

BACKGROUND/INTRODUCTION

Prenatal education is an important aspect of pregnancy care. Women also have choice in selecting the type of healthcare provider they see for their first prenatal visit. Yet, the seeking of prenatal education is not mandatory in Canada. The delivery of prenatal information can also vary across disciplines based on the nature and scope of practice of healthcare providers.

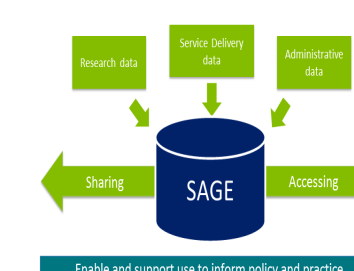
Currently, 40% of all pregnancies are unplanned. Improper prenatal care and education can present adverse effects for women and their babies such as a more complex and negative physiological, psychological and behavioural quality of life. In order to increase awareness on the value of prenatal education, the province of Alberta launched a novel Internet-based family planning and pregnancy preparedness campaign, *Ready or Not*. It was designed to provide information and resources to men and women aged 18 to 44 years who may or may not be ready to conceive a baby.

PURPOSE

To determine whether the receipt of prenatal education, namely topics outlined in the *Ready or Not* campaign, differed based on population characteristics and type of healthcare provider seen (medical doctor or registered midwife) for the first prenatal visit.

METHODOLOGY

Data was drawn from the Albertan *All Our Babies* (*All Our Families*) community based pregnancy cohort (n=3200) from 2008-2011 (Tough et al., 2017). Preconception and prenatal education topics explored at the first visit encompassed those covered in the *Ready or Not* campaign including nutrition, vitamin and mineral intake, weight management, exercise and active living, working during pregnancy, and consumption of non-/prescription drugs, tobacco and alcohol (Alberta Health Services, 2018). Medical doctors (walk-in clinic physicians, family physicians, physicians at a low-risk maternity clinic, obstetricians) and registered midwives were included as healthcare providers. Bivariate analysis was conducted using Chi-squared test ($p < 0.01$). Ethics approval was received from the Conjoint Health Research Ethics Board at the University of Calgary. The statistical analysis was facilitated by the Secondary Analysis to Generate Evidence (SAGE) group from PolicyWise for Children & Families.



RESULTS

Women who reported trying to not become pregnant did not receive information on pregnancy planning and birth control methods. Population characteristics were found to affect the likelihood of receiving prenatal information from a healthcare provider prior to becoming pregnant. Variations were also found between the type of healthcare provider consulted and the advice received on specific topics.

Women Reporting to Prevent Pregnancy and the Receipt of Prenatal Information

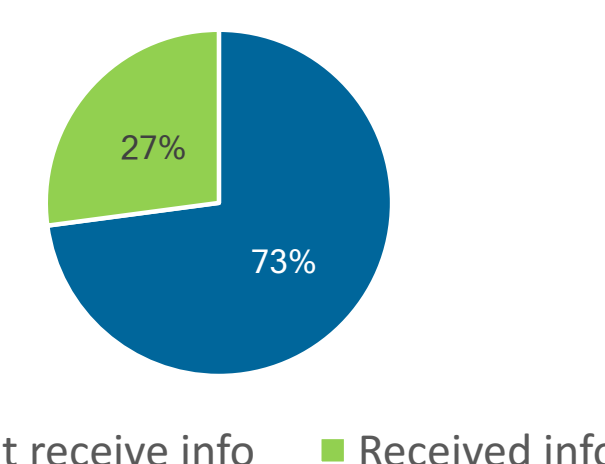


Figure 1. Receipt of prenatal information based on women reporting to not want to become pregnant. The majority of women who did not want to become pregnant did not receive any information on pregnancy planning and birth control methods.

Receipt of Prenatal Information Based on Population Characteristics

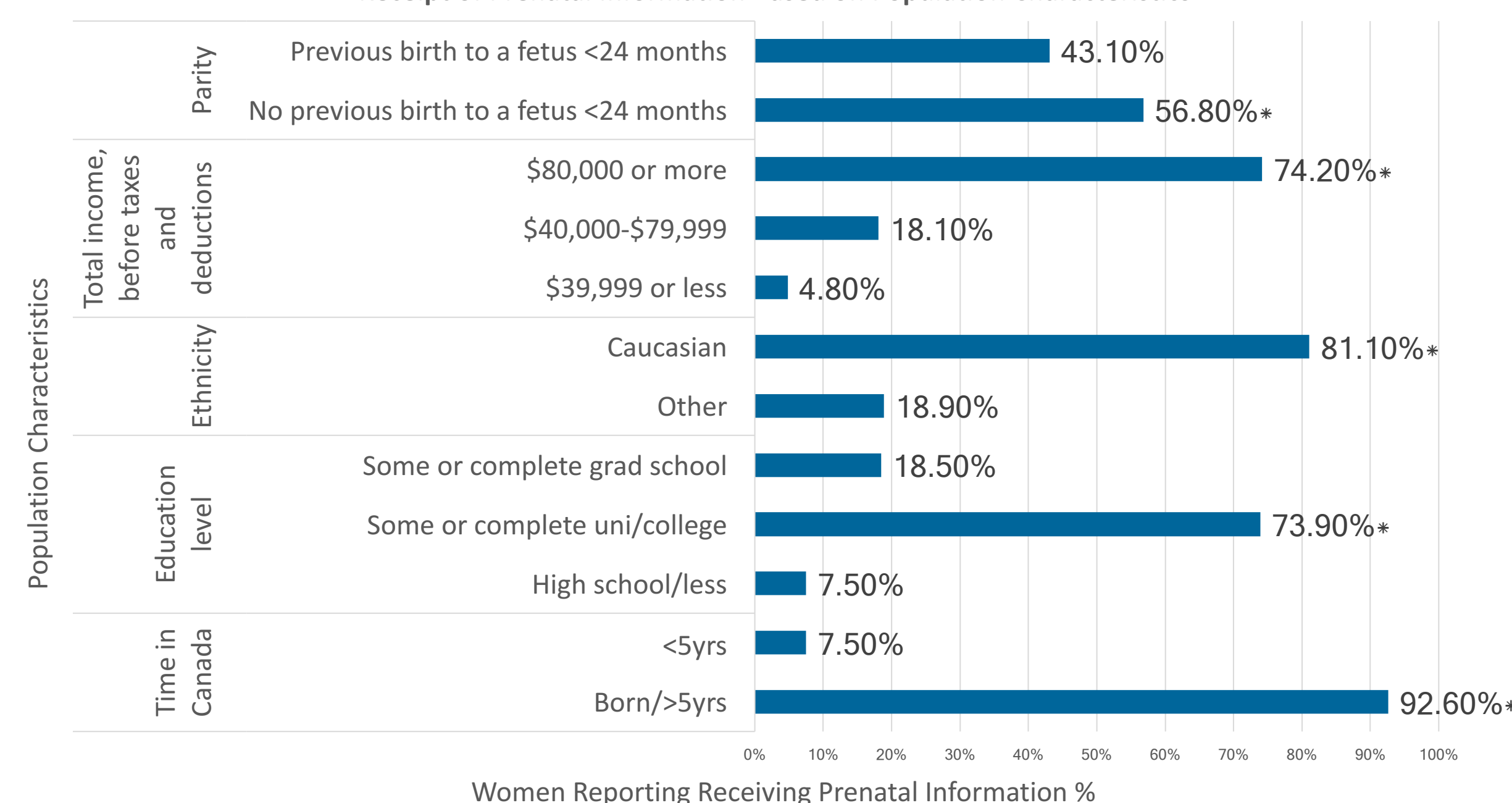


Figure 2. Receipt of prenatal information based on population characteristics. Women who lived in Canada for over 5 years,* were more educated,* Caucasian,* earned at least \$80,000* or had previously given birth* were more likely to receive prenatal information from a healthcare provider. Total column percentages were used.

Receipt of Specific Prenatal Advice Based on the Type of Healthcare Provider Consulted

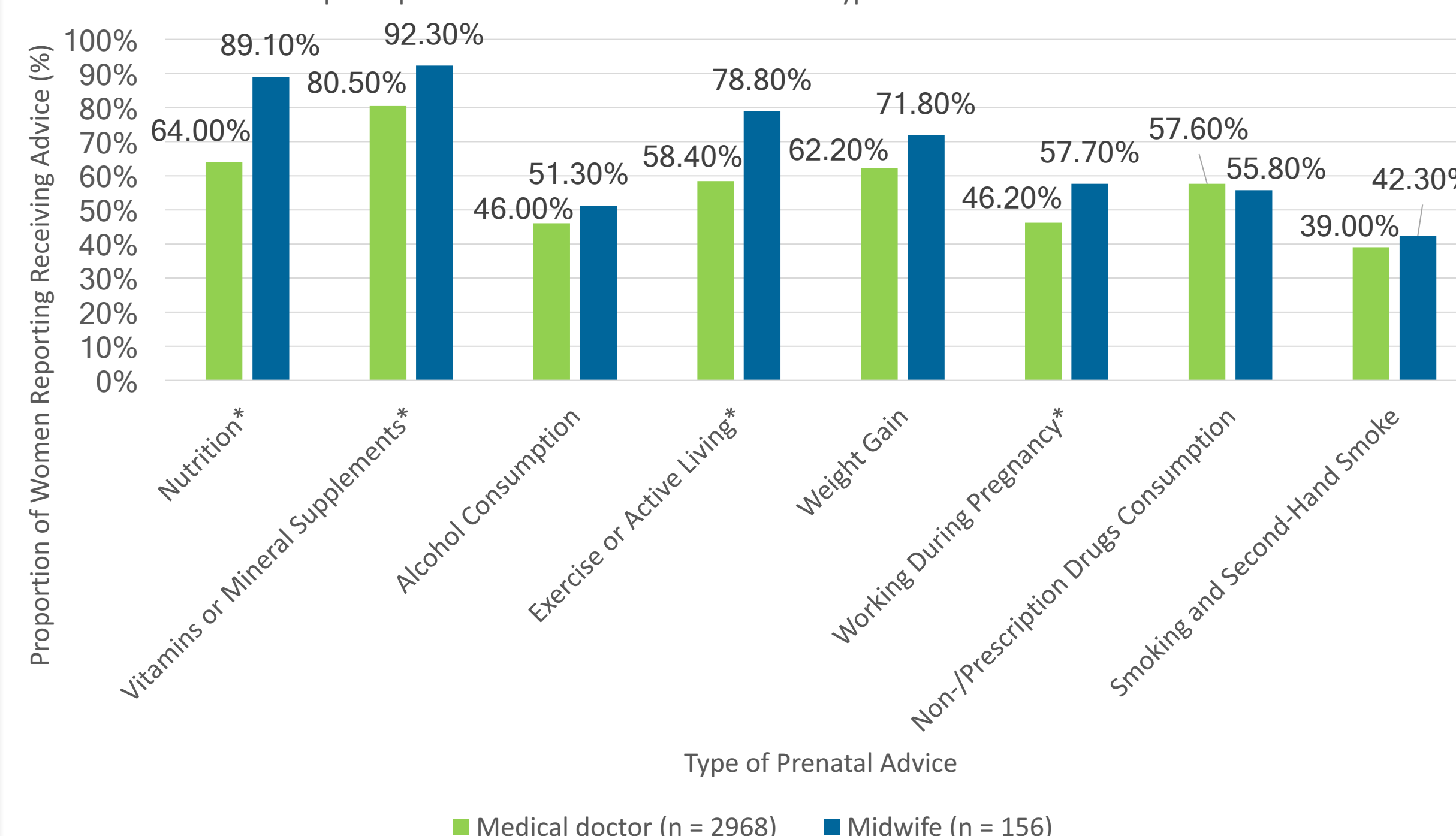


Figure 3. Receipt of prenatal information based on the type of healthcare provider seen. Women were more likely to receive information on nutrition,* taking vitamins or mineral supplements,* exercise or active living,* and working during pregnancy* depending on the type of provider consulted. Total column percentages were used.

DISCUSSION/CONCLUSION

This study renders key insights on the relationship between population characteristics, the type of healthcare provider chosen (medical doctor or registered midwife) for an initial prenatal care visit, and the type of prenatal education women received at this first visit. Since prenatal care is an integral part of promoting a healthy pregnancy, it is important to ensure that all individuals receive similar pregnancy preparedness and family planning advice and education from their care providers.

The *Ready or Not* campaign is an example of an innovative strategy that offers advice on valuable pregnancy preparedness topics at the preconception stage. By educating women prior to becoming pregnant, they acquire the ability to make healthier choices and gain greater control of their reproductive lives. The results from this study suggest a greater need for collaboration between healthcare providers to safeguard the delivery of a comprehensive and consistent prenatal education that will benefit women (and men), whether they are ready to have a baby or not. These findings can also inform future health promotion projects on pregnancy preparedness.

ACKNOWLEDGEMENTS

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Max Bell Foundation



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- Tough, S., McDonald, S., Collisson, B., Graham, S., Kehler, H., Kingston, D. & Benzie, K. (2017). Cohort profile: the All Our Babies cohort (AOB). *International Journal of Epidemiology*. March 2017 (in press).

Supporting healthy pregnancies: examining variations in prenatal advice provision by prenatal care provider in Alberta: a study using the All Our Families cohort



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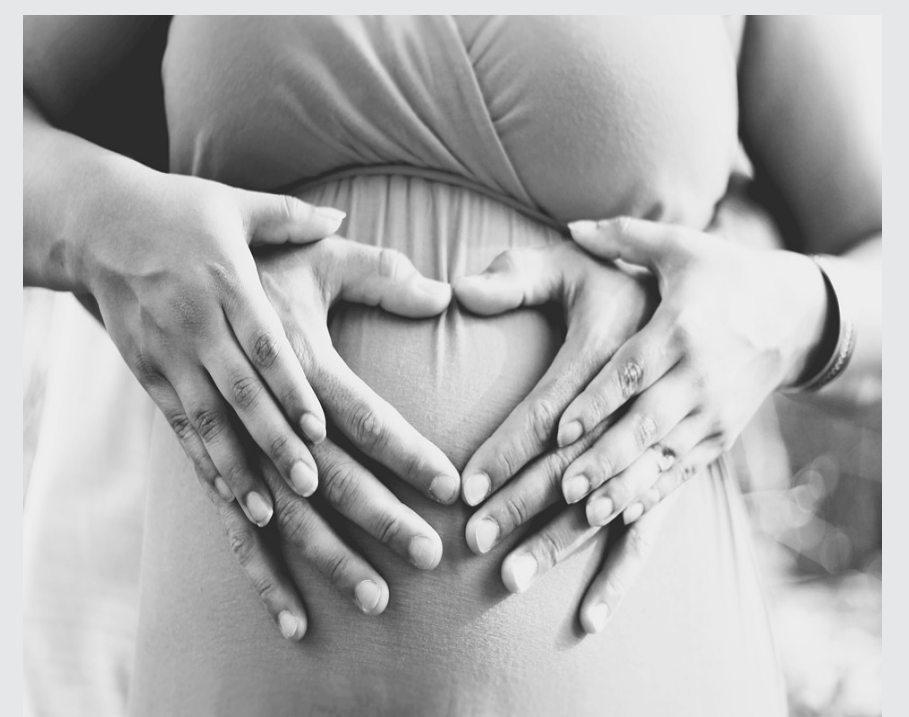
Introduction

Despite the high quality of healthcare available in Alberta, mothers and babies still experience health issues that could be prevented with changes to maternal health behaviours before and during pregnancy.

Many different types of providers are available for women and their families during pregnancy. Depending on the specialty, providers may emphasize certain aspects of the pregnancy more than others.

To improve public understanding of prenatal health, Alberta Health Services recently launched the *Ready or Not* preconception and pregnancy planning campaign as a component of their Healthy Parents Healthy Children online guide (1). *Ready or Not* is a health initiative that promotes healthy lifestyles for men and women aged 18-44 years and encourages these behaviors during pregnancy.

In this study, we aimed to examine whether the type of prenatal advice provided to women varies by healthcare provider(s) seen during pregnancy.



Methods

Data was drawn from the Alberta All Our Families community-based pregnancy cohort (2; n=3351).

Bivariate and multivariable analysis was performed to examine healthcare providers seen during pregnancy and factors that influenced the type of prenatal health messaging received by women.

Adjusted odds ratios (aORs) and 95% confidence intervals (CIs) determined the likelihood of receiving certain prenatal advice by prenatal care provider. Three models were created examining the association between healthcare provider(s) seen and prenatal advice received, controlling for demographic and pregnancy characteristics including: prenatal class attendance, number of prenatal visits, first prenatal visit taking place within first trimester, parity, ethnicity, time in Canada, visit with a nutritionist/ dietitian (Model 1), and history of substance abuse problems (Model 2).

Ethics approval for this study was received by the Conjoint Faculties Research Ethics Board, University of Calgary.

Results

At the end of pregnancy, women reported visiting anywhere from 1-6 healthcare providers for their prenatal care, with the majority visiting either one (38%) or two (42%) providers. Among women who saw one provider, 40% reported receiving care by a doctor in a low-risk maternity clinic, 24% by their family doctor, 21% by their obstetrician, and 13% by a midwife. Women that had high school-level or lower education (p=0.017), an annual household income of \$60,000 or less (p=0.001), and who were multiparous (p=0.031) were more likely to see a single healthcare provider versus multiple providers during pregnancy.

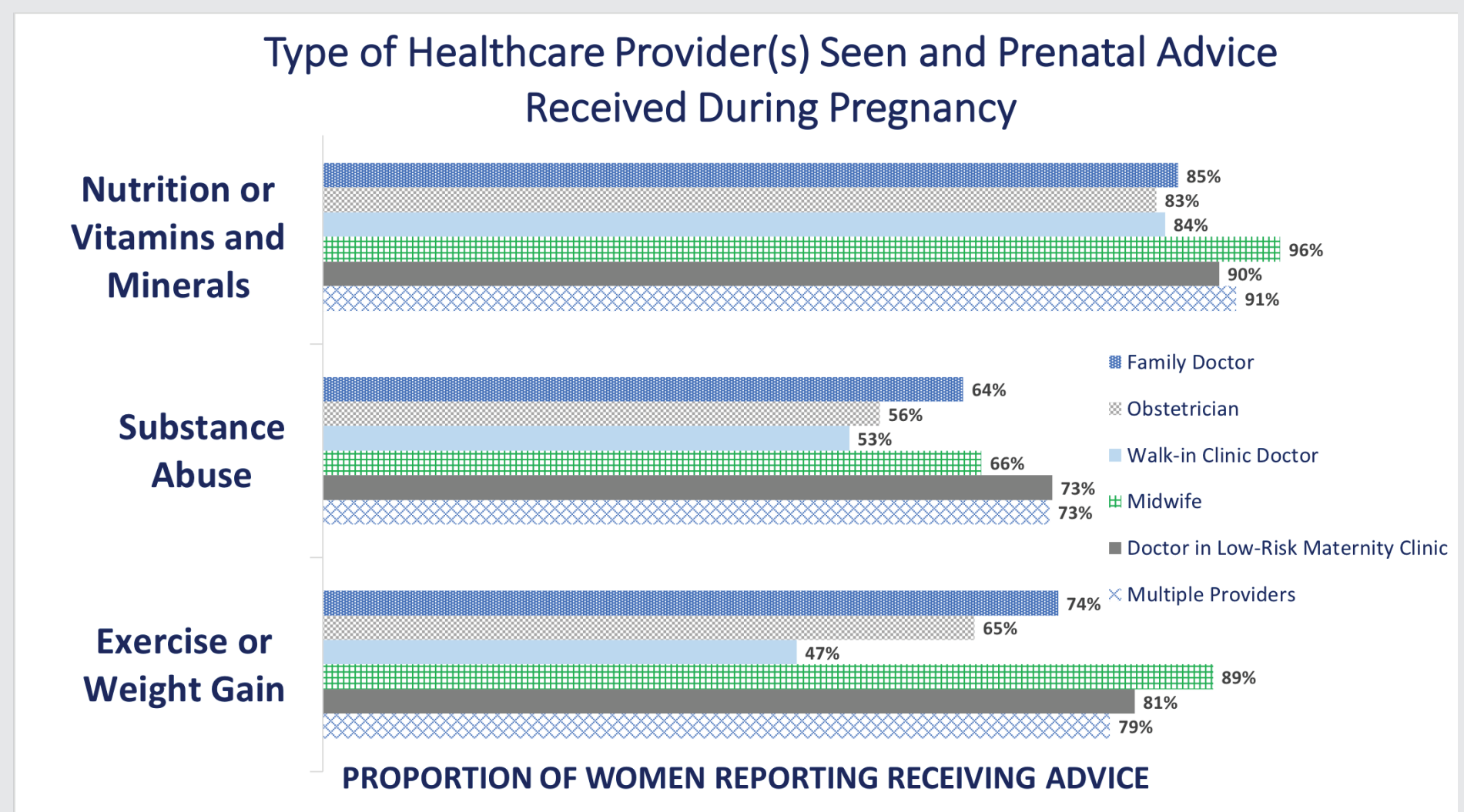
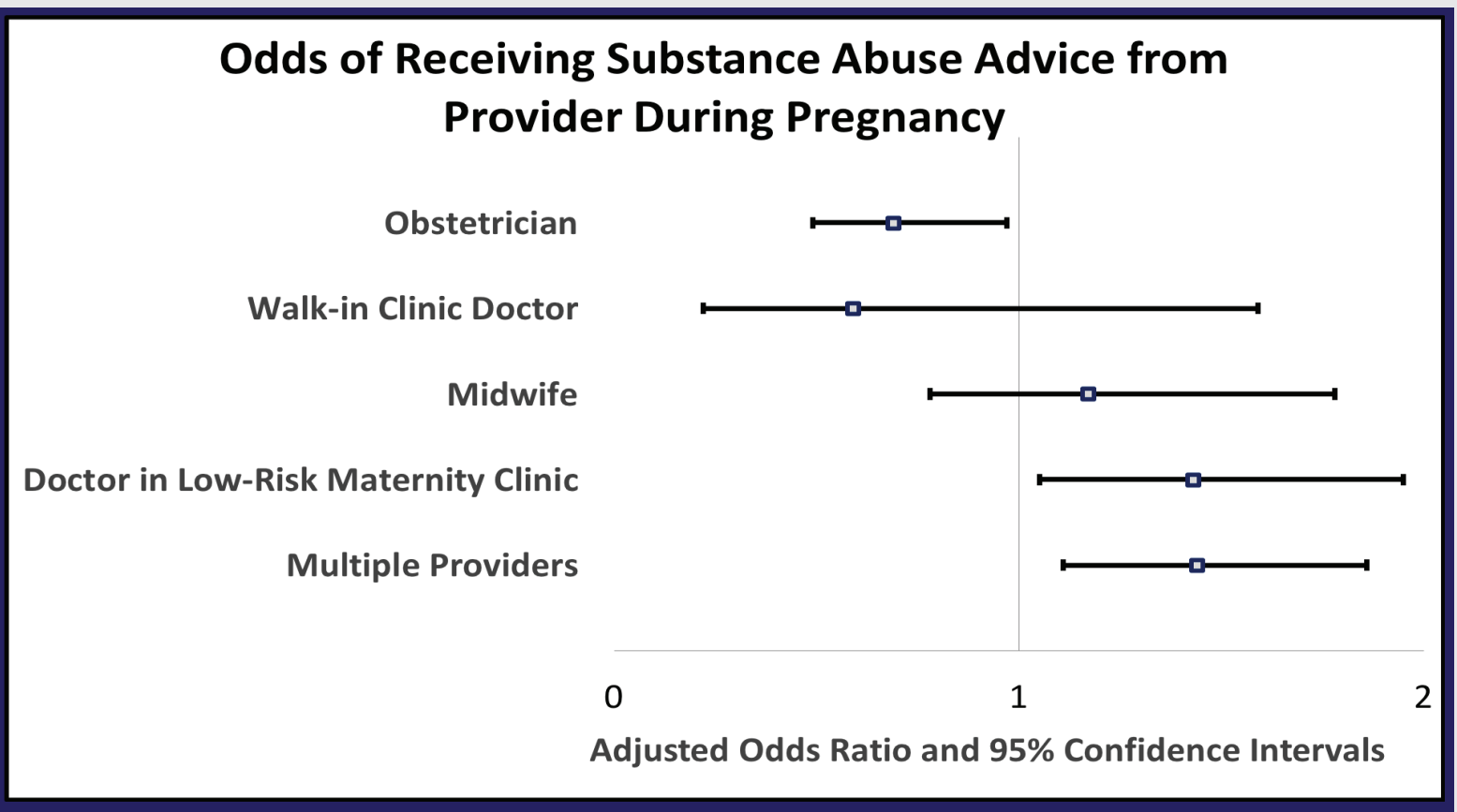
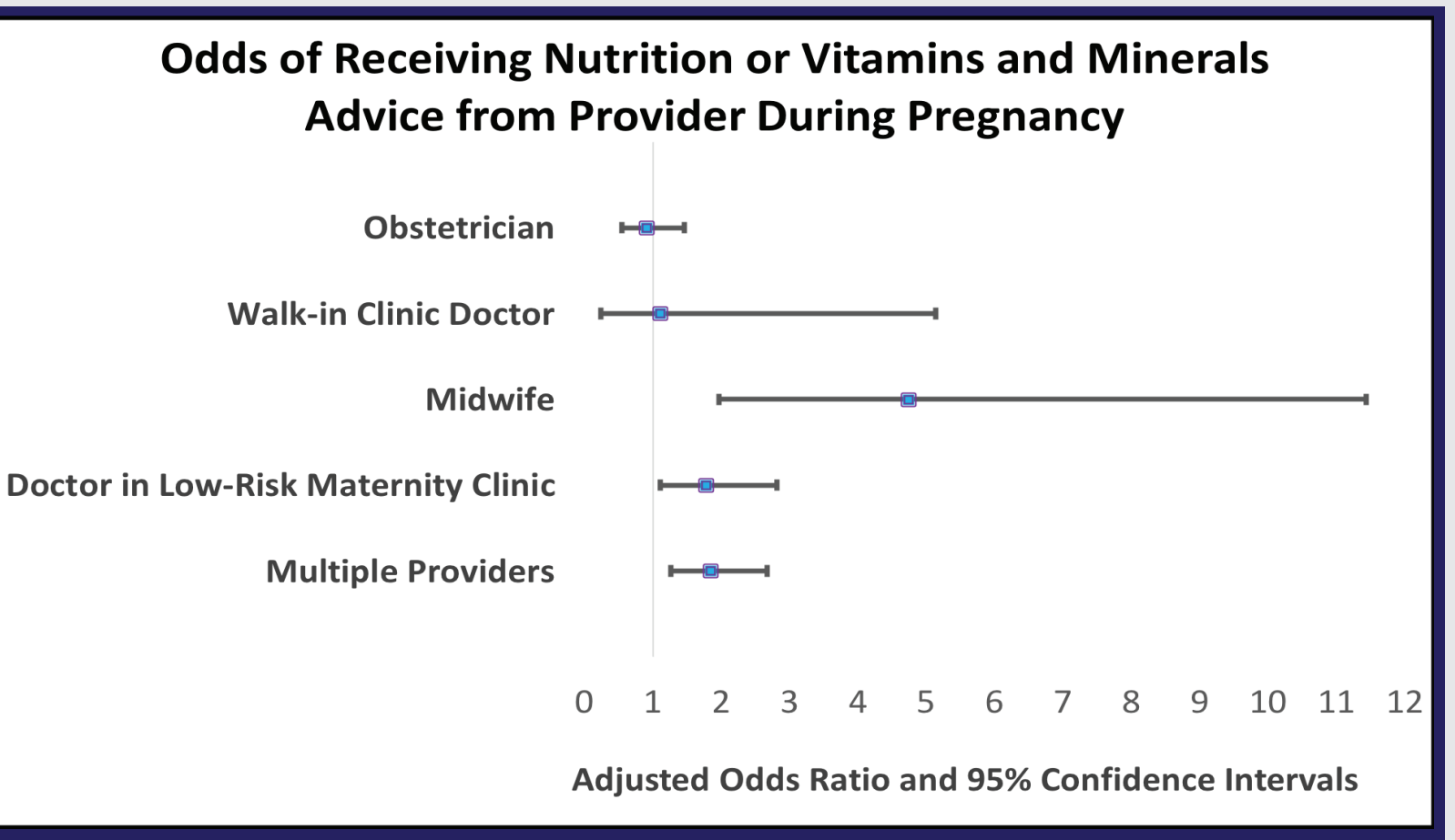


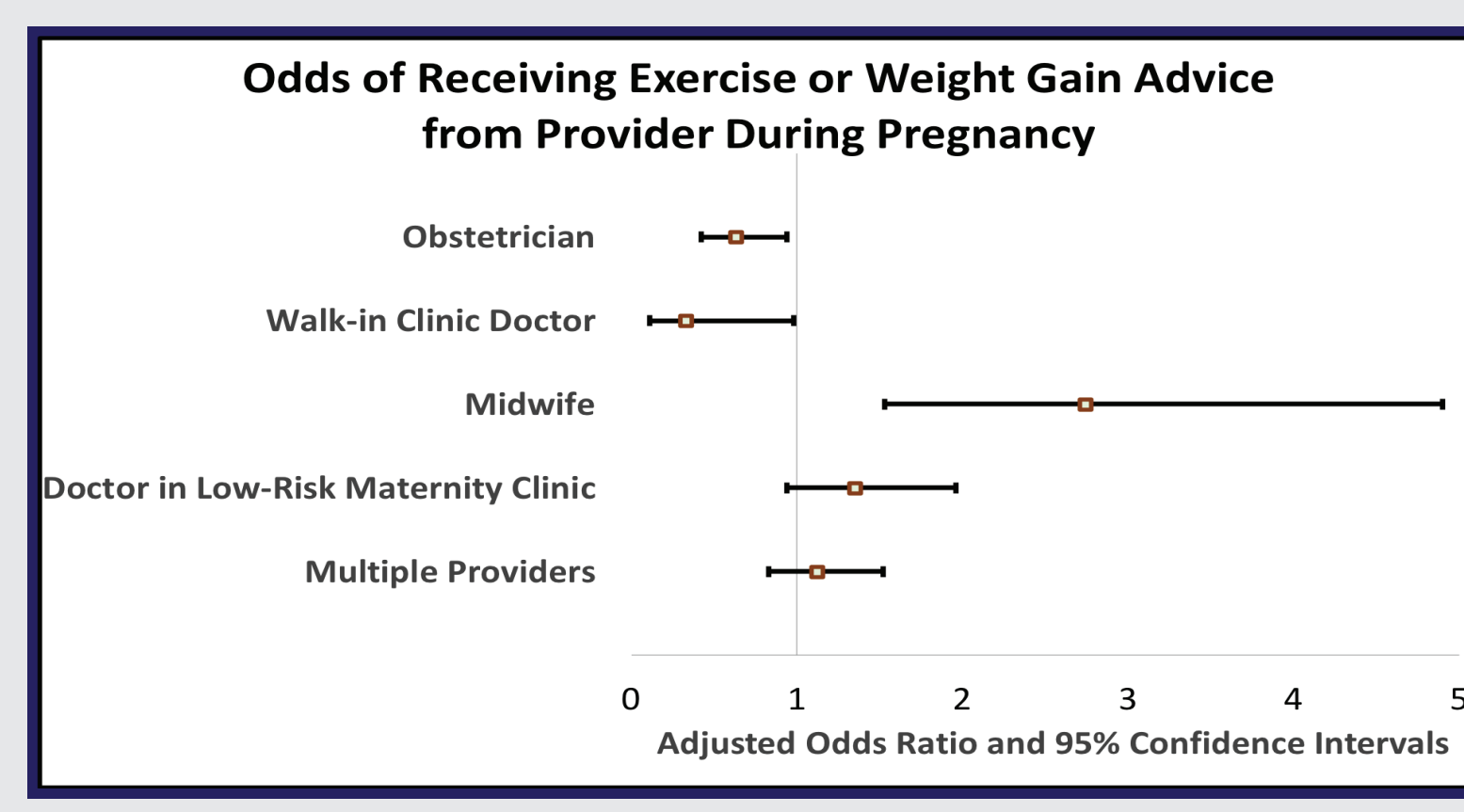
Figure 1
Proportion of women reporting receiving certain types of prenatal advice by their healthcare provider(s) during pregnancy.

Model 1: Association between healthcare provider seen and nutrition or vitamins and minerals advice received by women. Women were more likely to receive nutrition or vitamins and minerals advice from midwives (aOR: 4.73, 95% CI: 1.96 - 11.43), doctors in low-risk maternity clinics (aOR: 1.77, 95% CI: 1.11 - 2.81) and multiple providers (aOR: 1.84, 95% CI: 1.26 - 2.67), compared to family doctors.



Model 2: Association between healthcare provider seen and substance abuse advice received by women. Women were more likely to receive advice on substance abuse (smoking, drugs or alcohol) from doctors in low-risk maternity clinics (aOR: 1.43, 95% CI: 1.05 - 1.95) and multiple providers (aOR: 1.44, 95% CI: 1.11 - 1.86), compared to family doctors.

OBs were less likely to provide advice on substance abuse to women, compared to family doctors (aOR: 0.69, 95% CI: 0.49 - 0.97).



Model 3: Association between healthcare provider seen and exercise or weight gain advice received by women. Women were more likely to receive advice on exercise and weight gain during pregnancy from midwives, compared to family doctors (aOR: 2.74, 95% CI: 1.53 - 4.90).

OBs (aOR: 0.63, 95% CI: 0.42 - 0.94) and walk-in doctors (aOR: 0.33, 95% CI: 0.11 - 0.98) were less likely to provide this type of advice to women, compared to family doctors.

Discussion

Many care providers are available to women during pregnancy. However, the results from this study suggest that the type of prenatal advice received by women was influenced by the provider(s) they saw during pregnancy. While for some providers, such as multiple providers and obstetricians (who see high-risk women during pregnancy), these findings aligned with our expectations, the variation in advice received by women on the whole suggests that more research is required to examine this issue in greater depth. Further, while health care providers have traditionally played a key role in education and behavior change, there is value in implementing public policy campaigns, such as *Ready or Not*, as a means to disseminate standardized messaging for expectant parents regarding prenatal health promotion and behaviour.

Future work should focus on aligning and evaluating policy and practice guidelines in Alberta to improve standard communication of prenatal information and potentially reduce disparities in preventative health outcomes for children.



Conclusion

Understanding that there are variations in the type of prenatal advice provided to women by healthcare providers during pregnancy supports the need for public policy campaigns, such as *Ready or Not*, as an additional platform designed to disseminate standardized prenatal messaging for Albertans. Further alignment and evaluation is required between provider practice guidelines and this policy campaign.

References:

1. Alberta Health Services. 2018. Ready or Not Alberta. Available at <https://readyornotalberta.ca>
2. Tough SC, McDonald SW, Collisson BA, et al. Cohort Profile: The All Our Babies pregnancy cohort (AOB). Int J Epidemiol. 2017;172:168-74.e1.

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