

PolicyWise
BUILD BETTER DATA

Data Lifecycle Resources:
Build

February 2021
PolicyWise for Children & Families



SSHRC  CRSH



Introduction & Starting Point

The Data Lifecycle is a tool to proactively plan an organization's data journey. It provides a bird's eye view of how data can evolve from inception to reporting and beyond. The intent of the Data Lifecycle is to build a foundational tool for non-profit organizations to use when collecting data to inform service delivery and organizational planning. Good data collection can look different depending on each service organization and their client base and can be reflected upon throughout the Data Lifecycle. It is important to understand how to collect data and then use the data consistently in decisions being made for your organization.¹

For non-profit organizations, the data lifecycle can be used as a way to inform the planning and implementation of services. The development of outcome measurements is important for the success of the organization and for the progression of clients.² Building appropriate processes in advance can also streamline the generation of reports and funding applications when that time comes. The clients are the primary drivers in guiding and generating desired outcomes.¹ It is important to recognize that non-profits are often responsive to community needs and are leaders for underrepresented or marginalized groups.²

Data lifecycles provide a structure to organize and think about the activities involved in managing and using data within a project or organization. The data lifecycle resources are organized into the following sections. Each of these topics can be explored in more detail within each section of the Data Lifecycle.

- Considerations & Lenses
- Plan
- Build
- Collect
- Prepare
- Analyze
- Inform



The Data Lifecycle addresses some of the main concerns around data collection, starting with the questions of why and how data is being collected. These sections explore how non-profit organizations can collect data in a manner that is sensitive to the realities of their clients and authentic to their mission. Furthermore, the Data Lifecycle discusses the importance of communication (both internal and external),

¹ Nonprofit hub & Everyaction. (n.d.). *The state of data in the non-profit sector*.
<https://nonprofithub.org/datareport/>

² Benjamin, L.M. & Campbell, D.C. (2015). *Nonprofit performance: Accounting for the agency of clients*. DOI: 10.1177/0899764014551987

minimizing data collection, accuracy, interoperability, and good governance. These aspects are engaged in greater detail in the various sections. For instance, Plan explores best practices of data collection and Collect describes how organizations can increase the impact of their data. The Data Lifecycle serves as an organized guide to the most important facets of data collection, providing a roadmap for non-profit organizations as they work with clients.

Where to start in your data journey? We encourage starting with two key questions:

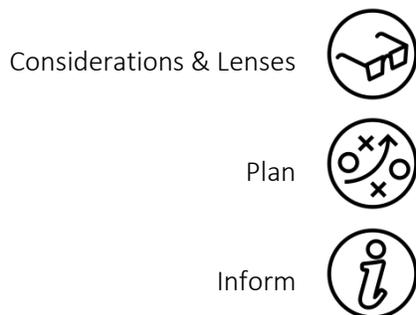
1. Why are you collecting data?

Data may seem disconnected from the overall mission of an organization. Most staff are dedicated to helping clients first and foremost. Collecting data may seem like additional work. Collecting and using data well can contribute greatly to an organization's mission. Effective data collection and use can help improve programming to be more efficient and impactful.³

Data fits within an organization by:

- Building trust
- Demonstrating how organizations achieve their missions
- Creating buy-in from staff
- Providing essential information for funders

For more information, go to the following sections of the Data Lifecycle:



2. How are you collecting data?

To support the needs of clients and provide effective services, data needs to be collected. Data is about people's journeys and stories. However, in the rush to get the needed information it is possible to compromise relationships with clients. By thoughtfully considering how you are engaging with your clients, you can foster a more positive relationship.

When collecting data from clients, consider:

³ Fruchterman, J. (2016). *Using data for action and impact*. Stanford Social Innovation Review. https://ssir.org/articles/entry/using_data_for_action_and_for_impact

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- Ways to build trust including engaging in conversation as an accessible way to collect data. For example, questions and response choices reflect their individual circumstances.
- The way in which questions are asked, which depends on the sensitivity of the information that could be provided (e.g., asking about immigration status, emergency contacts vs. services required, postal code) and in demonstrating transparency and authenticity. For example, clients need to know how the information they give will be used to benefit them.

For more information, go to the following sections of the Data Lifecycle:



Disclaimer – the information provided in the Data Lifecycle could evolve. If you have ideas or feedback please email info@policywise.com

⁴ Icons made by Freepik from www.flaticon.com.

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In the build phase, a key goal is to decide on how data are going to be collected and organized (e.g., what methods will be used, how to categorize each variable).

Common Identifiers

A **common identifier** is a client ID that is used to denote your client across programs. Setting up a common identifier has many potential implications.

1. It can increase your understanding of your clients, allowing you to share data from other programs.
2. It supports integrated service delivery across your organization, as common identifiers link clients across programs. This can facilitate cross-program communication.
3. It supports research and evaluation to improve programs, which is more impactful on the client level.

Potential solutions for creating common identifiers are: setting up a common intake process and using methods to connect the same client in your database using identifiers (deduplication). Both benefit from coordination across your organization to standardize intake identifiers collected, as this makes it easier to associate a client to their previous service use.

Linkage to Other Datasets

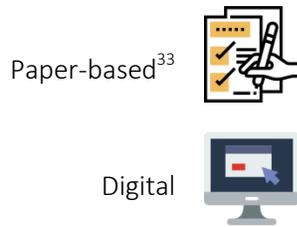
It is possible to link your data to related service use from other organizations (e.g., healthcare use and employment income [via T1 tax data]) using the client identifiers that you collect (e.g., names and date of birth). This can increase the impact of your data by allowing you to tell stories about how your services relate to outcomes outside your organization (e.g., do your programs decrease hospitalization or increase ability of clients to work).

A few key considerations to facilitate this process are:

- 1) Gold standard identifiers (e.g., a personal health number [PHN] or Alberta Student Numbers) can make it very easy to link to related data (e.g., a PHN for healthcare data). However, collection of these identifiers may not be justified for your intake processes;
- 2) key linkage identifiers are: 1) first name, 2) middle name, 3) last name, and date of birth;
- 3) useful linkage identifiers are: 1) gender, 2) postal code, 4) other unique identifiers;
- 4) It is important to standardize your processes for collecting identifiers. For example, making sure dates of births are in the same order/format and names are collected the same way (i.e., legal names) can increase your ability to link.

Data Collection Modalities

In this section, we will outline the pros and cons of collecting data in the following modalities:



Paper based data collection. With digital data collection becoming easier to use and more accessible some may question whether there is a need for paper based collection. The truth is, many organizations still opt to collect certain data on paper. In fact, in the event of power or equipment failure it is important to always have an option for filling out information on paper. Here are some of paper's overall advantages.

Pros:

- ✓ It's accessible to everyone. In our modern digital society it is easy to just assume everyone has access to a computer. Not everyone has access to a computer or even feels comfortable working with one. Having a paper option allows clients without computer skills to still register with an organization in their own way.
Also staff may have limited computer skills but work very well with clients face to face. A paper form facilitates a more personable interview.
- ✓ Security is easier with paper. Ensuring privacy is as simple as having a locked cabinet with a key.
- ✓ Computers don't work 100% of the time. The power can go down, the internet can go off, and computers break. Whatever the reason having a paper option will ensure that clients can start receiving services.

Cons:

- x Unless there are offsite copies of forms natural disasters will pose a risk to your information.
- x Paper data collection takes longer and is more expensive than electronic data collection. Paper data collection also often does not eliminate the need for transferring your data to electronic media. That process is time consuming. It is standard practice to have a second person check paper responses as well as electronic entries to ensure they are correct.
- x Until the data is entered electronically its use can be restricted. Analysis is easier with an electronic tool. If a client is being referred, information will often need to be transferred electronically. This is especially true if the organization being referred to sees a high volume of clients.

³³ Icons made by Freepik from www.flaticon.com

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Digital data collection. As previously stated, collecting data digitally is usually easier and more accessible than paper. It can range from entering data directly on a spreadsheet to using a commercial data collection application. Consider what your needs are first and then make an appropriate choice.

Pros:

- ✓ Electronic data is the easiest and most efficient way of analyzing and sharing data. Consider transferring all of your data to electronic media.
- ✓ Most computers have a spreadsheet application that can be used for data collection. While they are not the best solution they are convenient and can be a starting point for further electronic data collection and analysis.
- ✓ When you are ready you may want to consider moving to a commercial data collection application. Many commercial data collection applications are designed specifically for collecting client demographic information. This includes enforcing validation rules, proper field formatting, and including mandatory fields. Checks such as these save a lot of time on quality assurance later on. Consider if one of these applications would be a solution for your organization.
- ✓ Depending on what you decide to use there are a variety of data security solutions. Make sure you have proper security practices and IT staff to guide you.
- ✓ Some commercial applications have built-in reporting functionality. For many organizations this is often adequate for reporting to funders.

Cons:

- x Electronic data collection is more convenient but also fraught with more risks. Power failures, equipment failures, and computer hackers are some of the many potential hazards. Make sure you have adequate security policies and IT support to protect your clients and your organization.
- x Depending on your data collection solution, costs can get very high. If your budget is limited you may be restricted to inexpensive software (like Excel). For more intensive applications with many features, including security and backup, consider getting a license for a commercial application. These applications can get expensive but may be worth it. Make sure you can match your budget to your needs.
- x Electronic data collection is less personal than using paper. Design data collection protocols that keep the focus on the client during intake and referral processes.

Digital Data Hardware Options

Just as paper is one medium for collecting data, there are a few technologies for collecting data digitally. These allow more portability. Consider how services are provided at your organization and what hardware solutions might work for data collection (see table below).

Modality	Pros	Cons
Desktop Computer	<ul style="list-style-type: none"> • Desktops are everywhere. • Spreadsheets are available on most computers if a commercial data collection application is not available. • As a desktop computer comes with a keyboard and mouse data entry can be easy and efficient. • Unlike iPads, tablets, and laptops you don't have to worry about batteries running out. • Often attached to very fast direct internet connections. • Adds additional security for your data if your organization is behind a firewall. 	<ul style="list-style-type: none"> • Not portable. Moving the computer can be cumbersome. • Will not work if the power goes out or the network is down. • Can be less personal if the client is talking to staff with a monitor in front of them.
iPad, Tablet, or Laptop	<ul style="list-style-type: none"> • Less intrusive • Tools can be designed for touchscreens making processes easier for those less experienced with computers. • iPads and tablets often don't use a keyboard making them less cumbersome and easier to use than laptops or desktops. • Some custom applications can even allow data collection without an internet connection. This enables data collection in remote areas. • Intake and client interaction is easier, (e.g., client can fill out form in a waiting area). 	<ul style="list-style-type: none"> • Batteries can run out. Make sure a power cord is handy. • Many applications still won't work without an internet connection. Have a backup solution in case (e.g. spreadsheet, Word document, paper form). • Less secure and can be easily stolen.
iPhone	<ul style="list-style-type: none"> • Some applications allow transmitting a link by QR code or email. This allows forms to be pushed out to clients wherever they may be. • More accessibility for clients who only have a phone. • Touchscreen interactivity is easier for those less experienced with computers. • Less overhead for organizations since they don't need to invest in more hardware such as desktops, iPads, etc. 	<ul style="list-style-type: none"> • Many forms may not render well on a phone. Perform adequate testing before considering this as an option. • Can be a potential security risk if the client is not filling forms out discretely.

Acknowledgements

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Project Funders

This project was made possible by generous support from the Government of Alberta Community Initiatives Program grant, a Connection grant from the Government of Canada's Social Sciences and Humanities Research Council, funding from the Edmonton Community Foundation, and the Common Approach to Impact Measurement, as well contributions from an anonymous donor.

Acknowledgements

It is with thanks that we acknowledge the individuals who have contributed their wisdom, experience, and perspectives to this project. PolicyWise would like to thank the participating agencies that shared their intake and registration forms with us, as well as the many advisors who guided us along the way from agencies across Alberta and Canada.

Suggested Citation

Jagodzinski, R., Farnel, S., John, S., Piatt, C., Albrecht, L., Russell, M., Savidov, M., Shott, S., Taylor, R., Parker, N., Scott, C., Lau, J., & Cui, X. (2021). Build better data: Data lifecycle resources. Edmonton, AB: PolicyWise for Children & Families.

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It is the hope of all those who contributed to this project that these findings are shared and used to benefit others and inform policy and practice to improve child, family and community well-being. PolicyWise asks the intent and quality of the work be retained; therefore, PolicyWise for Children & Families should be acknowledged in the following ways:

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