



Group Antenatal Care and Indigenous Women Policy Brief



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Fraser Mustard Institute for Human Development

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Factor-Inwentash Faculty of Social Work
University of Toronto

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Head of Neurology
Division of Neurology
The Hospital for Sick Children

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Pediatric Medicine
The Hospital for Sick Children

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University of Toronto

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Pediatric Medicine
The Hospital for Sick Children

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Social Work
University of Toronto

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The Hospital for Sick Children

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Ontario Institute for Studies in
Education
University of Toronto

Jennifer Jenkins, Ph.D.
Professor
Department of Applied Psychology
and Human Development
University of Toronto

Principal Researcher:

Marina Sistovaris, Ph.D.
Research Associate
Factor-Inwentash Faculty of Social Work
University of Toronto

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Executive Summary

Issue: This policy brief reviews and assesses the efficacy of group antenatal care (GAC) as a possible model for the delivery of antenatal care to Indigenous women.

Background: The issue is of significance for two central reasons. First, although Canadian women have relatively good access to antenatal care, there are considerable disparities regarding access to, and the quality of antenatal care provided to Indigenous and non-Indigenous women. On average, Indigenous women are much more likely to face barriers and experience poor antenatal care compared to non-Indigenous women in the course of their pregnancies. As a result, Indigenous women have a higher probability of pregnancy complications and adverse birth outcomes. Second, rising healthcare costs and demands on healthcare systems have policy makers and healthcare professionals looking to alternatives models of delivering antenatal care that not only minimize costs but also ensure access to adequate antenatal care for all segments of Canada's female population. GAC is quickly becoming the preferred choice for policy makers and health professionals as an alternative to traditional antenatal care.

Findings: Both policy makers and healthcare providers are in a unique position to help address longstanding inequities in the delivery of antenatal care to Indigenous women in Canada. Through their efforts, policy makers can end discriminatory policies and practices that have fueled health inequities by legislating and promoting policies that support innovative and unconventional methods of delivering healthcare services, such as group antenatal models that speak to the unique needs of Indigenous peoples of Canada. Policy initiatives that contribute to the necessary resources for the development, implementation and sustainability of new and innovative models of healthcare delivery will help broaden the supply of available services as well as the capacity of healthcare professionals to provide these services. Providers of healthcare share an equally important responsibility to reduce if not eliminate disparities in healthcare through the design, adoption, delivery and monitoring of programs that acknowledge and address barriers to the provision of adequate healthcare to Canada's Indigenous peoples. Group based care models offer healthcare professionals with an opportunity to empower Indigenous women to reclaim their traditional roles in maternal and infant health and ensure the best possible health outcomes for maternal and infant well-being. This requires incorporating cultural considerations throughout all aspects of group antenatal care including: the adoption of appropriate language for purposes of communication; providing a safe and culturally appropriate environment during group sessions free of fear and distrust often attributed to racism and other forms of discrimination which discourage Indigenous women from seeking healthcare; and accommodating the special needs of those who have suffered intergenerational trauma.

Group Antenatal Care and Indigenous Women

1.0 Introduction

This policy brief reviews and assesses the efficacy of group antenatal care (GAC) as a possible model for the delivery of antenatal care to Indigenous women¹. This subject is of paramount importance for two central reasons. First, although Canadian women have relatively good access to antenatal care, there are considerable disparities regarding access to, and the quality of antenatal care provided to Indigenous and non-Indigenous women. On average, Indigenous women are much more likely to face barriers and experience poor antenatal care compared to non-Indigenous women in the course of their



pregnancies. As a result, Indigenous women have higher risks of adverse birth outcomes. Second, rising healthcare costs and demands on healthcare systems have policy makers and healthcare professionals looking to alternatives models of delivering antenatal care that not only minimize costs but also ensure access to adequate antenatal care for all segments of Canada's female population. GAC is quickly becoming the preferred choice for policy makers and health professionals as an alternative to traditional antenatal care.

¹ The term Indigenous is used interchangeably with Aboriginal throughout the brief. As defined by the Government of Canada, Aboriginal identity refers to whether a person identifies with the Aboriginal peoples of Canada. This includes those who are First Nations (North American Indian), Métis or Inuk (Inuit) and/or those who are Registered or Treaty Indians (that is, registered under the Indian Act of Canada), and/or those who have membership in a First Nation or Indian band. Aboriginal peoples of Canada are defined in the Constitution Act, 1982, Section 35 (2) as including the Indian, Inuit and Métis peoples of Canada (Statistics Canada, 2019). It is important to note that Indigenous peoples are a large and diverse population, a fact that is often underappreciated and neglected in policy discourse (Verstraeten, Mijovic-Kondejewski, Takeda et al., 2015: E25; Ontario Best Start Resource Centre, 2011). Individual Indigenous populations have unique languages, customs, cultures, and colonial experiences (Sheppard, Shapiro, Bushnik et al., 2017; Ontario Best Start Resource Centre, 2011; Verstraeten, Mijovic-Kondejewski, Takeda et al., 2015; Stout and Harp, 2009). Similarly, Indigenous women are not a homogenous group, with birth outcomes differing between the Indigenous populations. Hence, considerable caution is necessary when generalizing outcomes (Verstraeten, Mijovic-Kondejewski, Takeda et al., 2015: E25).

2.0 Antenatal Care

2.1 What is antenatal care?

Antenatal care² is an integral component of perinatal health care³ for women before birth and is considered a key preventive health service provided to pregnant women around the world (Catling, Medley, Foureur et al., 2015: 6; Renfrew, 2014). During pregnancy, a developing fetus and mother undergo significant physiological changes requiring a broad range of health monitoring activities and care necessary to nurture the fetus and prepare the mother for delivery (The Vanier Institute of the Family, 2017:5; Soma-Pillay, Nelson-Piercy, Tolppanen, et al., 2016: 89). Antenatal care monitors fetal and maternal health to identify, prevent and/or treat complications that may compromise the health and well-being of the developing fetus prior to birth and the mother's health at a critical period during pregnancy (Ontario Best Start Resource Centre, 2019; The Vanier Institute of the Family, 2017:5).

Figure 1: Elements of Perinatal Care



Traditional antenatal care involves regularly scheduled one-to-one visits with a healthcare provider, usually in a hospital or clinic (Ontario Best Start Resource Centre, 2019: 1; Catling, Medley, Foureur et al., 2015: 6). Routine monitoring during each antenatal care visit involves monitoring: a mother's weight, blood pressure and urine (for protein and sugar levels); and the baby's growth, position and heart rate (Ontario Best Start Resource Centre, 2019: 2).

Throughout the different phases of the pregnancy, fetal and maternal health is monitored using a combination of medical screening and diagnostic tests such as: ultrasounds; blood tests; urine tests; antenatal screening tests, including genetic screening; vaginal cultures or swabs; glucose screening; group B Streptococcus screening; and other diagnostic tests as required (Ontario Best Start Resource Centre, 2019: 2; The Vanier Institute of the Family, 2017: 5).

Antenatal visits are also an opportune time for expectant mothers to address any concerns about their pregnancy and access valuable information, resources and support services during each stage of their pregnancy (Ontario Best Start Resource Centre, 2019: 2; Public Health Agency of Canada, 2009: 51). Although there is limited research on women's information needs and sources of information during pregnancy (Public Health Agency of Canada, 2009: 51), and even less for pregnant Indigenous women (Ritcey, 2010), evidence suggests that providing expectant mothers with relevant and quality antenatal information

² Also referred to as prenatal care.

³ Perinatal care, also referred to as maternal and/or maternity care encompasses a continuum of health care provided to women before, during and after birth. In addition to antenatal care, it also includes intranatal care (i.e. the care a woman receives during labour and delivery) and postnatal care (i.e. the care a mother and infant receive following birth) (The Vanier Institute of the Family, 2017:5).

can improve pregnancy outcomes by empowering women to: detect possible issues that may arise during their pregnancy; build their confidence regarding labour and delivery, thus contributing to a positive birthing experience; prepare for breastfeeding should they decide to breastfeed; make informed decisions during the perinatal period; prepare themselves and their partners for parenting; and help foster greater communication between partners about pregnancy and parenting (Ontario Best Start Resource Centre, 2019: 2; The Vanier Institute of the Family, 2017:5; Ritcey, 2010; Public Health Agency of Canada, 2009: 51; Mackay and Yager-Smith, 1993).

2.2 Who provides antenatal care in Canada?



Image Credit: Joey Nash, 2019

The availability of antenatal care varies across Canada and is largely dependent on where an expectant mother lives and the health status of both the mother and baby (Ontario Best Start Resource Centre, 2019b; Guliani, 2015; Public Health Agency of Canada, 2009: 37). Availability is restricted even further by the shortage of perinatal care providers within Canada, particularly in rural and remote areas (Public Health Agency of Canada, 2009: 37). This is of particular concern to Indigenous women living in remote northern regions who are forced to evacuate and fly to distant locations for perinatal care, leaving behind their homes, families, land, languages and communities (The Vanier Institute of the Family, 2017: 9). For many expectant mothers, leaving to have their children creates unnecessary stress and has a negative impact on families at a time when

pregnancy and birth should be a positive experience (The Vanier Institute of the Family, 2017: 9). As described below, antenatal care can be delivered by a variety of health care providers, including family physicians, obstetricians/gynecologists, midwives, nurses, nurse practitioners and doulas (Ontario Best Start Resource Centre, 2019a, 2019b; The Vanier Institute of the Family, 2017: 7-8; Public Health Agency of Canada, 2009: 37; Canadian Institute for Health Information, 2006: 5).

2.2.1 Family Physicians

Family physicians have traditionally provided antenatal care for low-risk patients in an office or hospital setting; however, over the years, they have transferred a number of their responsibilities to other medical professionals such as obstetricians and/or midwives (The Vanier Institute of the Family, 2017: 7; Ontario Best Start Resource Centre, 2019a). This has been accompanied by a shift towards “shared care” involving a limited period of antenatal care (often between 24 and 32 weeks of gestation), after which the responsibility for care is

once again transferred to another healthcare provider such as an obstetrician and/or midwife (The Vanier Institute of the Family, 2017: 7).

2.2.2 Obstetricians and Gynecologists

In addition to their “shared care” duties, obstetricians and gynecologists with specialized knowledge and experience in pregnancy, childbirth and female sexual and reproductive health care, provide antenatal care to low and at-risk patients in an office or hospital setting (Ontario Best Start Resource Centre, 2019a) and also serve as consultants for high-risk pregnancies (The Vanier Institute of the Family, 2017: 7).

2.2.3 Midwives

The role of midwives in perinatal care in Canada has grown over the years (The Vanier Institute of the Family, 2017: 7). Increased training and specialization of midwives has garnered greater recognition of the valuable contribution of midwives to perinatal care and their integration into most provincial and territorial healthcare systems across Canada (The Vanier Institute of the Family, 2017: 7). Midwives commonly provide antenatal care to low-risk patients in the community, medical clinics, birthing centres or at home (Ontario Best Start Resource Centre, 2019a). In addition to providing basic services such as requisitioning and receiving tests, assisting women at home or in birthing centres, and admitting women for traditional hospital births; midwives also work in partnership with other healthcare professionals when appropriate (The Vanier Institute of the Family, 2017: 7).

Indigenous midwives have secured an even more prominent role in the care of pregnant women in Aboriginal communities (Ontario Best Start Resource Centre, 2019a; The Vanier Institute of the Family, 2017: 8; National Aboriginal Council of Midwives, 2019b). According to the National Aboriginal Council of Midwives (2019b, 2019c), the resurgence of Indigenous midwifery throughout Indigenous communities across Canada has led to Indigenous midwives reclaiming their position as the “cornerstone of every Indigenous community” by combining “traditional knowledge, medicine and practices with Western medical practices” in the provision of “essential, clinically excellent, culturally rooted, care...for Indigenous families and communities” (The Vanier Institute of the Family, 2017: 8). Their unique cultural knowledge, practices, and competencies enable Indigenous midwives to be much more attune to the needs of diverse communities such as Indigenous communities (National Aboriginal Council of Midwives, 2019c). This is reflected by their competency in the management of antenatal care involving: communicating and facilitating a women’s pregnancy options; managing early pregnancy loss; assessing the need for genetic testing and communicating results; conducting and interpreting routine antenatal diagnostic testing; supporting the healthy nutritional status of pregnant women; and educating pregnant women about techniques that contribute to a positive birthing experience during labour and delivery (National Aboriginal Council of Midwives, 2019a: 36-40).

2.2.4 Nurses

Nurses account for the largest group of perinatal care providers in Canada, particularly in rural and remote northern locations of Canada (The Vanier Institute of the Family, 2017: 7; Public Health Agency of Canada, 2009: 37) and typically provide antenatal care for low-risk clients in an office or hospital setting (Ontario Best Start Resource Centre, 2019a). Nurses

play a central role in: monitoring the health status of both mother and developing fetus during pregnancy; providing emotional support; and educating a pregnant woman and family members about the physiological as well as psychological changes during pregnancy, fetal development, labour and delivery, and care for newborns (The International Council of Nurses, 2017: 4). In some circumstances, nurses may provide additional care to manage common antenatal symptoms such as anemia, bleeding, infection, and vomiting that may lead to pregnancy complications (The International Council of Nurses, 2017: 4).

2.2.5 Nurse Practitioners

Nurse practitioners typically provide antenatal care for low-risk clients in an office and hospital settings (Ontario Best Start Resource Centre, 2019a; The Vanier Institute of the Family, 2017: 7) and perform a variety of tasks such as physical examinations, screening and diagnostic tests. Their training and expertise enables them to work alongside other healthcare professionals such as physicians and midwives; and play a central role in the provision of care in rural and remote communities (The Vanier Institute of the Family, 2017: 7).

2.2.6 Doulas

Doulas provide emotional, practical and informational support and care to mothers before, during and after labour delivery (The Vanier Institute of the Family, 2017: 8; Canadian Women's Health Network, 2012). Doulas do not provide medical or surgical, direct health care or deliver babies (The Vanier Institute of the Family, 2017: 8; Canadian Women's Health Network, 2012). Antepartum doulas focus their efforts on providing emotional, physical and informational support to expectant mothers during the antenatal period by educating women and their family members about available support services during pregnancy, training them in techniques that will help expectant mothers performing day-to-day tasks during pregnancy and provide any assistance with errands and needs (The Vanier Institute of the Family, 2017: 8; Canadian Women's Health Network, 2012). Although there is very little scientific research examining the impact of doula services on maternal and infant outcomes, the growing demand for doula services is being fueled by: anecdotal evidence; a growing shortage of medical professionals; decreasing healthcare funding by provincial governments; increasing demands and time constraints on nurses for care; and the funding of doula services by select private insurers (Glauser, Konkin and Dhalla, 2015).

2.3 When is the best time to begin antenatal care?

In order for antenatal care to be effective, it is necessary that expectant mothers begin receiving care early in their pregnancy, typically in the first trimester, and continue care at regular intervals throughout the course of their pregnancy (Public Health Agency of Canada, 2009: 42; U.S. Department of Health and Human Services, 2010). For low-risk expectant mothers, the Society of Obstetricians and Gynecologists of Canada (1998) recommend

antenatal “visits with a healthcare provider every four to six weeks in early pregnancy, every two to three weeks after 30 weeks’ gestation, and every one to two weeks after 36 weeks’ gestation” (Public Health Agency of Canada, 2009: 42). Limited data regarding the utilization of antenatal care by Canadian women suggests that overall, Canadian women have relatively good access to antenatal care, with approximately 95 percent of women initiating care in the first trimester of their pregnancy (Public Health Agency of Canada, 2009: 46). On average, expectant mothers attend 13 antenatal care visits during their pregnancy (Public Health Agency of Canada, 2009: 46) with only one percent having four or less antenatal care visits (Public Health Agency of Canada, 2009: 46). Although encouraging, these statistics fail to highlight the fact that there are considerable disparities in access to and use of antenatal care between Indigenous and non-Indigenous women. A comprehensive study by Heaman, Gupton and Moffatt (2005) examining the prevalence and predictors of poor antenatal care among Aboriginal and non-Aboriginal women giving birth in Manitoba found key disparities regarding the frequency and initiation of antenatal care between Aboriginal and non-Aboriginal women:



Image Credit: Tamara Phillips, 2019

- Aboriginal women...had significantly fewer overall visits for prenatal care (9.1) than did non-Aboriginal women (10.1);
- [Aboriginal women] had their first visit for prenatal care at a significantly higher gestational age (11.0 weeks) than non-Aboriginal women (9.4 weeks); and
- a greater proportion of Aboriginal women (23.0%) than non-Aboriginal women (12.5%) had their first prenatal care visit after the first trimester of pregnancy (Heaman, Gupton and Moffatt, 2005: 239).

The need for antenatal care is even more important for high-risk women—women with pre-existing health conditions, pregnancy complications and/or who have experienced issues with previous pregnancies—who require additional medical attention or guidance of their healthcare provider (Ontario Best Start Resource Centre, 2019b; British Columbia Perinatal Health Program, 2010: 4). Indigenous women tend to have rates of risk factors that not only necessitate regular antenatal care, but also additional care that non-Indigenous women may not require (Gracie and King, 2009). Table 1 summarizes the conditions and/or circumstances that necessitate additional medical care for high-risk expectant mothers.

Table 1: Conditions which may necessitate additional medical care or services

Conditions in the Current Pregnancy	Experiences in Previous Pregnancies
<ul style="list-style-type: none"> • Cardiac disease (including hypertension) • Renal disease • Endocrine disorders or pre-existing diabetes • Psychiatric disorders • Hematological disorders • Pharmacological therapy (anti-depressants, anticonvulsants etc.) • History of infertility or assisted reproductive technology • Multiple pregnancies • Pre-eclampsia • Gestational diabetes requiring insulin • Substance abuse (tobacco, alcohol, drugs) • Obesity • Underweight • Vulnerable women (e.g. adolescents, women living in poverty or women with language barriers) who lack social support • Women exposed to Intimate Partner Violence • Malignant disease • Chronic infections • Chronic medical/surgical disorders • Advanced maternal age • Other conditions determined by the care provider 	<ul style="list-style-type: none"> • Recurrent miscarriage • Preterm birth • Pre-eclampsia, HELLP Syndrome or eclampsia • Rhesus Isoimmunisation or other significant blood group antibodies • Gestational diabetes requiring insulin • Puerperal psychosis • Multiple births (given birth more than six times) • Still birth or neonatal death • Small for gestational age infant • Baby with congenital abnormality • Uterine surgery • Antenatal or postpartum hemorrhage • Other conditions determined by the care provider

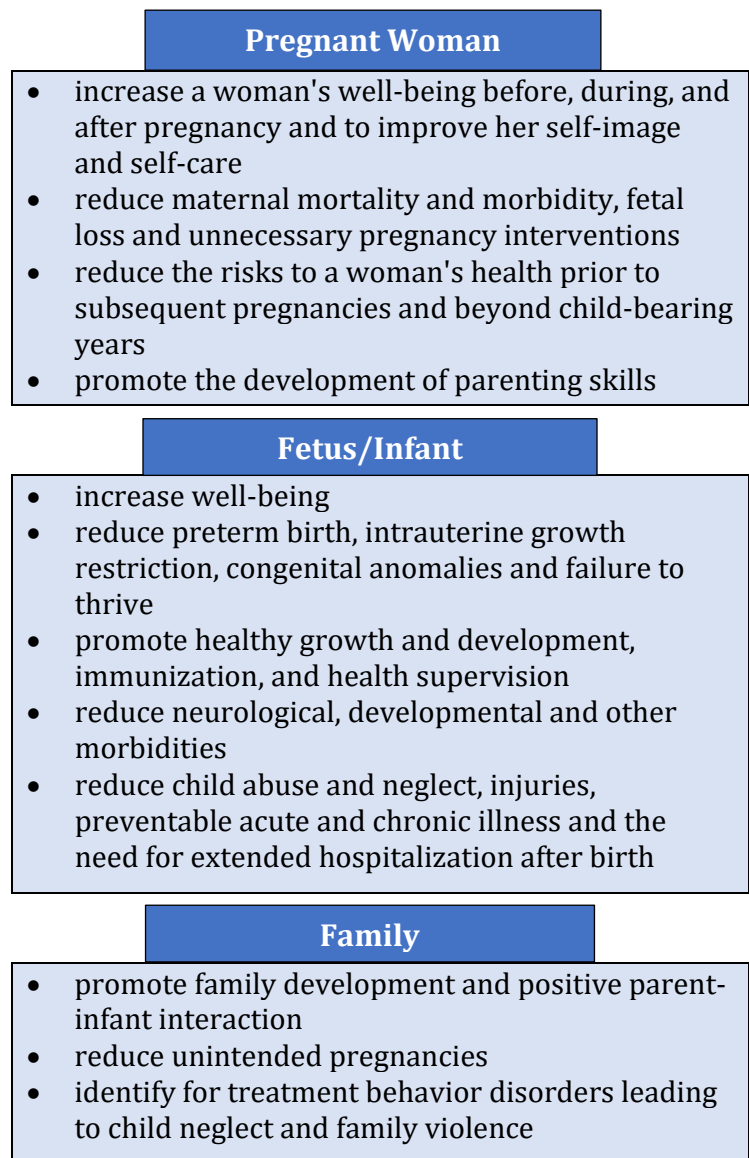
Source: British Columbia Perinatal Health Program. (2010). BCPHP Obstetric Guideline19: Maternity Care Pathway. Vancouver, British Columbia: British Columbia Perinatal Health Program. Retrieved from <http://www.perinatalervicesbc.ca/NR/rdonlyres/4C4892B0-BF43-496A-B113-5A50471B9C4B/0/OBGuidelinesMaternityCarePath19.pdf> Page 4.

In comparison to the general population, Canada’s Indigenous populations—both on and off reserves—typically have higher rates of risk factors such as poverty, chronic disease, disability, suicide, Fetal Alcohol Spectrum Disorder, homelessness, and family violence (Ontario Best Start Resource Centre, 2019a, 2011). Past historical events and government policies continue to affect all aspects of Indigenous peoples’ health including their “choices and consequences around reproductive health and parenting” (Ontario Best Start Resource Centre, 2019a). As a result, Indigenous women are considered to have an above average risk for pregnancy complications such as preterm labour, low-birth-weight babies and increased neonatal and infant mortality (Ontario Best Start Resource Centre, 2019a; Society of Obstetricians and Gynecologists of Canada, 2013).

2.4 Why is antenatal care important?

The implications of disparities in antenatal care cannot be fully understood until the importance of antenatal care is fully recognized. As illustrated by Figure 2, antenatal care is designed to improve the health outcomes of the pregnant woman, her fetus/infant and family (Public Health Agency of Canada, 2009: 42; Alexander and Kotelchuck, 2001; Fiscella, 1995). Three components lie at the heart of antenatal care: risk assessment; treatment for medical conditions or risk reduction; and education (Public Health Agency of Canada, 2009: 42; Carroli, Rooney and Villar, 2001; U.S. Department of Health and Human Services, 2010). Research suggests that “[b]y identifying and mitigating potential risks and helping women to address behavioural factors, such as tobacco and alcohol use, antenatal care is effective in detecting, treating and preventing conditions that can result

Figure 2: Objectives of Antenatal Care



Source: Garetto, D. & Bernstein, P.S. (2014). “Centering Pregnancy: An Innovative Approach to Prenatal Care Delivery.” *American Journal of Obstetrics and Gynecology*, 210 (1): 15.

in poor maternal or infant health outcomes” (Public Health Agency of Canada, 2009: 42). Furthermore, antenatal care “has the potential to reduce the incidence of perinatal illness, disability, and death by identifying and mitigating potential risks, treating medical conditions, and helping women to address behavioural factors that contribute to poor outcomes. (Heaman, Gupton and Moffatt, 2005: 237-238; U.S. Department of Health and Human Services, 2010). Studies have shown positive associations between inadequate antenatal care and several adverse pregnancy outcomes such as: preterm birth (Barros, Tavares, Rodrigues, 1996; Gomez-Olmedo, Delgado-Rodriguez, Bueno-Cavanillas et al., 1996; Blondel, Dutilh, Delour et al., 1993; Krueger and Scholl, 2000; Heaman, Gupton, Moffatt et al., 2005; Vintzileos, Ananth, Smulian et al., 2002); low birth weight (Amini, Catalano and Mann, 1996; Katz, Armstrong and Lo Gerfo, 1994; Petrou, Kupek, Vause et al., 2003; Heaman, Gupton and Moffatt, 2005: 237-238) and fetal, neonatal, and post neonatal deaths (Heaman, Gupton and Moffatt, 2005: 237-238; Vintzileos, A.M., Ananth, C.V., Smulian, J.C. et al: 2002a, 2002b, 2002c).

3.0 Antenatal Care for Indigenous Women



Image Credit: Simone McLeod, 2018

Antenatal care is recognized as “one of the most widely used preventive health services in North America” providing innumerable benefits to mother, child and families (Wall-Wieler, Kenny, Lee et al., 2019: E209). However, despite its importance, access to and the provision of adequate antenatal care are not distributed equally across different segments of Canada’s population (Wall-Wieler, Kenny, Lee et al., 2019; Heaman, Gupton and Moffatt, 2005). As discussed earlier, Canadian women have relatively good access to antenatal care, with approximately 95 percent of women initiating care in the first trimester of their pregnancy (Public Health Agency of Canada, 2009: 46). However, as shown by

Heaman, Gupton and Moffatt (2005), there are considerable disparities regarding the frequency and initiation of antenatal care between Aboriginal and non-Aboriginal women. On average, Aboriginal women have significantly fewer visits for antenatal care and begin antenatal care later in their pregnancy compared to non-Aboriginal women (Heaman, Gupton and Moffatt, 2005: 239). The study also found that Aboriginal women were much more likely to experience poor antenatal care; an estimated 15.7% of Aboriginal women compared with 3.6% of non-Aboriginal women in Manitoba received inadequate antenatal care. “After controlling for other factors, significant predictors of inadequate [antenatal] care included low income, low self-esteem, high levels of perceived stress, and Aboriginal background” (Heaman, Gupton and Moffatt, 2005: 237).

3.1 Indigenous birth outcomes

The consequences of disparities in access to, use of, and the quality of antenatal care between Indigenous and non-Indigenous women are reflected by consistently unfavorable birth outcomes among Indigenous women (Wall-Wieler, Kenny, Lee et al., 2019; Smylie and Phillips-Beck, 2019; Sheppard, Shapiro, Bushnik et al., 2017; Verstraeten et al., 2015; Smylie, 2011; Smylie, Fell, Ohlsson, A. et al., 2010). In one of the few studies comparing birth outcomes of Indigenous and non-Indigenous mothers, Sheppard et al. (2017)⁴ found that adverse birth outcomes occurred more frequently among Indigenous woman than non-Indigenous women. As shown by Figure 3.0, with the exception of small-for-gestational-age (SGA) birth, Indigenous women experienced higher rates of post-neonatal death, neonatal death, infant death, still birth, large-for-gestational-age (LGA) birth and preterm birth compared to non-Indigenous women (Sheppard, Shapiro, Bushnik et al., 2017).



Image Credit: Government of Canada, 2011

3.1.1 Infant Mortality (Post-Neonatal Death, Neonatal Death, Infant Death, Still Birth)

Infant mortality⁵ is considered to be “the single most comprehensive indicator of the level of health in society, providing an important measure of the well-being of infants, children and their families” (Smylie, Fell, Ohlsson et al., 2010: 143). It is widely recognized that Indigenous populations throughout the world experience higher than average rates of adverse birth outcomes and infant mortality (He, Xiao, Torrie, 2017; Sheppard, Shapiro, Bushnik et al., 2017; Verstraeten, Mijovic-Kondejewski, Takeda et al., 2015: E25; Government of Canada, 2006: 24). In Canada, Indigenous women experience higher rates of infant mortality, including post-neonatal death⁶, neonatal death⁷, infant death and still birth⁸ compared to non-Indigenous women (Sheppard et al., 2017). Indigenous infant mortality rates can be attributed to higher than average rates of congenital anomalies, Sudden Infant Death Syndrome, immaturity-related conditions, infections, unexplained and/or other causes of death, and comparable asphyxia-related conditions associated with the broader population (Sheppard et al., 2017). Figure 4.0 compares the rates of infant mortality between Indigenous and non-Indigenous groups according to the specific cause of mortality.

⁴ Sheppard, Shapiro, Bushnik et al. (2017) described and compared birth outcomes in a nationally representative sample of First Nations, Inuit, Métis, and non-Indigenous births. Designed as a cohort study, the authors examined the birth outcomes of 17,547 births to Indigenous mothers and 112,112 births to non-Indigenous mothers from 2004 through 2006. The population sample was created by “linking the Canadian Live Birth, Infant Death and Stillbirth Database to results from the 2006 Census, the latest census available with a long-form questionnaire” (Sheppard, Shapiro, Bushnik et al., 2017:11).

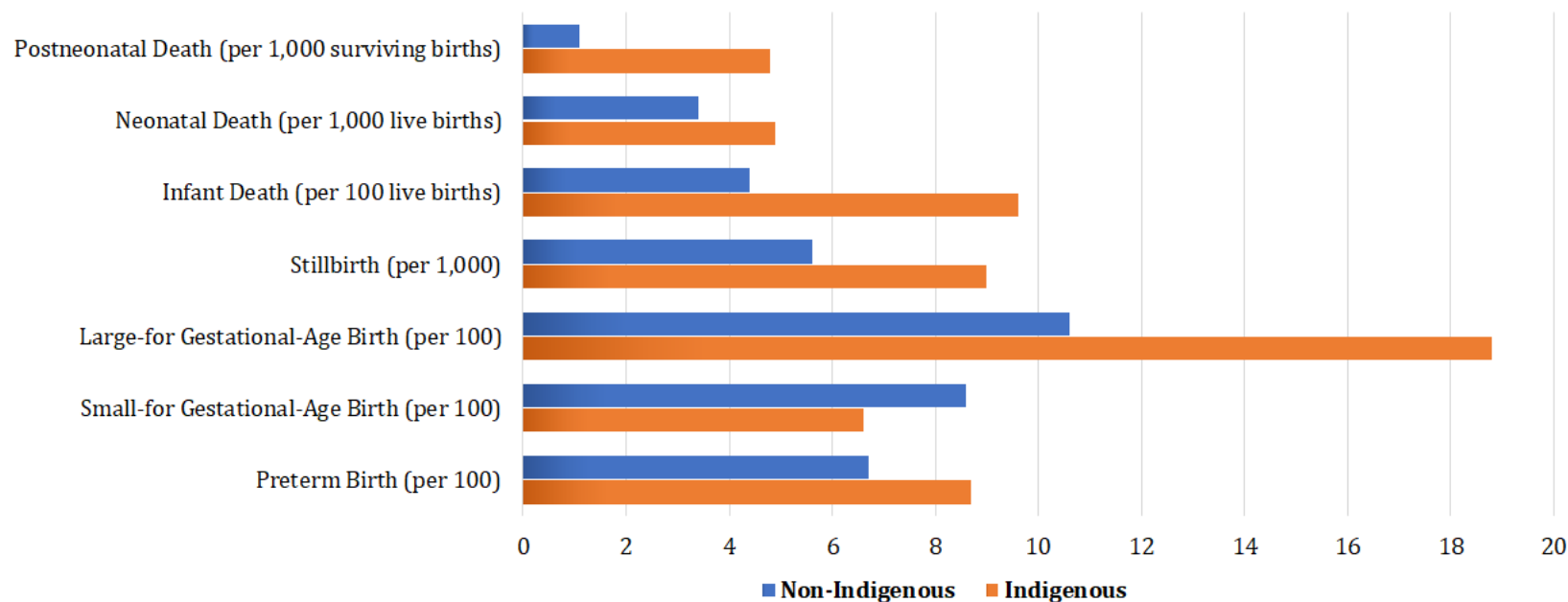
⁵ Defined as “the death of a baby in the first year of life” (Smylie, 2010: 2).

⁶ Defined as “the death of a baby between the ages of one month and one year. Post-neonatal death is more likely to be associated with social and environmental factors” (Smylie, 2010: 2).

⁷ Defined as “the death of a baby in the first month of life. Neonatal death is often associated with lack of obstetric and neonatal care.” (Smylie, 2010: 2).

⁸ Defined as “the death of a fetus after 20th week of pregnancy or when it weighs more than 500 grams. Still birth is usually associated with the mother’s health and lack of maternity care” (Smylie, 2010: 2).

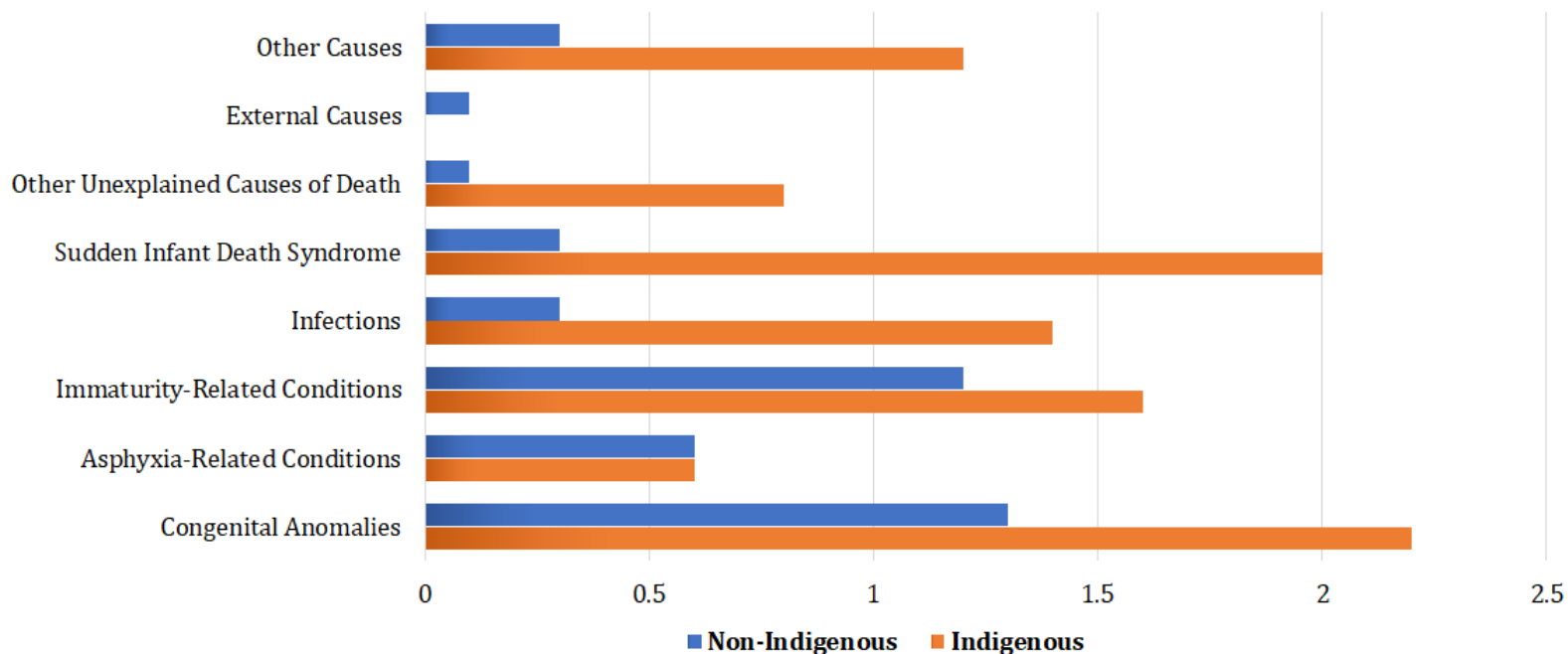
Figure 3: Rate of adverse birth outcomes among Indigenous and non-Indigenous populations, singleton births, Canada (2004-2006)



	Preterm Birth (per 100)	Small-for Gestational-Age Birth (per 100)	Large-for Gestational-Age Birth (per 100)	Stillbirth (per 1,000)	Infant Death (per 100 live births)	Neonatal Death (per 1,000 live births)	Postneonatal Death (per 1,000 surviving births)
Non-Indigenous	6.7	8.6	10.6	5.6	4.4	3.4	1.1
Indigenous	8.7	6.6	18.8	9	9.6	4.9	4.8

Source: Sheppard, Amanda J., Shapiro, Gabriel D., Bushnik, Tracey, et al. (2017). "Birth Outcomes among First Nations, Inuit and Métis Populations. Research Article." *Health Reports*, (November) 28 (11): 11-16. Catalogue no. 82-003-X. Retrieved from < <https://www150.statcan.gc.ca/n1/pub/82-003-x/2017011/article/54886-eng.htm>

Figure 4: Cause-specific infant mortality rates per 1,000 live births, coded according to modified international collaborative effort grouping, by Indigenous identity, singleton births, Canada (2004-2006)



	Congenital Anomalies	Asphyxia-Related Conditions	Immaturity-Related Conditions	Infections	Sudden Infant Death Syndrome	Other Unexplained Causes of Death	External Causes	Other Causes
Non-Indigenous	1.3	0.6	1.2	0.3	0.3	0.1	0.1	0.3
Indigenous	2.2	0.6	1.6	1.4	2.0	0.8	0.0	1.2

Source: Sheppard, Amanda J., Shapiro, Gabriel D., Bushnik, Tracey, et al. (2017). "Birth Outcomes among First Nations, Inuit and Métis Populations. Research Article." *Health Reports*, (November) 28 (11): 11-16. Catalogue no. 82-003-X. Retrieved from <
<https://www150.statcan.gc.ca/n1/pub/82-003-x/2017011/article/54886-eng.htm>

Research suggests that “much of the increased risk for these problems amongst Indigenous peoples may be due to higher rates of obesity, smoking and diabetes, which are risk factors for congenital anomalies, birth defects and maternal and perinatal complications” (Verstraeten, Mijovic-Kondejewski, Takeda et al., 2015: E26).

3.1.2 Large-For-Gestational-Age Birth

Babies are considered LGA at birth if they “weigh more than expected for their gestational age (weeks of pregnancy) at birth” (Stanford Children’s Health, 2019). The most common cause of LGA for newborns at birth is diabetes in the mother (Stanford Children’s Health, 2019). Other risk factors include: having parents who are obese; excessive weight gain during pregnancy; genetic abnormalities; and having previous LGA babies (Stanford Children’s Health, 2019; Stavis, 2019). Complications that may arise from LGA at birth include: birth injuries; difficult deliveries; low Apgar score; perinatal asphyxia; meconium spiration; low blood sugar levels; lung problems; birth defects and excess red blood cells (polycythemia) (Stavis, 2019). Diagnosis of LGA is done during pregnancy involving regular routine measurements of the baby’s growth, which are critical components of antenatal care (Stanford Children’s Health, 2019). Routine antenatal visits are effective in charting a baby’s growth pattern and identifying possible undetected issues that may hinder the health of the fetus and mother (Stanford Children’s Health, 2019).

3.1.3 Small-For-Gestational-Age Birth

Although rates of SGA at birth—defined as a “baby who is smaller than the usual amount for the number of weeks of pregnancy (Children’s Hospital of Philadelphia, 2019)—for Indigenous women (6.6 per 100 births) are lower than those of non-Indigenous women (8.6 per 100 births), rates for Indigenous infants are significant enough to warrant attention. Common characteristics of babies that are SGA at birth include the following:

- birthweights below the 10th percentile for babies of the same gestational age;
- the appearance of being physically and neurologically mature but smaller than other babies of the same gestational age;
- proportionately small (equally small all over) or they may be of normal length and size but have lower weight and body mass; and
- born premature (born before 37 weeks of pregnancy), full term (37 to 41 weeks), or post term (after 42 weeks of pregnancy) (Children’s Hospital of Philadelphia, 2019).

Genetics can be a contributing factor to SGA at birth; however, the majority of SGA cases are attributed to fetal growth problems⁹ during pregnancy (Children’s Hospital of Philadelphia, 2019). SGA at birth is a concern because it inhibits a baby’s overall growth and the growth of tissue and organs (Children’s Hospital of Philadelphia, 2019). Other problems a baby may

⁹ These problems are closely associated with: “*maternal factors* such as high blood pressure, chronic kidney disease, advanced diabetes, heart or respiratory disease, malnutrition, anemia, infection, substance use (alcohol, drugs), cigarette smoking; *factors involving the uterus and placenta*, including decreased blood flow in the uterus and placenta, placental abruption (placenta detaches from the uterus), placenta previa (placenta attaches low in the uterus), infection in the tissues around the fetus; and *factors related to the developing baby (fetus)* such as multiple gestation (for example, twins or triplets), infection, birth defects, chromosomal abnormality” (Children’s Hospital of Philadelphia, 2019).

experience include: decreased oxygen levels, low Apgar scores, meconium aspiration which can lead to difficulty breathing, hypoglycemia, difficulty maintaining normal body temperature and polycythemia (Children’s Hospital of Philadelphia, 2019). SGA like LGA at birth is typically diagnosed during pregnancy requiring regular antenatal care (Children’s Hospital of Philadelphia, 2019). Antenatal advice on the significance of eating healthy, smoking cessation and avoiding substances such as alcohol and drugs during pregnancy can aid in the prevention of SGA (Stavis, 2019).¹⁰

3.1.4 Preterm Birth

Preterm birth—defined as “a birth that occurs before the 37th week of pregnancy” (Smylie, 2010: 2)—accounts for approximately two thirds of infant deaths in Canada and is also closely associated with increased morbidity throughout the course of an individual’s life and the onset of chronic disease during adulthood (Canadian Institutes of Health Research, 2019). Research (Heaman, Blanchard, Gupton et al., 2005) indicates that Indigenous women experience higher rates of preterm births (8.7 per 100 births) compared to non-Indigenous women (6.7 per 100 births). The disparity can be attributed to poorer health of Indigenous women (Heaman, Blanchard, Gupton et al., 2005: 181-182). An existing body of evidence supports the association between a number of modifiable risk factors and preterm birth (Heaman, Blanchard, Gupton et al., 2005: 181-182). These include: smoking (Shah and Bracken, 2000; Kyrklund-Blomber and Cnattingius, 1998); low rate of weight gain during pregnancy (Schieve, Cogswell, Scanlon *et al.*, 2000; Carmichael and Abrams, 1998); anemia (Luke, 1998; Siega-Riz, Adair and Hobel, 1998), urogenital infections (Goldenberg, Andrew, Yuan et al., 1997; Fiscella, 1996); strenuous work (Mozurkewich, Luke, Avni et al., 2000; Berkowitz and Papiernik, 1995); domestic violence (Covington, Justason, Wright et al., 2001; Fernandez and Krueger, 1999); stress (Austin and Leader, 2000; Dunkel-Schetter, 1998; Copper, Goldenberg, Das et al., 1996); and inadequate antenatal care (Krueger and Scholl, 2000). Heaman, Blanchard, Gupton et al. (2005: 188) and Krueger and Scholl (2000) found that inadequate antenatal care more than doubled the adjusted risk of preterm birth. However, there is less certainty whether increasing a woman’s access to and use of antenatal care will lower the risks of preterm birth (Heaman, Blanchard, Gupton et al., 2005: 188; Goldenberg, 1998; Ray, Mitchel and Piper, 1997; Gomez-Olmedo, Delgado-Rodriguez, Bueno-Cavanillas et al., 1996; Papiernik, Bouyer, Dreyfus et. al, 1985).

3.2 Barriers to antenatal care for Indigenous women

Barriers to adequate antenatal care for Indigenous women include: social determinants of health; racism and/or discrimination; cultural barriers; and the legacy of colonialism and associated government policies and practices.

3.2.1 Social Determinants of Health

Determinants of overall health, also referred to as the social determinants of health (SDH), include: the social and economic environment; the physical environment; and the person’s

¹⁰ A study by Krueger and Scholl (2000) examining whether a relationship exists between adequacy of antenatal care and preterm delivery, low-birth-weight, and small-for-gestational-age infants found little effect of antenatal care on incidences of infants diagnosed with SGA.

individual characteristics and behaviours (World Health Organization, 2019). SDH are thought to “influence a wide range of health vulnerabilities, health behaviors and management” (Appiah-Kubi, 2015: 1) of individuals and populations. Table 2 identifies select SDH and their effects on health.

Table 2: Commonly identified social determinants of health

Social Determinant of Health	Effect of Determinant
Income and social status	Higher income and social status are linked to better health. The greater the gap between the richest and poorest people, the greater the differences in health.
Physical environment	Safe water and clean air, healthy workplaces, safe houses, communities and roads all contribute to good health.
Social support networks	Greater support from families, friends and communities is linked to better health.
Genetics	Inheritance plays a part in determining lifespan, healthiness and the likelihood of developing certain illnesses.
Health services	Access and use of services that prevent and treat disease influences health.
Employment and working conditions	People in employment are healthier, particularly those who have more control over their working conditions.
Culture	Customs and traditions, and the beliefs of the family and community all affect health.
Personal behaviour and coping skills	Balanced eating, keeping active, smoking, drinking, and how we deal with life’s stresses and challenges all affect health.
Gender	Men and women suffer from different types of diseases at different ages.

Source: World Health Organization. (2019). *The Determinants of Health*. Geneva, Switzerland. World Health Organization. Retrieved from <<https://www.who.int/hia/evidence/doh/en/>>

In Canada, the most widely recognized SDH are: Aboriginal status; disability; early life; education; employment and working conditions; food insecurity; health services; gender and gender identity; housing; income and income distribution; race; sexual orientation; social exclusion; social safety net; unemployment; and job security (Public Health Association, n.d). When examining health disparities in Indigenous populations, it is important to take into consideration Indigenous-specific social determinants that do not apply to non-Indigenous populations (Appiah-Kubi, 2015: 2). This includes: participation in traditional activities; balance; life control; self-determination; environmental education; material resources; social resources; and environmental considerations (Appiah-Kubi, 2015: 2; Loppie-Reading and Wien, 2009).

Individuals and/or populations that experience inequalities in the SDH must not only deal with the burden of health issues, but they often have restricted access to resources and services that may improve their situation (Appiah-Kubi, 2015: 1). Take for example the

variable of income and income distribution, sometimes labelled as socio-economic status (SES). Considered to have a considerable impact on health outcomes, low SES is a significant barrier to improved health outcomes for Indigenous populations (Appiah-Kubi, 2015: 1). Low SES, argued to be the product of colonization as well as systematic racism and discrimination, has contributed to higher rates of unemployment, limited economic opportunities, inadequate housing and lower levels of educational attainment among Indigenous populations compared to non-Indigenous populations (Appiah-Kubi, 2015: 1). Incomes of Indigenous men and women are on average lower than those of their non-Indigenous counterparts (Mikkonen and Raphael, 2010: 13). The resulting poverty, a common characteristic of low SES, impedes access to material resources such as nutrient rich foods which in turn contributes to higher rates of disease such as obesity and diabetes (Appiah-Kubi, 2015: 1). A second example involves the physical environment, recognized by the WHO as a central determinant of health. For many Indigenous peoples, access to adequate healthcare is limited by their geography, as many Indigenous communities are often located in rural, remote and seasonally isolated areas (United Nations Inter-Agency Support Group on Indigenous Issues, 2014: 9). Finally, self-determination, considered to be an Indigenous-specific SDH, is identified as “the most important determinant of health among Aboriginal peoples” yielding tremendous influence over all SDH, including education, housing, safety and health opportunities (Loppie-Reading and Wien, 2009: 23; Boyer, 2006; Madden, Graham and Wilson (2005). Early research suggests a possible link between self-determination and health outcomes at both the community and individual level (Loppie-Reading and Wien, 2009: 24).

3.2.2 Racism/Discrimination

Racism can manifest itself in many forms (Mikkonen and Raphael, 2010: 47). Individual racism refers to “an individual's racist assumptions, beliefs or behaviours” (Alberta Civil Liberties Research Center, n.d.) and is “a form of racial discrimination that stems from conscious and unconscious, personal prejudice” (Henry and Tator, 2006: 329; Alberta Civil Liberties Research Center, n.d). Individual Racism is considered to be a reflection of broader socio-economic histories and processes and is both supported and reinforced by systematic racism (Alberta Civil Liberties Research Center, n.d.) In contrast, “systemic racism includes the policies and practices entrenched in established institutions, which result in the exclusion or promotion of designated groups. It differs from overt discrimination in that no individual intent is necessary” (Alberta Civil Liberties Research Center, n.d.). Systemic racism can take on many forms such as institutional and structural racism:

- **Institutional racism** refers to racial discrimination that derives from individuals carrying out the dictates of others who are prejudiced or of a prejudiced society; and
- **Structural racism** refers to inequalities rooted in the system-wide operation of a society that excludes substantial numbers of members of particular groups from significant participation in major social institutions. (Alberta Civil Liberties Research Center, n.d.; Henry and Tator, 2006: 352)

The widespread reach of racism and other forms of discrimination act as barriers to health care for many Indigenous peoples, even in circumstances when access to health care is

possible (Abma, 2018). According to Dr. Karline Wilson-Mitchell, Director of midwifery at Canada's Ryerson University, "health equity is a significant problem in Canada, and it is largely attributed to unequal access to care, structure racism and systemic discrimination" (Abma, 2018). Racism and discrimination in the healthcare system help to fuel distrust with healthcare providers and typically have unfavorable impacts on health outcomes (Abma, 2018). Research indicates that Indigenous peoples are often confronted with racism and other forms of discrimination by non-Indigenous health care providers resulting in many clients forgoing healthcare out of fear and or distrust of the healthcare providers tasked with providing them with the necessary health services (United Nations Inter-Agency Support Group on Indigenous Issues, 2014: 9; Abma, 2018). Groups subject to racial and other forms of discrimination are also much more likely to experience negative health outcomes because of the stress associated with living in an environment where they must confront and deal with racism on a daily basis (Loppie-Reading and Wien, 2009: 23).

3.2.3 Cultural Barriers

According to the United Nations Inter-Agency Support Group on Indigenous Issues (2014: 9), "of all the barriers faced by Indigenous peoples, it is perhaps the cultural barriers that present the most complicated challenge because there is little understanding of the social and cultural factors deriving from the knowledge, attitudes, and practices in health of the Indigenous peoples." In many cases, the emphasis or bias towards Westernized medicine and practices can be considered highly insensitive or inappropriate for Indigenous practitioners of traditional medicine, leading to poor communication between healthcare providers and clients and inadequate care (United Nations Inter-Agency Support Group on Indigenous Issues, 2014: 9; Li, 2017; Coast, Jones, Lattof et al., 2016; Reibel and Walker, 2010; Heaman, Blanchard, Gupton et al, 2005: 188). Stout (1996) contends that the insensitivity to Aboriginal cultural values in the provision of health care is a contributing factor to Indigenous women's reluctance to seek medical attention and diagnoses for antenatal complications (Heaman, M. I., Blanchard, J. F., Gupton, A. L., Moffatt, M. E. and Currie, R. F., 2005: 188).

3.2.4 Legacy of Past Government Policies and Practices

In addition to SDH, racism and cultural considerations, the legacy of colonialization and associated government policies and practices have resulted in intergenerational trauma that has and continues to affect the physical and mental health of Indigenous peoples (Sheppard, Shapiro, Bushnik et al., 2017: 11). The findings of the Truth and Reconciliation Commission of Canada (2015a, 2015b, 2015c) illustrate how destructive Canada's colonial history and policies have been to generations of Indigenous peoples (Lindstrom and Choate, 2016: 47). The Indian Act, Canada's Indian Residential Schools, forced sterilization, the Sixties Scoop, the millennium scoop and colonization have victimized generations of Inuit, Métis and First Nations children, as well as the lives of their descendants (Riggs, 2012: 60). Pain, rage and grief of unresolved trauma from these tragic events have left many Aboriginal adults unable to deal with the complex demands of parenting and family life, without the necessary experience or adequate preparation for its demands (Riggs, 2012: 60; Lindstrom and Chote, 2016: 47).

Research (Verstraeten, Mijovic-Kondejewski, Takeda et al., 2015: E25) indicates that populations that experience greater marginalization typically have worse perinatal health

outcomes than the general population. In their examination of Canada's perinatal, infant and maternal mortality rates, Verstraeten, Mijovic-Kondejewski, Takeda et al. (2015: E25) found that many of the adjustable medical and obstetric risk factors for adverse pregnancy outcomes and infant mortality such as low socioeconomic status, lower education level, high levels of perceived stress, high pre-pregnancy BMI and lifestyle factors including smoking are found among marginalized women. A strong association was also found between adverse child experiences and pre-term births in the general population and in non-humans (i.e. rats), and transgenerational stress was found to be a significant contributor to negative perinatal outcomes. According to the authors, their research suggests that “abuse, depression and stress over generations may be associated with poor perinatal outcomes and....that historical child abuse, such as that derived from the abuse of residential schools, has a residual and multigenerational effect upon modifiable health behaviours and directly or indirectly upon perinatal outcomes.” (Verstraeten, Mijovic-Kondejewski, Takeda et al., 2015: E25).

4.0 Understanding Group Antenatal Care

Although individual antenatal care continues to be the predominant model of care in many countries (Catling, Medley, Foureur et al., 2015: 6), the emergence of new models of care are challenging traditional models of delivering care to pregnant women. Midwife led continuity of care is considered to be one of the most successful care models in recent years (Catling, Medley, Foureur et al. , 2015: 6). The model’s success is attributed to evidence showing significant maternal and infant benefits (Catling, Medley, Foureur et al. , 2015: 6), the absence of negative birth outcomes (Catling, Medley, Foureur et al. , 2015: 6; Sandall, 2013) and cost savings for health systems (Catling, Medley, Foureur et al. , 2015: 6; Devane, 2010; Tracy 2013). As discussed earlier in the policy brief, the popularity of midwifery as a viable method of antenatal care has grown considerably among the general population and has reclaimed its role in the care of pregnant women in Indigenous communities. Midwives provide a range of services to their clients, including: prenatal care based on the principle of “informed choice” which equips clients with the necessary knowledge to make better decisions for themselves and families; emotional support; “continuity of care” which ensures that the same individuals caring for the mother during her pregnancy will continue to care for her and her infant after birth; advocate for birth free interventions (e.g. epidurals); care that is designed to meet the needs of clients with diverse religious and cultural backgrounds; empower women to be strong and confident and to raise their children to become the same; fill the void left by a lack of medical professionals by providing basic health services such as requisitioning medical tests, screening and counseling for certain diseases; and reduce incidences of women having to be “evacuated” from the homes to larger urban centers for birth (Canadian Women’s Health Network, 2003).

However, despite the purported benefits of midwifery, adoption and implementation has been both limited and challenging in Canada and throughout the world (Catling, Medley, Foureur et al., 2015: 6). In Canada, a few of the most common barriers to universal midwifery care include: legislative restrictions; inadequate government funding; lack of

midwives; and inadequate training opportunities (Canadian Women’s Health Network, 2003).

GAC is quickly gaining popularity as an innovative and effective method of delivering antenatal care to pregnant women, and an alternative to traditional individual and midwifery models.

4.1 What is group antenatal care?

Developed by Sharon Schindler Rising (1998), CenteringPregnancy© represents the foundation upon which GAC models are built.¹¹ Using her experience in midwifery practice, Rising recognized that clients needed greater antenatal education and comprehensive culturally appropriate care (Rising, 1998: 48). Designed to fill this void and as an alternative to the traditional individual care model (Rising, Kennedy and Klima, 2004; Rising, 1998), CenteringPregnancy© is focused on the delivery of antenatal care in a group environment rather than a one-to-one approach. Care is provided to small groups of women, typically between eight to 12 women per group with similar gestational age (Catling, Medley, Foureur et al., 2015: 6; Rising, Kennedy and Klima, 2004; Rising, 1998). On average, there are between eight and 10 group sessions running between 90 to 120 minutes alongside regularly scheduled antenatal care visits. Midwives, obstetricians or other perinatal professionals participate in the group sessions and provide antenatal care. Routine physical assessments occur in the group room, but to maintain privacy, they are carried out as individual assessments. Typical antenatal assessments are complemented by information, education and peer support with considerable emphasis on having women become active participants in their own health assessments. Concurrent care by a specialized medical professional such as an obstetrician or physician is provided to women with high-risk pregnancies in conjunction with group sessions (Catling, Medley, Foureur et al., 2015: 6; Rising, Kennedy and Klima, 2004; Rising, 1998).

Table 3: Core features of CenteringPregnancy©	
✓	Health assessment occurs within the group space
✓	Women are involved in self-care activities
✓	Stability of group leadership is required
✓	A facilitative leadership style is used
✓	Each session has an overall plan
✓	Attention is given to core content but emphasis may vary
✓	Group conduct honours the contribution of each member
✓	The group is conducted in a circle and group size is optimal to promote the process
✓	The composition of the group is stable but is not rigid
✓	Involvement of family support people is optional
✓	Group members are offered time to socialize
✓	Evaluation of outcomes is ongoing

Sources: Catling, Medley, Foureur et al., 2015: 6; Rising, Kennedy and Klima, 2004; Rising, 1998.

¹¹ Variations of CenteringPregnancy© include CenteringPregnancy Plus, Expect with Me and others based on the core components of group based antenatal care.

The Centering Healthcare Institute, a leading advocate and facilitator of Centering models suggests Centering empowers patients, strengthens patient-provider relationships, and builds communities through three central components: health assessments; interactive learning; and community building (Centering Healthcare Institute, 2019).

Health Assessment: “Both provider and patient are involved in the health assessment. Patients receive one-on-one time with their provider and learn to take some of their own assessments. This engages them in their own self-care or care of their child “(Centering Healthcare Institute, 2019).

Interactive Learning: “Engaging activities and facilitated discussions help patients to be more informed, confident and empowered to make healthier choices for themselves, their children and their families “(Centering Healthcare Institute, 2019).

Community Building: “One person’s question is another one’s question. Patients quickly find comfort in knowing they are not alone. Participation in group care lessens the feelings of isolation and stress while building friendships, community and support systems” (Centering Healthcare Institute, 2019).

Figure 3: Main components of Centering model of antenatal care



4.2 Differentiating between group and individual antenatal care models

Group and individual centred antenatal care models can be differentiated according to the following key components: delivery of antenatal care; content of care; patient access or involvement in care; time spent by providers and patients; administration and scheduling; and provider, resident and student education. Table 4 provides a comparison of the two models according to each of these components.

Table 4: Group vs. individual antenatal care models

Component	Group Model	Individual Model
Delivery of Antenatal Care	Provided within group space (e.g. community or conference room).	One-to-one examination room visits.
	Care is provided through a partnership of a credentialed provider and pregnant woman.	Care provided by credentialed antenatal provider(s).
	Continuity of care from a single provider.	Variable continuity of provider throughout pregnancy.
Content of Care	Patient participation in physical assessment (e.g. blood pressure, weight) and documentation. Fundal height and heart rate monitoring occur in-group space. If required, health concerns that require private consultation and cervical examinations are conducted in ancillary visits in a private examination room.	Physical assessment completed inside an examination room by a provider.
	Education runs throughout the 10 sessions with trained providers and structured materials. Self-assessment sheets at sessions provide continuous feedback.	Education is provider-dependent and may be random based on time available for education and/or response to patient-initiated queries.
	Opportunities for community building are present throughout antenatal and postpartum period.	Few opportunities for women to interact socially with other pregnant women.
	Care is focused on health outcomes and personal empowerment. Testing, such as blood draw, can be done in group setting.	Care is focused on medical outcomes and recommended testing.
Patient Access to or Involvement in Care	Women contribute data to their own record by performing their weight and blood pressure as well as documentation. They are encouraged to keep copies of their progress for their personal records. Transparency of the medical chart should contribute to increased safety.	Antenatal care records are maintained by the provider and not shared with the patient unless requested.

Source: Ickovics, J. R., Kershaw, T. S., Westdahl, C., et al. (2007). "Group Prenatal Care and Perinatal Outcomes: A Randomized Controlled Trial." *Obstetrics and Gynecology*, 110 (2 Pt 1): 330–339. Page 332. doi:10.1097/01.AOG.0000275284.24298.23

Table 4: Group vs. individual antenatal care models (continued)

Component	Group Model	Individual Model
Patient Access to or Involvement in Care	Group provides “one-stop shopping” with all services available within the group, providing services more efficiently.	Patient services are often fragmented (e.g., smoking cessation and nutrition counseling, WIC, labor preparation).
	Community building throughout pregnancy often leads to ongoing support postpartum	Limited opportunity for women to have contact with other women after delivery.
Time Spent by Providers and Patients	All care, education, and support take place within the 2-hour time period. No waiting room.	Variable waiting time.
	Group can provide a setting that is supportive of cultural and language differences.	May be difficult to adapt care to accommodate cultural issues.
	Groups minimize repetition and permit sufficient time for more in-depth discussion.	Providers may find the provision of antenatal care to be repetitive and often lack sufficient time to go into more detail regarding specific patient questions or concerns.
	Total provider/patient time throughout pregnancy is approximately 20 hours.	Average visit time is limited by provider schedule.
Administration and Scheduling	Within a two hour period, between eight and ten women can receive total care in a conference or community room. This allows examination rooms to be used for other purposes.	Efficiency marked by scheduling of patients at 10- to 15-minute intervals.
Provider, Resident, Student Education	Students and preceptors work together within the group, incorporating student education and direct supervision.	Student education is limited by examination room space and time constraints.

Source: Ickovics, J. R., Kershaw, T. S., Westdahl, C., et al. (2007). “Group Prenatal Care and Perinatal Outcomes: A Randomized Controlled Trial.” *Obstetrics and Gynecology*, 110 (2 Pt 1): 330–339. Page 332. doi:10.1097/01.AOG.0000275284.24298.23

4.3 Benefits and limitations of Group Antenatal Care

The Centering Healthcare Institute (2009) touts that CenteringPregnancy© and other group based models of antenatal care provide mothers, babies and providers of group care with a number of benefits, including: improved health outcomes for both mother and infant as well as the elimination of racial inequities in preterm birth; enabling women to become actively engaged in their own self-care; empowering women with the confidence to better prepare them for a positive labour and delivery experience; developing and/or strengthening the relationship between client and provider through increased interaction and time spent together; fostering a sense of community by encouraging support and friendships with other women; and equipping mothers with the necessary knowledge and skills to make well-informed decisions affecting their pregnancy and the care of their infant.

The impact of GAC on maternal and infant outcomes has been a central focus of studies evaluating the efficacy of GAC. Table 5 provides a brief summary of a few noteworthy and recent studies examining birth outcomes of the CenteringPregnancy© and/or group based care model.¹²

Although there is no evidence that GAC models are harmful to women (American College of Obstetricians and Gynecologist, 2018; Hodin, 2017), some research suggests that the empirical evidence that GAC contributes to positive maternal and infant birth outcomes (such as a decrease in preterm births and admissions to neonatal intensive care; and increased rates of breastfeeding) is inconsistent and inconclusive (Hodin, 2017). Given the available evidence, leading healthcare organizations such as The American College of Obstetricians and Gynecologists (ACOG) and World Health Organization (WHO) recommend that GAC be offered as an alternative to traditional antenatal care. However, the ACOG (2018) suggests that further research comparing the outcomes and targeting populations of both individual and GAC models is necessary in order to arrive at a definitive conclusion regarding their efficacy as viable models of care. In the interim, the ACOG (2018) notes that the absence of any evidence indicating that GAC models can cause harm, is sufficient to recommend that in circumstances when participation is offered, it should be done as an alternative option to traditional antenatal care and not required for clients. Similarly, the World Health Organization (2016) recommends that GAC be offered to pregnant women as an alternative to traditional individual antenatal care on the conditions that: further research is carried out assessing GAC models; a women's preferences are taken into consideration; and adequate infrastructure and resources are in place for the delivery of GAC.

¹² It is important to note study assessments were obtained from and independently prepared white paper by Rodin and Kirkegarrrd (n.d.) for the Centering Healthcare Institute

Table 5: Studies examining CenteringPregnancy® outcomes

Study Title/Author(s)	Design	Conclusions
<i>Group Prenatal Care Reduces Risk of Preterm Birth and Low Birth Weight: A Matched Cohort Study</i> Cunningham, Lewis, Shebi et al. (2019)	Matched Cohort Study	Group prenatal care resulted in significantly lower risk (.63) of having a preterm birth and low birth weight baby (.62). The benefits were even greater for women with at least five group prenatal care visits: .32 and .34 rate ratios of preterm birth and low birth weight, respectively.
<i>Cluster Randomized Controlled Trial of Group Prenatal Care: Perinatal Outcomes Among Adolescents in New York City Health Centers</i> Ickovics, Earnshaw, Lewis, J.B. et al. (2016)	Cluster Randomized Controlled Trial	CenteringPregnancy® (CP) “resulted in more favorable birth, neonatal, and reproductive outcomes” for adolescents served by New York City Health Centers. CP participants were significantly less likely to have infants small for gestational age. Favorable effects increased with the number of group visits, including: size for gestational age, gestational age, birth weight, days in neonatal intensive care unit, rapid repeat pregnancy, condom use, and rates of unprotected sex.
<i>Group Prenatal Care Results in Medicaid Savings with Better Outcomes: A Propensity Score Analysis of CenteringPregnancy Participation in South Carolina</i> Gareau, Lopez-De Fede, Loudermilk et al. (2016)	Retrospective Cohort Study	CP participation reduced the risk of premature birth by 36%. Every premature birth prevented led to average cost savings of US\$22,667. CP also reduced the rate of low birthweight by 44%, saving an average of US\$29,627, and reduced the risk of a NICU stay 28% with average savings of US\$27,249. South Carolina estimated savings of nearly US\$2.3 million after a state investment of US\$1.7 million.
<i>The Effects of CenteringPregnancy Group Prenatal Care on Gestational Age, Birth Weight, and Fetal Demise</i> Tanner-Smith, Steinka-Fry, and Lipsy (2014)	Retrospective Chart Review	CP participation was associated with longer pregnancies, higher birthweight, lower odds of very low birthweight, and lower odds of fetal death. The study found no evidence of differences in the odds of preterm birth or low birthweight (though the risk of very low birthweight was lower).
<i>The Effect of CenteringPregnancy Group Prenatal Care on Preterm Birth in a Low- Income Population</i> Picklesimer, Billings, Hale et al. (2012)	Retrospective Cohort Study	Reduced very early preterm delivery at < 32 weeks: 1.3% for CP vs. 3.1% for individual care; also preterm delivery at < 37 weeks of gestation was 7.9% for CP versus 12.1% for individual care. The racial disparity in preterm birth for Black women relative to white and Hispanic women was reduced to statistical insignificance.

Table 5: Studies examining CenteringPregnancy® outcomes (Continued)

Study Title/Author(s)	Design	Conclusions
<i>Group Prenatal Care and Perinatal Outcomes: A Randomized Controlled Trial</i> Ickovics, Kershaw, Westdahl et al. (2007)	Randomized Controlled Trial	Reduced rates of preterm birth from 13.8% to 9.8%, a 33% decrease. African American women experienced even more dramatic reductions in preterm birth, from 15.8% to 10%. Group care participants were less likely to have suboptimal prenatal care than women who received individual care, were more knowledgeable about perinatal topics and felt more prepared to give birth, had higher satisfaction with their care, and were more likely to breastfeed (66.5 % vs. 54.6%). The study found no differences in birthweight or in costs associated with prenatal care or delivery between group and individual care.
<i>Group Prenatal Care Compared With Traditional Prenatal Care: A Systematic Review and Metanalysis</i> Carter, Temming, Akin et al. (2016)	Literature Review (included observational studies and randomly controlled trials)	Reviewed four randomized controlled trials and ten observational studies; did not find significant effects of group prenatal care on preterm birth. Group care was associated with a statistically significant decreased rate of low birth weight overall (nine studies: pooled rate 7.5% group care compared with 9.5% traditional care), but not among randomized controlled trials (four studies: 7.9% group care compared with 8.7% traditional care). This review did identify a lower preterm birth rate for African American women in group prenatal care, but the result was not statistically significant. However, when the analysis was limited to the two highest-quality studies, African American women who participated in group care had a significantly lower rate of preterm birth.
<i>Group Versus Conventional Antenatal Care for Pregnant Women</i> Catling, Medley, Foureur et. al. (2015)	Literature Review	Reviewed four randomized controlled trials of group prenatal care – two in the United States, one in Sweden, and one in Iran – and found no impact of the model on birth outcomes, psychosocial, or physiological, or provider satisfaction. However, the review noted that because of the small number of studies included and the small number of women who participated, further research is necessary to assess the model.

Source: Rodin, D. and Kirkegaard, M. (n.d.). *Aligning Value-Based Payment With CenteringPregnancy. White Paper. Independently prepared by Health Management Associates for the Centering Healthcare Institute. Pages 12-14. Retrieved from <<https://www.centeringhealthcare.org/uploads/downloads/Aligning-Value-Based-Payment-with-CenteringPregnancy.pdf>>*

One promising area of research involves the adoption of GAC models for the provision of care to high-risk populations. There is growing evidence that group based antenatal care such as CenteringPregnancy© can be of considerable benefit to populations with high risks of preterm birth, infant mortality and other adverse health outcomes (Byerley and Haas, 2017; Rodin, D. and Kirkegaard, M., n.d: 12; Ickovics, Kershaw, Westdahl et al., 2007). According to Byerley and Haas (2017: 8), “there is some consistency [among studies] in that several high-risk groups may have benefits from engaging in group prenatal care—both in obstetric outcomes such as preterm birth and breastfeeding, and also in psychosocial outcomes such as improved satisfaction, reduced stress, understanding resources, and engagement in their own and their family’s health care.” Beverley and Haas (2017: 8) suggest that in order to arrive at a definitive conclusion regarding whether GAC models can benefit high-risk populations, it is necessary to critically examine the individual components of GAC models that purport to improve maternal and infant outcomes.

4.3.2 Limitations of Group Antenatal Care Models

In their research on GAC models, Mazzoni and Carter (2017: 555) found that GAC models are complex and often difficult to implement in healthcare systems that have relied on traditional individual care to deliver antenatal services. Issues concerning implementation have been identified as barriers to the adoption of GAC models (American College of Obstetricians and Gynecologists, 2018; Hodi, 2017; Mazzoni and Carter, 2017; Rodin, D. and Kirkegaard, M., n.d: 14). This includes: program costs (American College of Obstetricians and Gynecologists, 2018; Rodin, D. and Kirkegaard, M., n.d: 14); increased labour demands such as administrative support and adequate facilitator training (WHO, 2016; Hodi, 2017); adequate infrastructure (Hodi, 2017); scheduling group sessions (Mazzoni, 2017: 555); the exclusion of family members from group sessions (Mazzoni, 2017: 555); recruitment of participants (Mazzoni, 2017: 555) and general resistance to non-traditional methods (WHO, 2016). According to Mazzoni and Carter (2017: 555), many of these barriers are universal in scope and were recognized by Rising (1998) in her original analysis of centering models. Once developed and implemented, a number of challenges concerning their sustainability must be addressed if such models are to thrive (Centering Healthcare Institute, n.d.: 14-15). Many of these challenges mirror those associated with the implementation of group based care models.

5.0 Conclusions

5.1 Findings

Antenatal care is a critical component of perinatal care at a time when both mother and developing fetus are undergoing significant physiological changes. Unfortunately, not all segments of the population – particularly Indigenous women, who are considered to be at higher risk of complications – have equal access to adequate antenatal care. Inequalities in the social determinants of health, racism and/or discrimination, the legacy of colonialism and associated government policies and cultural barriers have contributed to health inequities between Indigenous and non-Indigenous peoples of Canada in the delivery of antenatal care. Indigenous women are much more likely to experience high-risk pregnancies and adverse birth outcomes compared to non-Indigenous women. As a result, the health and well-being of mother and fetus are jeopardized, as is their long-term health. Traditional individual care models have been the standard method of delivering antenatal care; however, the emergence of new and innovative models such as group based care models are offering healthcare practitioners greater antenatal care options for their clients. Although barriers to implementing and sustaining group based care models are significant, they are not unsurmountable. If carefully designed, implemented and monitored, GAC models can be utilized to address the needs of both the mother and fetus during pregnancy as well as the unique needs of particular groups in society such as Indigenous women who continue to face considerable barriers to adequate antenatal care. With no clear evidence that GAC causes harm to pregnant women and significant evidence of the potential benefits of GAC, particularly for high-risk mothers, GAC models should be embraced by both policy makers and healthcare practitioners as viable alternatives to traditional antenatal care.

5.2 Policy implications

Both policy makers and healthcare providers are in a unique position to help address longstanding inequities in the delivery of antenatal care to Indigenous women in Canada. Through their efforts, policy makers can end discriminatory policies and practices that have fueled health inequities by legislating and promoting policies that support innovative and unconventional methods of delivering healthcare services such as GAC models that speak to the unique need of Indigenous peoples of Canada. Policy initiatives that contribute to the necessary resources for the development, implementation and sustainability of new and innovative models of healthcare delivery will help broaden the supply of available services as well as the capacity of healthcare professionals to provide these services.

Providers of healthcare share an equally important responsibility to reduce if not eliminate disparities in healthcare through the design, adoption, delivery and monitoring of programs that acknowledge and address barriers to the provision of adequate healthcare to Canada's Indigenous peoples. Healthcare providers have the additional advantage of being able to intervene at critical phases of an individual's life stage; in the case of Indigenous women, during the antenatal phase of maternity care. Group based care models offer healthcare professionals with an opportunity to empower Indigenous women to reclaim their traditional roles in maternal and infant health and ensure the best possible health outcomes for maternal and infant well-being. This requires incorporating cultural considerations

throughout all aspects of GAC including: the adoption of appropriate language for purposes of communication; providing a safe and culturally appropriate environment during group sessions free of fear and distrust often attributed to racism and other forms of discrimination which discourage Indigenous women from seeking healthcare; and accommodating the special needs of those who have suffered intergenerational trauma.

5.3 Limitations of policy brief

This policy brief should not be considered a comprehensive analysis but an introduction to what is a highly complex and multifaceted issue: the inadequate provision of antenatal care to Indigenous women in Canada. Arriving at well-informed policy decisions regarding viable options requires: a much more extensive and critical analysis of the literature surrounding health inequalities in Canada; the identification and critical evaluation of all possible care models; and acknowledging the diversity of not only Indigenous communities in Canada, but also Indigenous women themselves.

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