saskatchewan
preventioninstitute
our goal is healthy children

Adolescent Pregnancy in Saskatchewan

Prepared for the Saskatchewan Prevention Institute

January, 2014

Adolescent Pregnancy in Saskatchewan

Report prepared by the Saskatchewan Prevention Institute

saskatchewan
preventioninstitute
our goal is **healthy** children

1319 Colony Street, Saskatoon, SK S7N 2Z1
Bus. (306) 651-4300 Fax. (306) 651-4301
www.skprevention.ca

January 2014

Table of Contents

List of Figures iii
List of Appendices iv
Executive Summary 1
1. Introduction 3
2. The Quantitative Data 4
   2.1 Quantitative Methods 4
      2.1.1 Data Sources 4
      2.1.2 Data Presentation 5
      2.1.3 Data Limitations 5
   2.2 Results 5
      2.2.1 Adolescent Pregnancy in Saskatchewan 6
      2.2.2 Adolescent Pregnancy by Peer Groups (Groupings of Health Regions/Authorities) 9
   2.3 Discussion of Quantitative Results 12
3. The Qualitative Data: Providing Context 13
   3.1 Participant Description 13
   3.2 Experiences Prior to, During, and Following Pregnancy 14
      3.2.1 Pregnancy Planning 14
      3.2.2 Adjusting to Pregnancy 14
      3.2.3 Pregnancy Support 15
      3.2.4 Male Partner Involvement 16
      3.2.5 The Importance of Schools 16
   3.3 Summary of Interview Findings on Adolescent Pregnancy Experiences 17
4. Categories of Adolescent Pregnancy Prevention Programs 17
   4.1 Curriculum-based Education 17
   4.2 Service Learning Programs 18
   4.3 Youth Development Programs 18
   4.4 Parent Programs 19
   4.5 Community-wide Programs 19
5. Best Practices for the Prevention of Adolescent Pregnancy 19
   5.1 Characteristics of Effective Adolescent Pregnancy Prevention Programs 21
      5.1.1 Program Development 22
      5.1.2 Curriculum Content 22
      5.1.3 Program Implementation 24
   5.2 Additional Advice from the Adolescent Participants 25
6. Conclusions 26
References 28
Glossary 32
Appendices 33

List of Figures

Figure 1: Adolescent Pregnancy Rate by Age, Saskatchewan, 2006-2010 Combined 6

Figure 2: Adolescent Pregnancy Rate by Age Group, Saskatchewan, 2005-2010 Combined 7

Figure 3: Pregnancy Rate by Age Group, Saskatchewan, 2005-2010 7

Figure 4: Adolescent Pregnancy Outcome Rates, Saskatchewan, 2005-2010 Combined 8

Figure 5: Abortion Rate by Type, Saskatchewan, 2005-2010 Combined 8

Figure 6: Birth Rate by Parity, Saskatchewan, 2005-2010 Combined 9

Figure 7: Peer Groups in Saskatchewan 10

Figure 8: Adolescent Pregnancy, Birth, and Abortion Rates by Peer Grouping, Saskatchewan, 2005-2010 Combined 11

Figure 9: Adolescent Pregnancy Rate by Year and by Peer Grouping, Saskatchewan, 2005-2010 12

List of Appendices

Appendix A: Methodology for Qualitative Interviews 32
Appendix B: List of Organizations Contacted for Prospective Participants 34
Appendix C: Copy of the Letter of Invitation 35
Appendix D: Copy of the Interview Schedule 36
Appendix E: Additional Analyses of Quantitative Data 39

Executive Summary

Adolescence is a period of transition between the ages 12 to 20 years in which many changes take place. This period is often a time of behavioural experimentation and risk-taking, which may involve high risk sexual behaviour (e.g., inconsistent contraception use) potentially resulting in pregnancy. Adolescent pregnancy, defined as a girl becoming pregnant in the period between the onset of puberty and age 20, occurs as a result of consensual or non-consensual unprotected sexual activity. Most adolescent pregnancies are unplanned; however, a significant proportion are planned. In addition, many adolescents are ambivalent about pregnancy, meaning that they realize the potential consequences of sexual activity and know how to prevent pregnancy, yet frequently choose not to use contraception.

Adolescent pregnancy tends to be associated with disadvantaged backgrounds and limited expectations for the future. Such circumstances may lead to young women being less motivated to avoid early pregnancy or to actually see pregnancy as a path to a better life. For others, early childbearing may be a cultural norm that is seen as positive by those around her.

Adolescents who become pregnant face the risk of many adverse outcomes for herself and her child. To reduce the occurrence of these adverse outcomes, there is a need for the prevention of adolescent pregnancy as well as appropriate supports for adolescent parents and their children. Prevention and support efforts need to be tailored to address the experiences, needs, and expectations of the target adolescents.

Quantitative Data

In Canada, rates of adolescent pregnancy remain some of the highest among developed countries and rates in Saskatchewan are among the highest in Canada. In an effort to address the needs of Saskatchewan youth, the Saskatchewan Prevention Institute has developed this report to provide a picture of adolescent pregnancy in Saskatchewan and to identify best practices that may address the specific circumstances of Saskatchewan youth.

Between 2006 and 2010, the average adolescent pregnancy rate in Saskatchewan ranged from 0.8 per 1,000 for 10 to 14 year olds to 64.2 per 1,000 for 19 year olds. Between 2005 and 2010 the average adolescent pregnancy rate for 15 to 19 year olds in Saskatchewan was 45.9 per 1,000, compared to 29.3 for Canada. Pregnancy rates remained relatively stable over the 6 year period between 2005 and 2010.

Looking across the province, the adolescent pregnancy rates increase from south to north, ranging from 29.2 per 1,000 women aged 15 to 19 in the south to 129.5 in the north. The rate for the three most northern health region/authorities is 126.4% higher than the rate for the southern-most health regions. There are a variety of identified risk factors for adolescent pregnancy that are of concern in the North, including: poverty, lack of education, familial and relationship issues, and mental health concerns. In addition, due to geographic barriers, accessing appropriate health services can be a challenge for some northern adolescents. Further research is needed to better understand the factors that impact these rates and how best to address this issue.

Qualitative Data

In order to add context to the picture provided by the quantitative data, adolescents from a variety of locations in the province were asked about their experiences before, during, and after pregnancy; their suggestions for those working with youth at risk of pregnancy or experiencing pregnancy; and their advice for other adolescents. Their responses suggest that adolescent pregnancies are often unplanned, and little thought is given to the possibility of pregnancy before it occurs. The majority of participants reported using contraception, suggesting that contraceptives may not have been used correctly or consistently. This highlights the importance of accurate information on contraception in programs directed at adolescent pregnancy prevention. In terms of experiences during pregnancy, the interviews highlighted the importance of support: from families, friends, care providers, and through schools. Such support greatly impacted the adolescents' feelings about their pregnancies and about their abilities to succeed as young parents. Other things discussed included the potential positive role of the father in care of the child and the importance of finishing school. All of these factors indicate the importance of support programs in ensuring healthy outcomes for adolescent parents and their children.

Pregnancy Prevention Programs

Research on pregnancy prevention programs suggests there are five categories of effective programs; curriculum-based education (generally occur in a school setting), service learning programs (focus primarily on keeping adolescents constructively engaged in their communities and schools), youth development programs (attempt to prepare and encourage adolescents to think about and plan for the future), parent programs (involve both parents and their adolescent children), and community-wide programs (provide a broad scope of information and encourage the whole community to get involved).

Both research and the consultation with youth suggest that to make a program effective it is important to design the program to meet the specific, unique circumstances and needs of the youth in the community for which a program is being developed. When planning a program, there are many factors that need to be considered. These include the importance of positive prevention strategies, rather than shame and blame; the many risk and protective factors associated with adolescent pregnancy, ranging from the individual (e.g. early onset puberty), family (e.g. relationship factors) and broader community (e.g. cultural preference for early childbearing); and the social determinants of health (e.g. poverty, education). It is important for program developers to think about where they can be most effective in creating change.

The following report developed by the Saskatchewan Prevention Institute provides a picture of adolescent pregnancy in Saskatchewan and identifies best practices that may address the specific circumstances of Saskatchewan youth.

1. Introduction

Adolescence is a period of transition that involves biological, cognitive, psychological, social, and physical changes that take place from ages 12 to 20 years (Benoit, 1997; Commendador, 2010). Adolescence is generally thought of as a time of behavioural experimentation and risk-taking, where youth work to assert their increasing independence. As part of this striving for independence, adolescents often face decisions about intimate relationships and sexual activity. Adolescents may engage in high risk sexual behaviour (e.g., inconsistent contraception use or multiple partners) for many reasons, including lack of knowledge, peer pressure, lack of planning, and substance use (Battles & Weiner, 2002). Contraception use is not always consistent in this population, and may be due to difficulty in accessing contraception (e.g., cost, embarrassment, lack of anonymity, or needing parental consent), or reluctance about introducing contraception with partners. These high risk sexual behaviours can result in pregnancy (Kirby, 2007).

Adolescent pregnancy is defined as a girl becoming pregnant in the period between the onset of puberty (generally around age 12) and age 20 (Pub Med Health, 2011). Adolescent pregnancy occurs as a result of consensual or non-consensual unprotected sexual activity. Most adolescent pregnancies are unplanned; in 2001, 82% of adolescent pregnancies in the U.S. were unplanned (Finer & Henshaw, 2006). However, this means that the proportion that are planned is still noteworthy. In addition, many adolescents are ambivalent about pregnancy, meaning that they realize the potential consequences of sexual activity and know how to prevent pregnancy, yet choose not to use contraception frequently (Cowley & Farley, 2001; Davies et al., 2003; Sipsma, Ickovics, Lewis, Ethier, & Kershaw, 2011). Adolescent pregnancy tends to be associated with disadvantaged backgrounds and circumstances, such as complicated and/or crowded living conditions, conflict, family or financial issues, frequent moves, behavioural or substance abuse problems, and problems at school (Guttmacher Institute, 1998). As a result of such circumstances, young women may have limited expectations for their future and therefore be less motivated to avoid early pregnancy or may actually see pregnancy as a path to a better life (Guttmacher Institute, 1998). Unintended pregnancy may result from attitudes and behaviours directly or indirectly linked to disadvantaged circumstances, including early sexual activity, low or improper contraceptive use, poor communication about contraception, and low motivation to avoid pregnancy. For those who intended to become pregnant, this may be a choice related to how the young woman views herself, her relationship with the father, and the role of childbearing in her life. For some young women pregnancy may be an adaptive strategy for gaining control of her life and moving to a more stable and mature role. For others, early childbearing may be a cultural norm that is seen as positive by those around her (Guttmacher Institute, 1998).

Adolescents who become pregnant have many decisions to make regarding their pregnancy (e.g., abortion, adoption, or raising the baby by herself or with a partner). If the young woman decides to keep her baby, she faces the risk of many adverse outcomes for herself and her child in the areas of health, education, employment, and relationships. To reduce the occurrence of these adverse outcomes, there is a need for the prevention of adolescent pregnancy and risky sexual behaviour.

Prevention efforts will need to be tailored differently, depending on where pregnancy and childbearing fit into each adolescent's overall life experiences and expectations. When prevention is not possible, there is the need for appropriate and accessible supports for adolescent parents and their children.

The adolescent pregnancy rate in Saskatchewan is high in comparison to most of Canada. The average pregnancy rate per 1,000 adolescent females aged 15 to 19 years in Saskatchewan, between 2005 and 2010, was 45.9. In comparison, during the same time period, the average pregnancy rate in Canada was 29.3 (McKay, 2012). Only Manitoba and the territories had rates higher than Saskatchewan during this time.

In an effort to address the needs of Saskatchewan youth, the Saskatchewan Prevention Institute has developed this report to provide a picture of adolescent pregnancy in Saskatchewan and to identify best practices that may address the specific circumstances of Saskatchewan youth. The purpose of the current report is three-fold: 1) to examine Saskatchewan-specific adolescent pregnancy data; 2) to examine the experiences of Saskatchewan adolescents who have experienced a pregnancy; and 3) to highlight best practices around the prevention of adolescent pregnancies and support of adolescent parents, particularly as it relates to the experiences of Saskatchewan adolescents. It is hoped that this information will facilitate renewed efforts to work with adolescents to prevent unplanned, unwanted pregnancies and increase the support received by pregnant adolescents and adolescent parents to create the best possible outcomes for adolescents and their children.

2. The Quantitative Data

This section reports on the analysis of the quantitative data, which provides the initial part of the picture of adolescent pregnancy in Saskatchewan. The analysis of the quantitative data helps us to understand the who, what, where, and when. What it does not provide is the why. The "why" will be addressed in *Section 3: The Qualitative Data: Providing Context*, in which Saskatchewan adolescents share their experiences.

2.1 Quantitative Methods

2.1.1 Data Sources

The quantitative data for this report were provided by eHealth Saskatchewan, part of the Saskatchewan Ministry of Health. The primary data source was the Saskatchewan Ministry of Health's hospital year-end files for the calendar years (January 1 to December 31) from 2005 to 2010 (6 years). These files include all hospital-based events (including in-patient and day surgery) for Saskatchewan residents covered by Saskatchewan's provincially administered medical insurance. These include hospital-based events for Saskatchewan residents that occurred within the province or out of province. The source for the population numbers was the Saskatchewan Ministry of Health's Covered Population Reports (2005 to 2010), which report residents who are receiving Saskatchewan Health coverage as of June of the year in question. The analysis and interpretation of these data

were the responsibility of the Saskatchewan Prevention Institute and not of Saskatchewan Health.

2.1.2 Data Presentation

For the purpose of this report, pregnancy has been defined as the sum of all live births, stillbirths, induced abortions, spontaneous abortions, and fetal deaths where the fetus is not expelled from the uterus (also referred to as missed abortion). See the Glossary at the end of this report for definitions of these terms. It should be noted that spontaneous abortions will be under-reported, as not all will have resulted in a hospital visit.

To allow for comparisons across groups with different size populations, the information is presented using rates, defined as the number of times the event in question occurs per 1,000 members of the population in focus; e.g., Adolescent Pregnancy Rate (15-19 years) = [(# pregnancies for 15 -19 year olds) / (# of females 15-19 years old)] x 1,000

Although the rates change by year or differ between groups, these differences may or may not be statistically significant. Confidence intervals have been calculated and error bars have been included in the graphs when comparing rates across groups or years in order to show the range within which the true value likely lies. If the column bars differ and the error bars do not overlap, it can be said that the differences are statistically significant, meaning that the differences are likely not due to chance alone. A 95% confidence interval is used, meaning that the value is expected to fall within the range identified by the error bars 95 times out of 100.

2.1.3 Data Limitations

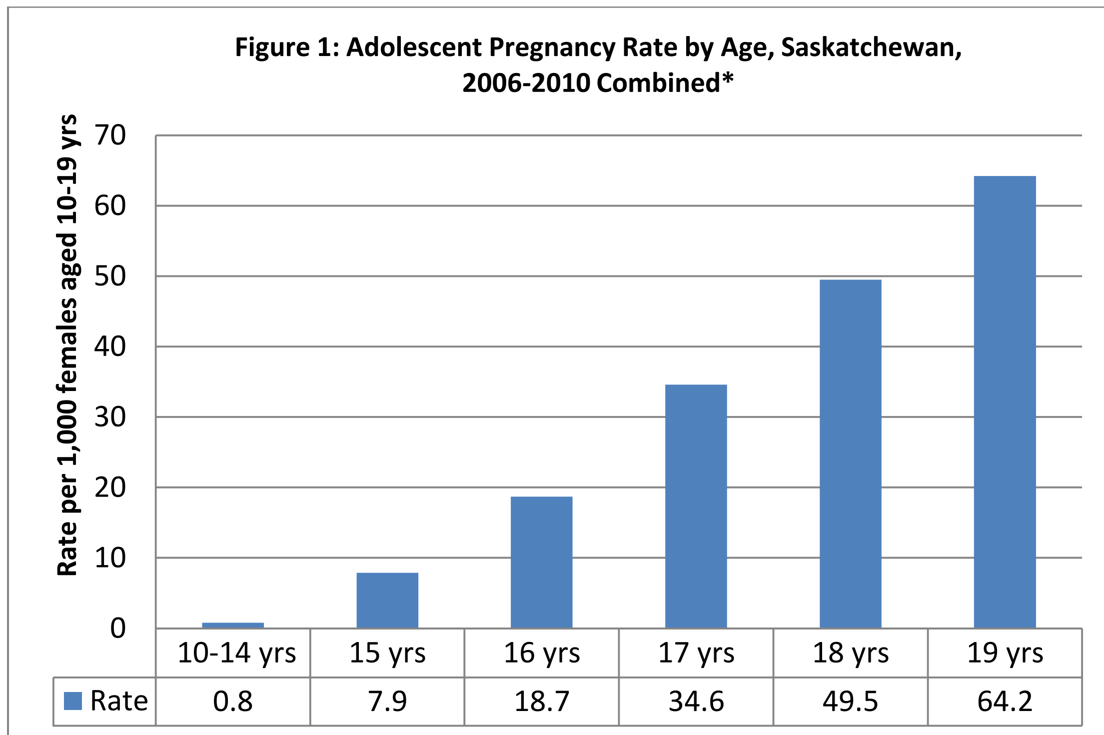
Pregnancy statistics are difficult to determine with complete accuracy due to several factors. Some of these are outlined below.

- Pregnancy loss (i.e. spontaneous abortion) is generally under-reported, particularly in adolescent populations.
- Women who become pregnant at the age of 19 and give birth or have an abortion at age 20 are not included in adolescent pregnancy rates.
- The data is reliant on doctors and medical staff consistently and accurately reporting all information about pregnancy outcomes.

2.2 Results

The adolescent pregnancy rate in Saskatchewan is high in comparison to most of Canada. The average pregnancy rate per 1,000 adolescent females aged 15 to 19 years in Saskatchewan, between 2005 and 2010, was 45.9. In comparison, during the same time period, the average pregnancy rate in Canada was 29.3 (McKay, 2012). Only Manitoba and the territories had rates higher than Saskatchewan during this time.

2.2.1 Adolescent Pregnancy in Saskatchewan



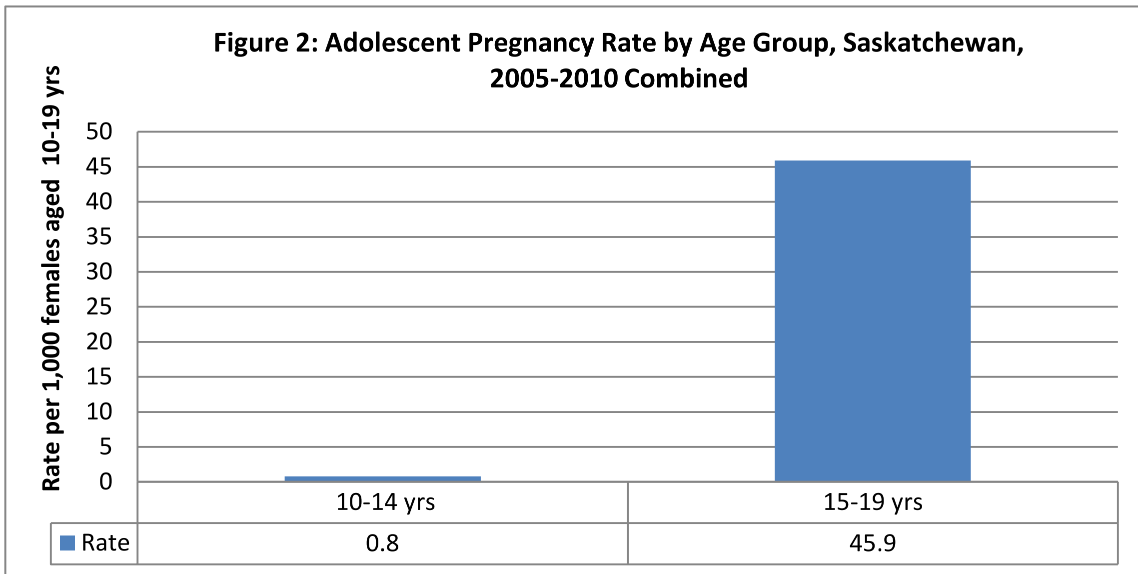
	10-14 yrs	15 yrs	16 yrs	17 yrs	18 yrs	19 yrs
Rate	0.8	7.9	18.7	34.6	49.5	64.2

Source: SaskHealth, Prepared by SPI, March 2013

Figure 1 provides the average pregnancy rates per 1,000 females, by age, during the five year period, January 1, 2006 to December 31, 2010*. The ages 10 to 14 years are combined due to low numbers in these years. Although the rate is reported for 10 to 14 year olds (due to the way covered population data is grouped), it is important to note that during the time period examined no pregnancies were reported for 10 to 11 year olds. As can be seen, the pregnancy rate increases considerably as a function of age.

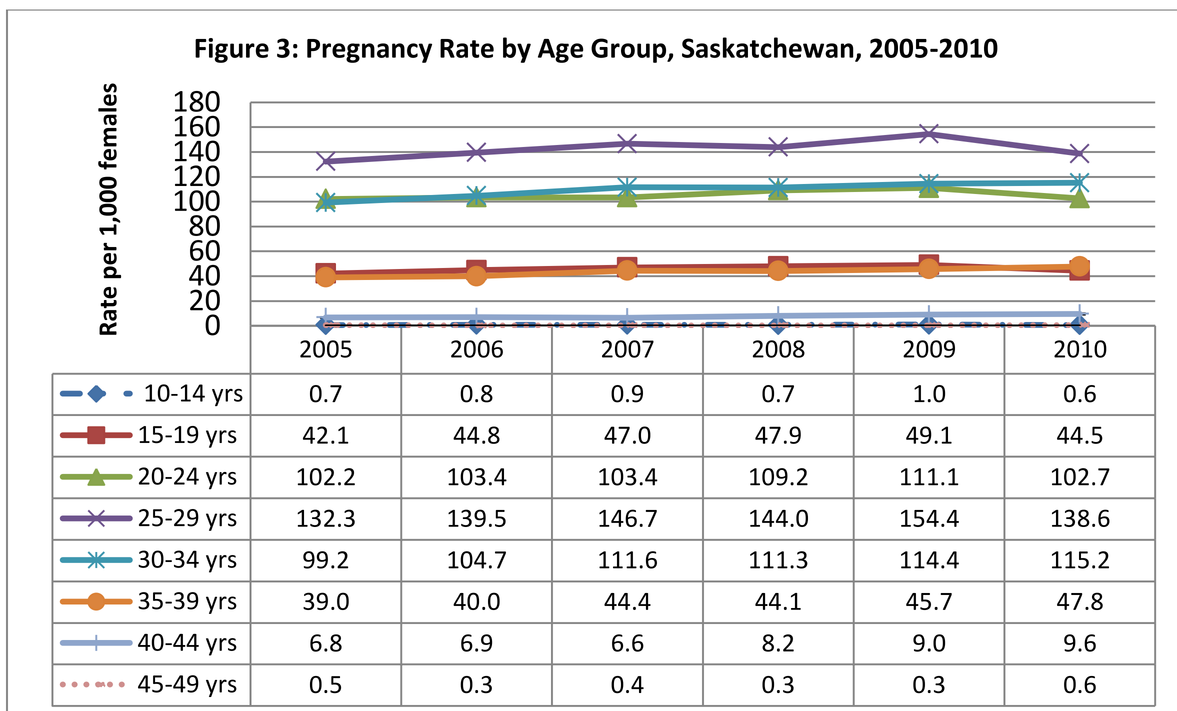
Figure 2 provides the average pregnancy rates per 1,000 females for the two adolescent age categories (10-14 years and 15-19 years) during the six-year period, January 1, 2005 to December 31, 2010. Combining the 15 to 19 year olds into one age category is a common way of presenting adolescent pregnancy rates that allows for easy comparison. Figure 2 clearly demonstrates that in comparison to the high rate of pregnancy for girls aged 15 to 19, pregnancy in girls 14 years old and under is comparatively rare, with less than 1 in a 1,000.

* Data by specific year is only provided for the 5 years 2006 to 2010. For the remainder of the report data is presented for the 6 years 2005 to 2010.



	10-14 yrs	15-19 yrs
Rate	0.8	45.9

Source: SaskHealth, Prepared by SPI, March 2013

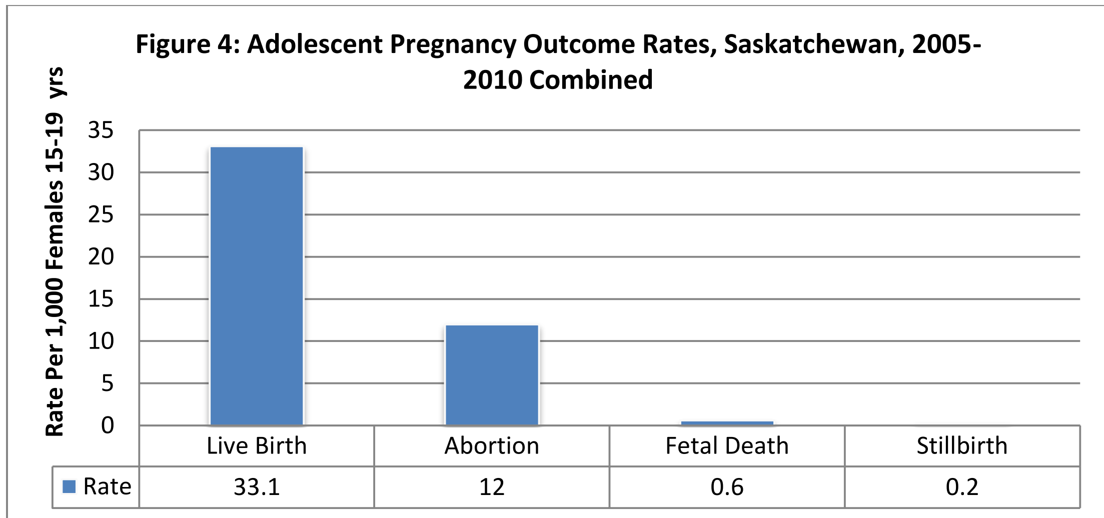


	2005	2006	2007	2008	2009	2010
10-14 yrs	0.7	0.8	0.9	0.7	1.0	0.6
15-19 yrs	42.1	44.8	47.0	47.9	49.1	44.5
20-24 yrs	102.2	103.4	103.4	109.2	111.1	102.7
25-29 yrs	132.3	139.5	146.7	144.0	154.4	138.6
30-34 yrs	99.2	104.7	111.6	111.3	114.4	115.2
35-39 yrs	39.0	40.0	44.4	44.1	45.7	47.8
40-44 yrs	6.8	6.9	6.6	8.2	9.0	9.6
45-49 yrs	0.5	0.3	0.4	0.3	0.3	0.6

Source: SaskHealth, Prepared by SPI, March 2013

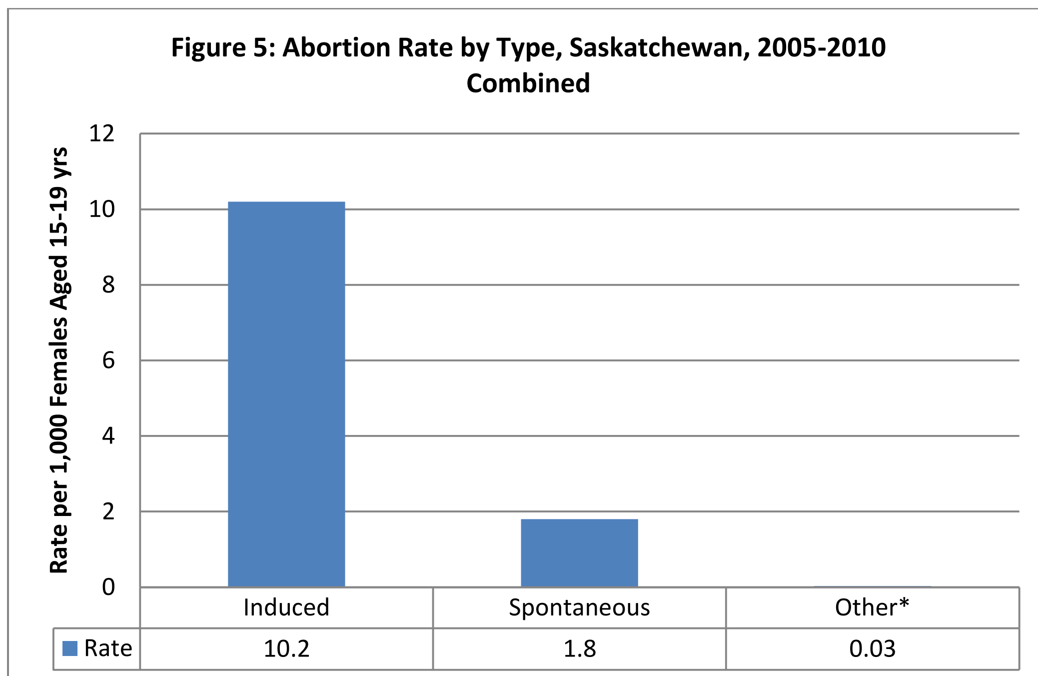
Figure 3 shows that although young women aged 15-19 had significantly fewer pregnancies than women in their twenties and early thirties, their rates were similar to women aged 35-39. As the number of pregnancies in the 10-14 age group is very low, and this group may have very different determinants of health and medical implications than the older age groups, the remainder of this report will focus on the 15 to 19 age group.

As previously defined, the pregnancy rate consists of live births, abortions (including induced and spontaneous), fetal deaths, and stillbirths. As can be seen in Figure 4, the majority of all adolescent pregnancies result in live births.



Source: SaskHealth, Prepared by SPI, March 2013

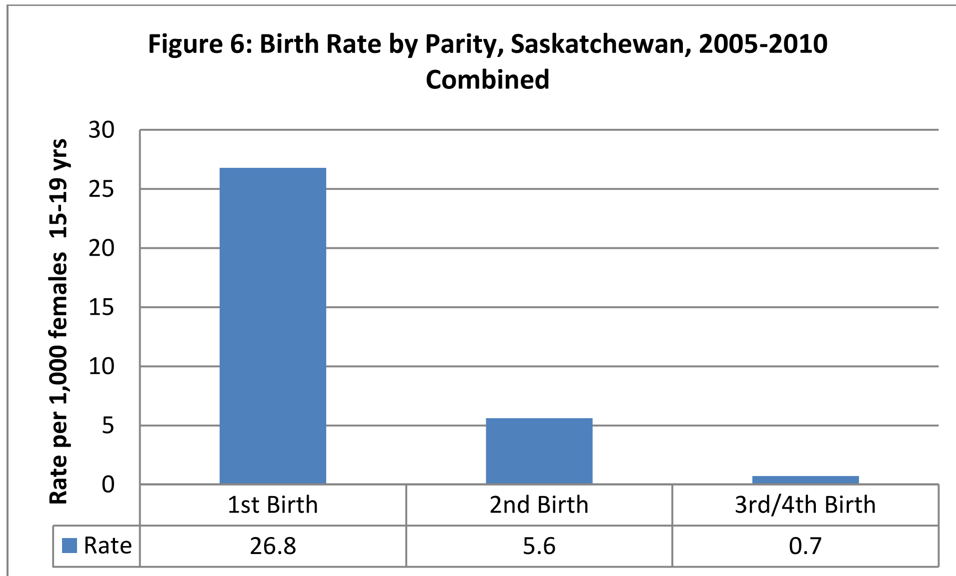
Figure 5 shows that the predominant type of abortion was induced, although a smaller number were by spontaneous abortion.



Source: SaskHealth, Prepared by SPI, March 2013

* The “other” category represents cases where the type of abortion was not recorded.

To explore the number of first and repeat pregnancies that individual adolescents are having, only the parity (number of live births) was available. Nonetheless, parity is somewhat indicative of pregnancy since most pregnancies resulted in birth. In Figure 6, first-time births are juxtaposed with repeat births. Due to the small number of 3rd and 4th births, they were combined into one category. The vast majority of Saskatchewan adolescents are having only one child during their adolescence; however, there are a small number who are having 2 or more babies.



Source: SaskHealth, Prepared by SPI, March 2013

2.2.2 Adolescent Pregnancy by Peer Groups (Groupings of Health Regions/Authorities)

To examine the picture of adolescent pregnancy within the province in more detail, the data have been examined according to predetermined peer groups made up of health regions/authorities with similar characteristics across a range of variables. Statistics Canada has identified these peer groups using data from the 2006 Census of Population to examine the sociodemographic, economic, and geographic profiles of Canada's health regions. In total, 24 variables were used, covering as many of the social and economic determinants of health as possible, as well as prominent geographic characteristics. A statistical method was used to achieve maximum statistical differentiation between health regions across Canada. Through this process, 10 different peer groups were identified by letters A through J. Four of these peer groups exist within Saskatchewan. The following table identifies these peer groups, the health regions/authorities in Saskatchewan that fall within each of these groups, and the principal characteristics of each group.

Figure 7. Peer Groups in Saskatchewan	
Peer group A	Regina Qu'Appelle, Saskatoon • Urban-rural mix • Average percentage of Aboriginal population • Average percentage of immigrant population
Peer group D	Cypress, Five Hills, Heartland, Kelsey Trail, Sunrise, Sun Country • Mainly rural regions • Average percentage of Aboriginal population • High employment rate
Peer group F	Mamawetan, Keewatin Yatthe, Athabasca • Northern and remote regions • Very high percentage of Aboriginal population • Very low employment rate • Low percentage of immigrant population
Peer group H	Prince Albert Parkland, Prairie North • Rural northern regions • High percentage of Aboriginal population • Low percentage of immigrant population

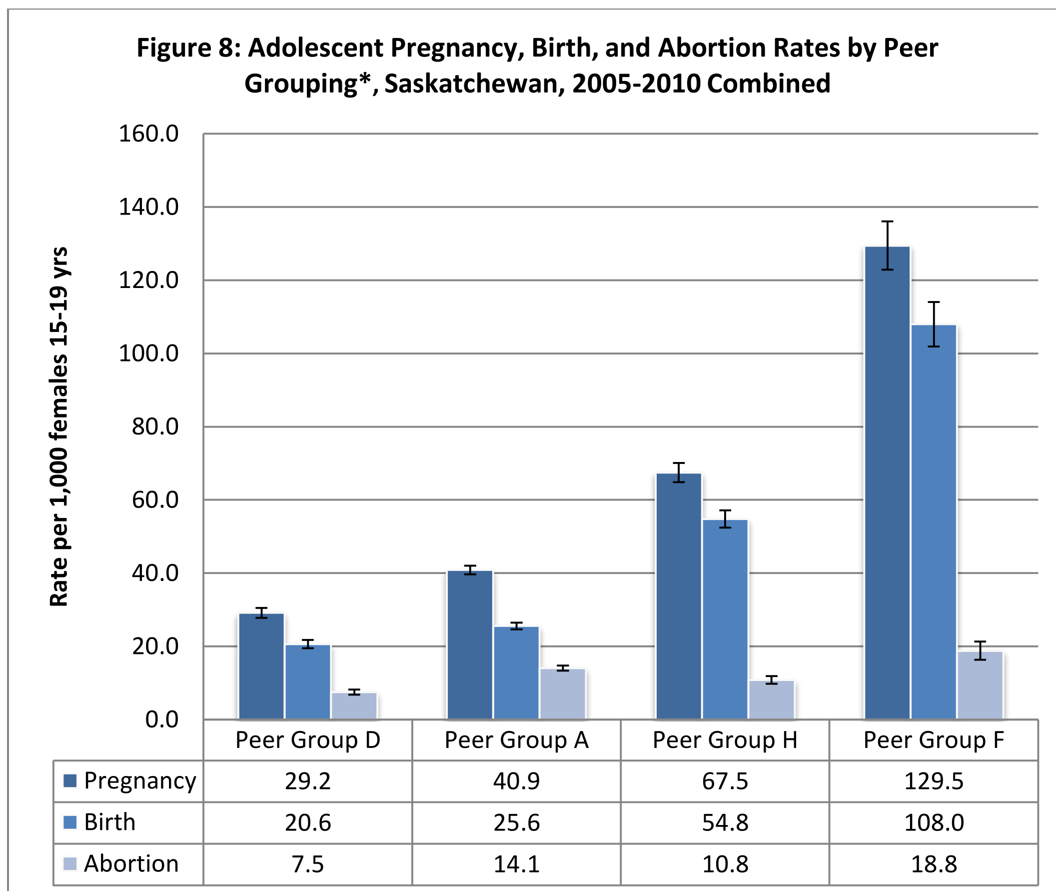
Source: Statistics Canada

As can be seen when looking at the map below, the peer groups map out on the province from south to north, with the exception of Kelsey Trail being grouped with the southern regions.

Saskatchewan Health Regions/Authorities

Source: Government of Saskatchewan

In the figures below, the peer groups are presented with the southern-most group on the left and moving towards the north as you look from left to right. When looking across the peer groups, the adolescent pregnancy and live birth rates show similar trends as they both generally increase moving south to north. The southern-most group (group D) has the lowest pregnancy rate and one of the lowest live birth rates although not statistically different than the rate for the central/urban group (group A). Specifically, group A had a somewhat higher pregnancy rate, but a very similar live birth rate to the south, pointing to the relatively higher rate of abortion for group A. Both pregnancy and live birth rates increase in the north-central group (group H) and then increase even more for the group with the three most northern health authorities (group F). The abortion rates do not follow as clear a north-south pattern between peer groups as do pregnancy or live births.



Source: SaskHealth, Prepared by SPI, March 2013 Error bars are 95% CI

***Peer Group D**: Cypress, Five Hills, Heartland, Kelsey Trail, Sunrise, Sun Country; **Peer Group A**: Regina Qu'Appelle, Saskatoon; **Peer Group H**: Prince Albert Parkland, Prairie North; **Peer Group F**: Mamawetan, Keewatin Yatthe, Athabasca.

To gain perspective on the degree of difference between peer groups for the adolescent pregnancy rates, the percentage differences were calculated. The urban-central group (peer group A) adolescent pregnancy rate was 33% higher than the southern-most group (group D). The central-north group (group H) adolescent pregnancy rate is 49.1% higher

than for the urban-central group. The northern-most group (group F) is 62.9% higher than the central-north group. Overall, the northern-most group has the highest adolescent pregnancy rate and the southern-most group has the lowest rate; the percentage difference between the northern-most group and the southern-most group is 126.4%.

Figure 9 allows us to examine the adolescent pregnancy data both between and within peer groups over time. The pregnancy rates within the peer groupings fluctuate somewhat by year, but overall the rates for 2010 are not significantly different than the rates for 2005. Because of the smaller population of the most northern peer group (group F), the rates can fluctuate to a greater degree, but may still not be significantly different from each other, as demonstrated by the larger confidence intervals that overlap for group F. In group F, pregnancy appears to show a trend towards increasing, but these are not statistically significant.

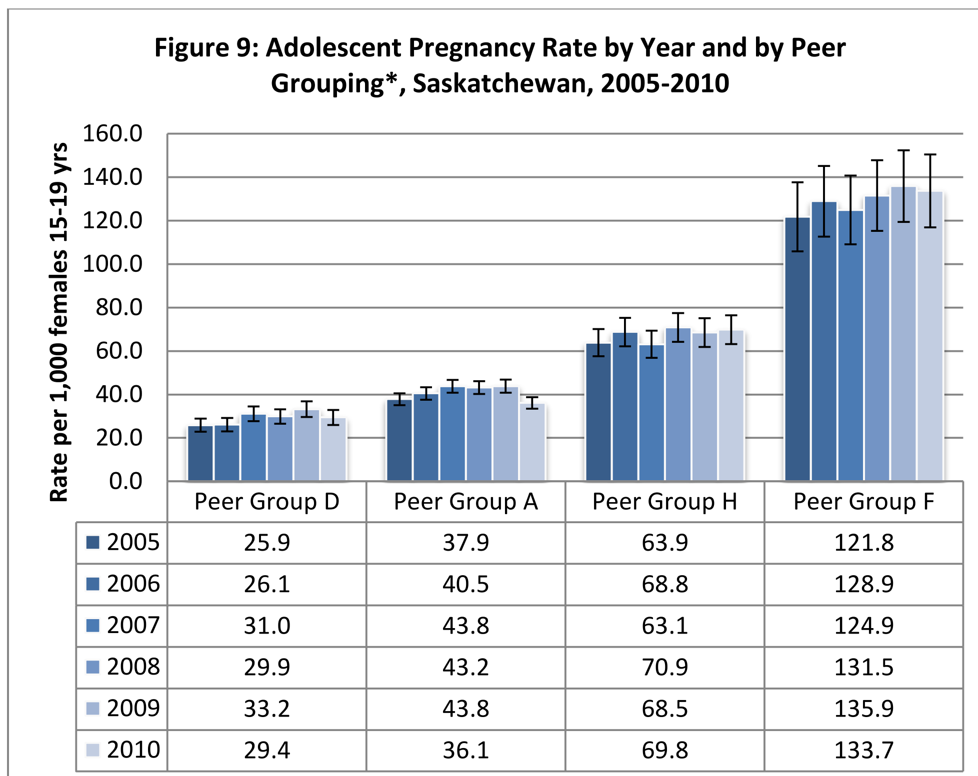


Figure 9: Adolescent Pregnancy Rate by Year and by Peer Grouping*, Saskatchewan, 2005-2010

	Peer Group D	Peer Group A	Peer Group H	Peer Group F
2005	25.9	37.9	63.9	121.8
2006	26.1	40.5	68.8	128.9
2007	31.0	43.8	63.1	124.9
2008	29.9	43.2	70.9	131.5
2009	33.2	43.8	68.5	135.9
2010	29.4	36.1	69.8	133.7

Source: SaskHealth, Prepared by SPI, March 2013 * Error bars are 95% CI

***Peer Group D**: Cypress, Five Hills, Heartland, Kelsey Trail, Sunrise, Sun Country; **Peer Group A**: Regina Qu'Appelle, Saskatoon; **Peer Group H**: Prince Albert Parkland, Prairie North; **Peer Group F**: Mamawetan, Keewatin Yatthe, Athabasca.

2.3 Discussion of Quantitative Results

It is clear that the further north we look, the higher the risk is for adolescent pregnancies. As we look from south to north, each peer group to the north has a significantly higher adolescent pregnancy rate than the peer group to the south of it.

The finding that Northern Saskatchewan has substantially higher adolescent pregnancy rates than the rest of the province is a phenomenon that needs to be explored in greater detail to improve our understanding of the factors that impact these rates and how best to address this issue. There are a variety of factors that differentiate the Northern part of the province from the rest of Saskatchewan. For example, the more northern regions in Saskatchewan have much higher proportions of Aboriginal people in their populations. For the three most northern health regions (peer group F), over 85% identify themselves as Aboriginal (22% Métis and 62% First Nations), compared to fewer than 15% in the province of Saskatchewan (Irvine et al., 2011). Previous research has shown that First Nation female adolescents are more likely, for a variety of reasons, to experience higher rates of pregnancy (Murdock, 2009). Ethnicity is not the primary determinant of any health behaviour or life choice, including adolescent pregnancy, but rather ethnicity can be associated with a variety of other determinants of health.

Research has provided the many factors that impact the likelihood of adolescent pregnancy. These range from individual and familial factors to more broad societal factors. The specific risk factors are described in *Section 5. Best Practices for the Prevention of Adolescent Pregnancy,* of this report. Many of these factors are the same determinants of health that are known to impact overall health. The Northern Saskatchewan Health Indicators Report (Irvine et al., 2011) provides data that suggest that many of the identified risk factors for adolescent pregnancy are of concern in Northern Saskatchewan, including: poverty, lack of education, familial and relationship issues, and mental health concerns. In addition, due to geographic barriers, accessing appropriate health services can be a challenge for some northern adolescents. How to address these factors through programs designed to prevent adolescent pregnancies is discussed further in Section 5 of this report.

3. The Qualitative Data: Providing Context

In order to add context to the initial picture provided by the quantitative data, adolescents throughout the province were asked about their experiences before, during, and after pregnancy. The adolescents were also asked about the support they received during pregnancy, their suggestions for those working with youth at risk of pregnancy or experiencing pregnancy, and their advice for other adolescents. For a more detailed description of the methodology for this qualitative portion of the report, please refer to Appendix A.

3.1 Participant Description

Twelve adolescents from around Saskatchewan participated in the interviews (4 from La Ronge, 2 from North Battleford, 2 from Swift Current, and 4 from Saskatoon). The adolescents ranged in age from 17 to 20; 10 were female and 2 were male. Eight participants self-identified as Aboriginal (First Nations, Metis, or Inuit). Their age at first pregnancy ranged from 15 years (1 participant) to 18 years of age (3 participants). Eight participants reported two pregnancies, while one participant reported three pregnancies.

3.2 Experiences Prior to, During, and Following Pregnancy

3.2.1 Pregnancy Planning

All of the participants stated that their first pregnancy was not planned. Five of the eight participants with a subsequent pregnancy reported that their second pregnancy was also unplanned. The three remaining participants with a subsequent pregnancy stated that they either wanted another baby or that they had done nothing to actively avoid the pregnancy. Of the nine participants who reported actively trying to avoid becoming pregnant, all of them reported using contraceptives of some sort (condoms or hormonal contraceptives). Three participants reported not using contraception. Of these, one stated that her partner was unwilling to use condoms, and two stated that they were under the influence of substances at the time and did not consider contraceptive use. Overall, when asked whether they considered terminating their unplanned pregnancies, two of the adolescents said yes. One of the adolescents did terminate her first pregnancy. The second adolescent changed her mind and gave birth to the baby after feeling pressure from the father and his family.

Only three participants stated that they had considered the possibility of becoming pregnant before it happened. Most of the participants stated that they never believed it could happen to them. One participant stated, “I was convinced that my luck was never going to run out.” Three participants said that they had discussed the possibility of becoming pregnant with their partners. Of these, one had discussed the necessity of birth control with her partner. The other two participants had discussed pregnancy as a future possibility, but not as a direct consequence of their current sexual behaviour.

3.2.2 Adjusting to Pregnancy

The participants expressed a wide array of emotions when they discovered they were pregnant. Many of their initial feelings were negative, e.g., anger, frustration, or fear (n = 18)[1]. For example, one participant talked about her frustration with becoming pregnant a second time: “I’m in school right now, so I knew that when the baby is born I would be in school. It just screwed up a lot of things for us… it just messes up a lot of things.” Other participants expressed fears about having to tell their parents (“I was scared ‘cause of my parents. I didn’t know how to tell them. That was pretty scary.”), and fears about their abilities to take care of a baby. Participants also reported feelings of disappointment or shame, and being overwhelmed.

At the same time, some participants expressed happiness and excitement, particularly about having something to look forward to and about having a baby that would be all theirs (n = 8). As one participant who was pregnant with her second child said, “Being a mom has changed me so much, basically [I was] going down the wrong road, and I

[1]This number is higher than the number interviewed as some experienced more than one negative emotion.

definitely think that I wouldn't be graduated or going to university, so I guess it's straightened me out." Another participant, who initially felt very scared, said "Then I started getting excited, and then as my belly actually started showing, that's when I started getting really happy. I grew up pretty fast during my pregnancy." Finally, two participants stated that they accepted the news that they were pregnant as soon as they found out.

When participants were asked about their current feelings about their pregnancies, the majority reported positive feelings (*n* = 10). They discussed the joys of being a parent, how they feel more fulfilled and how becoming a parent changed them for the better, "She has made my life so much better and made me a better person." One participant stated, "She just kind of gave me a meaning, and she's probably the reason that I am here right now." Another participant had similar feelings: "[My baby] smartened me up so much… I was young … drinking, partying, stuff like that. When I got pregnant, I started going to school again, cause I … want to set good examples for him." Two of the participants discussed the difficulties of being an adolescent parent, particularly difficulties associated with a loss of freedom and difficulties with finances and completing school. One participant said, "I love it, but it's hard. I still miss having that freedom and stuff a lot."

3.2.3 Pregnancy Support

In terms of the support they felt after informing others about their pregnancies, the majority of the adolescents reported that they felt supported by their families (*n* = 8), their friends (*n* = 6), and their healthcare providers (*n* = 8). Several participants suggested that while their families were upset at first, they soon became supportive. For example, one participant said "My mom has been really good. I don't know what I would do without her. I mean she was disappointed a little bit but then after a while, she got used to it." Some of the participants indicated that their friends were more of a support than their families. One participant said, "When I found out I was pregnant, I would hang out with my friends more and not go home 'cause I felt more comforted and stuff. It was easier to talk to them." Of those that reported a supportive relationship with their healthcare provider, the importance of making time for talking, being personable, providing resources and information, and being positive were highlighted by the adolescent participants. As one participant said, "They were always there for me. They always told me that it was okay. They made me feel comfortable."

There were also reports of less supportive relationships. In terms of family support, four participants reported receiving little support. These adolescents stated that their families were sad, angry, or simply unavailable to provide support (e.g., dealing with substance use and homelessness). Five participants also reported unsupportive friend relationships. One participant suggested that "Your friends aren't there for you after. They're young and they want to party and stuff." Another participant stated that while her friends were there for her initially, they are no longer involved in her life.

Five participants reported unsupportive relationships with healthcare providers. One participant stated that “[the doctor] was the worst between my family and friends. My doctor would either tell me that I should have aborted the baby or considered adopting it out.” This same participant also reported negative experiences with the labour and delivery unit, saying that she received very little support during her labour. She said, “I think it was easier to abuse me in that way cause I was a little kid, and I didn’t know what was allowed and what wasn’t allowed.” Two of the participants switched care providers following negative experiences and were much happier with their new providers.

All of the participants reported having either family members or friends who had also experienced an adolescent pregnancy. Approximately half of the participants had either a sibling or a very close friend who was also an adolescent parent. One of the participants stated “It’s one of our family traits or flaws”, while another reported that knowing other adolescent parents made her feel less alone.

3.2.4 Male Partner Involvement

Two male participants were interviewed and asked about their involvement during and after their partners’ pregnancies. Both participants responded that they were very involved during the pregnancy, spent a lot of time with their partners, and had fun together. Following the birth of the baby, one father reported being involved with all of the day-to-day tasks of raising the child (feeding, dressing, and changing diapers). The second participant stated that he visits the child and helps with the costs of raising the child. Both participants stated that they are happy about the birth of their children and enjoy being fathers.

Of the female participants who spontaneously discussed their partners (n = 4), two indicated that their male partner was still actively involved in raising the children, and two indicated that they are raising their children without any support from their former partner.

3.2.5 The Importance of Schools

School was a common theme in many of the responses to the interview questions. The adolescents were very concerned about completing school and the logistics of doing so while being pregnant and after having a baby. The impact of the pregnancy and baby on completing school was often mentioned as a primary consideration for adolescents after finding out about their pregnancies. The participants also talked about the importance of the supports they received through their schools (e.g., programs, information, and nurses and other support staff). Related to this, several of the participants discussed their worry about the lack of available programs outside of school. They felt that they were unlikely to experience the same level of support as they did through their schools. As one participant said, “I have lots of support here, but … I honestly don’t know where to go for help after I

am done school." Finally, some of the participants stated that finishing school made them feel better about their pregnancy (i.e., now that they were no longer in school, they felt less shame about being a parent).

3.3 Summary of Interview Findings on Adolescent Pregnancy Experiences

The interviews suggest that adolescent pregnancies are often unplanned, and little thought is given to the possibility of pregnancy before it occurs. However, the majority of participants reported using contraception. The fact that these participants still became pregnant highlights the fact that contraceptives may not have been used correctly or consistently, and the importance of using more than one method. The interviews also highlighted the importance of support: from families, friends, care providers, and through schools. Such support greatly impacted the adolescents' feelings about their pregnancies and about their abilities to succeed as young parents. Therefore, support programs are necessary for adolescent pregnancy, as are programs directed at adolescent pregnancy prevention.

4. Categories of Adolescent Pregnancy Prevention Programs

A review of the literature focused on adolescent pregnancy prevention programs highlights the fact that there are many different types of these programs. Because the effectiveness of programs can be measured in several ways and many factors can contribute to the success or failure of programs, it may be difficult to accurately determine the effectiveness of any one program, or to compare effectiveness across programs. For example, some programs measure behavioural or outcome changes (e.g., increased use of contraception, delayed age of first intercourse, reduction in the number of sexual partners, and/or the reduction of adolescent pregnancy), while others measure effectiveness through increased knowledge of reproductive and sexual health issues, or by self-reported attitude change toward these issues (Best Start & SIECCAN, 2007).

According to the United States' National Campaign to Prevent Teen and Unplanned Pregnancy (2006), there are five categories of effective programs; each of these categories will be discussed below. The effectiveness of these programs is variable, but depends in part on their adherence to the characteristics described below in *Section 5. Best Practices for the Prevention of Adolescent Pregnancy*. Kirby (2007) notes that in a meta-analysis of adolescent pregnancy prevention programs, two-thirds of the programs studied had a significant positive impact on at least one aspect of sexual behaviour or lowered the rates of pregnancy, childbearing, or STIs. However, the same study notes that even the effective programs did not dramatically reduce these rates – the most effective programs lowered risky sexual behaviour by about one-third.

4.1 Curriculum-based Education

Curriculum-based education generally occurs in a school setting, either in regular school classes or as part of after-school programming. These programs usually encourage both abstinence and contraceptive use. School-based sexual education programs have been shown to be effective, especially when linked to contraception services (National Health Services [NHS] Centre for

Reviews & Dissemination, 1997). Two meta-analyses of the effectiveness of abstinence-only education (as compared with sexual education programs) found that this type of education had no effect on delaying sexual activity, reducing pregnancy rates (Swann, Bowe, McCormick, & Kosmin, 2003), age of initiation of sexual intercourse, return to abstinence, number of sexual partners, or use of condoms or other contraceptives (Kirby, 2007). Contrary to the fears of some, sexual education has not been found to lead to increased sexual activity or pregnancy rates (NHS Centre for Reviews & Dissemination, 1997). Some evidence has shown that community-based programs may be more effective than school-based sexual education programs (Franklin, Grant, Corcoran, O'Dell, & Bultman, 1997). Community-based programs suggest that community values and interests must have a place in the development and delivery of prevention programming.

4.2 Service Learning Programs

Service learning programs focus primarily on keeping adolescents constructively engaged in their communities and schools. Rather than focusing solely on education, these programs arrange for adolescents to take part in community services (e.g., tutoring, working in nursing homes, helping clean parks). After their community services, the adolescents then have a group discussion or writing session about their experiences. Some education about adolescent pregnancy prevention and potential consequences of risky sexual behaviour is generally included. These programs allow adolescents the chance to apply their knowledge to practical, relevant, community-based activities.

4.3 Youth Development Programs

Youth development programs take a wider approach to adolescent pregnancy prevention, in that these programs attempt to prepare and encourage adolescent participants to think about and plan for the future. This type of program takes various areas of adolescent life (e.g., school, healthcare, sports, employment), and assists the participants in participating and succeeding in these areas. These programs can help to promote future options in the adolescents' lives, which can provide the motivation to delay childbearing (UC ANR Latina/o Teen Pregnancy Prevention Workgroup, 2004). In this approach, pregnancy prevention is a product of the elimination of certain risk factors (e.g., poor educational achievement), rather than through the direct influence of information (e.g., sexual health seminars). According to Fletcher et al. (2008), these programs can be very effective in modifying behaviour, promoting safe sexual practices, and reducing pregnancy rates among high-risk adolescents. Kirby (1999) notes that youth development programs can be effective for preventing adolescent pregnancy even if they do not directly address adolescent pregnancy (e.g., adolescent outreach, community or employment programs). The NHS Centre for Reviews and Dissemination (1997) also notes that programs focusing on personal development (e.g., confidence, self-esteem, negotiation skills), and educational and vocational development may increase contraceptive use and reduce pregnancy rates. However, they suggest that these programs should be linked to some curriculum-based sexual education in order to increase efficacy, as well as to increase contraceptive use.

4.4 Parent Programs

Parent programs are those that involve both parents and their adolescent children. Because parental and familial factors have a great influence on adolescent sexual activity, these programs seek to improve parent-child communication in terms of sex-related topics. These programs are usually offered within a community setting and can be targeted towards mothers, fathers, or both parents. Parental communication and involvement with their adolescent can play a large role in preventing or delaying sexual activity, but many parents do not actively communicate with their children about these topics. Programs that involve the parents and encourage healthy and open communication can help to prevent adolescent pregnancy and risky sexual behaviour in the adolescent, while also promoting a healthy parent-child relationship. A review by Swann, Bowe, McCormick, and Kosmin (2003) found that family outreach programs and those programs that included the adolescents' parents can be effective in preventing high risk sexual behaviour and adolescent pregnancy.

4.5 Community-wide Programs

Community-wide programs have a broad scope of information and encourage the whole community to get involved with adolescent pregnancy prevention. Prevention efforts may include public service announcements, educational activities, or community-wide events (e.g., health fairs). Community-wide campaigns can be more effective than 'organizational isolation,' as many organizations can come together to reinforce the same message, rather than each trying to do it alone (UC ANR Latina/o Teen Pregnancy Prevention Workgroup, 2004). It is important to anticipate the potential barriers to these types of programs, such as time constraints, language skills, and reluctance to talk about sexuality (UC ANR Latina/o Adolescent Pregnancy Prevention Workgroup, 2004). Cheesbrough, Ingham, and Massey (1999) noted in their review of interventions and programs aimed at pregnancy prevention in the US, Canada, Australia, and New Zealand that the most successful programs involved multiple agencies and whole communities working together: combining schools, media, and health services.

5. Best Practices for the Prevention of Adolescent Pregnancy

As the research shows, there are many programs that aim to prevent adolescent pregnancy. However, not every program is effective in its goal, and no one program is successful in all situations. It is important to learn about the unique circumstances and needs of the adolescents in the region or community in which a program is being developed.

As a final part of the Saskatchewan-based interviews conducted for the current report, the adolescent participants were asked to share their advice for health and allied health professionals who work with adolescents who are or may become pregnant, and their advice for other adolescents. The participants were asked to share advice both about adolescent pregnancy prevention and ways to better support adolescent parents. That advice is shared in this section, along with the best practices identified in the relevant literature. Given the high rates of adolescent pregnancy in Saskatchewan, it is imperative that a variety of prevention strategies that have been

found to be effective in applicable situations are implemented. As well, the unique ethnic and cultural situation in Saskatchewan demands community-specific programming.

Although the focus of prevention strategies is to reduce the number of adolescent pregnancies, it is important that adolescent parents are not viewed negatively. It is also important that the potential positive outcomes of parenthood are acknowledged, while still presenting options for those that wish to delay pregnancy (Best Start & SIECCAN, 2007). Programs that focus on negative stereotypes of pregnant adolescents and young parents, and those that use shame, blame, and stigma to convey messages may continue to propagate such negative views of young parents. There is evidence from the interviews that adolescent parents internalize these negative views. As one participant stated, "I was carrying a shadow of shame, being a young mom. I always talk like I am older, and try to act like I am older." Another participant stated that when she found out she was pregnant, she "felt like [she] screwed up and [she] was ashamed of it." Steps should be taken to ensure that these tactics are not used in prevention strategies (Best Start & SIECCAN, 2007). It is imperative not to perpetuate the cycle of negativity, and instead find positive prevention strategies that work.

When developing and implementing an adolescent pregnancy program, it is important that the many factors associated with adolescent pregnancy are considered. On an individual level there are a variety of risk and protective factors that program developers need to be aware of.

Risk factors that may contribute to adolescent pregnancy include:

- having experienced child abuse (Anda et al., 2002; Boyer & Fine, 1992; Noll, Shenk, & Putnam, 2008)
- living in poverty (First Steps Housing Project, 2006; Furstenberg, Brooks-Gunn & Morgan, 1987; Meade, Kershaw & Ickovics, 2008; Moore et al., 1993; Sullivan, 1993)
- poor academic experiences or lack of education (Fergusson & Woodward, 1999; Fletcher, Harden, Brunton, Oakley, & Bonell, 2008; Manlove, Ryan, & Franzetta, 2006)
- psychological factors (e.g. developmental or early life issues; Benoit, 1997)
- a preference for early childbearing (e.g. cultural or familial preferences; Geronimus, 2003; Meade, Kershaw, & Ickovics, 2008; Merrick, 1995; Montgomery-Anderson, 2003; Palacios & Kennedy, 2010)
- familial factors (e.g. single-parent household; Meade, Kershaw, & Ickovics, 2008)
- early onset of puberty (Belsky, Steinberg, Houts, & Halpern-Felsher, 2010; Rotermann, 2008)
- relationship factors (e.g. peer pressure, older partner; Noll, Shenk, & Putnam, 2008; Wakhisi, Allotey, Dhillon, & Reidpath, 2011)
- difficulty accessing health services (e.g. fear of disclosure, lack of familiarity with system; Ralph & Brindis, 2010; Wakhisi et al., 2011)
- rapid repeat pregnancy (this is a risk among adolescent mothers that may lead to subsequent adolescent pregnancies; Crittenden, Boris, Rice, Taylor, & Olds, 2009; Rigsby, Macones, & Driscoll, 1998; Zhu, 2005)

Protective factors relating to adolescent pregnancy include the following:

- positive parent-child relationship (Commendador, 2010; Deptula, Henry, & Schoeny, 2010; Fox & Inazu, 1980; McNeely et al., 2002; Miller, Forehand, & Kotchick, 1999; Miller & Whitaker, 2001; Quinlivan, Tan, Steele, & Black, 2003; Ramirez-Valles, Zimmerman & Newcomb, 1998; Roche et al., 2005)
- education (e.g. sexual health education, educational aspirations; Fergusson & Woodward, 1999; Kapinus & Gorman, 2004; Thornberry, Smith, & Howard, 1997)
- religion (e.g. religious beliefs, church attendance, participation in religious activities; Bearman & Bruckner, 2001; Galambos & Tilton-Weaver, 1998; Langille & Curtis, 2002; Ovadia & Moore, 2010; Rostosky, S., Wilcox, R., Wright, M., & Randall, 2004; Whitehead, Wilcox, & Rostosky, 2001)

On a broader level, there are both proximal and distal factors of adolescent pregnancy that need to be considered when planning programs. Proximal factors include the knowledge, attitudes, skills, and beliefs that adolescents have about norms related to sexual behaviour and sexual health. Distal factors include wider social determinants, education, and employment (Fletcher et al., 2008). Related to proximal factors, many of the adolescents interviewed (*n* = 9) highlighted the importance of providing more information for adolescent pregnancy prevention. Several participants suggested that it is important to include more than the usual sexual education that is provided in schools. Instead, they suggested showing adolescents the real consequences of adolescent pregnancy. One participant suggested taking adolescents to a daycare with babies or having an adolescent parent talk to schools "Just to show them how difficult it is to be a young parent." Another participant agreed and stated that adolescent parents could go into schools "And say this is what happens in my life. Do you really want my life?" Along with knowledge, the adolescent participants stressed the importance of easy access to affordable or free contraception. In order for affordable contraception to be useful, adolescents need to be aware of its existence. Several of the participants reported that they were unaware of whether such programs existed in their area.

Some factors related to adolescent pregnancy cannot be effectively influenced by adolescent pregnancy prevention programs. It is difficult, for example, for these prevention programs to influence distal factors like socioeconomic status and childhood influences. Therefore, it is important for program developers to think about where they can be most effective in creating change.

5.1 Characteristics of Effective Adolescent Pregnancy Prevention Programs

The characteristics highlighted below are a combination of the results of several large-scale evaluations of adolescent pregnancy prevention programs in the United States (Kirby, 2007; The National Campaign to Prevent Teen and Unplanned Pregnancy, 2006; UC ANR Latina/o Teen Pregnancy Prevention Workgroup, 2004). Where applicable, the suggestions made by the adolescent participants in the Saskatchewan-based interviews are also included. Kirby (2007)

points out that although the guidelines below have been shown to be effective, the needs of the specific community are still paramount. As well, programs that do not follow the guidelines are not necessarily ineffective, and programs that follow all of the guidelines are not necessarily effective – effectiveness depends on many factors and some cannot be easily controlled (e.g., personality of the leaders and participants).

5.1.1 Program Development

- **Significant duration**. Most effective programs have a longer duration (e.g., several months or years). As well, it is better to have shorter sessions over a longer duration, rather than longer sessions over a shorter time span.
- **Include people and groups with diverse backgrounds and expertise** in the development process.
- **Assess the needs of the population through discussion with youth and community workers.** Ensure that youth are involved in the process, and ask for their opinions on issues related to sexuality and adolescent pregnancy. As one Saskatchewan adolescent participant suggested, "Just ask them. You have to find out what they need 'cause everybody's different... you just have to ask."
- **Identify program goals, risk behaviours, protective behaviours, and knowledge level of participants, based on the knowledge obtained from the community.** Choose activities that will encourage development of protective factors and help to deal with any risk factors.
- **Design program activities that support community values and are achievable given available resources.** Several of the adolescent participants also suggested the importance of creating programs outside of the school environment. This may be particularly important when trying to prevent subsequent adolescent pregnancies, where the adolescents may not necessarily be in school.
- **Pilot test all or part of the program before full-scale implementation**. This can help to eliminate any problems so that the program will run smoothly with the actual participants.

5.1.2 Curriculum Content

- **Have a simple, clear and non-judgemental message for the adolescents regarding adolescent pregnancy and adolescent sexual activity**. Comprehensive sexuality and sexual health education programs give adolescents the necessary information and skills to lead sexually responsible lives. As discussed earlier, the adolescent participants suggested that inclusion of presentations from adolescent parents is important as they would show other adolescents the real consequences of their behaviours. Another participant suggested that the use of videos is also helpful, along with written and presented information, as videos can often be easier to understand.
- **Address behaviours that may affect sexual health choices, such as peer pressure.** Peer and partner relationships can affect adolescent sexual behaviour. If the adolescent does not have the ability to withstand peer pressure or to negotiate

contraception use with a partner, sexual health knowledge will not be effective. Another high risk behaviour that was raised by several of the adolescent participants is substance use. They stressed the importance of limiting substance use and avoiding intimate situations when using substances. These participants saw the combination of sexual activity and substance use as high risk for unplanned pregnancy, as contraception is often not considered important in such situations.

- **Teach communication skills.** Adolescents need to be able to communicate with their partners regarding sexual encounters and contraception use. Many of the adolescent participants did not discuss the possibility of pregnancy with their partners before the pregnancy occurred. This was particularly true for the participants' first pregnancies, but these conversations were also lacking before subsequent pregnancies. Therefore, communication skills may be particularly useful for reducing the occurrence of adolescent pregnancies.
- **Reflect the age, sexual experience, and culture of the adolescents in the program.** Appropriate sexual education changes as the adolescent ages. As well, it is unnecessary for adolescents who are already sexually active to receive information on remaining abstinent. That being said, almost half of the adolescent participants suggested that adolescents need to understand that "If you really don't want to be pregnant, then just don't have sex. Because that is pretty much the only sure fire way." Culture is a major factor associated with adolescent pregnancy, and as such, cultural considerations and sensitivity should be included in any adolescent pregnancy prevention program.
- **Identify the protective and risk factors and behaviours regarding adolescent pregnancy in the curriculum.**
- **Address the sexual psychosocial factors that affect behaviour.** These factors could include knowledge, values, and attitudes towards condoms, communication with parents and partners, perceived risk of pregnancy, negotiating, and refusal skills. One of the adolescent participants stressed the importance of parental involvement, both in discussions about sexual behaviours and in discussions about the risks of substance use.
- **Use a variety of activities** designed to change the identified risk behaviours.
- **Use a variety of instructional techniques and activities** to engage adolescents (i.e., short lectures, discussions, games, role playing, and homework assignments that encourage parent-child communication). As previously mentioned, the adolescent participants recommended the use of videos and presentations by adolescent parents.
- **Cover the topics in a logical sequence** (i.e., begin with a general overview and discussion and gradually move to more detailed and specific information).
- **Ensure that both males and females are targeted.** Although many programs may target adolescent girls specifically, it is important that adolescent males are included in the programming as well. The interviews with the adolescents showed that the adolescents were not having many of the basic conversations about the risks of

pregnancy or contraception use. Targeting both males and females may increase the likelihood that these types of conversations take place.

5.1.3 Program Implementation

- **Have well-trained leaders who believe in the program.** Leaders should come from within the community if possible, as it is important that community leaders are involved in the planning and implementation of the program. As well, leaders should be well trained in all areas of the programming. According to the adolescent participants, it is important that programs are confidential, accessible, non-judgemental, and supportive.
- **Actively engage participants and have them personalize the information for their own situation.** Adolescents' beliefs will influence their participation and the benefits they receive from the program. It is important that they realize that the information applies directly to their lives, and that they have the power to enact change within themselves.
- **Contact relevant authorities to obtain support and/or approval** (i.e., public health department, school board, school principal/teachers, and community organizations).
- **Anticipate problems youth might have in attending the program and find ways to attract and retain participants** (i.e., provide transportation, offer programs at convenient times and locations, communicate with parents). It can also be effective, especially among hard-to-reach groups, to use incentives to entice young people to remain with the program; these can be financial or non-financial (Wakhisi et al., 2011). Many of the adolescent participants highlighted the importance of helping adolescents meet their basic needs, particularly those who do not have the support of their families. Several participants discussed problems with transportation as a barrier to attending programs.
- **Implement the program as designed** (i.e., same duration, information, messages, and setting). However, as stated previously, it is important that any program be responsive to community needs. Evaluation can help the program to adapt to community needs and identify important factors that can impact the success of the program.
- **Ensure that all youth have access to reproductive health services.** Access to reproductive healthcare is crucial to program effectiveness (Center for Health Improvement, 2003). If adolescents cannot consistently access appropriate services in their community, they will not be able to follow up on the message that they hear in prevention programs, whether they want to or not. Related to access to healthcare and affordable contraception, the adolescent participants stated that adolescents need to be aware that such services exist. Without knowledge of the available services in their areas, adolescents are unable to benefit from these services and programs.

5.2 Additional Advice from the Adolescent Participants

In addition to the importance of adolescent pregnancy prevention programs, programs and supports designed for adolescent parents are also important. When the adolescent participants were asked about the ways in which health and allied health professionals can better serve adolescent parents, the importance of support and support programs were most commonly mentioned. Examples provided by the participants of important support include daycares in schools, financial support, help with transportation and housing, parenting groups, and peer support. Difficulties with meeting basic needs were seen as a common problem for adolescent parents. The adolescent participants stated that milk, vitamins, healthy food, baby clothing and other items, and bus passes are useful and necessary items that many adolescent parents are lacking.

Many of the participants also discussed the importance of having someone to talk to, to discuss difficulties with, and to learn from. As one participant stated, “I was carrying a shadow of shame, being a young mom. The best way to understand [a young parent] is to get to know them on a personal level, ‘Cause each one of our situations is different, and not all of us get support.” When asked what she needed from health and allied healthcare providers, one participant said, “Love. We need a lot of loving because we are going through a hard time.” Other participants stressed the need for programs and information outside of school hours and for those who are not in school. The participants expressed frustration of not being able to access support people outside of regular school hours. Some of the participants expressed fear about where they would go for help once they were done school because they relied so heavily on the school programs for support and information. Several adolescents suggested that peer groups would be helpful. One participant said, “If you’re going through a rough time, you [could] go hang out with other moms who are pregnant and they can share their stories and stuff. Not make them feel like they are the only one that’s pregnant.”

In terms of their advice for other adolescents experiencing a pregnancy or those who are already parents, the adolescent participants recommended taking care of their health and accessing support services/people. One participant said, “Just remind yourself everything that you do when you’re pregnant, your baby does it too.” Another participant said, “Make sure that you always have a support person that you can talk to daily, and just remind yourself that everything that you are doing now, that you are doing it for your kid.” Other participants provided encouragement and advice for adolescents to plan for their futures and to strive to be the best they can be. Echoing the thoughts of many participants, one said, “Continue to do what you were planning on doing or try to strive for more ‘cause now you have someone else that you have to take care of.” Another participant also offered positive encouragement, saying “Have fun. Don’t think of it as such a bad thing… You’re not going to get all the freedom you want, but you’ll have fun. A baby is a crazy, weird, gross, loving experience.”

6. Conclusions

The available data indicate that a disproportionately high number of adolescent pregnancies in Saskatchewan occur within northern communities. Many of the risk factors for adolescent pregnancy are potential factors for all adolescents; however, there is data to suggest that there are some factors that may be of particular concern in Northern Saskatchewan, such as poverty, lack of education, familial and relationship issues, mental health concerns, and challenges with access to health services and birth control (Irvine et al., 2011).

As well, there are additional cultural and societal factors that may influence the sexual and prevention behaviours of adolescents in the North. For example, it is important to be aware that although adolescent pregnancy is often viewed as a negative life event by society at large, First Nations communities place a high value on children, regardless of the age of their parents. Therefore, adolescent pregnancy is accepted as a natural and positive event (Garwick et al., 2008, Montgomery-Anderson, 2003). This is an important factor to consider when planning adolescent pregnancy prevention programs and adolescent pregnancy support programs. The positive outlook of the community on adolescent pregnancies is something that could be drawn upon, as the outcomes of adolescent pregnancies are often highly influenced by the surrounding environment, and many of the health problems facing pregnant adolescents can be minimized with proper and timely prenatal care and adequate support before and after pregnancy (Montgomery-Anderson, 2003).

Due to the particular risk factors and unique perspectives of northern communities, it is necessary that strategies in Saskatchewan take the specific circumstances, views, and culture of these communities into account when developing and implementing programming for adolescent pregnancy prevention, as well as adolescent pregnancy and parenting support. It is important for each community to draw on the lessons learned from research and from other communities, and then to work within their own community, with the adolescents, to create the needed programs and supports together.

Advice shared by the Saskatchewan adolescents included: ensure that the youth who are the focus of a program are involved in planning and developing the program; share real-life experiences of adolescent parents with adolescents, through presentations or videos; provide information on pregnancy prevention; make the content appropriate for the age and experience of the adolescents in the program; address substance use and its relationship to high risk behaviours; teach communication skills; involve parents in discussions of sexual behaviours and the risks of substance abuse; ensure leaders are well trained in all areas of the programming (e.g. confidentiality, being non-judgemental and supportive); and help adolescents meet their basic needs, including transportation to the program.

These ideas may or may not be a priority in any particular community. Those wanting to develop programs to support youth in their communities need to listen to the youth in that community to

learn about their experiences, challenges and needs. This will then allow for the development and implementation of a program that is informed by the target youth, and takes into account their experiences and challenges and addresses their needs.

References

Anda, R. F., Chapman, D. P., Felitti, V. J., Edwards, V., Williamson, D. F., Croft, J. B., & Giles, W. H. (2002). Adverse childhood experiences and risk of paternity in teen pregnancy. *Obstetrics & Gynaecology, 100,* 37-45. doi:10.1016/S0029-7844(02)02063-x

Battles, H. B. & Wiener, L. S. (2002). From adolescence through young adulthood: Psychological adjustment associated with long-term survival of HIV. *Journal of Adolescent Health*, *30*, 161-168.

Bearman, P. & Bruckner, H. (2001). Promising the future: virginity pledges and first intercourse. *American Journal of Sociology, 106,* 859-912. doi:10.1086/320295

Belsky, J., Steinberg, L., Houts, R. M., & Halpern-Felsher, B. L. (2010). The development of reproductive strategy in females: Early maternal harshness, earlier menarche, increased sexual risk taking. *Developmental Psychology, 46,* 120-128. doi:10.1037/a0015549.

Benoit, M. (1997). The role of psychological factors on teenagers who become parents out-of-wedlock. *Children and Youth Services Review, 19,* 401-413. doi:10.1016/S0190-7409(97)00024-8.

Boyer, D. & Fine, D. (1992). Sexual abuse as a factor in adolescent pregnancy and child maltreatment. *Family Planning Perspectives, 24,* 4-11. doi:10.2307/2134718

Commendador, K. (2010). Parental influences on adolescent decision making and contraceptive use. *Pediatric Nursing, 36,* 147-170.

Cowley, C. & Farley, T. (2001). Adolescent girls' attitudes toward pregnancy: The importance of asking what the boyfriend wants. *Journal of Family Practice, 50*, 603-607.

Crittenden, C., Boris, N., Rice, J., Taylor, C., & Olds, D. (2009). The role of mental health factors, behavioral factors and past experiences in the prediction of rapid repeat pregnancy in adolescence. *Journal of Adolescent Health, 44,* 25-32. doi:10.1016/j.jadohealth.2008.06.003

Davies, D., DiClemente, R., Wingood, G., Harrington, H., Crosby, R., & Sionean, C. (2003). Pregnancy desire among disadvantaged African American adolescent females. *American Journal of Health Behavior, 27,* 55-62.

Deptula, D., Henry, D., & Schoeny, M. (2010). How can parents make a difference? Longitudinal associations with adolescent sexual behavior. *Journal of Family Psychology, 24,* 731-739. doi: 10.1037/a0021760

Fergusson, D. M. & Woodward, L. J. (1999). Maternal age and educational and psychosocial outcomes in early adulthood. *Journal of Child Psychology and Psychiatry, 43,* 479-489. doi:10.1111/1469-7610.00464

Finer, L. & Henshaw, S. K. (2006). Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspectives on Sexual and Reproductive Health, 38,* 90-96. doi:10.1363/3809006

First Steps Housing Project. (2006). *Poverty, homelessness, and teenage pregnancy*. Saint John, NB: Author.

Fletcher, A., Harden, A., Brunton, G., Oakley, A., & Bonell, C. (2008). Interventions addressing the social determinants of teenage pregnancy. *Health Education, 108,* 29-39. doi:10.1108/0965-428081.0842.11.1

Fox, G. (1980). The mother-adolescent daughter relationship as a sexual socialization structure: A research review. *Family Relations, 29,* 21-27.

Furstenberg, F., Brooks-Gunn, J., & Morgan, S. (1987). Adolescent mothers and their children in later life. *Family Planning Perspectives, 19,* 142-151.

Galambos, N. L. & Tilton-Weaver, L. C. (1998). Multiple-risk behavior in adolescents and young adults. *Statistics Canada Health Reports, 10,* 9-20.

Geronimus, A. T. (2003). Damned if you do: Culture, identity, privilege, and teenage childbearing in the United States. *Social Science & Medicine, 57,* 881-893. doi:10.1016/S0277-9536(02)00456-2

Guttmacher Institute. (1998). *Teenagers' Pregnancy Intentions and Decisions: A Study of Young Women in California Choosing to Give Birth.* Retrieved from http://www.guttmacher.org/pubs/or_teen_preg_survey.html

Irvine, J., Quinn, B., Stockdale, D. (2011). *Northern Saskatchewan Health Indicators Report 2011*. Athabasca Health Authority and Keewatin Yatthé and Mamawetan Churchill River Regional Health Authorities. Population Health Unit, La Ronge, 2011. Retrieved from http://www.athabascahealth.ca/images/reports/Northern%20Saskatchewan%20Health%20Indicators%20Report%202011.pdf

Kapinus, C. A. & Gorman, B. K. (2004). Closeness with parents and perceived consequences of pregnancy among male and female adolescents. *The Sociological Quarterly, 45,* 692-717. doi:10.111/j.1533-8525.2004.tb02310.x

Kirby, D. (2007). *Emerging answers 2007: Research findings on programs to reduce teen pregnancy and sexually transmitted diseases.* Washington, DC: The National Campaign to Prevent Teen and Unplanned Pregnancy.

Langille, D. B. & Curtis, L. (2002). Factors associated with sexual intercourse before age 15 among female adolescents in Nova Scotia. *Canadian Journal of Human Sexuality, 11,* 91-99.

Manlove, J., Ryan, S., & Franzetta, K. (2006). Sample selection for adolescent sexual relationships. In A. C. Crouter & A. Booth (Eds.), *Romance and sex in adolescence and emerging adulthood: Risks and opportunities* (pp. 233-240). Mahwah, NJ: Lawrence Erlbaum Associates.

McKay, A. (2012). Trends in Canadian national and provincial/territorial teen pregnancy rates: 2001-2010. *The Canadian Journal of Human Sexuality, 21,* 161-175.

McNeely, C., Shew, M., Beuhring, T., Sieving, R., Miller, B., & Blum, R. (2002). Mothers' influence on the timing of first sex among 14- and 15-year-olds. *Journal of Adolescent Health, 31,* 256-265. doi:10.1016/S1054-139x(02)00350-6

Meade, C., Kershaw, R., & Ickovics, J. (2008). The intergenerational cycle of teenage motherhood: An ecological approach. *Health Psychology, 27,* 419-429. doi:10.1037/0278-6133.27.4.419

Merrick, E. N. (1995). Adolescent childbearing as career 'choice': Perspective from an ecological context. *Journal of Counseling and Development, 73,* 288-295. doi:10.1002/j.1556-6676.1995.tb01750.x

Miller, K., Forehand, R., & Kotchick, B. (1999). Adolescent sexual behavior in two ethnic minority samples: The role of family variables. *Journal of Marriage and Family, 61,* 85-98. doi:10.2307/353885

Miller, K. & Whitaker, D. (2001). Predictors of mother-adolescent discussions about condoms: Implications for providers who serve youth. *Pediatrics, 108,* E28. doi:10.1542/peds.108.2.e28

Montgomery-Anderson, R. (2003). Adolescent mothers: A challenge for First Nations. *International Journal of Circumpolar Health, 63:* Supplement 2, 274-279.

Moore, K. A., Myers, D. E., Morrison, D. R., Nord, C. W., Brown, B., & Edmonston, B. (1993). Age at first childbirth and later poverty. *Journal of Research on Adolescence, 3,* 393-422. doi:10.1207/s15327795jra0304_5

Murdock, L. (2009). *Young Aboriginal mothers in Winnipeg.* Winnipeg, MB: Prairie Women's Health Centre of Excellence. Retrieved August 21, 2013 from http://www.pwhce.ca/pdf/YoungAboriginalMothersInWinnipeg.pdf

Noll, J. G., Shenk, C. E., & Putnam, K. T. (2008). Childhood sexual abuse and adolescent pregnancy: A meta-analytic update. *Journal of Pediatric Psychology, 34,* 366-378. doi:10.1093/jpepsy/jsn098

Ovadia, S. & Moore, L. (2010). Decomposing the moral community: Religious contexts and teen childbearing. *City & Community, 9,* 320-334. doi:10.1111/j.1540-6040.2010.01331.x

Palacios, J. & Kennedy, H. (2010). Reflections of Native American teen mothers. *Journal of Obstetric, Gynecologic, & Neonatal Nursing, 39,* 425-434. doi:10.111/j.1552-6909.2010.01149.x

PubMed Health. (2011). *Adolescent pregnancy.* A.D.A.M. Medical Encyclopedia. http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0002484/

Quinlivan, J. A., Tan, L. H., Steele, A., & Black, K. (2003). Impact of demographic factors, early family relationships and depressive symptomatology in teenage pregnancy. *Australian and New Zealand Journal of Psychiatry, 38,* 193-203. doi:10.1111/j.1440-1614.2004.01336.x

Ralph, L. J. & Brindis, C. D. (2010). Access to reproductive healthcare for adolescents: establishing health behaviors at a critical juncture in the lifecourse. *Current Opinions in Obstetrics & Gynecology, 22,* 369-374. doi:10.1097/gco.0b013e32833d9661

Ramirez-Valles, J., Zimmerman, M. A., & Newcomb, M. D. (1998). Sexual risk behavior among youth: Modeling the influence of prosocial activities and socioeconomic factors. *Journal of Health and Social Behavior, 39,* 237-253. doi:10.2307/2676315

Rigsby, D. C., Macones, G. A., & Driscoll, D. A. (1998). Risk factors for rapid repeat pregnancy among adolescent mothers: A review of the literature. *Journal of Pediatric & Adolescent Gynecology, 11,* 115-126.

Roche, K. M., Mekos, D., Alexander, C. S., Astone, N. M., Bandeen-Roche, K., & Ensminger, M. E. (2005). Parenting influences on early sex initiation among adolescents: How neighborhood matters. *Journal of Family Issues, 26,* 32-54. doi:10.1177/0192513X04265943

Rostosky, S., Wilcox, R., Wright, M., & Randall, B. (2004). The impact of religiosity on adolescent sexual behavior: A review of the evidence. *Journal of Adolescent Research, 19,* 677-697. doi:10.1177/0743558403260019

Rotermann, M. (2008). Trends in teen sexual behavior and condom use. *Health Matters, Statistics Canada, 19,* 1-5.

Sipsma, H. L., Ickovics, J. R., Lewis, J. B., Ethier, K. A., & Kershaw, T. S. (2011). Adolescent pregnancy desire and pregnancy incidence. *Women's Health Issues, 21,* 110116. doi:10.1016/j.whi.2010.09.004

Sullivan, M. (1993). Culture and class as determinants of out-of-wedlock childbearing and poverty during late adolescence. *Journal of Research on Adolescence, 3,* 295-316. doi:10.1207/s15327795jra0303_5

Thornberry, T. P., Smith, C. A., & Howard, G. J. (1997). Risk factors for teenage fatherhood. *Journal of Marriage and the Family, 59,* 505-522. doi:10.2307/353942

UNICEF. (2007). *Child poverty and perspective: An overview of child wellbeing in rich countries.* Florence, IT: Author.

Wakhisi, A., Allotey, P., Dhillon, N., & Reidpath, D. (2011). The effectiveness of social marketing in reduction of teenage pregnancies: A review of studies in developed countries. *Social Marketing Quarterly, 17,* 56-90. doi:10.1080/15245004.2010.546941

Whitehead, B. D., Wilcox, B. L., & Rostosky, S. S. (2001). *Keeping the faith: The role of religion and faith communities in preventing teen pregnancy.* Washington, DC: National Campaign to Prevent Teen Pregnancy.

Zhu, B. P. (2005). Effect of interpregnancy interval on birth outcomes: Findings from three recent U.S. studies. *International Journal of Gynaecology & Obstetrics, 89,* S25-S33. doi:10.1016/j.ijgo.2004.08.002

Glossary

Induced abortion: Based on the ICD-10 code 004 - Medical Abortion: encompassing both surgical and pharmacologically induced abortions (Canadian Institute for Health Information, 2012). The result of any procedure done by a licensed physician, or under supervision of a physician, to purposefully end a pregnancy.

Fetal death where the fetus is not expelled (or missed abortion): Based on the ICD-10 code 002 - Missed Abortion: early fetal death with retention of dead fetus (Canadian Institute for Health Information, 2012). When the fetus has died, but is retained inside the uterus for a variable period before being removed. Other names for this occurrence include, silent miscarriage, or early fetal demise.

Spontaneous abortion: Loss of fetus that occurs naturally before 20 weeks of pregnancy, without medical intervention, when there is a physical problem with the pregnancy. Spontaneous abortion is often called a miscarriage.

Stillbirth: When a baby is born dead, at 20 weeks of pregnancy or later.

Reference:

Canadian Institute for Health Information (2012). Canadian Coding Standards for Version 2012 ICD-10-CA and CCI. Retrieved from https://secure.cihi.ca/free_products/canadian_coding_standards_2012_e.pdf

Appendix A. Methodology for Qualitative Interviews.

1. Participants and Recruitment Strategy

The goal of the recruitment strategy was to obtain participation from adolescents that represented, to some degree, the broad spectrum of circumstances across the province. This was done by obtaining participation from each of four pre-determined peer groups in Saskatchewan. These peer groups are defined by Statistics Canada as a way to compare health regions among peers that share similar socio-economic characteristics (see Table 1 for the list of Saskatchewan peer groups). As each of the peer groups has different socioeconomic characteristics, adolescents in these groups likely have different needs and different options for healthcare.

In order to reach prospective participants, organizations and programs that serve pregnant adolescents and adolescent parents were contacted. (See Appendix B for a list of these organizations.) After initial contact with these organizations through phone or email, a letter of invitation was sent to the organizations who expressed interest in participating. (See Appendix C for a copy of this letter of invitation.) The contacts within these organizations included public health nurses, nurse practitioners, social workers, and community outreach workers. These contacts shared the information provided in the letter of invitation with prospective participants. Prospective participants then either contacted the researchers directly, or had the organizations contact the researchers on their behalf. Between two and four interviews were conducted with adolescents who reside in each of the four peer groupings in Saskatchewan, for a total of 12 participants.

2. Interview Schedule and Procedure

Data were collected through standardized, open-ended interviews. The interview schedule was designed by the Saskatchewan Prevention Institute, with guidance from the data collected from the Saskatchewan Ministry of Health and from the previously completed literature review on adolescent pregnancy in Saskatchewan. The interview questions focused on: 1) experiences, thoughts, and behaviours prior to pregnancy; 2) experiences during and feelings about their pregnancy; 3) the support they received during their pregnancy; 4) advice that they would give others working with adolescent parents; and 5) advice they have for other adolescents. A copy of the interview schedule is included in Appendix D.

The interviews occurred one-on-one with the researcher and the participant at the organization through which the participant was recruited. After reading through and signing the consent form, the audio recorder was turned on and the interview began. Following each interview, the participant was thanked for his/her time and was given a gift certificate. Participants were also provided with a debriefing letter, which provided them with contact information for the researchers as well as for support people in the event that they had questions or concerns separate from the interview.

3. Qualitative Interview Analysis

Each of the interviews was transcribed. The responses to the questions were then grouped into response categories based on their content. After all of the responses were categorized, another person reviewed the categorization of responses. Any disagreements about response placement were resolved through discussion. Following this reliability check, the number of responses under each category was counted (*n*); percentages were calculated by dividing the category total by the total number of responses for that particular question.

Appendix B. List of Organizations Contacted for Prospective Participants.

Location	Peer Group	Organization
La Ronge	F	Churchill High School
La Ronge	F	Kikinahk Friendship Centre - Kids First
La Ronge	F	Kikinahk Friendship Centre - Teen/Young Parent Program
The Battlefords	H	Kids First
Saskatoon	A	Jacoby Center
Saskatoon	A	Maggie’s Childcare Centre
Swift Current	D	Family Resource Centre

Appendix C. Copy of the Letter of Invitation.

February, 2013

The Saskatchewan Prevention Institute is in the process of conducting a research study on adolescent pregnancy in Saskatchewan. We are sending this information to you because you have previously indicated that you would be willing to share information about this study to people who may be interested in participating. Thank you for offering to work with us on this project.

We would like to interview female and male adolescents aged 15-20 who are pregnant, have been pregnant, or have contributed to a pregnancy. We will be asking them about their experiences with pregnancy, the support they received during pregnancy, their suggestions for others working with youth experiencing pregnancy, and their advice for other adolescents. The information collected from these interviews will significantly add to the statistical data provided to us by the Saskatchewan Ministry of Health. Both forms of data will be combined in a report written by the Saskatchewan Prevention Institute in an effort to increase understanding about adolescent pregnancy in Saskatchewan.

Participants will be asked to meet with an interviewer in a private room at a safe, public location to discuss their thoughts and experiences. Although sensitive subjects may be addressed, the interviewer will take care to ensure participants' comfort throughout the interview. Participants will be informed that they may skip any question without negative repercussions. Every interview will be conducted individually, and participants' responses will be kept strictly confidential. These interviews will be approximately thirty minutes to one hour in length. Participants will receive a $20 gift card to thank them for their participation.

If you know of any adolescent parents who may be interested in participating in an interview about the topics mentioned above, please share this description of the study with them. They can contact me by email at cgrasby@preventioninstitute.sk.ca. Alternatively, they may contact the coordinator of this project, Jackie Eaton, at (306) 655-2458. This research project has been approved on ethical grounds by the University of Saskatchewan Behavioural Research Ethics Board on **February 5, 2013**. Any questions regarding participants' rights may be addressed to the Ethics Office (306-966-2084). Out of town participants may call collect.

Please note that this study is time sensitive; we hope to complete all of the interviews by the end of February. If you have any questions, or would like more information about the study, please feel free to contact Jackie or I using the contact information listed above.

Thank you again for your interest in and assistance with this project!

Sincerely,

Research Assistant, Adolescent Pregnancy Project
Saskatchewan Prevention Institute

Appendix D. Copy of the Interview Schedule.

Females

1. Can you start by telling me a bit about yourself?
    a. If this doesn't come up in the response to the question above, ask the following demographic questions: How old are you? Where are you currently living? Would you self-identify as First Nations/Métis/Inuit?
2. I would like to ask you a bit about your pregnancy now. Was/Is this your first pregnancy?
    a. If no: How many pregnancies have you had?
3. Was this pregnancy planned? Yes/no
    a. If yes: What were your reasons for wanting to become pregnant?
    b. If no: Did you do anything to avoid becoming pregnant? If so, what?
        i. What, if anything, stopped you from using contraception?
4. Did you consider ending your pregnancy?
    a. If yes: How did you decide to continue your pregnancy?
5. How did you feel about the pregnancy when you first learned about it?
    a. What made you feel that way?
6. How do you feel about the pregnancy now?
    a. Why do you think your feelings changed/stayed the same?
7. Did you feel supported when you told others you were pregnant?
    a. What was the reaction of your family? Your friends? Your health care providers?
8. Before you became pregnant, did you think about the possibility of becoming pregnant? (e.g., Were you worried about becoming pregnant? Did you discuss the possibility of pregnancy with your partner/boyfriend?)
9. Do you have any friends or family members who also experienced an adolescent pregnancy?
10. There are people in the community who would like to learn how to better support young people who are pregnant, who are already parents, and those who wish to avoid a pregnancy. What advice would you give to people who would like to provide better support to young people?

   a. What kind(s) of support do they need to provide to help young people have a healthy pregnancy and family?
   b. What kind(s) of support do they need to provide to help young people avoid an unplanned pregnancy?

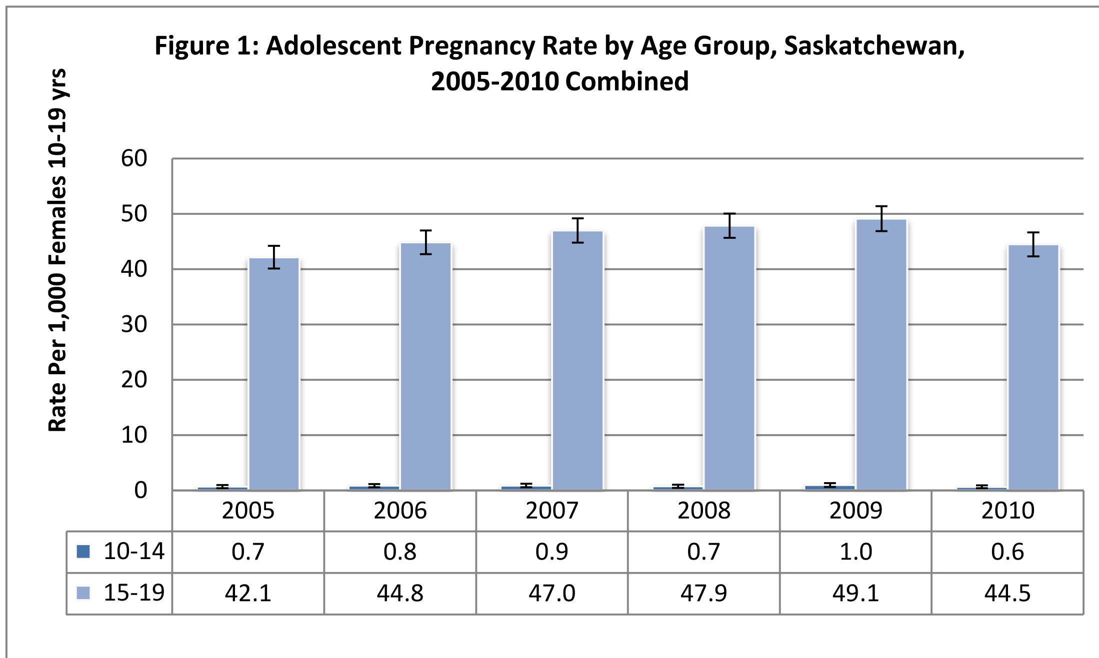
11. Is there any advice you can offer to other young people who are pregnant or planning to have a baby? Do you have any advice specifically for young women?
12. Is there any advice you can offer to other young people who wish to avoid a pregnancy? Do you have any advice specifically for young women?

Males

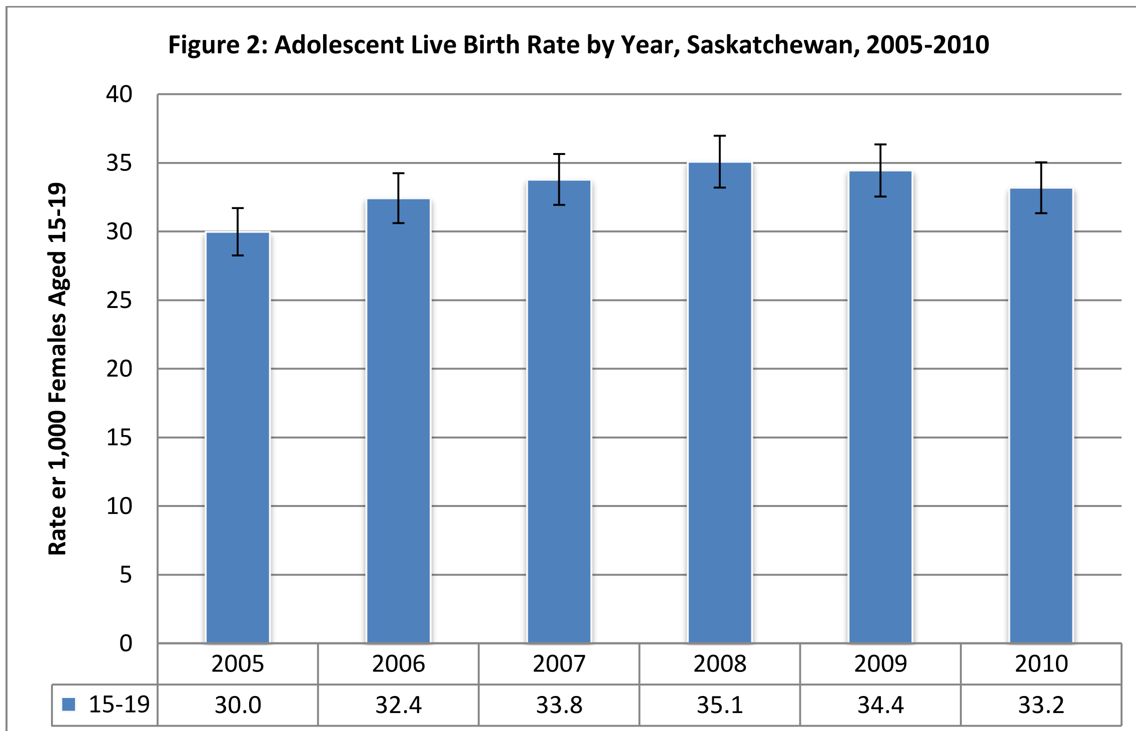
1. Can you start by telling me a bit about yourself?
   a. If this doesn't come up in the response to the question above, ask the following demographic questions: How old are you? Where are you currently living? Would you self-identify as First Nations/Métis/Inuit?
2. I would like to ask you a bit about the pregnancy now. Is this the first time a woman you have been involved with has become pregnant?
   a. If no: How many children have you fathered?
3. Did you do anything to avoid contributing to a pregnancy (e.g. use any type of contraceptive)?
   a. If yes: What methods did you use?
   b. If no: Can you explain why not?
   c. If no: Did you think about the possibility of your partner becoming pregnant? Did you discuss the possibility of pregnancy?
4. Did you want your partner to become pregnant (i.e., were you planning a pregnancy)?
   a. If yes: What were your reasons for wanting your partner to become pregnant?
5. How did you feel about the pregnancy when you learned about it?
   a. What made you feel that way?
6. How do you feel about the pregnancy now?
   a. Why do you think your feelings changed/stayed the same?
7. Please talk about how involved you were during the pregnancy.
8. What are the ways, if any, you are involved in the child's life now?

9. There are people in the community who would like to learn how to better support young people who are pregnant, who are already parents, and those who wish to avoid a pregnancy. What advice would you give to people who would like to provide better support to young people?
    a. What kind(s) of support do they need to give to help young people have a healthy pregnancy and family?
    b. What kind(s) of support do they need to give to help young people avoid an unplanned pregnancy?
10. Is there any advice you can offer to other young people who are pregnant or planning to have a baby? Do you have any advice specifically for young men?
11. Is there any advice you can offer to other young people who wish to avoid a pregnancy? Do you have any advice specifically for young men?

Appendix E. Additional Analyses of Quantitative Data.



Source: SaskHealth, Prepared by SPI, March 2013 * Error bars are 95% Confidence Interval (CI)



Source: SaskHealth, Prepared by SPI, March 2013 * Error bars are 95% CI

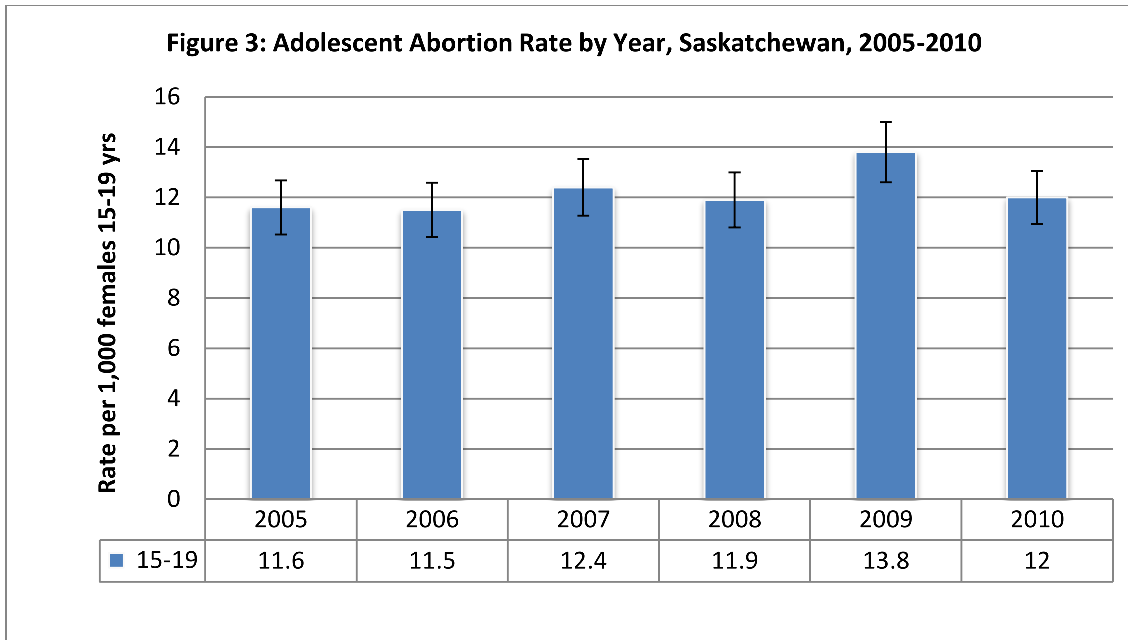


Figure 3: Adolescent Abortion Rate by Year, Saskatchewan, 2005-2010

Source: SaskHealth, Prepared by SPI, March 2013 * Error bars are 95% CI

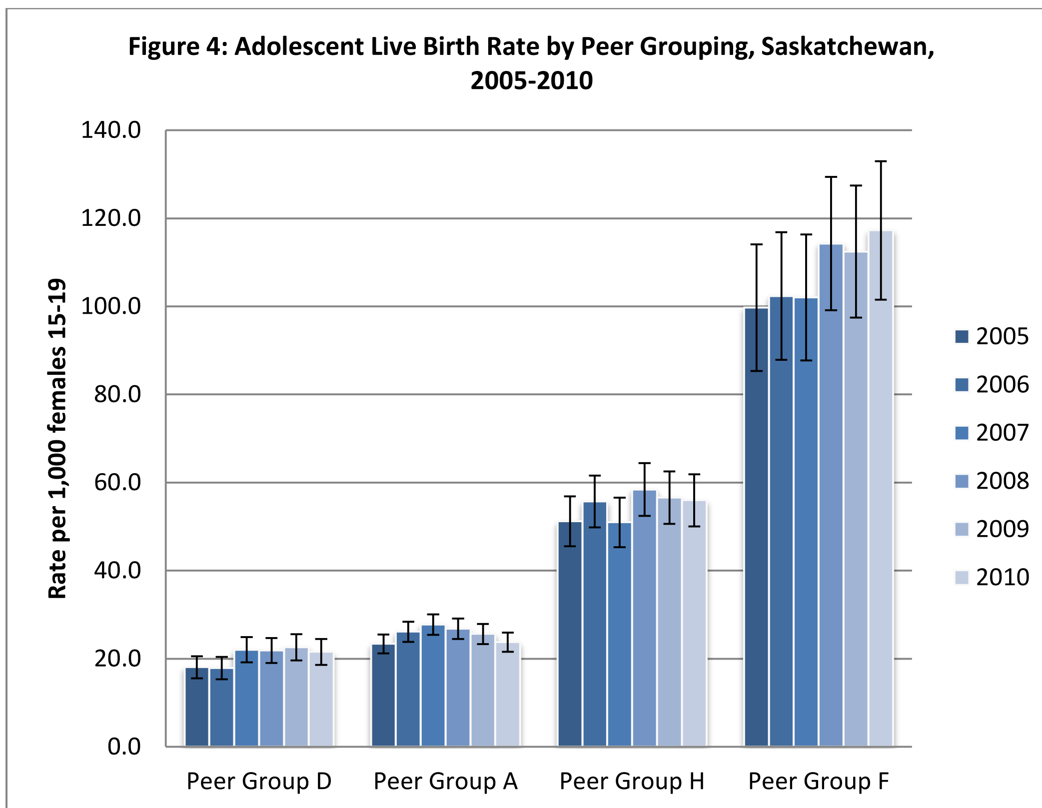
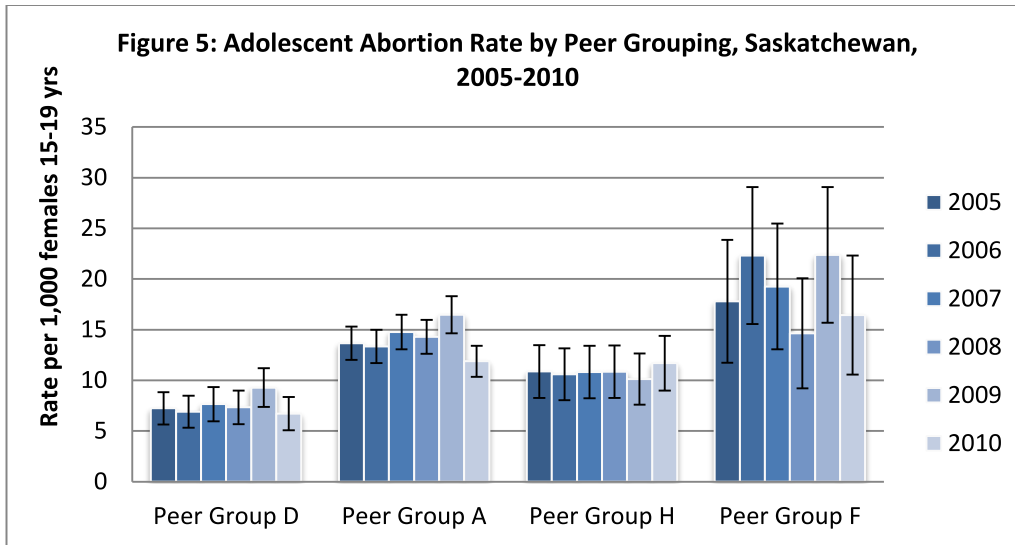


Figure 4: Adolescent Live Birth Rate by Peer Grouping, Saskatchewan, 2005-2010

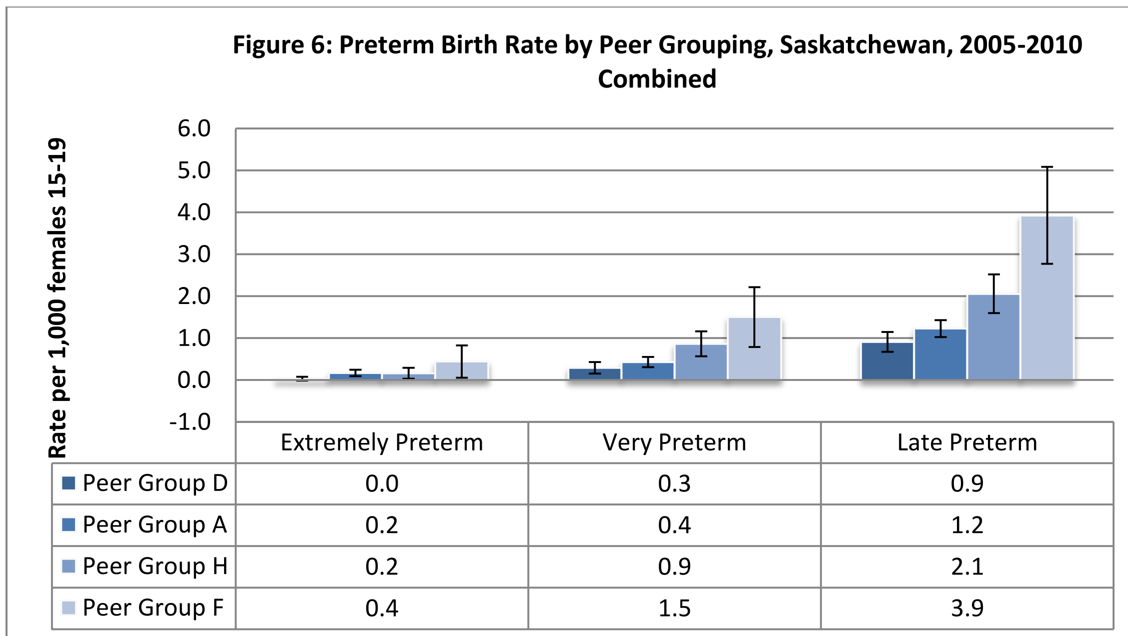
Source: SaskHealth, Prepared by SPI, March 2013 * Error bars are 95% CI

Peer Group D: Cypress, Five Hills, Heartland, Kelsey Trail, Sunrise, Sun Country; **Peer Group A**: Regina Qu'Appelle, Saskatoon; **Peer Group H**: Prince Albert Parkland, Prairie North; **Peer Group F**: Mamawetan, Keewatin Yatthe, Athabasca.



Source: SaskHealth, Prepared by SPI, March 2013 * Error bars are 95% CI
Peer Group D: Cypress, Five Hills, Heartland, Kelsey Trail, Sunrise, Sun Country; **Peer Group A**: Regina Qu'Appelle, Saskatoon; **Peer Group H**: Prince Albert Parkland, Prairie North; **Peer Group F**: Mamawetan, Keewatin Yatthe, Athabasca.

To examine the rate of preterm births across peer groupings preterm births were divided into three categories: extremely preterm (less than 25 weeks), very preterm (25-33 weeks), and late preterm (34-36 weeks) (see Figure 6).



	Extremely Preterm	Very Preterm	Late Preterm
Peer Group D	0.0	0.3	0.9
Peer Group A	0.2	0.4	1.2
Peer Group H	0.2	0.9	2.1
Peer Group F	0.4	1.5	3.9

Source: SaskHealth, Prepared by SPI, March 2013 * Error bars are 95% CI
Peer Group D: Cypress, Five Hills, Heartland, Kelsey Trail, Sunrise, Sun Country; **Peer Group A**: Regina Qu'Appelle, Saskatoon; **Peer Group H**: Prince Albert Parkland, Prairie North; **Peer Group F**: Mamawetan, Keewatin Yatthe, Athabasca.