. Number and percent of youth enrolled in post-secondary insitutions by income support status and age, Albertan youth aged 18 to 24 years, 2008/09

	Age in years	Income support status	
		Any income support activity	No income support activity
Number of youth	18	23	11,185
	19	40	17,995
	20	56	19,509
	21	75	18,992
	22	69	17,762
	23	54	14,668
	24	61	12,031
	Total	378	112,142
Percent of youth	18	6.1	10.0
	19	10.6	16.0
	20	14.8	17.4
	21	19.8	16.9
	22	18.3	15.8
	23	14.3	13.1
	24	16.1	10.7
	Total	100.0	100.0

Tables (continued)

Table 17. Number and percent of youth enrolled in post-secondary institutions by income support status and gender, Albertan youth aged 18 to 24 years, 2008/09

	Gender	Income support status			
		Barriers to full employment	Expected to work	Total	No income support activity
Number of youth	Males	82	31	113	48,268
	Females	128	137	265	63,848
	Total	210	168	378	112,116
Percent of youth	Males	39.0	18.5	29.9	43.1
	Females	61.0	81.5	70.1	56.9
	Total	100.0	100.0	100.0	100.0

Table 18. Number and percent of youth enrolled in post-secondary institutions by income support status and region of residence, Albertan youth aged 18 to 24 years, 2008/09

	Region of residence	Income support status			
		Barriers to full employment	Expected to work	Total	No income support activity
Number of youth	Rural	33	34	67	13,818
	Mid-sized centres	51	36	87	12,147
	Large centres	126	98	224	69,861
	Total	210	168	378	95,826
Percent of youth	Rural	15.7	20.2	17.7	14.4
	Mid-sized centres	24.3	21.4	23.0	12.7
	Large centres	60.0	58.3	59.3	72.9
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 19. Number and percent of youth enrolled in post-secondary institutions by income support status and socio-economic status (SES), Albertan youth aged 18 to 24 years, 2008/09

	Socio-economic status	Income support status	
		Any income support activity	No income support activity
Number of youth	Lowest SES	163	16,623
	Low middle	57	13,955
	Middle	63	20,755
	High middle	51	17,829
	Highest SES	39	25,884
	Total	373	95,046
Percent of youth	Lowest SES	43.7	17.5
	Low middle	15.3	14.7
	Middle	16.9	21.8
	High middle	13.7	18.8
	Highest SES	10.5	27.2
	Total	100.0	100.0

Table 20. Number and percent of youth enrolled in post-secondary institutions by income support status and institution type, Albertan youth aged 18 to 24 years, 2008/09

	Institution type	Income support status	
		Any income support activity	No income support activity
Number of youth	Bachelor/Applied	52	18,156
	Academic/Research	47	58,513
	Community/Independent	244	19,562
	Polytechnical	35	15,911
	Total	378	112,142
Percent of youth	Bachelor/Applied	13.8	16.2
	Academic/Research	12.4	52.2
	Community/Independent	64.6	17.4
	Polytechnical	9.3	14.2
	Total	100.0	100.0

Tables (continued)

Table 21. Number and percent of youth enrolled in post-secondary institutions by income support status and credential type, Albertan youth aged 18 to 24 years, 2008/09

	Credential type	Income support status			
		Barriers to full employment	Expected to work	Total	No income support activity
Number of youth	Credential	95	56	151	89,052
	Non-credential	115	112	227	23,090
	Total	210	168	378	112,142
Percent of youth	Credential	45.2	33.3	39.9	79.4
	Non-redential	54.8	66.7	60.1	20.6
	Total	100.0	100.0	100.0	100.0

Table 22. Number and percent of youth enrolled in post-secondary institutions by income support status and enrolment status, Albertan youth aged 18 to 24 years, 2008/09

	Enrolment status	Income support status			
		Barriers to full employment	Expected to work	Total	No income support activity
Number of youth	Full-time	137	117	254	91,084
	Part-time	73	51	124	21,058
	Total	210	168	378	112,142
Percent of youth	Full-time	65.2	69.6	67.2	81.2
	Part-time	34.8	30.4	32.8	18.8
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 23. Number and percent of youth enrolled in post-secondary institutions by income support status and mental health status, Albertan youth aged 18 to 24 years, 2008/09

	Mental health status	Income support status			
		Not expected to work	Expected to work	Total	No income support activity
Number of youth	Any mental health condition	79	51	130	9,164
	No mental health condition	107	92	199	72,034
	Total	186	143	329	81,198
Percent of youth	Any mental health condition	42.5	35.7	39.5	11.3
	No mental health condition	57.5	64.3	60.5	88.7
	Total	100.0	100.0	100.0	100.0

Table 24. Number and percent of youth enrolled in post-secondary institutions by income support status and health service use, Albertan youth, aged 18 to 24 years, 2008/09

	Health service use*	Income support status	
		Any income support activity	No income support activity
Number of youth	One to four physician visits	115	41,293
	Five or more physician visits	207	26,449
	Emergency room visit	148	15,499
	Hospitalization	61	1,813
	Any health service use	330	69,326
	No health service use	48	42,816
	Total	378	112,142
Percent of youth	One to four physician visits	30.4	36.8
	Five or more physician visits	54.8	23.6
	Emergency room visit	39.2	13.8
	Hospitalization	16.1	1.6
	Any health service use	87.3	61.8
	No health service use	12.7	38.2

*Health service use categories are not mutually exclusive

Definitions and Notes

- The study population for this project consisted of all Albertan youth who were registered with the Alberta Health Care Insurance Plan in 2008/09 or who received selected services from one or more of the participating ministries in 2008/09. "All Albertan youth" refers to this study population.
- The study year was fiscal year 2008/09. With the exception of Education and Enterprise and Advanced Education data, all data were for services provided between April 1, 2008 and March 31, 2009, with age determined on March 31, 2009.
    - Data for Enterprise and Advanced Education were for services provided between September 1, 2008 and June 30, 2009, with age determined on March 31, 2009.
    - Data for Education were for services provided to youth who were 12 to 19 years old on September 30, 2008. As a result, youth turning 12 between October 1, 2008 and March 31, 2009 *were not* included in the Education data but were included in other ministries' data. This resulted in the number of 12 year olds in the Education data being lower (approximately 50% lower) than that of 13 to 17 year olds.
    - Furthermore, although Education only provides services to youth who are under 20, the provision of services is defined by age at September 30. Youth who turned 20 between October 1, 2008 and March 31, 2009 *were* included in the Education data, resulting in the inclusion of 20 year olds in some analyses of Education data.
- **Cross-ministry analyses included only youth that were linked across the relevant ministries**. This means that not all youth in the project were represented in every analysis. As well, only youth with a value for a given indicator were included in analyses involving that indicator (i.e., **missing values** were excluded).
- Age, gender, and postal code (translated into Statistics Canada dissemination areas) were provided for each individual by each participating ministry. In the case of discrepancies between ministries, the most common value for an indicator was chosen. In the event of two or more most common values, the value for the indicator was chosen randomly from the most common values.
- Dissemination areas of residence were used by CYDL to determine **region of residence**. Urban areas included large centres with urban core populations greater than 100,000 (i.e., Edmonton and Calgary metropolitan areas) and mid-sized centres with urban cores greater than 10,000; all other areas were categorized as rural.
- **Socio-economic status (SES)** captures the social and material environments in which youth live. A youth was assigned a socio-economic status via an index based on the Statistics Canada dissemination area in which he or she resided[5]. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single families, percent of persons living alone, and percent of persons separated, divorced, or widowed. Socio-economic status values fell into five quintiles.
- **Educational achievement** was computed by Alberta Education using age, grade, school type, special education codes, provincial achievement test scores, home education status, number of high school credits earned, number of higher level courses taken, average grade in higher level courses, possession of an Alberta Education certificate or diploma, and Alexander Rutherford scholarship eligibility. Educational achievement was categorized as *above, meeting,* or *below expectations* for a student's age and grade. An educational achievement rating was not available for 12 to 14 year old youth without scores on provincial achievement tests, for youth in 'other' schools (accredited post-secondary institutions offering high school courses for credit to adults; most youth in these schools were between 18 and 20 years), and for home-schooled high school youth with no credits.

Definitions and Notes (*continued*)

- **Mental health status** was defined by the presence or absence of mental health diagnosis codes in Health's databases (Inpatient—Discharge Abstract Database, Ambulatory Care, and Practitioner Payments), or in the Family Support for Children with Disabilities Information System. Only youth who were registered with Alberta Health and Wellness for the full fiscal year were included in the mental health analyses. **Mental health service use is a proxy for presence of a mental health condition:** Some youth with mental health conditions may not have accessed mental health services in Alberta during the year, and some mental health service use may have occurred for youth who did not in fact have mental health conditions.
    - **Mental health conditions** were grouped based on The Johns Hopkins ACG® Case-Mix System (version 8.2)[6]. Mental health conditions were *mood/anxiety* (anxiety, depression, bipolar disorder, etc.), *behavioural* (attention-deficit disorder, regulatory disorder, mental or behavioural problems due to substance use, etc.), *neurodevelopmental* (autism, fetal alcohol spectrum disorder, cerebral palsy, etc.), or *schizophrenia/psychoses* (schizophrenia, psychosis, delusional disorder, etc.). Conditions were not mutually exclusive; a youth could have a diagnosis in more than one category.
- **Income support** refers to financial benefits provided to individuals and couples who cannot meet their basic needs.
- The **client types** for income support clients are *expected to work* (clients who are looking for work, working, or unable to work in the short term) and *barriers to full employment* (clients who have difficulty working because of a chronic mental or physical health problem or because of multiple barriers to employment).
- **Household types** include singles (one adult in the household) with or without children, and couples (two adults in the household) with or without children.
- Participation in **education** refers to enrolment in the kindergarten to grade 12 education system in Alberta. No data were available for students who attended schools on First Nations reserves or in Lloydminster.
- **School authority types**

  There is one publicly-funded system of education in Alberta. The public system includes public, separate, Francophone and charter schools.
    - **Public** schools are non-denominational schools.
    - **Separate** schools are established under rights guaranteed by the Constitution of Canada for the minority religion (Protestant or Roman Catholic).
    - **Francophone** schools provide instruction in French to children whose parents have rights under section 23 of the Canadian Charter of Rights and Freedoms.
    - **Charter** schools are autonomous public schools designed to meet the needs of students through a specific program or approach. They must be non-religious.

  Private schools operate outside the public education system. Private schools may charge tuition and other fees. There are two kinds of private schools.
    - Accredited private schools must offer the Alberta Program of Studies with certificated teachers; they may be partially funded or non-funded.
    - Registered private schools are not required to offer the Program of Studies and are not funded.

  Other schools are accredited post-secondary institutions offering high school courses for credit to adults.

Definitions and Notes (*continued*)

- **Post-secondary** participation refers to enrolment in a post-secondary institution in Alberta. When a student was enrolled in more than one session in the study year, one session was chosen to provide values for credential type, enrolment status, and institution type for that individual. Full-time enrolments were chosen over part-time, winter session enrolments were chosen over fall sessions, and fall sessions were chosen over spring and summer enrolments. If only spring or summer enrolments occurred, the session was randomly chosen from among the spring and summer enrolments.
- **Credential types** for post-secondary programs include bachelor/applied/graduate programs (also called degree-granting), certificate/diploma programs, and programs with no credential received upon completion.
- **Enrolment status** for post-secondary programs consists of full-time (students who enrolled in at least 60% of a full course load in at least one session in the academic year) or part-time (students who were enrolled in less than 60% of full course load in all sessions attended for the academic year).
- **Institution types** for post-secondary programs included comprehensive academic and research institutions (Athabasca University, University of Alberta, University of Calgary, University of Lethbridge), baccalaureate and applied studies institutions (Grant MacEwan and Mount Royal), polytechnical institutions (NAIT and SAIT), comprehensive community institutions (e.g., Bow Valley College, NorQuest College, Red Deer College), independent academic institutions (e.g., Concordia University College of Alberta, St. Mary's University College), and specialized arts and culture institutions (Alberta College of Art and Design and The Banff Centre). **Emergency room visits** refer to visits to emergency departments for assessment or treatment.
- **Hospitalizations** refer to admissions to hospital for assessment or treatment.
- **Physician visits** reflect fee claims made by physicians when patients visit their offices. In this report, multiple claims by a given physician for a given patient on the same day were counted as a single visit. Reasons for physician visits were not available for this project.

Data sources

Ministry	Database	Use in this report
Enterprise and Advanced Education	Learner Enrolment Reporting System (LERS)	Post-secondary education enrolment data
Education	Corporate Data Warehouse (CDW)	Primary and secondary education achievement data
Health	Inpatient – Discharge Abstract Database (DAD)	Hospitalization data
Health	Ambulatory Care (ACCS)	Emergency room visit data
Health	Practitioner Payments (SESE)	Physician visit data
Health	Alberta Health Care Insurance Plan Population Registry (AHCIP registry)	Population registry
Human Services	Family Support for Children with Disabilities Information System (FSCDIS)	Family Supports for Children with Disabilities data
Human Services	Central Client Directory (CCD)	Income support data

References

1. Alberta Human Resources and Employment. (2006). *Working, Expected to Work Project (ETW)*. Retrieved from: http://employment.alberta.ca/documents/FCH/FCH-IS_working_expectedtowork.pdf
2. Brownell, M. D., Roos, N. P., MacWililma, L., Leclair, L., Ekuma, O., & Fransoo, R. (2010). Academic and social outcomes for high-risk youths in Manitoba. *Canadian Journal of Education*, *33*, 804-836.
3. Baron, J. D., Cobb-Clark, D. A., & Erkal, N. (2008). *Cultural transmission of work-welfare attitudes and the inter-generational correlation in welfare receipt* (IZA Discussion Paper. No. 3904). Retrieved from http://ftp.iza.org/dp3904.pdf
4. Alberta Human Resources and Employment, People and Skills Investment Division, Steering Committee. (2006). *Analysis of reentry into income support program in Alberta project phase one*. Retrieved from http://employment.alberta.ca/documents/FCH/FCH-IS_is_reentry_analysis.pdf
5. Pampalon, R., Hamel, D., Garnache, P., & Raymond, G. (2009). A deprivation index for health planning in Canada. *Chronic Diseases in Canada, 29(4)*, 178-91.
6. The Johns Hopkins University. (2008). *The Johns Hopkins ACG® System Reference Manual, Version 8.2*. Johns Hopkins University: Baltimore.

The Child and Youth Data Laboratory

The **Child and Youth Data Laboratory** (CYDL) links and analyzes administrative data from child- and youth-serving ministries in the Government of Alberta. The ministries participate in research design and provide data elements that contribute to answering research questions.

The CYDL's research provides groundbreaking opportunities to understand relationships between critical factors in the lives of children and youth in Alberta. The research results can be used to inform policy and program development and evaluation, both within and across ministries, and to inspire further research.

The CYDL is managed by the **Alberta Centre for Child, Family and Community Research** (ACCFCR). The Centre has evolved over its eight year history as a public-sector, innovative resource for evidence. The Centre develops, supports and integrates research across sectors and disciplines to provide a strong, evidence-based foundation for identifying and promoting effective public policy and service delivery to improve the well-being of children, families, and communities in Alberta, Canada, and internationally.

Our partners

This project was carried out on behalf of six ministries of the Government of Alberta. Each ministry collaborated extensively with the CYDL on this project, and their dedication to the project is gratefully acknowledged:

Enterprise and Advanced Education
Education
Health
Human Services
Aboriginal Relations
Justice and Solicitor General

Suggested citation

Child and Youth Data Laboratory (2012). *Educational experiences of Albertan youth with income support activity.* Edmonton: Alberta Centre for Child, Family and Community Research.

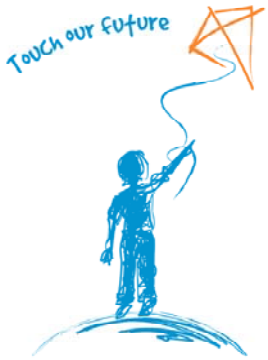
Contact CYDL

www.research4children.com
Click on "Data"

Xinjie Cui, Director
780 944 8631
xcui@research4children.com

Leslie Twilley, Senior Scientist
780 408 8734
ltwilley@research4children.com

Cecilia Bukutu, Research Scientist
780 408 8732
cbukutu@research4children.com



ALBERTA CENTRE FOR
CHILD, FAMILY & COMMUNITY
RESEARCH

Government
of Alberta

Least and most advantaged Albertan youth

Child and Youth Data Laboratory (CYDL)

Report for *Experiences of Albertan Youth* Project

Key findings

This report provides a profile of the 2,281 least and 7,517 most advantaged Albertan youth between 12 and 17 years who were receiving provincial government services in 2008/09. *Least advantaged* is defined here as youth who were performing below educational expectations in the K-12 education system, who had a mental health condition, and who were living in the lowest socio-economic status neighbourhoods. Conversely, *most advantaged* youth performed above educational expectations, did not have a mental health condition, and lived in the highest socio-economic status neighbourhoods.

The relationships between advantage status and age, gender, region of residence, and health service use are examined for least and most advantaged youth, in comparison to remaining Albertan youth. The cross-ministry service use of least and most advantaged youth is also considered. The report concludes with a look at the educational achievement of youth experiencing challenges.

- 1.1% of Albertan youth were least advantaged, and 3.6% were most advantaged.
- The least advantaged youth were more likely than the remaining youth to be male, live in rural areas, be hospitalized, visit an emergency room, or receive maltreatment-related services; most advantaged youth were less likely than remaining youth to have these characteristics.
- Additionally, least advantaged youth were more likely than the remaining youth to visit physicians five or more times, to receive Family Support for Children with Disabilities services, to be charged with an offence, or to be involved in corrections. *Psychiatric* or *pregnancy-related* hospitalizations and *mental or behavioural* emergency room visits were more common among hospitalizations and emergency room visits for least advantaged youth than for the remaining youth.
- Additional analyses looked at challenged youth (such as youth involved in corrections or receiving maltreatment-related services), and found that, despite the challenges they faced, some youth performed well in school. Better educational outcomes were associated with being female, living in a higher socio-economic status neighbourhood, not having a mental health condition, and lower rates of health service use.

Contents

Key findings and Context ..... *1 to 2*
Data analyses ..... *3 to 11*
Tables ..... *12 to 18*
Definitions and Notes ..... *19 to 20*
Data sources *21*
References *21*
About CYDL *23*

Least and most advantaged Albertan youth

Context

Socio-economic status, mental health, and education have interrelated effects on youth. Socio-economic status is a strong predictor of academic outcomes, with lower grades and more school absences for low-income students.[1] Health care services are used twice as much by individuals in the lowest income situations compared to those in the highest income situations.[2] Mental health problems in youth are associated with aggression and delinquent behaviour,[3] negative impacts on families, long-term impairments and high costs for society.[4] Low educational achievement is associated with increased risk for delinquency in adolescence,[5] and difficulties obtaining higher education and employment in adulthood.[6]

Living in an advantaged neighbourhood results in better outcomes for both high and low socio-economic status children;[7] the outcomes for all youth become more positive as the average socio-economic status in a school community increases.[8] Positive mental health can serve as a protective factor against negative behaviours in adolescence,[3] and education can increase positive health,[9] employment and income outcomes[6] across the life course.

Some youth are resilient to the negative effects of the challenges they experience.[10] Individual, family and community factors contribute to this resilience.[10] For example, in one study, youth receiving child intervention services were more likely to succeed if they remained in school longer, which was associated with protective factors such as stability in their education, exposure to positive social activities, and mentorship from an adult who provided guidance and support.[10]

The project

The current project, **Experiences of Albertan Youth**, is focused on basic understanding of the experiences of Albertan youth within and across ministries, as they relate to key indicators (age, gender, socio-economic status, educational achievement, and mental health status). It is the first project in a planned series that will link and analyze administrative data on children and youth in Alberta to inform policy, programs, and research.

List of reports for the project

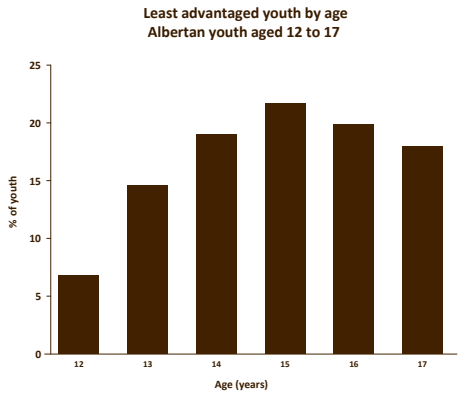
Socio-economic status of Albertan youth
Educational experiences of Albertan youth
Mental health status of Albertan youth
Family Support for Children with Disabilities services received by Albertan youth
Maltreatment-related investigations among Albertan youth
Maltreatment-related intervention services received by Albertan youth
Physician visits by Albertan youth
Emergency room visits by Albertan youth
Hospitalizations of Albertan youth
Offence charges among Albertan youth
Corrections involvement among Albertan youth
Post-secondary students in Alberta
Income support among Albertan youth
Educational experiences of Albertan youth with income support activity
Least advantaged and most advantaged Albertan youth

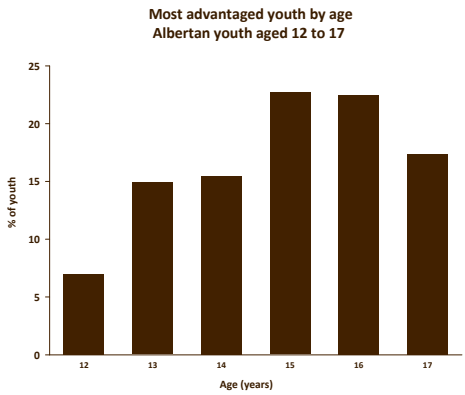
Least and most advantaged Albertan youth

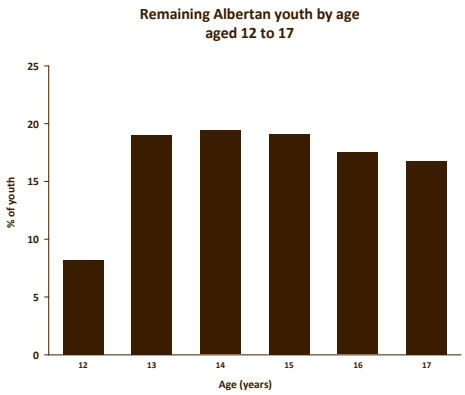
Least and most advantaged youth by age (Tables 1 and 2)

This analysis considers the least and most advantaged youth (aged 12 to 17 years) in Alberta in 2008/09. *Least advantaged* is defined here as youth who were performing below expectations in school, had a mental health condition, and were living in the most deprived socio-economic neighbourhoods. Conversely, *most advantaged* is defined as youth who performed above expectations, had no mental health condition and were living in the most advantaged socio-economic neighbourhoods. The *remaining Albertan youth* refer to those youth in this sub-population who were neither least nor most advantaged. All of these youth were registered with Education and the Alberta Health Care Insurance Plan.

- 1.1% of youth (2,281 youth) were the least advantaged in Alberta, while 3.6% (7,517 youth) were the most advantaged (see Table 1).
- The percentage of 12 year olds is lower than other ages because a proportion of 12 year old Albertan youth is missing from the overall study population; see *Definitions and Notes* (p. 19).
- The most common age for least advantaged youth was 15 years (21.7% of least advantaged), while 15 and 16 were the most common ages for most advantaged youth (22.7% and 22.5% of most advantaged youth, respectively). The remaining youth were fairly evenly distributed across the age range (other than the 12 year olds).

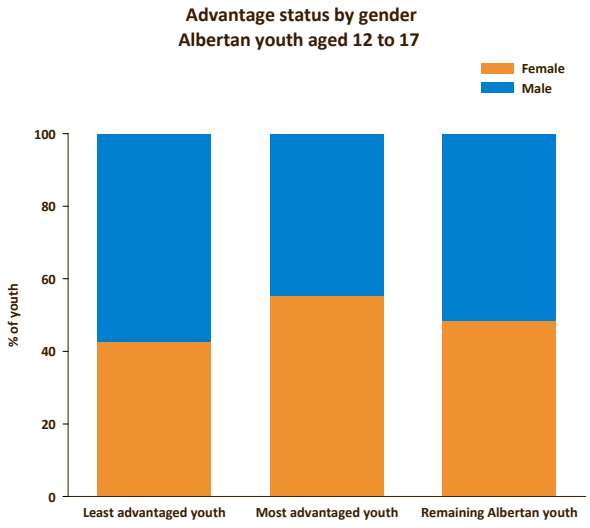




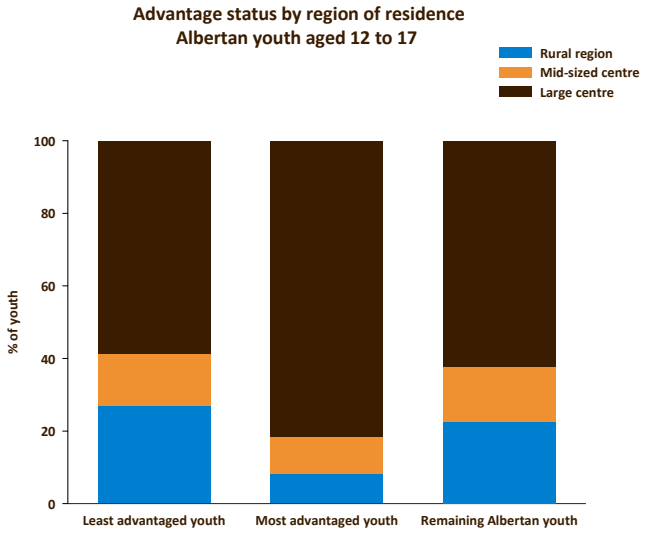


Least and most advantaged youth by gender (Table 3)

- Female youth between 12 and 17 years tended to be advantaged over same-age males with respect to their socio-economic status, mental health status and educational achievement.
- Among the least advantaged youth, 57% were males and 43% were females. Among the most advantaged, 55% were females and 45% were males.



Least and most advantaged Albertan youth

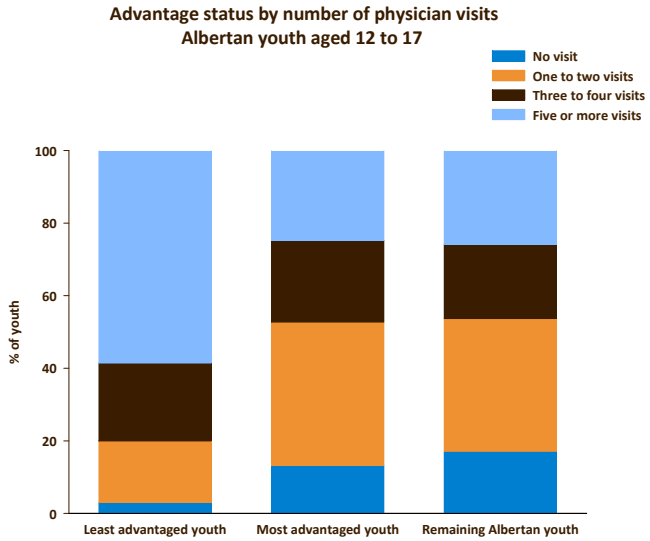


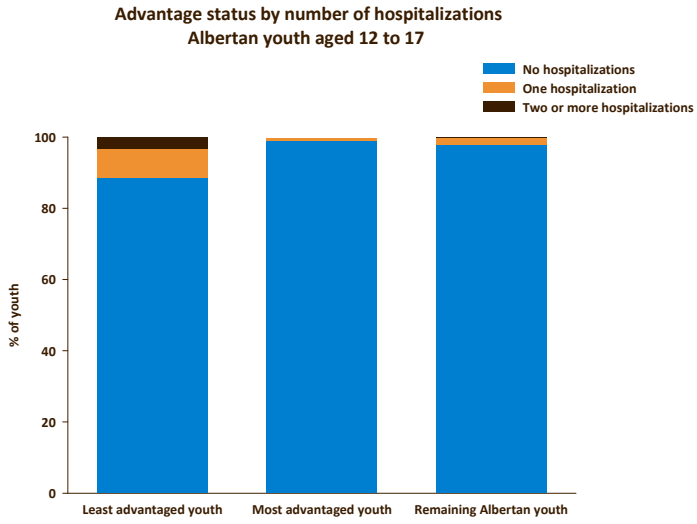
Least and most advantaged youth by region of residence (Table 4)

- The most advantaged youth were much more likely to be living in large centres (81%) than rural regions (8%).
- Among the least advantaged youth, 27% lived in rural regions; this is similar to the proportion of rural residents among the remaining Albertan youth (23%).

Least and most advantaged youth by number of physician visits (Table 5)

- Making one to two physician visits per year was more common among the most advantaged youth (39%) than among the least advantaged (17%).
- The least advantaged youth between 12 and 17 years were considerably more likely to see a physician five or more times in a year than the most advantaged youth (least advantaged, 59%, most advantaged, 25%).





Least and most advantaged youth by number of hospitalizations (Table 6)

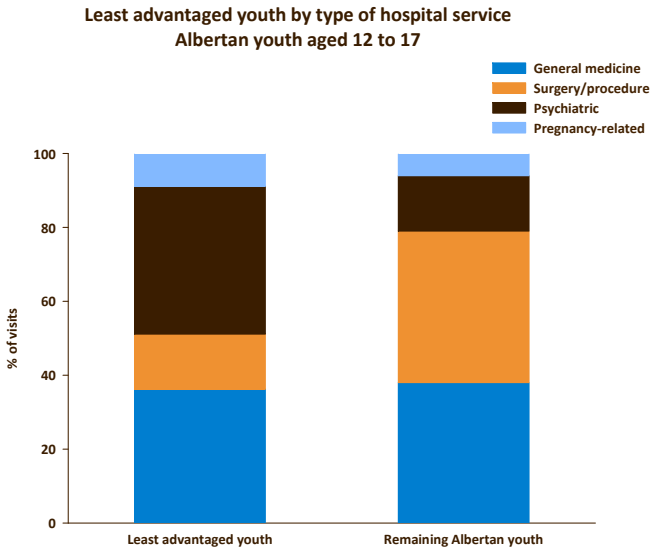
- Overall, hospitalizations during the year were rare among the most advantaged youth (1.0%) and remaining Albertan youth (2.2%).
- However, among the least advantaged youth, 11.4% were hospitalized at least once during the year.

Least and most advantaged Albertan youth

Least advantaged youth by type of hospital service (Table 7)

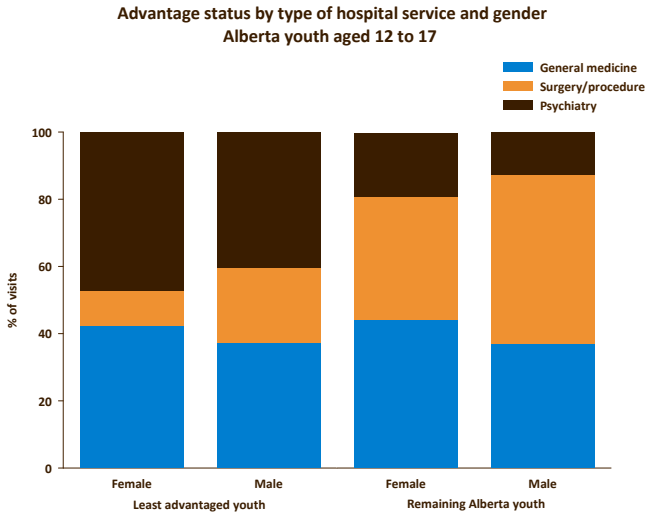
Because the most advantaged youth did not have a mental health condition, they did not appear at all in the *psychiatric* category. Analyses were excluded for all other categories among the most advantaged group due to low numbers.

- Psychiatric services were the most common among hospitalizations of least advantaged youth (40% of hospitalizations), while hospitalizations for surgery or procedures were the most common type among hospitalizations of remaining Albertan youth (41% of hospitalizations).
- Pregnancy-related services were more common among hospitalizations for the least advantaged youth (9%) than for the remaining Albertan youth (6%).



Type of hospital service, main service code examples

Category name	Examples
General medicine	Gastro-intestinal, respirology, allergy, etc.
Surgery/procedure	Orthopaedic surgery, urology, etc.
Psychiatry	Psychiatry or pediatric psychiatry
Pregnancy-related	Deliveries, antepartum obstetrics, abortions

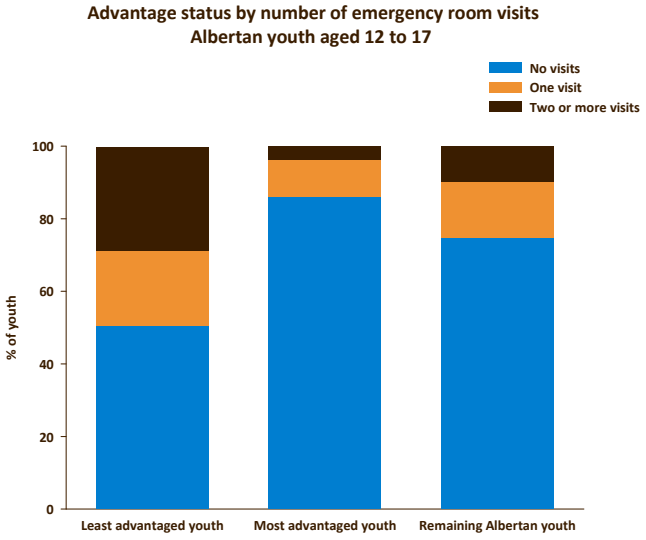


Least advantaged youth by type of hospital service and gender (Table 8)

Because pregnancy-related visits were relevant to females only, this category was excluded from this gender analysis. Due to low numbers, the most advantaged youth were excluded from this analysis.

- 47% of hospitalizations among least advantaged females were for psychiatric services, compared to 41% of hospitalizations among males.
- The percentage of hospitalizations for surgeries or procedures was higher among hospitalizations for least advantaged males (22%) than females (10%).

Least and most advantaged Albertan youth

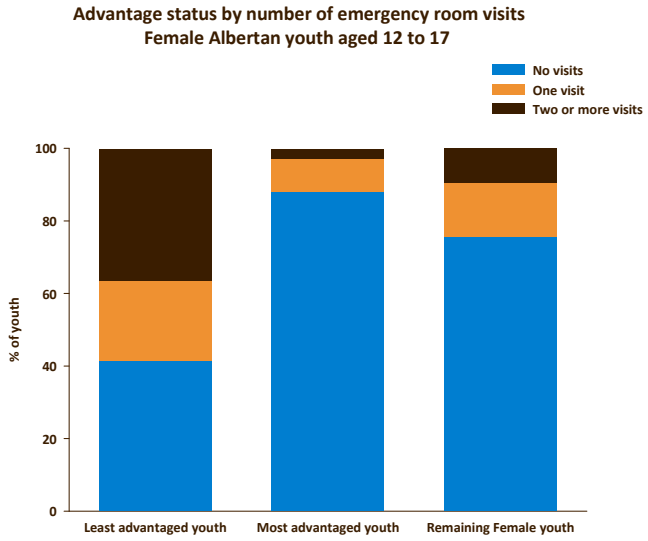


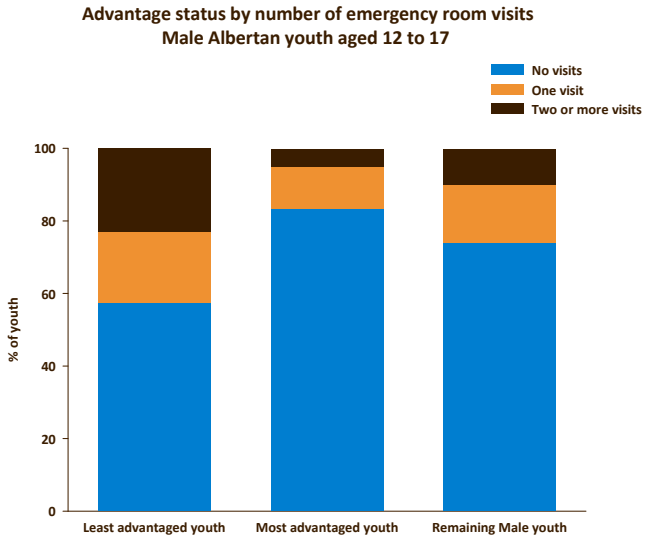
Least and most advantaged youth by number of emergency room visits (Table 9)

- Among the most advantaged youth, 86% did not visit an emergency room in 2008/09, compared to 51% among the least advantaged youth and 75% among the remaining Albertan youth.
- Two or more emergency room visits were substantially more common among the least advantaged youth (29%), compared to the most advantaged (4%) and remaining Albertan youth (10%).

Least and most advantaged youth by number of emergency room visits and gender (Table 10)

- Emergency room visits varied by gender among the least advantaged youth. Females were more likely than males to visit an emergency room during the year. In contrast, among the most advantaged youth, males were more likely than females to have emergency room visits.
- Among the least advantaged youth, females (36%) were considerably more likely than males (23%) to have visited an emergency room two or more times in 2008/09. However, among the most advantaged youth, more males (17%) than females (12%) had at least one emergency room visit during the year.
- There were minor gender differences for the remaining Albertan youth.

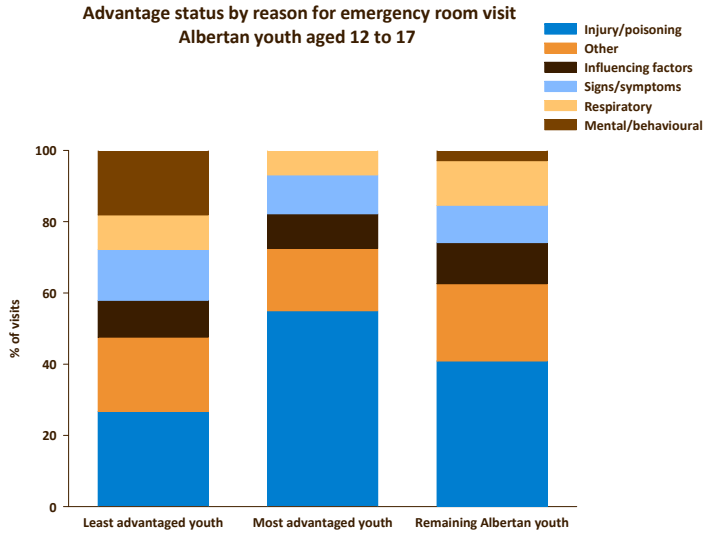




Least and most advantaged Albertan youth

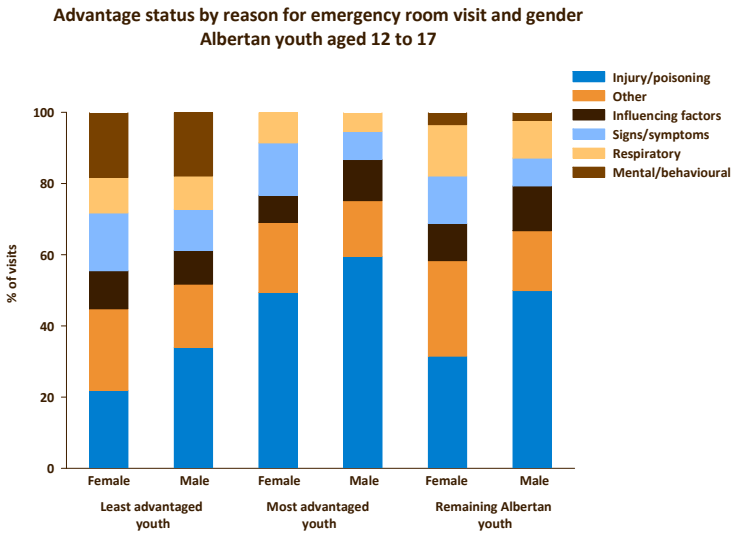
Least and most advantaged youth by reason for emergency room visit (Table 11)

- Among emergency room visits, *injury or poisoning* accounted for 55% of most advantaged youth visits, compared to 27% of least advantaged youth visits, and 40% of remaining Albertan youth visits.
- 18% of least advantaged youth visits were due to *mental or behavioural* issues compared to 3% of visits among the remaining Albertan youth. Because the most advantaged youth did not have a mental health condition, they did not appear in the *mental or behavioural* category.



Sample reasons for emergency room visits

Reason for emergency room visit	Examples
Injury/poisoning	Wound, fracture, sprain, allergy unspecified, etc.
Other	Non-infective gastroenteritis (including diarrhoea), urinary tract infections, lower back pain, etc.
Influencing factors	Cast removal, attention to surgical dressing and sutures, chemotherapy, etc.
Signs/symptoms	Headache, abdominal pain, chest pain, etc.
Respiratory	Sore throat, upper respiratory infection, asthma, etc.
Mental/behavioural	Depression, anxiety, mental and behavioural disorders due to use of alcohol or other drugs or psychoactive substances, etc.



Least and most advantaged youth by reason for emergency room visit and gender (Table 12)

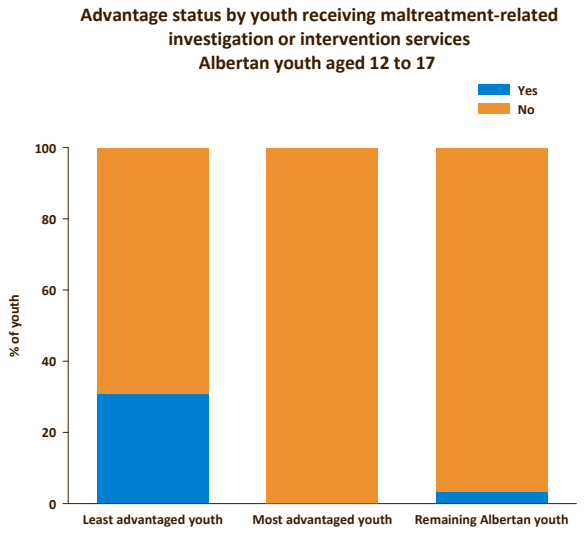
- Among emergency room visits for least advantaged youth, male visits (34%) were more likely than female visits (22%) to be for *injury or poisoning*, while female visits (23%) were more likely than male visits (18%) to be related to *other* reasons (diarrhoea, lower back pain, etc.).
- Out of all emergency room visits among most advantaged youth, male visits (60%) were also more likely than female visits (49%) to be for *injury or poisoning*, while female visits accounted for a greater percentage of visits for *signs or symptoms* (15% of female versus 8% of male visits).

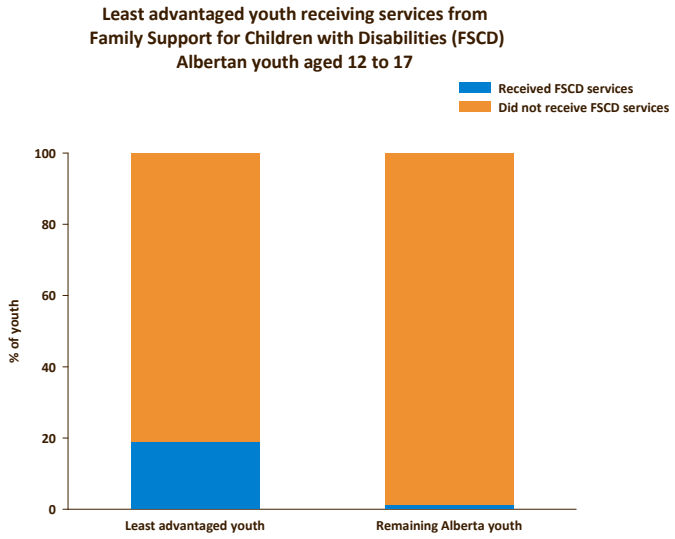
Least and most advantaged Albertan youth

Least and most advantaged youth receiving maltreatment-related investigation or intervention services (Table 13)

This analysis considers the least and most advantaged youth (aged 12 to 17 years) who received maltreatment-related child investigation or intervention services during 2008/09.

- Among the least advantaged youth, 30.9% (705 youth) were receiving maltreatment-related investigation or intervention services compared to 3.4% of the remaining Albertan youth.
- A small minority of the most advantaged youth were receiving maltreatment-related investigation or intervention services (0.2%; 13 youth).





Least advantaged youth receiving services from Family Support for Children with Disabilities (Table 14)

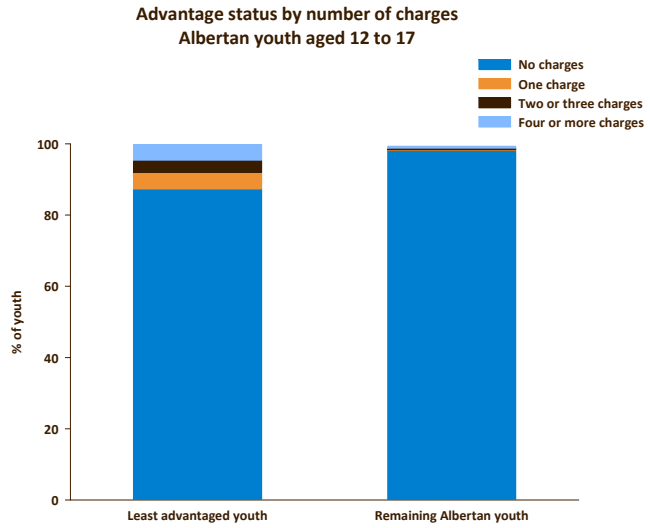
This analysis considers the least advantaged youth (aged 12 to 17 years) who received services from FSCD during 2008/09.

- Among the least advantaged youth, 18.9% (432 youth) were receiving services from FSCD, compared to 1.1% (2,209 youth) among the remaining Albertan youth (excluding the most advantaged youth). This high proportion is due in part to the inclusion of FSCD data in the development of the mental health measure used as part of the definition of most and least advantaged status.

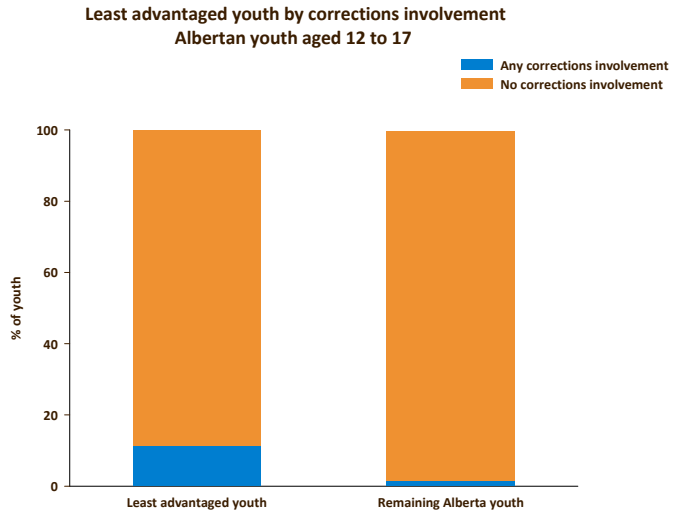
Least advantaged youth by number of charges (Table 15)

This analysis considers the least advantaged youth (aged 12 to 17 years) who received offence charges during 2008/09. Due to the low number of most advantaged youth with offence charges, they were excluded from this analysis.

- Among the least advantaged youth, 87.3% (1,991 youth) had no offence charges.
- However, 4.6% (105 youth) had four or more offence charges compared to 0.5% (966 youth) of the remaining Albertan youth.



Least and most advantaged Albertan youth



Least advantaged by corrections involvement (Table 16)

This analysis considers least advantaged youth (aged 12 to 17 years) who were involved in corrections, including youth who were in custody (in which a sentence is served in a young offender facility) or who had a community sentence or pre-trial supervision. Due to the small numbers of most advantaged youth involved in corrections, they were excluded.

- Among the least advantaged youth, 11.4% (260 youth) had some form of corrections involvement compared to 1.6% among the remaining Albertan youth (excluding the most advantaged youth).

Representation of least advantaged youth by type of ministry service or ministry involvement

Number and percent of youth registered in both Alberta's K-12 education system and the Alberta Health Care Insurance Plan by least advantage status and representation in ministry service or ministry involvement, Albertan youth aged 12 to 17 years, 2008/09

Type of ministry service/involvement	Percent and number of least advantaged youth by ministry service/involvement type	Total number of Albertan youth (aged 12 to 17) by ministry service/involvement type	Ratio*
Maltreatment-related investigation or intervention services	705, 9.2%	7,664	8.4
Family Support for Children with Disabilities services	432, 16.3%	2,646	14.8
Offence charges	290, 7.2%	4,053	6.5
Corrections (custody)	81, 13.4%	603	12.2
Corrections (community)	252, 7.3%	3,474	6.6

*Least advantaged youth make up only 1.1% (2, 281 youth) of the total population considered in this analysis. The least advantaged to total population ratio is the ratio between the percentage of youth who were least advantaged in a given ministry service/involvement group and percentage of youth who were the least advantaged in the total population (1.1%). A ratio value of over 1 indicates the over-representation of youth in a given type of ministry service or ministry involvement.

This analysis considers the proportion of least advantaged youth (aged 12 to 17 years) who received maltreatment-related investigation or intervention services, or who were charged with an offence, or were involved in corrections (custody or community). The most advantaged youth were not included due to the low representation of these youth in the types of service involvement discussed in this analysis.

- 9.2% of youth receiving maltreatment-related investigation or intervention services were least advantaged.
- 16.3% of youth receiving services from FSCD were least advantaged.
- 7.2% of youth with offence charges, 7.3% of youth involved in community corrections, and 13.4% of youth involved in custody corrections fell into the category of least advantaged youth.
- Overall, the least-advantaged youth in Alberta's 12 to 17 year old population were over-represented in these service involvements, relative to the 1.1% of the total population that was least advantaged. The ratios in the table indicate that the over-representation is large in magnitude.

Youth experiencing challenges by socio-demographic characteristics and educational achievement

Number and percent of youth experiencing challenges by socio-demographic characteristics and educational achievement, Albertan youth aged 12 to 17 years registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan, 2008/09

Socio-demographic characteristics	Educational achievement					
	Below expectations		Meeting/above expectations		Total	
	Youth with challenges	Youth with no challenges	Youth with challenges	Youth with no challenges	Youth with challenges	Youth with no challenges
Age						
12	482, 6.0%	2,798, 7.6%	436, 7.5%	14,503, 8.2%	918, 6.6%	17,301, 8.1%
13	1,039, 13.0%	6,029, 16.3%	1,156, 19.8%	34,132, 19.3%	2,195, 15.8%	40,161, 18.8%
14	1,449, 18.1%	7,431, 20.1%	1,001, 17.1%	33,651, 19.0%	2,450, 17.7%	41,082, 19.2%
15	1,696, 21.2%	7,751, 21.0%	1,009, 17.3%	33,466, 18.9%	2,705, 19.5%	41,217, 19.3%
16	1,741, 21.7%	6,635, 18.0%	1,091, 18.7%	31,251, 17.7%	2,832, 20.4%	37,886, 17.7%
17	1,606, 20.4%	6,234, 16.9%	1,153, 19.7%	29,765, 16.8%	2,754, 19.9%	35,999, 16.8%
Total	8,013, 100%	36,878, 100%	5,846, 100%	176,768, 100%	13,859, 100%	213,646, 100%
Gender						
Female	3,204, 40.0%	15,269, 41.4%	2,710, 46.4%	88,932, 50.3%	5,914, 42.7%	104,201, 48.8%
Male	4,809, 60.0%	21,609, 58.6%	3,136, 53.6%	87,836, 49.7%	7,945, 57.3%	109,445, 51.2%
Total	8,013, 100%	36,878, 100%	5,846, 100%	176,768, 100%	13,859, 100%	213,646, 100%
Region of residence						
Rural	1,816, 22.7%	9,695, 26.3%	1,315, 22.5%	37,922, 21.5%	3,131,22.6%	47,617, 22.3%
Mid-sized centre	1,202, 15.0%	5,843, 15.8%	881, 15.1%	26,405, 14.8%	2,083, 15.0%	32,248, 15.1%
Large centre	4,995, 62.3%	21,340, 58.9%	3,650, 62.4%	112,441,63.6%	8,645, 62.4%	133,781, 62.6%
Total	8,013, 100%	36,878, 100%	5,846, 100%	176,768, 100%	13,859, 100%	213,646, 100%
Socio-economic status (SES)						
Lowest SES	2,984, 37.4%	11,366, 31.2%	1,845, 31.7%	36,118, 20.6%	4,829, 35.0%	47,484, 22.4%
Low middle	1,374, 17.2%	4,787,13.1%	931, 16.0%	16,851, 9.6%	2,305, 16.7%	21,638, 10.2%
Middle	1,742, 21.8%	10158, 27.9%	1,311, 22.5%	47,863, 27.3%	3,053, 22.1%	58,021, 27.4%
High middle	989, 12.4%	5,408, 14.9%	899, 15.4%	34,261,19.6%	1,888, 13.7%	39,669, 18.8%
Highest SES	886, 11.1%	4,680, 12.6%	838, 14.4%	40,124, 22.9%	1,724, 12.5%	44,804, 21.2%
Total	7,975, 100%	36,399, 100%	5,824, 100%	175,217, 100%	13,799, 100%	211,616, 100%

This analysis and the next one consider a different conceptualization of disadvantaged youth than in previous analyses: those who were experiencing identified challenges during 2008/09. *Youth experiencing challenges* (13,859 youth) are defined here as those youth who received either a maltreatment-related investigation or intervention service, received services from FSCD, had offence charges, or were involved in corrections. Only those youth who were registered in both the K-12 education system and the Alberta Health Care Insurance Plan (AHCIP) were included. The focus of these analyses is the educational achievement of these challenged youth.

- Among youth who faced challenges, those below educational expectations were younger on average, more likely to be male, and more likely to live in the lowest socio-economic status areas than those above educational expectations. Region of residence did not vary with educational achievement for youth with challenges.

Youth experiencing challenges by health service use and educational achievement

Number and percent of youth experiencing challenges by health service use and educational achievement, Albertan youth aged 12 to 17 years registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan, 2008/09

Health service use	Educational achievement					
	Below expectations		Meeting/above expectations		Total	
	Youth with challenges	Youth with no challenges	Youth with challenges	Youth with no challenges	Youth with challenges	Youth with no challenges
Physician visits						
None	1,291, 16.1%	7,704, 20.9%	878, 15.0%	28,169, 15.9%	2,169, 15.7%	35,873, 16.8%
One to two	2,293, 28.6%	12,682, 34.4%	1,805, 30.9%	65,430, 37.0%	4,098, 29.6%	78,112, 36.6%
Three or four	1,540, 19.2%	6,849, 18.6%	1,257, 21.5%	37,044, 20.9%	2,797, 20.2%	43,893, 20.5%
Five or more	2,889, 36.1%	9,643, 26.1%	1,906, 32.6%	46,125, 26.1%	4,195, 30.3%	55,768, 26.1%
Total	8,013, 100%	36,878, 100%	5,846, 100%	176,768, 100%	13,859, 100%	213,646, 100%
Emergency room visits						
None	4,734, 59.1%	24,700, 67.0%	3,831, 65.5%	135,227, 76.5%	8,565, 61.8%	159,927, 74.6%
One	1,621, 20.2%	6,494, 17.6%	1,102, 18.9%	26,117, 14.8%	2,723, 19.6%	32,611, 15.3%
Two or more	1,658, 20.7%	5,684, 15.4%	913, 15.6%	15,424, 8.7%	2,571, 18.6%	21,108, 9.9%
Total	8,013, 100%	36,878, 100%	5,846, 100%	176,768, 100%	13,859, 100%	213,646, 100%
Hospitalizations						
None	7,304, 91.2%	35,214, 95.5%	5,538, 94.7%	173,653, 98.2%	12,842, 92.7%	208,867, 9.8%
One	523, 6.5%	1,308, 3.5%	244, 4.2%	2,723, 1.5%	767, 5.5%	4,031, 1.9%
Two or more	186, 2.3%	356, 1.0%	64, 1.1%	392, 0.2%	250, 1.8%	748, 0.4%
Total	8,013, 100%	36,878, 100%	5,846, 100%	176,768, 100%	13,859, 100%	213,646, 100%
Mental health status						
Any mental health condition	3,592, 44.8%	7,576, 20.5%	1,718, 29.4%	13,128, 7.4%	5,310, 38.3%	20,704, 9.7%
No mental health condition	4,421, 55.2%	29,302, 79.5%	4,128, 70.6%	163,640, 92.6%	8,549, 61.7%	192,942, 90.3%
Total	8,013, 100%	36,878, 100%	5,846, 100%	176,768, 100%	13,859, 100%	213,645, 100%

- Five or more physician visits were more common among youth who were experiencing challenges and who were also performing below educational expectations than among youth facing challenges who were meeting or above expectations.
- Among youth facing challenges, those performing below educational expectations had higher rates of emergency room visits than those who were meeting or performing above expectations.
- Rates of hospitalizations among youth who faced challenges were higher among those performing below expectations compared to youth meeting or exceeding expectations.
- Among youth with challenges, mental health conditions were considerably more common among youth performing below expectations (45%) than those meeting or exceeding educational expectations (29%).

Tables

Table 1. Number and percent of youth registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan and advantage status, Albertan youth aged 12 to 17 years, 2008/09

	Least and most advantaged youth			
	Least advantaged youth	Most advantaged youth	Remaining Albertan youth	Total
Number of youth	2,281	7,517	201,840	211,638
Percent of youth	1.1	3.6	95.4	100.0

Table 2. Number and percent of youth registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan by advantage status and age, Albertan youth aged 12 to 17 years, 2008/09

	Age in years	Advantage status			
		Least advantaged youth	Most advantaged youth	Remaining Albertan youth	Total
Number of youth	12	154	526	16,457	17,137
	13	334	1,120	38,341	39,795
	14	433	1,166	39,093	40,692
	15	494	1,707	38,641	40,842
	16	455	1,692	35,388	37,535
	17	411	1,306	33,920	35,637
	Total	2,281	7,517	201,840	211,638
Percent of youth	12	6.8	7.0	8.2	8.1
	13	14.6	14.9	19.0	18.8
	14	19.0	15.5	19.4	19.2
	15	21.7	22.7	19.1	19.3
	16	19.9	22.5	17.5	17.7
	17	18.0	17.4	16.8	16.8
	Total	100.0	100.0	100.0	100.0

Table 3. Number and percent of youth registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan by advantage status and gender, Albertan youth aged 12 to 17 years, 2008/09

	Gender	Advantage status			
		Least advantaged youth	Most advantaged youth	Remaining Albertan youth	Total
Number of youth	Female	976	4,166	98,041	103,183
	Male	1,305	3,351	103,799	108,455
	Total	2,281	7,517	201,840	211,638
Percent of youth	Female	42.8	55.4	48.6	48.8
	Male	57.2	44.6	51.4	51.2
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 3a. Number and percent of youth registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan by advantage status and age and gender, Albertan youth aged 12 to 17 years, 2008/09

	Age in years	Advantage status			
Female		Least advantaged youth	Most advantaged youth	Remaining Albertan youth	Total
Number of youth	12	41	310	7,962	8,313
	13	110	577	18,639	19,326
	14	159	647	19,014	19,820
	15	217	988	18,567	19,772
	16	238	963	17,222	18,423
	17	211	681	16,637	17,529
	Total	976	4,166	98,041	103,183
Percent of youth	12	4.2	7.4	8.1	8.1
	13	11.3	13.9	19.0	18.7
	14	16.3	15.5	19.4	19.2
	15	22.2	23.7	18.9	19.2
	16	24.4	23.1	17.6	17.9
	17	21.6	16.3	17.0	17.0
Total	Total	100.0	100.0	100.0	100.0
Male		Least advantaged youth	Most advantaged youth	Remaining Albertan youth	Total
Number of youth	12	113	216	8,495	8,824
	13	224	543	19,702	20,469
	14	274	519	20,079	20,872
	15	277	719	20,074	21,070
	16	217	729	18,166	19,112
	17	200	625	17,283	18,108
	Total	1,305	3,351	103,799	108,455
Percent of youth	12	8.7	6.4	8.2	8.1
	13	17.2	16.2	19.0	18.9
	14	21.0	15.5	19.3	19.2
	15	21.2	21.5	19.3	19.4
	16	16.6	21.8	17.5	17.6
	17	15.3	18.7	16.7	16.7
	Total	100.0	100.0	100.0	100.0

Table 4. Number and percent of youth registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan by advantage status and region of residence, Albertan youth aged 12 to 17 years, 2008/09

	Region of residence	Advantage status			
		Least advantaged youth	Most advantaged youth	Remaining Albertan youth	Total
Number of youth	Rural region	615	620	45,437	46,672
	Mid-sized centre	328	775	30,830	31,933
	Large centre	1,338	6,122	125,573	133,033
	Total	2,281	7,517	201,840	211,638
Percent of youth	Rural region	27.0	8.2	22.5	22.1
	Mid-sized centre	14.4	10.3	15.3	15.1
	Large centre	58.7	81.4	62.2	62.9
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 5. Number and percent of youth registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan by advantage status and number of physician visits, Albertan youth aged 12 to 17 years, 2008/09

	Number of physician visits	Advantage status			
		Least advantaged youth	Most advantaged youth	Remaining Albertan youth	Total
Number of youth	No visit	69	1,000	34,429	35,498
	One to two visits	387	2,964	73,948	77,299
	Three to four visits	489	1,694	41,311	43,494
	Five or more visits	1,336	1,859	52,152	55,347
	Total	2,281	7,517	201,840	211,638
Percent of youth	No visit	3.0	13.3	17.1	16.8
	One to two visits	17.0	39.4	36.6	36.5
	Three to four visits	21.4	22.5	20.5	20.6
	Five or more visits	58.6	24.7	25.8	26.2
	Total	100.0	100.0	100.0	100.0

Table 6. Number and percent of youth registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan by advantage status and number of hospitalizations, Albertan youth aged 12 to 17 years, 2008/09

	Number of hospitalizations	Advantage status			
		Least advantaged youth	Most advantaged youth	Remaining Albertan youth	Total
Number of youth	No hospitalization	2,020	7,445	197,439	206,904
	One hospitalization	187	62	3,746	3,995
	Two or more hospitalizations	74	10	655	739
	Total	2,281	7,517	201,840	211,638
Percent of youth	No hospitalization	88.6	99.0	97.8	97.8
	One hospitalization	8.2	0.8	1.9	1.9
	Two or more hospitalizations	3.2	0.1	0.3	0.3
	Total	100.0	100.0	100.0	100.0

Table 7. Number and percent of youth registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan by advantage status and type of hospital service, Albertan youth aged 12 to 17 years, 2008/09

	Type of hospital service	Advantage status	
		Least advantaged youth	Remaining Albertan youth
Number of visits	General medicine	141	2,062
	Surgery/procedure	58	2,226
	Psychiatric	156	815
	Pregnancy-related	35	328
	Total	390	5,431
Percent of visits	General medicine	36.2	38.0
	Surgery/procedure	14.9	41.0
	Psychiatric	40.0	15.0
	Pregnancy-related	9.0	6.0

Tables (continued)

Table 8. Number and percent of youth registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan by advantage status and type of hospital service and gender, Albertan youth aged 12 to 17 years, 2008/09

	Type of hospital service	Advantage status		
Female		Least advantaged youth	Remaining female youth	Total
Number of visits	General medicine	74	1,092	1,166
	Surgery/procedure	18	909	927
	Psychiatry	83	478	561
	Total	175	2,479	2,654
Percent of visits	General medicine	42.3	44.1	43.9
	Surgery/procedure	10.3	36.7	34.9
	Psychiatry	47.4	19.3	21.1
Male		Least advantaged youth	Remaining male youth	Total
Number of visits	General medicine	67	970	1,037
	Surgery/procedure	40	1,317	1,357
	Psychiatry	73	337	410
	Total	180	2,624	2,804
Percent of visits	General medicine	37.2	37.0	37.0
	Surgery/procedure	22.2	50.2	48.4
	Psychiatry	40.6	12.8	14.6

Table 9. Number and percent of youth registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan by advantage status and number of emergency room visits, Albertan youth aged 12 to 17 years, 2008/09

	Number of emergency room visits	Advantage status			
		Least advantaged youth	Most advantaged youth	Remaining Albertan youth	Total
Number of youth	No visit	1,152	6,461	150,991	158,604
	One visit	473	769	30,987	32,229
	Two or more visits	656	287	19,862	20,805
	Total	2,281	7,517	201,840	211,638
Percent of youth	No visit	50.5	86.0	74.8	74.9
	One visits	20.7	10.2	15.4	15.2
	Two or more visits	28.8	3.8	9.8	9.8
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 10. Number and percent of youth registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan by advantage status and number of emergency room visits and gender, Albertan youth aged 12 to 17 years, 2008/09

	Number of emergency room visits	Advantage status			
Female		Least advantaged youth	Most advantaged youth	Remaining female youth	Total
Number of youth	No visit	403	3,665	74,172	78,240
	One visit	218	380	14,365	14,963
	Two or more visits	355	121	9,504	9,980
	Total	976	4,166	98,041	103,183
Percent of youth	No visit	41.3	88.0	75.7	75.8
	One visits	22.3	9.1	14.7	14.5
	Two or more visits	36.4	2.9	9.7	9.7
	Total	100.0	100.0	100.0	100.0
Male		Least advantaged youth	Most advantaged youth	Remaining male youth	Total
Number of youth	No visit	749	2,796	76,819	80,364
	One visit	255	389	16,622	17,266
	Two or more visits	301	166	10,358	10,825
	Total	1,305	3,351	103,799	108,455
Percent of youth	No visit	57.4	83.4	74.0	74.1
	One visits	19.5	11.6	16.0	15.9
	Two or more visits	23.1	5.0	10.0	10.0
	Total	100.0	100.0	100.0	100.0

Table 11. Number and percent of youth registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan by advantage status and reason for emergency room (ER) visit, Albertan youth aged 12 to 17 years, 2008/09

	Reason for ER visit	Advantage status			
		Least advantaged youth	Most advantaged youth	Remaining Albertan youth	Total
Number of visits	Injury/poisoning	814	829	38,009	39,652
	Other	631	264	20,129	21,024
	Influencing factors	311	147	10,717	11,175
	Signs/symptoms	435	165	9,745	10,345
	Respiratory	294	103	11,570	11,967
	Mental/behavioural	548	-	2,702	3,250
	Total	3,033	1,508	92,872	97,413
Percent of visits	Injury/poisoning	26.8	55.0	40.9	40.7
	Other	20.8	17.5	21.7	21.6
	Influencing factors	10.3	9.7	11.5	11.5
	Signs/symptoms	14.3	10.9	10.5	10.6
	Respiratory	9.7	6.8	12.5	12.3
	Mental/behavioural	18.1	-	2.9	3.3

Tables (continued)

Table 12. Number and percent of youth registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan by advantage status and reason for emergency room (ER) visit and gender, Albertan youth aged 12 to 17 years, 2008/09

	Reason for ER visit	Advantage status			
Female		Least advantaged youth	Most advantaged youth	Remaining female youth	Total
Number of visits	Injury/poisoning	394	336	14,201	14,931
	Other	412	134	12,118	12,664
	Influencing factors	193	52	4,726	4,971
	Signs/symptoms	291	100	6,013	6,404
	Respiratory	179	58	6,501	6,738
	Mental/behavioural	327	-	1,593	1,920
	Total	1,796	680	45,152	47,628
Percent of visits	Injury/poisoning	21.9	49.4	31.5	31.3
	Other	22.9	19.7	26.8	26.6
	Influencing factors	10.7	7.6	10.5	10.4
	Signs/symptoms	16.2	14.7	13.3	13.4
	Respiratory	10.0	8.5	14.4	14.1
	Mental/behavioural	18.2	-	3.5	4.0
Male		Least advantaged youth	Most advantaged youth	Remaining male youth	Total
Number of visits	Injury/poisoning	420	493	23,808	24,721
	Other	219	130	8,011	8,360
	Influencing factors	118	95	5,991	6,204
	Signs/symptoms	144	65	3,732	3,941
	Respiratory	115	45	5,069	5,229
	Mental/behavioural	221	-	1,109	1,330
	Total	1,237	828	47,720	49,785
Percent of visits	Injury/poisoning	34.0	59.5	49.9	49.7
	Other	17.7	15.7	16.8	16.8
	Influencing factors	9.5	11.5	12.6	12.5
	Signs/symptoms	11.6	7.9	7.8	7.9
	Respiratory	9.3	5.4	10.6	10.5
	Mental/behavioural	17.9	-	2.3	2.7

Table 13. Number and percent of youth registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan by advantage status and youth receiving maltreatment-related investigation or intervention services, Albertan youth aged 12 to 17 years, 2008/09

	Received maltreatment-related investigation or intervention services	Advantage status			
		Least advantaged youth	Most advantaged youth	Remaining Albertan youth	Total
Number of youth	Yes	705	13	6,946	7,664
	No	1,576	7,504	194,894	203,974
	Total	2,281	7,517	201,840	211,638
Percent of youth	Yes	30.9	0.2	3.4	3.6
	No	69.1	99.8	96.6	96.4
	Total	100.0	100.0	100.0	100.0

Tables (continued)

Table 14. Number and percent of youth registered in Alberta's K-12 education system and Alberta Health and Wellness by advantage status and services received from Family Support for Children with Disabilities (FSCD), Albertan youth aged 12 to 17 years, 2008/09

	Received services from FSCD	Advantage status		
		Least advantaged youth	Most advantaged youth	Remaining Albertan youth
Number of youth	Yes	432	-	2,209
	No	1,849	-	199,631
	Total	2,281	-	201,840
Percent of youth	Yes	18.9	-	1.1
	No	81.1	-	98.9
	Total	100.0	-	100.0

Table 15. Number and percent of youth registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan by advantage status and number of offence charges Albertan youth aged 12 to 17 years, 2008/09

	Number of charges	Advantage status		
		Least advantaged youth	Most advantaged youth	Remaining Albertan youth
Number of youth	No charges	1,991	-	198,079
	One charge	108	-	1,732
	Two or three charges	77	-	1,063
	Four or more charges	105	-	966
	Total	2,281	-	201,840
Percent of youth	No charges	87.3	-	98.1
	One charge	4.7	-	0.9
	Two or three charges	3.4	-	0.5
	Four or more charges	4.6	-	0.5
	Total	100.0	-	100.0

Table 16. Number and percent of youth registered in Alberta's K-12 education system and the Alberta Health Care Insurance Plan by advantage status and corrections involvement, Albertan youth aged 12 to 17 years, 2008/09

	Corrections involvement	Advantage status		
		Least advantaged youth	Most advantaged youth	Remaining Albertan youth
Number of youth	Any corrections involvement	260	-	3,274
	No corrections involvement	2,021	-	198,566
	Total	2,281	-	201,840
Percent of youth	Any corrections involvement	11.4	-	1.6
	No corrections involvement	88.6	-	98.4
	Total	100.0	-	100.0

Definitions and Notes

- The study population for this project consisted of all Albertan youth who were registered with the Alberta Health Care Insurance Plan in 2008/09 or who received selected services from one or more of the participating ministries in 2008/09. "All Albertan youth" refers to this study population.
- The study year was fiscal year 2008/09. With the exception of Education and Enterprise and Advanced Education data, all data were for services provided between April 1, 2008 and March 31, 2009, with age determined on March 31, 2009.
    - Data for Enterprise and Advanced Education were for services provided between September 1, 2008 and June 30, 2009, with age determined on March 31, 2009.
    - Data for Education were for services provided to youth who were 12 to 19 years old on September 30, 2008. As a result, youth turning 12 between October 1, 2008 and March 31, 2009 *were not* included in the Education data but were included in other ministries' data. This resulted in the number of 12 year olds in the Education data being lower (approximately 50% lower) than that of 13 to 17 year olds.
    - Furthermore, although Education only provides services to youth who are under 20, the provision of services is defined by age at September 30. Youth who turned 20 between October 1, 2008 and March 31, 2009 *were* included in the Education data, resulting in the inclusion of 20 year olds in some analyses of Education data.
- **Cross-ministry analyses included only youth that were linked across the relevant ministries**. This means that not all youth in the project were represented in every analysis. As well, only youth with a value for a given indicator were included in analyses involving that indicator (i.e., **missing values** were excluded).
- Age, gender, and postal code (translated into Statistics Canada dissemination areas) were provided for each individual by each participating ministry. In the case of discrepancies between ministries, the most common value for an indicator was chosen. In the event of two or more most common values, the value for the indicator was chosen randomly from the most common values.
- **Mental health status** was defined by the presence or absence of mental health diagnosis codes in Health's databases (Inpatient—Discharge Abstract Database, Ambulatory Care, and Practitioner Payments), or in the Family Support for Children with Disabilities Information System. Only youth who were registered with Health for the full fiscal year were included in the mental health analyses. **Mental health service use is a proxy for presence of a mental health condition:** Some youth with mental health conditions may not have accessed mental health services in Alberta during the year, and some mental health service use may have occurred for youth who did not in fact have mental health conditions.
    - **Mental health conditions** were grouped based on The Johns Hopkins ACG® Case-Mix System (version 8.2)[11]. Mental health conditions were *mood/anxiety* (anxiety, depression, bipolar disorder, etc.), *behavioural* (attention -deficit disorder, regulatory disorder, mental or behavioural problems due to substance use, etc.), *neurodevelopmental* (autism, fetal alcohol spectrum disorder, cerebral palsy, etc.), or *schizophrenia/psychoses* (schizophrenia, psychosis, delusional disorder, etc.). Conditions were not mutually exclusive; a youth could have a diagnosis in more than one category.
- **Socio-economic status (SES)** captures the social and material environments in which youth live. A youth was assigned a socio-economic status via an index based on the Statistics Canada dissemination area in which he or she resided[12]. Six indicators were included in the index: percent without a high school diploma, the employment ratio, average income, percent of single families, percent of persons living alone, and percent of persons separated, divorced, or widowed. Socio-economic status values fell into five quintiles. In this report, "lowest socio-economic status" refers to the lowest quintile of socio-economic status, while "highest" refers to the highest quintile.
- **Educational achievement** was computed by Alberta Education using age, grade, school type, special education codes, provincial achievement test scores, home education status, number of high school credits earned, number of higher level courses taken, average grade in higher level courses, possession of an Alberta Education certificate or diploma, and Alexander Rutherford scholarship eligibility.

Definitions and Notes

Educational achievement was categorized as *above, meeting,* or *below expectations* for a student's age and grade. An educational achievement rating was not available for 12 to 14 year old youth without scores on provincial achievement tests, for youth in 'other' schools (accredited post-secondary institutions offering high school courses for credit to adults; most youth in these schools were between 18 and 20 years), and for home-schooled high school youth with no credits.

- Dissemination areas of residence were used by CYDL to determine **region of residence**. Urban areas included large centres with urban core populations greater than 100,000 (i.e., Edmonton and Calgary metropolitan areas) and mid-sized centres with urban cores greater than 10,000; all other areas were categorized as rural.
- New and returning Alberta residents, if they are eligible, must register for **Alberta Health Care Insurance Plan** coverage to receive insured health services. Youth in the "**health registry**" refers to all youth who are insured in Alberta. This includes any eligible youth who is a permanent resident of Alberta, living at least 183 days per year in the province. Members of the Canadian Armed Forces, Royal Canadian Mounted Police and federal penitentiary inmates are not eligible (they receive coverage from the federal government), but dependents of these non-eligible residents, who reside in Alberta, are eligible.
- **Physician visits** reflect fee claims made by physicians for services provided when patients visit their offices. In this report, multiple claims by a given physician for a given patient on the same day were counted as a single visit. Reasons for physician visits were not available for this project.
- **Emergency room visits** refer to visits to emergency departments for assessment or treatment. **Reason for emergency room visit** was based on the primary diagnostic code given for each visit. Categories of reasons included *injury/poisoning* (ICD-10-CA[13] Chapter XIX Injury, poisoning and certain other consequences of external causes), *respiratory* (Chapter X Diseases of the respiratory system), *influencing factors* (Chapter XXI Factors influencing health status and contact with health services), *symptoms/signs* (Chapter XVIII Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified), and *other* (all other ICD-10-CA chapters).
- **Hospitalizations** refer to admissions to hospital for assessment or treatment. **Hospital service type** was defined by the main patient service code (the patient service that contributes to the longest portion of a patient's stay; see the Canadian Institute for Health Information's DAD Abstracting Manual[14] for codes). Categories of services were labelled *general medicine* (patient service codes 01 to 29, 55, 56, 58, 60 to 63, 66 to 76, 82, 91, 96, 99), *surgery/procedure* (patient service codes 30 to 49, 81, 87), *psychiatry* (patient service codes 64, 65), or *pregnancy-related* (patient service codes 51 to 54, 59).
- **Maltreatment-related investigations** occur when there is a concern that the safety or well-being of a youth is threatened. Outcomes of investigation include *in care after investigation* (the youth is taken into care, and placed in a foster home, with family, in a group home, etc.), *out of care services* (the youth remains in the home and the family receives support services), and *no intervention needed*.
- **Maltreatment-related interventions** occur when the safety or well-being of a youth is threatened. Categories of intervention include *in care services* (the youth is taken into care, and placed in a foster home, with family, in a group home, etc.), and *out of care services* (the youth remains in the home and the family receives support services).
- **Family Support for Children with Disabilities (FSCD)** is a ministry of Human Services program that provides a range of supports and services to families that strengthen their ability to support and care for their child with a disability based on their needs.
- Youth with **offence charges** include those charged with criminal offences or administrative offences related to criminal offences (e.g., failure to appear in court, breach of probation, etc.). **Number of offences** in the study year was available, but individual incidents were not available. This means that youth charged with multiple offences may have had multiple charges in a single incident, or they may have been charged in multiple incidents.
- Youth with **corrections involvement** have appeared before the Court or a Justice of the Peace for an offence charge and have been remanded in custody or placed under pre-trial supervision in the community awaiting further court dates, or have been found guilty and sentenced to a community disposition (i.e. Fine, Probation, Community Service Work, Deferred Custody) and/or custody (in which the sentence is served in a young offender facility).

Data sources

Ministry	Database	Use in this report
Education	Corporate Data Warehouse (CDW)	Primary and secondary education achievement data
Health	Inpatient – Discharge Abstract Database (DAD)	Hospitalization data
Health	Ambulatory Care (ACCS)	Emergency room visit data
Health	Practitioner Payments (SESE)	Physician visit data
Health	Alberta Health Care Insurance Plan Population Registry (AHCIP registry)	Population registry
Human Services	Child Youth Information Module (CYIM)	Maltreatment and intervention data
Human Services	Family Support for Children with Disabilities Information System (FSCDIS)	Family Supports for Children with Disabilities data
Justice and Solicitor General	Justice Online Information Network (JOIN)	Offence data
Justice and Solicitor General	Alberta Community Offender Management System (ACOM)	Corrections data (community)
Justice and Solicitor General	Correctional Offender Management Information System (CoMIS)	Corrections data (custody)

References

1. Alberta Coalition for Health School Communities. (2006). Socioeconomic disadvantage: Health and education outcomes for school-aged children and youth. Retrieved from http://www.achsc.org/download/ACHSC%20Background%20Paper_SES_Health_Educ_SCY(June%2015,06).pdf
2. Health Disparities Task Group of the Federal/Provincial/Territorial Advisory Committee on Population Health and Health Security. (2004). *Reducing health disparities – Roles of the health sector: Discussion paper* (Cat. No. HP5-4/2005). Ottawa: Public Health Agency of Canada.
3. Canadian Institute for Health Information. (2008). *Improving the health of Canadians: Mental health, delinquency, and criminal activity*. Ottawa.
4. Lipman, E., & Boyle, M. H. (2008). *Linking poverty and mental health: A lifespan view*. Ontario: The Provincial Centre of Excellence for Child and Youth Mental Health at CHEO.
5. Public Health Agency of Canada. (2004). *The social determinants of health: Education as a determinant of health*. Retrieved from http://www.phac-aspc.gc.ca/ph-sp/oi-ar/10_education-eng.php
6. Human Resources and Skill Development Canada. (2008). *Special reports – What difference does learning make to financial security?*. Retrieved from http://www4.hrsdc.gc.ca/.3ndic.1t.4r@-eng.jsp?iid=54
7. Hertzman, C. & Kohen, D. (2003). Neighbourhoods matter for child development. *Transition*, *33*, 3-5.
8. Willms, J. D. (2003). Raising Canada's learning bar. *Transition*, *33*, 11-14.
9. The Chief Public Health Officer. (2011). *Report on the state of public health in Canada youth and young adults – Life in Transition*. Retrieved from http://www.phac-aspc.gc.ca/cphorsphc-respcacsp/2011/pdf/cpho-resp-2011-eng.pdf
10. Ungar, M. (2005). Resilience among children in child welfare, corrections, mental health and educational settings: Recommendations for service. *Child and Youth Care Forum*, *34*, 445-464. doi: 10.1007/s10566-005-7756-6
11. The Johns Hopkins University (2008). *The Johns Hopkins ACG® System Reference Manual, Version 8.2* . Johns Hopkins University: Baltimore.
12. Pampalon, R., Hamel, D., Garnache, P., Raymond, G. (2009). A deprivation index for health planning in Canada. *Chronic Diseases in Canada, 29(4)*, 178-91.
13. Canadian Institute for Health Information (2001). International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Canada. CIHI: Ottawa.
14. Canadian Institute for Health Information (2006). DAD Abstracting Manual All Provinces Information 2006-2007 Edition. CIHI: Ottawa.

The Child and Youth Data Laboratory

The **Child and Youth Data Laboratory** (CYDL) links and analyzes administrative data from child- and youth-serving ministries in the Government of Alberta. The ministries participate in research design and provide data elements that contribute to answering research questions.

The CYDL's research provides groundbreaking opportunities to understand relationships between critical factors in the lives of children and youth in Alberta. The research results can be used to inform policy and program development and evaluation, both within and across ministries, and to inspire further research.

The CYDL is managed by the **Alberta Centre for Child, Family and Community Research** (ACCFCR). The Centre has evolved over its eight year history as a public-sector, innovative resource for evidence. The Centre develops, supports and integrates research across sectors and disciplines to provide a strong, evidence-based foundation for identifying and promoting effective public policy and service delivery to improve the well-being of children, families, and communities in Alberta, Canada, and internationally.

Our partners

This project was carried out on behalf of six ministries of the Government of Alberta. Each ministry collaborated extensively with the CYDL on this project, and their dedication to the project is gratefully acknowledged:

Enterprise and Advanced Education
Education
Health
Human Services
Aboriginal Relations
Justice and Solicitor General

Suggested citation

Child and Youth Data Laboratory (2012). *Least and most advantaged Albertan youth.* Edmonton: Alberta Centre for Child, Family and Community Research.

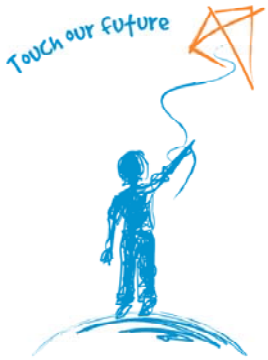
Contact CYDL

www.research4children.com
Click on "Data"

Xinjie Cui, Director
780 944 8631
xcui@research4children.com

Leslie Twilley, Senior Scientist
780 408 8734
ltwilley@research4children.com

Navjot (Jo) Lamba, Research Scientist
780 408 8735
jlamba@research4children.com



ALBERTA CENTRE FOR
CHILD, FAMILY & COMMUNITY
RESEARCH

Government
of Alberta