

INDIGENOUS EARLY CHILDHOOD DEVELOPMENT IN CANADA:

Current state of knowledge and future directions

Regine Halseth and Margo Greenwood, PhD



NATIONAL COLLABORATING CENTRE
FOR ABORIGINAL HEALTH



CENTRE DE COLLABORATION NATIONALE
DE LA SANTÉ AUTOCHTONE

CHILD, YOUTH & FAMILY HEALTH

Acknowledgements

The NCCAH uses an external blind review process for documents that are research based, involve literature reviews or knowledge synthesis, or undertake an assessment of knowledge gaps. We would like to acknowledge our reviewers for their generous contributions of time and expertise to this manuscript.

Production of this publication has been made possible through a financial contribution from the Public Health Agency Canada.



Financial contribution from the
**Public Health
Agency of Canada**

This publication is available for download at: nccah.ca. All NCCAH materials are available free and can be reproduced in whole or in part with appropriate attribution and citation. All NCCAH materials are to be used solely for non-commercial purposes. To measure the impact of these materials, please inform us of their use.

Une version française est également publiée sur le site ccnsa.ca, sous le titre : *Le développement des jeunes enfants autochtones au Canada : état actuel des connaissances et orientations futures.*

Citation: Halseth, R. & Greenwood, M. (2019). *Indigenous early childhood development in Canada: Current state of knowledge and future directions*. Prince George, BC: National Collaborating Centre for Aboriginal Health.

For further information or to obtain additional copies, please contact:

National Collaborating Centre for
Aboriginal Health (NCCAH)
3333 University Way
Prince George, BC, V2N 4Z9
Tel: 250 960 5250
Fax: 250 960 5644
Email: nccah@unbc.ca
Web: nccah.ca

ISBN (Print): 978-1-77368-195-5
ISBN (Online): 978-1-77368-196-2

© 2019 National Collaborating Centre for Aboriginal Health (NCCAH). This publication was funded by the NCCAH and made possible through a financial contribution from the Public Health Agency of Canada. The views expressed herein do not necessarily represent the views of the Public Health Agency of Canada.

CONTENTS



EXECUTIVE SUMMARY	5
Introduction	5
Conclusions and areas for action	7
1.0 INTRODUCTION	8
2.0 METHODOLOGY	9
3.0 THE CONTEXT OF YOUNG INDIGENOUS CHILDREN'S LIVES	11
3.1 Population profile	11
3.2 The determinants of young Indigenous children's health and well-being	13
4.0 THE HEALTH AND WELL-BEING OF YOUNG INDIGENOUS CHILDREN	21
4.1 Nutrition and food security	21
4.2 Obesity	23
4.3 Chronic conditions	24
4.4 Oral health	24
4.5 Hearing loss and otitis media	25
4.6 Respiratory illnesses	26
4.7 Vaccination rates	27
4.8 Maternal health	27
4.9 Impacts of family violence on child welfare	30
4.10 Knowledge gaps	31
5.0 INTERSECTORAL INTERVENTIONS FOR INDIGENOUS CHILD HEALTH	33
5.1 Intersectoral collaboration, determinants of health, and Indigenous ECD	33
5.2 Roots of resilience: Indigenous approaches and models	35
5.3 The evolution of Indigenous ECD programs and policies	37
5.4 Examples of successful Indigenous ECD interventions and programs	38
6.0 CONCLUSIONS AND AREAS FOR ACTION	51
REFERENCES	54



Download publications at
nccah.ca/34/Publication_Search



Télécharger des publications à
ccnsa.ca/524/Recherche_de_publication



issuu.com/nccah-ccnsa/stacks



EXECUTIVE SUMMARY



Introduction

Indigenous¹ peoples experience a disproportionate burden of ill health associated with the socio-economic context of their lives. Investing in quality early childhood development and care (ECDC) programs for Indigenous children is critical to redressing these health imbalances (BCACCS, 2014). This paper provides a brief overview of the current state of knowledge and knowledge gaps on the health and well-being of First Nations, Inuit and Métis young children and highlights future directions for Indigenous ECD programs and policies.² It draws on data presented in “Module 7” of the Canadian Institute of Child Health [CICH] (2018) online profile on *The health of Canada’s children and youth* and other relevant sources.

The context of young Indigenous children’s lives

Young Indigenous children’s health and well-being are influenced by factors at the level of the family, community, and the broader societal systems and structures in which they live (Greenwood, 2016). This includes family size and composition; socio-economic

inequities in employment, income and education; culture and language; family and community well-being; environmental health; early learning and child care; as well as systemic and structural factors (Greenwood, 2016). The characteristics and composition of Indigenous families, which are younger, larger, include more extended family members, and are more often lone-parent or foster families compared to non-Indigenous families, can be sources of strength as well as challenges in children’s development. High rates of socio-economic marginalization, including lower rates of employment, employment income and educational attainment, have resulted in many Indigenous children living in poverty, living in overcrowded or poor quality housing, and experiencing food insecurity, which can affect their physical, cognitive, emotional and psychological development. Community and family well-being contributes to healthy, safe and supportive environments for children’s development but continues to be impacted by the legacy of Indian Residential Schools. Culture and language are foundational to the health and well-being of young Indigenous children, their families and their communities by

promoting healing in adults and building a positive cultural identity in young children (NCCA, 2016). Inuit children have more exposure to their culture and language than off-reserve First Nations and Métis children. Formal child care and early childhood education arrangements provide opportunities for early learning experiences that enhance children’s development as well as opportunities to learn Indigenous languages and participate in cultural activities; however, a large proportion of Indigenous children do not have access to formal child care arrangements.

Many Indigenous children do not have access to safe drinking water, are exposed to environmental contaminants in traditional food sources, and are vulnerable to the impacts of climate change, with impacts on their physical health and well-being. There are also unique structural and systemic factors that enable or hinder Indigenous children’s development, including lack of community-focused, culturally safe and accessible, health, education, child welfare, and social services systems; legislation, policies and agreements that contribute to (un)healthy family or community environments; and

¹ The term ‘Indigenous’ is used throughout this paper to refer inclusively to all First Nations, Inuit and Métis peoples.

² While young children are defined here as under age 6, some data sources use alternative definitions and are included because they encompass children under age 6.

unresolved jurisdictional disputes over which level of government is responsible for funding programs and services for Indigenous peoples. These factors have contributed to health disparities for young Indigenous children compared to other Canadian children (Findlay & Lanz, 2012; FNIGC, 2012a; Kohen et al., 2015).

While data is sparse, existing evidence indicates that young Indigenous children fare poorer across a number of health indicators. Many Inuit and on-reserve First Nations children are not eating a nutritious diet and are consuming junk foods often. Rates of breastfeeding appear to be lower for Indigenous infants; however, sustained breastfeeding appears to be higher for Inuit infants. Food insecurity and poor nutrition are contributing to high rates of obesity and overweight among Indigenous preschoolers, and to especially alarming rates of diabetes among First Nations children. Existing data show a high prevalence of early childhood caries, high rates of chronic otitis media and hearing loss, and acute and chronic respiratory infections among Inuit and on-reserve First Nations infants and young children. While vaccination rates for on-reserve First Nations infants for childhood diseases fall short of Health Canada's target immunization coverage of 97%, these rates have been increasing over time for this population. The existing data show poorer health and wellness during pregnancy and poorer prenatal care for Indigenous women, with impacts to fetal growth and birth outcomes, including higher rates of fetal alcohol spectrum disorders, infant mortality, preterm births, heavy birthweight, and large-for-gestational age births

for selected Indigenous populations, particularly on-reserve First Nations. Additionally, the data highlight the disproportionate rates of family violence, including child abuse, experienced by Indigenous children and their impacts on child welfare.

Nevertheless, numerous gaps in knowledge continue to exist, which span nearly every aspect of the health and well-being of young Indigenous children, resulting from a lack of comprehensive, consistent, longitudinal and disaggregated data at the national level, including culturally-relevant health and health determinant indicators. These data challenges must be addressed through enhanced surveillance strategies, consistent use of Indigenous identifiers on registries, intergovernmental cooperation on mechanisms of data sharing, and partnerships with Indigenous stakeholders to improve the quality and coverage of data and information.

Intersectoral interventions for Indigenous child health

Intersectoral interventions in early childhood development (ECD) are ideally suited to address inequities in the socio-economic conditions in which Indigenous peoples live that are contributing to the disproportionate burden of ill-health they are experiencing. This is because the factors that influence healthy child development are complex and holistic, encompassing dimensions of health, child protection, learning, identity formation and socialization, among others. However, these interventions must incorporate the values and principles that Indigenous people consider important for fostering healthy, happy and resilient children

across the lifespan. They must focus not only on improving children's emotional and psychosocial well-being, their cognitive and physical development, and instilling skills and attributes to cope with adversity in later life, they must also provide parents/caregivers with skills and knowledge to provide a nurturing and supportive environment for children to thrive. These interventions must be rooted in Indigenous notions of resilience, including connections to family, community and the environment; the importance of collective history; revitalization of Indigenous languages and cultures; and individual and collective agency (Kirmayer et al., 2011).

Successful intersectoral interventions in Indigenous child health are planned, designed and controlled by Indigenous communities to reflect their values and lived realities. They encompass Indigenous approaches to health and well-being, and aim to address the many determinants affecting Indigenous peoples' health. They also incorporate Indigenous cultures, languages, values, and ways of knowing and learning (Public Policy Forum, 2015). Examples of successful Indigenous ECD interventions and programs include: Aboriginal Head Start programs; BC Aboriginal Childcare Society; First Nations/Inuit Child Care Initiative; Better Beginnings, Better Futures, Walpole Island First Nation; Brighter Futures Program; Canada Prenatal Nutrition Program; Community Action Program for Children; Success by 6® BC; Integrated 'single window' models; Home Instruction for Parents of Preschool Youngsters – Aboriginal HIPPY; Nobody's Perfect; and Indigenous Triple P.

Conclusions and areas for action

Young Indigenous children experience many health disparities, which can largely be attributed to the socio-economic, environmental, political and historical conditions in which they live. High quality, holistic and culturally relevant ECD and care programs provide a promising avenue for addressing these health disparities by optimizing Indigenous children's physical, emotional, psychological, cognitive and spiritual development, giving them the best start in life and ultimately addressing health disparities over the long-term. However, there are gaps in services for Indigenous children living in the smallest communities that lack the resources and capacity to initiate or maintain these programs.

The literature highlighted a number of tangible actions to address the social determinants of health for Indigenous children. This includes:

- fully implementing Jordan's Principle (TRC, 2015, Call to Action #3);
- eliminating discrepancies in federal education funding for First Nations children (TRC, 2015, Call to Action #8);
- drafting new Indigenous education legislation to close education gaps within one generation and incorporating key principles, including culturally appropriate curricula, protection of Indigenous languages and their inclusion in teaching, full participation of parents in the education of their children, and parental and community responsibility, control and accountability over education (TRC, 2015, Call to Action #10);

- developing culturally appropriate early childhood education programs for Indigenous families (TRC, 2015, Call to Action #12);
- increasing support for integrated and coordinated models of service delivery;
- working in partnership with all levels of governments and Indigenous groups to develop an integrated early childhood funding strategy (Royal Commission on Aboriginal Peoples, 1996);
- providing access to a wide variety of programs that address the wide-ranging needs of families and communities (Kline, 1993);
- ensuring programs are driven by the needs and priorities of Indigenous families and communities and reflect their culture, language, values and worldviews;
- ensuring programs are flexible to accommodate the local realities of Indigenous peoples and communities;
- maximizing Indigenous control over the planning, design and delivery of programs;
- expanding the reach of ECD programs for Indigenous children and families by addressing barriers related to access;
- supporting Indigenous communities to be engaged in the care and education of their children, consistent with the TRC Calls to Action and Article 23 of the United Nations Declaration on the Rights of Indigenous Peoples (Office of Audit and Evaluation, 2017);
- taking into account Indigenous controlled and culturally appropriate education curricula and pedagogy in early learning programs (Nguyen, 2011);
- shifting the focus of federal investments in daycare from a labour market policy to one that emphasizes the benefits of child development or the reduction of inequalities in the overall population to enhance all aspects of children's development (Williams, n.d.);
- developing an Indigenous-specific early childhood education training program (ITK, 2014);
- investing in the production of Indigenous-specific educational materials (Best Start Resource Centre, 2010);
- taking a lifecourse approach to ECD by conducting evaluations of post-ECD program life, following up with parents and children and assessing impacts on children's development, their transition to, and performance at, school;
- addressing the social determinants of health for Indigenous children more broadly, by improving the socio-economic conditions in which they live; and
- addressing the long-standing challenges associated with indicators of Indigenous children's health through enhanced immunization surveillance strategies, multi-governmental collaboration on mechanisms of collecting and sharing data, and partnerships with Indigenous stakeholders to improve data quality, coverage, and cultural appropriateness.

1.0 INTRODUCTION

First Nations, Inuit and Métis peoples experience a disproportionate burden of ill health associated with the socio-economic, environmental, political and historical context of their lives. Investing in quality early childhood development and care (ECDC) programs for Indigenous³ children is critical to closing the gap between Indigenous and non-Indigenous peoples in Canada. Three decades of scientific evidence have shown that these types of programs are a ‘powerful equalizer’ for children from disadvantaged backgrounds, offering long-term benefits not only for vulnerable children, but for society as a whole (BCACCS, 2014). They foster children’s social, emotional, physical, mental and cognitive development which provides a strong foundation that prepares them for a lifetime, which contributes in turn to higher levels of school achievement, higher skills and expectations, lower levels of unemployment and higher earnings, as well as lowered rates of antisocial behaviour, substance abuse and mental health issues (Adamson, 2013). A focus on Indigenous ECD is important because:

- 1) Indigenous peoples are the youngest and fastest growing segment of Canada’s population;
- 2) Indigenous children are a particularly vulnerable segment of this population; and
- 3) funding models have not kept pace with this population growth.

The release of the Truth and Reconciliation Commission’s (2015) final report and calls to action, together with a new federal government mandate to advance the rights of Indigenous peoples across Canada, present new opportunities for renewed investment in Indigenous children and families, and addressing the inequalities that continue to plague them.

This paper is intended to support researchers, policy-makers, and program managers working at the federal/provincial/territorial and municipal levels by increasing their understanding, awareness and application of Indigenous ECD evidence. The paper aims to provide a brief overview of the current state of knowledge on the health and well-being of First Nations, Inuit and Métis young children (defined here as under age 6) and to highlight future directions for Indigenous ECD programs and policies.⁴ It begins by setting the context for the state of Indigenous children’s health and well-being, including a profile of the Indigenous population and a discussion of the socio-economic, cultural, historical and environmental factors that influence the health and well-being of young Indigenous children and their families. The paper then moves to a discussion on the state of First Nations, Inuit and Métis young children’s health, using indicators related to healthy eating and food security, breastfeeding, chronic conditions, oral health, hearing loss and otitis media, respiratory illnesses, vaccinations, maternal health and health behaviours, and birth outcomes. This section highlights gaps in knowledge and makes recommendations for addressing these gaps. The paper concludes with a discussion of Indigenous ECD, including the need for intersectoral action to address the determinants of health and improve health equity, the roots of resiliency, an overview of the federal departments and agencies responsible for developing Indigenous ECD programs and policies, examples of promising and best practices in Indigenous ECD, and tangible actions to address the social determinants of health for Indigenous children.

³ The term ‘Indigenous’ is used throughout this paper to refer inclusively to all First Nations, Inuit and Métis peoples.

⁴ While young children are defined here as under age 6, some data sources use alternative definitions and are included because they encompass children under age 6.

2.0 METHODOLOGY

This paper draws on data presented in “Module 7 – Indigenous Children and Youth” of the Canadian Institute of Child Health [CICH] (2018) online profile on *The health of Canada’s children and youth* (<https://cichprofile.ca/module/7/>), supplemented with data from other relevant sources, including data from Statistics Canada, the First Nations Regional Health Survey, the Aboriginal Children’s Survey, and the Nunavut Inuit Child Health Survey, among others. Additionally, as measures of health and well-being for First Nations, Inuit and Métis peoples continue to be hindered by a lack of disaggregated data for specific subsets of

the Indigenous population, a lack of longitudinal and comparable data, and large gaps in information available on specific health issues, data from smaller scale studies on specific health issues are also included. These studies were identified through a search of Google Scholar and PubMed using the search terms: “First Nations/ Inuit/Metis/Aboriginal/Indigenous” together with the relevant health issue being explored. Wherever relevant, this paper refers readers to the related figures and tables from Module 7 of the CICH’s children’s health profile.





3.0 THE CONTEXT OF YOUNG INDIGENOUS CHILDREN'S LIVES



From an Indigenous perspective, health and wellness are viewed holistically, encompassing spiritual, physical, intellectual and social/emotional dimensions (Loiselle & McKenzie, 2006). It is also viewed in the context of relationships – to other humans, the environment and the Creator. Indigenous children live within the context of their families and communities, and their individual and collective well-being are impacted by lifestyles and behaviours, cultural factors, and the physical and social environment in which they live. This section provides an overview of the Indigenous population and the determinants that affect Indigenous children's health and well-being. Given the lack of recent, national level, disaggregated, and culturally-relevant data for specific subsets of the Indigenous population and specific determinants, caution must be exercised in interpreting this data.

3.1 Population profile

Indigenous peoples are the youngest and fastest growing segment of Canada's population. According to the 2016 Census, children under five years of age comprised a larger proportion of the Indigenous population than the non-Indigenous population (CICH Module 7 – Figure 5.1.1; Statistics Canada, 2018a). While children under age 5 comprised 5.3% of the total non-Indigenous population, they comprised 9.5% of the First Nations population, 7.2% of the Métis population, and 11.3% of the Inuit population. The Indigenous population grew by 42.5% over the period 2006-2016, a rate that is more than four times that of the non-Indigenous population over this same period (Statistics Canada, 2017a). The highest rate of growth was among Métis people (51.2%), followed by First Nations (39.3%) and Inuit (29.1%) people (Statistics Canada, 2017a). While some of this growth was due to an increase in the number of people newly identifying as Indigenous in the Census, higher fertility rates are also contributing to this growth (CICH

Module 7, Figure 5.1.3; Morency et al., 2015).⁵ While no recent data is available, 2006 Census data show that a greater proportion of Indigenous women become mothers during their teen years compared to non-Indigenous women, with 1.3% of non-Indigenous women giving birth as teenagers compared to 8% of Indigenous (9% of off-reserve First Nations and Inuit, 12% of on-reserve First Nations, and 4% of Métis) women (O'Donnell & Wallace, 2011; see also CICH Module 7 – Fig. 5.1.4).

Indigenous children are more likely to live in families headed by a single parent or be in foster care, and their families tend to be larger compared to other Canadian families. While most Indigenous children live in families with a married couple, young Indigenous children (< 5 yrs.) are 2-3 times more likely to live in a lone-parent household compared to non-Indigenous children (CICH Module 7 – Fig. 5.1.5; Statistics Canada, 2017b). According to the 2016 Census, 34% of all Indigenous children under age 5 lived in a lone-parent household compared to only 13% of non-Indigenous children. First Nations children under 5 years were most likely to live in a lone-parent household (38.9%), followed by Inuit (26.5%) and Métis (25.5%) children, with the majority of these lone-parent households headed by mothers (Turner, 2016). Young Indigenous children are also more likely to live in households with grandparents and other extended

family members compared to non-Indigenous children (Turner, 2016).

Young Indigenous children are also significantly more likely to be in foster care compared to non-Indigenous children (CICH Module 7 – Fig. 5.1.5; Statistics Canada, 2017b). In 2016, 3% of all Indigenous children under age 5 were in foster care compared to only 0.2% of non-Indigenous children, with 3.8% of First Nations, 2.2% of Inuit and 1.3% of Métis children in this age range being in foster care. While Indigenous children account for nearly 8% of all children aged 0 to 4 years, they are vastly over-represented in the child welfare system, comprising approximately one-half of children in foster care for this age range (Statistics Canada, 2017b). In some provinces like Manitoba and Saskatchewan, Indigenous children represent more than 80% of all children in care (CICH Module 7 – Fig. 5.10.1; Sinha & Kozlowski, 2013). It is very important for Indigenous children to grow up in Indigenous homes, especially within their own communities, not only so they can stay connected to their culture and develop a sense of pride in who they are, but also to enhance the well-being of their families and communities (Petten, 2000). According to the 2016 Census, only 44% of all Indigenous children in foster care lived with at least one Indigenous foster parent (Statistics Canada, 2016a). However, over the past decade there has been an

increasing trend towards placing on-reserve First Nations children in kinship care and away from institutional settings (CICH Module 7 – Fig. 5.10.3; Indigenous and Northern Affairs Canada, 2017).

The size, composition, and characteristics of Indigenous families are important factors that can affect the health and well-being of Indigenous children. Relationships and family are central to Indigenous culture, acting as sources of strength and providing additional support to young Indigenous children. Elders and other experienced family members pass on their traditional knowledge and teach life skills that contribute to a child's resilience, and participate actively in child-rearing (Lafrance & Collins, 2013). In this way, they contribute to the development of strong identity and well-being in children. However, the size, composition and characteristics of families can also contribute to increased stresses and challenges in the face of inequities in the socio-economic and environmental determinants of health, thus contributing to poorer health and developmental outcomes for young Indigenous children.



⁵ In 2010-11, the fertility rate for Indigenous women was 2.2 children per woman compared to 1.6 for non-Indigenous women. Inuit women had the highest fertility rate (2.8 children), followed by Registered Indian (2.7 children), Métis (1.8 children), and non-Status Indian (1.5 children) women (Morency et al., 2015).

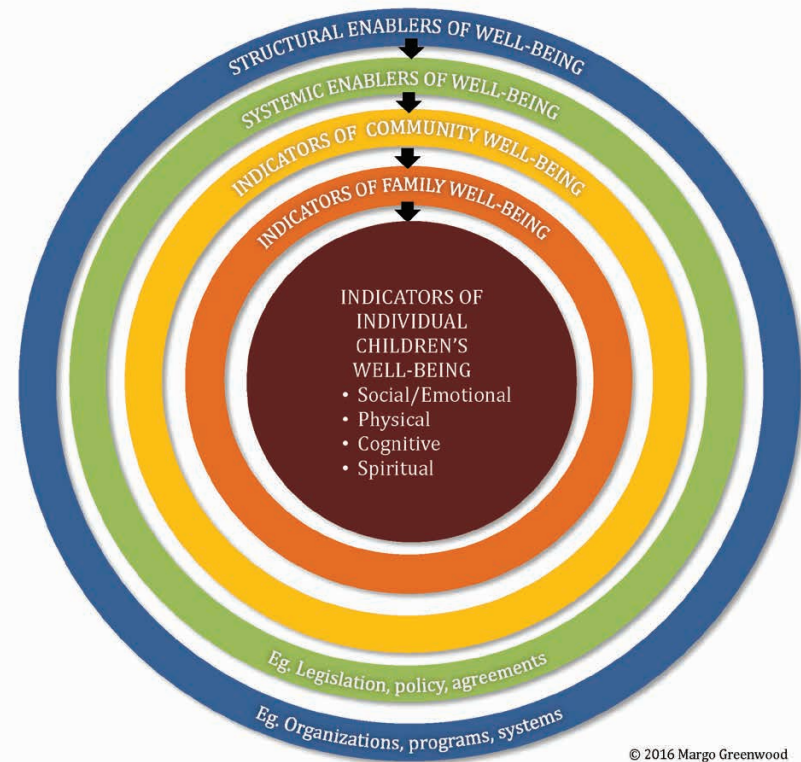
3.2 The determinants of young Indigenous children's health and well-being

The health and well-being of Indigenous children is impacted by their family, community and the broader societal systems and structures in which they live (Greenwood, 2016, see CICH Module 7, A determinants of Health Model). The relationship between Indigenous health inequalities and the social determinants of health are well known (Greenwood & de Leeuw, 2012; Smylie, 2013). Also important in understanding Indigenous health inequities are the roles of Indigenous specific determinants like colonialism, language, culture, connection to land, and self-determination (Greenwood, de Leeuw, Lindsay, & Reading, 2015); as well as structural and systemic factors such as policies, legislation, and agreements that enable or hinder the development of healthy, positive environments for children, families and communities; and the availability of strong, community-focused accessible health, education, child welfare and justice systems that support and enable well-being (Greenwood, 2016). Figure 1 highlights the various factors that impact the health and well-being of Indigenous children at the level of the family, the community and the broader societal systems and structures in which they live.

Employment

Employment rates, employment income, and levels of educational attainment have been, and continue to be, much lower for Indigenous peoples compared to

FIGURE 1: A HOLISTIC PERSPECTIVE OF INDIGENOUS CHILDREN'S HEALTH AND WELL-BEING



Source: Greenwood (2016), In Canadian Institute for Children's Health – The Health of Canada's Children and Youth: A CICH Profile, Module 7, Indigenous children and youth (<https://cichprofile.ca/module/7/a-determinants-of-health-model/a-determinants-of-health-model/>)

the general Canadian population (National Collaborating Centre for Aboriginal Health [NCCA], 2017a, 2017b; Wien, 2017). For example, in 2016, 52.1% of Indigenous people aged 15 years or over were employed compared to 60.5% of non-Indigenous people (Statistics Canada, 2018c). First Nations, especially individuals living on reserve, and Inuit face greater barriers to employment than Métis people. Likewise, the median employment income of Indigenous people age 15 years and older is also lower for Indigenous people (\$26,385) compared to non-Indigenous people (\$34,013),

with Métis again faring better than First Nations and Inuit people (Statistics Canada, 2018d).

As women, who are most often the primary caregivers, often choose to be unemployed or employed in a part-time capacity due to caregiving responsibilities, it is critically important that fathers and male caregivers have access to employment opportunities to ensure the family does not have to live in poverty. Such opportunities are often lacking in some First Nations communities.

Education

Employment and income are intricately connected to education. While there are exceptions, generally the higher the level of education, the greater the likelihood of employment and the higher the income (NCCAH, 2017a). While education levels have been steadily increasing across census periods, Indigenous people continue to have lower levels of education compared to non-Indigenous people. According to the 2016 Census, 33.6% of Indigenous people (38.2% of First Nations, 51.9% of Inuit, and 25.5% of Métis) did not complete secondary school compared to only 17.6% of non-Indigenous people (Statistics Canada, 2018e). Likewise, only 8.6% of Indigenous people (7.3% of First Nations, 3.9% of Inuit, and 10.7% of Métis) have attained a university certificate, diploma or degree at a bachelor level or higher compared to 23.9% of non-Indigenous people (Statistics Canada, 2018e). Indigenous peoples' post-secondary qualifications are more likely to be in trades or college certificates rather than university diplomas.

The First Nations Regional Early Childhood, Education and Employment Survey highlights the vulnerability of First Nations families to poverty due to a lack of employment opportunities for male caregivers. In 2013/2015, only 44.3% of male caregivers of First Nations children under age 11 were employed full-time, an additional 16.6% were

working part-time, and nearly 40% were not working at all (Module 7 – Fig. 5.2.9; First Nations Information Governance Centre [FNIGC], 2016).

Poverty

As a result of these socio-economic inequities, many Indigenous children live in poverty (NCCAH, 2009/10; Wien, 2017). In 2015, 16.1% of non-Indigenous children and youth under 18 years were living in low income households compared to 30.4% of all Indigenous children (37.9% of First Nations, 21.5% of Métis and 20.3% of Inuit children) (Module 7 – Fig. 5.2.1; Statistics Canada, 2018b). Poverty is more acute among Indigenous children living in urban centres compared to rural settings (Module 7 – Fig. 5.2.2; Fig. 5.2.4), and among First Nations with Registered Indian status compared to non-Status children (Module 7, Fig. 5.2.3). Further, while the child poverty rate has generally declined over the period 2005-2010 for other Indigenous children,⁶ it has increased by 4% for status First Nation children living on reserve (Macdonald & Wilson, 2016).

Housing

Indigenous peoples are also more likely to live in crowded and substandard housing conditions, which increases children's exposure to environmental hazards and their susceptibility to a number of physical illnesses and mental health issues (Assembly of First Nations [AFN],

n.d.; NCCAH, 2017c). According to the 2016 Census, 45.8% of First Nations on reserve, 14.4% of First Nations off reserve, 27% of Inuit and 11.9% of Métis children under 15 years lived in housing in need of major repairs compared to 6.6% of non-Indigenous children (Module 7 – Fig. 5.4.1; Statistics Canada, 2018f). Additionally, 31.1% of First Nations (35.8% of Registered or Treaty Indian; 17.4% of non-Status Indian), 49.2% of Inuit, and 12.3% of Métis children under 15 lived in housing that does not have enough bedrooms for the size and composition of the household (Module 7 – Fig. 5.4.2; Statistics Canada, 2018g). Housing conditions are especially dire in Inuit Nunangat⁷ and in First Nations reserve communities, with many families living in small, overcrowded and poorly ventilated houses. Coupled with smoking rates that are, on average, twice as high for Indigenous populations compared to the general population (Physicians for a Smoke Free Canada, 2013), the healthy maternal, fetal and child development may be compromised by increased risk of environmental exposure to tobacco (Kovesi et al., 2006; NCCAH, 2017c). While conditions have improved slightly for Inuit and First Nations since the last Census (Statistics Canada, 2017c), the proportion of on-reserve First Nations children living in overcrowded housing conditions has been steadily increasing since 2002/03 (Module 7 – Fig. 5.4.3; FNIGC, 2016).

⁶ MacDonald and Wilson (2016) note that it is unclear whether the decline in child poverty rates for other Indigenous children is related to improved circumstances or to a new discovery of Indigenous identity.

⁷ Inuit Nunangat refers to the Inuit homeland, consisting of four regions in northern Canada: Inuvialuit Settlement Region of the Northwest Territories, Nunavut, Nunatsiavut (Labrador), and Nunavik (Quebec).

Culture and language

Culture is the foundation of both individual and collective identity, and its erosion can adversely affect individual and community health and well-being (NCCA, 2016). Language is the means by which cultural knowledge, values and skills are expressed and maintained. Revitalizing Indigenous cultures and languages is recognized as being critical for healing and resilience within Indigenous individuals, families, communities and nations (NCCA, 2016), and is increasingly considered important in helping young children build a positive cultural identity. Over the period 2002/2003 to 2013/15, the proportion of caregivers of First Nations children under 11 years of age living on reserve who felt that traditional cultural events are very important increased from 44.5% of respondents to nearly 60% (Module 7 – Figure 5.5.7; AFN, 2007; FNIGC, 2012a, 2016). However, no similar trend was observed in the proportion of caregivers who felt that having their children learn a First Nations language was very important over this same period (Module 7 – Fig. 5.5.8; AFN, 2007; FNIGC, 2016). The 2008/10 RHS also asked primary caregivers of on-reserve First Nations children between the ages of 3 to 5 to identify individuals involved in helping their children understand their culture (Module 7, Fig. 5.5.4 and 5.5.6; FNIGC, 2012a). While parents are the most important individuals in this process, their involvement varies with respect to education and income, with higher education and income associated with greater involvement (Module 7 – Fig. 5.5.6; FNIGC,

2012a). This is likely due to the fact that both parental education and income can affect the quality of the environment in which children's learning and development occur. Education confers skills, knowledge and capabilities upon parents, enabling them to provide more stimulating parenting practices and engage in higher quality interactions with their children (Harding, Morris, & Hughes, 2015); while poverty can hamper parents' ability to purchase materials, experiences and services that promote children's learning and development, as well as affect their mental health and well-being, with impacts to their parenting style and the quality of their interactions with children (Gregg, Propper, & Washbrook, 2008). The most important community members in helping children understand their culture were teachers (44.6%), community Elders (23.6%), friends (12.2%) and other community members (13.8%) (Module 7 – Fig. 5.5.4).

Knowledge of Indigenous languages and participation in traditional activities varies widely across First Nations, Inuit and Métis children. According to the 2016 Census, more than half of Inuit children aged 0-14 could conduct a conversation in an Indigenous language, compared to 15.8% of First Nations and 1% of Métis children in this age range (Statistics Canada, 2017d). Current language trends indicate a decline in the proportion of the Indigenous population who can conduct a conversation in an Indigenous language, but an increase in the proportion who can speak an Indigenous language, indicating that Indigenous languages are being learned

as second languages, which is important for language revitalization (Statistics Canada, 2017d).

Data on Indigenous children's participation in cultural activities is lacking and dated. According to the 2006 ACS, the majority of Inuit children under age 6 living in their traditional homelands participated in cultural and seasonal activities, as well as hunting, fishing and camping (Module 7 – Fig. 5.5.4; Statistics Canada, 2008a). Off-reserve First Nations, Inuit (living outside Inuit Nunangat) and Métis children were less likely to participate in these types of activities compared to Inuit children, though many did participate in hunting, fishing and camping activities (ranging from 45% to 53%). The 2008/10 RHS reports that the majority of First Nations children (69.1%) have never participated in traditional singing, drumming, or dancing groups or lessons outside of school hours (FNIGC, 2012a).

Community well-being

Children require positive role models in their lives and a safe and supportive community environment for optimal physical, social, and emotional development. Community well-being can be measured using indicators such as involvement and engagement of community members in their community; their ability to “build on local strengths, including culture, to manage their own services and develop programs that are better able to respond to community needs” (Module 7 – Fig. 5.5.1, Implications); the availability of health, education, recreation, and other assets within the community; and cultural

attributes that contribute to quality of life and foster pride in identity.

Data on indicators of community well-being in the context of Indigenous communities is sparse and dated. The 2006 ACS explored the perceptions of parents/guardians of off-reserve First Nations, Inuit and Métis children under age 6 about their feelings of citizen engagement and the health, educational, cultural and recreational assets available in their community (Module 7 – Figs. 5.5.1 to 5.5.4; Fig. 5.9.2; Statistics Canada, 2008a). The survey highlighted many aspects of communities that could use improvement, including having community members who are actively involved in their communities (Module 7 – Fig. 5.5.1); the quality of schools, nursery schools and early childhood education programs (Module 7 – Fig. 5.5.2); the safety of the community, the availability of cultural activities, and the availability of adequate recreational facilities for children (Module 7 – Fig. 5.5.3). Levels of satisfaction with aspects of their community tended to be consistently lower for Inuit parents/caregivers and higher for Métis parents/caregivers across all indicators of community well-being measured (Statistics Canada, 2008a). Parents/caregivers of off-reserve First Nations and Métis children were least satisfied with the availability of cultural activities, while parents/caregivers of Inuit children were least satisfied with the availability of adequate recreational facilities (Statistics Canada, 2008a). No

similar research appears to have been conducted with parents/guardians of First Nations children living on reserve, though lack of access to community resources has been identified as an issue in selected First Nations communities.⁸

Family well-being

Caring and supportive family environments enhance children's emotional, social, psychological, physical and cognitive development (Edelman, 2004). Indigenous cultures place great value on the importance of extended family and community members in the care and socialization of their children, a perspective that stands in contrast to mainstream Canadian society's focus on the nuclear family (Muir & Bohr, 2014). Elders, in particular, are valued for the role they play in preserving Indigenous history and culture. While the literature often emphasizes the negative and stigmatizing aspects of family relationships, including high rates of neglect, family violence, substance abuse and child apprehension into the child welfare system, Section 5.6 of the CICH's profile on the health of Indigenous children provides a glimpse into some of the more positive aspects of well-being for Indigenous families; for example, frequency of talk or playtime for Inuit (Module 7 – Fig. 5.6.1), Métis (Module 7 – Fig. 5.6.2) and off-reserve First Nations children under age 6 (Module 7 – Fig. 5.6.3), as well as satisfaction of caregivers with their support networks (Module 7 – Figs. 5.6.4 to 5.6.6). Data derived

from the 2006 ACS also shows the importance of extended family members in the lives of young Indigenous children, especially Inuit children (Module 7 – Fig. 5.6.1), and high levels of support from family, friends and others for primary caregivers of off-reserve First Nations (Module 7 – Fig. 5.6.4), Inuit (Module 7 – Fig. 5.6.5), and Métis (Module 7 – Fig. 5.6.6) children under age 6. Data from FNIGC (2016) show similarly high levels of support for primary caregivers of First Nations children under 11 years of age living on reserve (Module 7, Fig. 5.6.7; Statistics Canada, 2008a, 2008b).

The well-being of Indigenous families continues to be impacted by the legacy of Indian Residential Schools where many Indigenous children experienced physical, emotional, psychological and spiritual harms that created adverse intergenerational consequences (Aguiar & Halseth, 2015; Bombay, Matheson, & Anisman, 2009). The FNIGC (2016)'s early childhood, education and employment survey reported a fairly high proportion of on-reserve First Nations children under 11 years of age whose family members had direct experience with Residential Schools. This included grandparents (58.9%), mothers or female caregivers (9.2%), and fathers or male caregivers (8.0%), while 33.9% of children in this age range had no family members who had attended a residential school (Module 7 – Fig. 5.6.8).

⁸ See for example Mason & Koehli (2012), Power Up (2016), and Skinner, Hanning, & Tsuji (2006).

Early learning and child care

Optimal early child development depends on the nature of early learning experiences. These experiences aid in the development of literacy and numeracy skills, healthy attitudes towards learning, identity formation, self-esteem and self-worth, as well as a child's physical, cognitive, emotional and social development (Module 7 – Fig. 5.9.1 Implications; Encyclopedia on Early Childhood Development, 2011; Government of Canada, 2011). According to the 2006 ACS, the majority of primary caregivers of Inuit, Métis and First Nations children living off reserve aged 2 to 5 reported they practiced their numeracy skills, read or looked at books, or heard stories daily; however Inuit children did so less often than Métis or First Nations children living off reserve (Module 7 – Fig. 5.9.1; Statistics Canada, 2008a). In 2006, the majority of parents/guardians of off-reserve First Nations and Métis children under age 6 felt their schools, nursery schools and early childhood education programs were excellent or very good, compared to only 45% of Inuit parent/caregivers (Module 7 – Fig. 5.9.2; Statistics Canada, 2008a/b).

Formal child care arrangements can provide children with developmental opportunities, as well as assist working parents. According to the 2006 ACS, less than half of off-

reserve First Nations (47%), Inuit (40%) and Métis (48%) children under 6 years of age were in some kind of child care arrangement,⁹ compared to 51% of children in the general Canadian population (Module 7 – Fig. 5.9.5; Statistics Canada, 2008b). The most common child care arrangement was child care centres (ranging from 40% for Métis children to 54% of Inuit children) (Module 7 – Fig. 5.9.6; Statistics Canada, 2008a). While most First Nations children living on reserve received child care at home, the proportion receiving child care in a formal setting has increased by almost 8% since 2002/03 (Module 7 – Fig. 5.9.7; FNIGC, 2012a). This may, in part, be related to an increase in the availability of formal child care programs like Aboriginal Head Start (AHS) in First Nations communities. For example, in 2004, there were 126 AHS sites across Canada, but within one year, this number increased to 140 AHS sites (Nguyen, 2011). The majority of parents/caregivers of off-reserve First Nations (92%), Inuit (90%) and Métis children under age 6 from the 2006 ACS felt their child care arrangement provided an opportunity for learning activities such as songs, stories, and learning-based play (Statistics Canada, 2008b; see also Module 7 – Fig. 5.9.7). However, the 2006 ACS also showed that while a slight majority of Inuit children had access to child care arrangements that promoted traditional cultural

values and customs or used an Indigenous language,¹⁰ very few off-reserve First Nations and Métis children were in such a child care arrangement (Statistics Canada, 2008b). To the authors' knowledge, no similar research has been conducted assessing young First Nations children's access to child care arrangements that promote traditional cultural values and customs or use a First Nations language; however, some data exists on the proportion of First Nations children who have access to Aboriginal Head Start programs, one type of culturally appropriate ECD program. This data will be presented later in the paper as an example of best practices in Indigenous ECD.

Environment

Access to safe drinking water continues to be a significant health issue, especially in First Nations reserve communities. Poor water and sanitation systems, as well as community proximity to natural resource extraction and sanitation systems, leave some communities vulnerable to environmental contamination from industrial waste and pollution (Module 7 – Fig. 5.11.3). Most drinking water advisories currently in place in Canada are in First Nations reserve communities.¹¹ Nearly 36% of First Nations adults participating in the 2008/2010 RHS did not perceive their main water supply in their home to be safe for drinking year

⁹ This includes daycare, nursery or preschool, Aboriginal Head Start program, or before/after school care.

¹⁰ These rates were even higher for Inuit children living in their traditional homeland, with 70% of Inuit children having access to child care arrangements that promoted traditional cultural values and customs, and 82% of having access to child care arrangements that used the Inuit language (Statistics Canada, 2008a).

¹¹ For example, there were 103 long-term and 41 short-term drinking water advisories in 98 First Nations communities south of 60 degrees as of August 31, 2017 (Government of Canada, 2017a), and 15 boil water advisories and 4 do not consume advisories in British Columbia as of September 30, 2017 (First Nations Health Authority, 2017).

round, while a small minority of First Nations households lacked access to hot or cold running water (FNIGC, 2012a). Many of the drinking water advisories have persisted for years. Unsafe drinking water places Indigenous children at risk of death due to diarrheal illness, as well as to diseases that can be spread through inadequate hygiene, including influenza. Access to clean drinking water is critical for improving the health and well-being of Indigenous peoples and should be a fundamental human right enjoyed by all Canadians (Human Rights Watch, 2016).

In some Indigenous communities, there is also concern about impacts to fetal and early child development resulting from exposure to toxins in traditional foods contaminated with heavy metals, pesticides or other chemicals (Downie & Fenge, 2003; Module 7 – Figs. 5.11.3 and 5.11.6). For example, exposure to environmental toxins have been associated with growth restriction, neurodevelopmental impairment, spontaneous abortion, birth defects, increased risk of fetal or neonatal mortality, premature births (Mattison, 2010), as well as other adverse health outcomes affecting the skin, respiratory, renal, cardiovascular, nervous, immune, hepatic¹² and reproductive systems (Agency for toxic Substances and Disease Registry, n.d.; Bose-O'Reilly, McCarty, Steckling, & Lettmeier, 2010). While traditional foods continue to be an important

source of nutrition in the diets of young Indigenous children and their families (Earle, 2013; Halseth, 2015), research has shown high intakes of contaminants among selected Indigenous populations, especially among Inuit who consume large amounts of marine mammals and fish.¹³

Indigenous peoples' close relationship with the environment and its resources also make them vulnerable to the impacts of climate change (Module 7, Fig. 5.11.4), particularly young Indigenous children whose bodies and immune systems are still developing. As a result, they are less able to adapt to heat and climate-related conditions, are at greater risk of developing vector-borne infectious diseases and dying from them, and are more likely to be killed or injured during episodes of extreme weather (Module 7, Fig. 5.11.4; Intergovernmental Panel on Climate Change, 2013; United Nations Permanent Forum on Indigenous Issues, n.d.; Williams, 2012).

Structural factors

The quality and accessibility of education, health, and child welfare systems for young Indigenous children and their families can enable or hinder healthy child development (Greenwood, 2016; Module 7 – A Determinants of Health Model). Strong, community-focused and accessible systems can support young Indigenous children

and their families; however, in many Indigenous communities, these systems may be lacking, underfunded, or inadequately respond to the needs and preferences of Indigenous children and families (NCCAH, 2011a; 2017a). For example, the Canadian Human Rights Tribunal recently ruled that the federal government has been discriminating against First Nation children by underfunding child welfare services. It argued that the focus of these services must shift from apprehending children from their families to preventing apprehension and reunifying families (Barrera, 2018). Likewise, a funding cap for Indigenous and Northern Affairs programs for First Nations and Inuit has limited their access to early learning and child care programs. In 2011, 67% of First Nations communities had access to such programs, but only 22% of First Nations children were able to access them due to long wait lists (Chiefs Assembly on Education [CAE], 2012). Additionally, experiences of racism and discrimination within these various systems can undermine Indigenous people's well-being and act as a significant barrier to accessing services (Loppie, Reading, & de Leeuw, 2014).

Systemic factors

Systemic factors such as legislation, policies and agreements can either enable or hinder the development of young Indigenous children by contributing to (un)healthy family

¹² The hepatic system carries blood from the gastrointestinal tract to the liver. It processes and stores nutrients and cleanses the body of toxins the body cannot use.

¹³ High concentrations of environmental contaminants have been found in the blood, hair, and breastmilk of pregnant Inuit women and new mothers (see for example, Dewailly, Nantel, Weber, & Meyer, 1989; Muckle, Ayotte, Dewailly, Jacobson, & Jacobson, 2001).

or community environments (Module 7 – A Determinants of Health Model; Greenwood, 2016). Legislation and agreements that promote self-determination or self-governance¹⁴ can contribute to community wellness and healing by building capacity and empowering communities, and lead to more effective and responsive programs and services for Indigenous peoples (Chino, & DeBruyn, 2006; Ladner, 2009; Cornell & Kalt, 1995; Wilson, 2015). For example, the Harvard Project demonstrated how self-determination fostered successful economic development and transformed Indigenous communities in crisis (Cornell, 2006; Cornell & Kalt, 1995); while Chandler and Lalonde (1998, 2008) highlighted the role of community control over the delivery of health, education, child protection and policing services and some measure of self-governance as factors that protected against suicide and contributed to community well-being and resilience. However, for self-determination to effectively contribute to community wellness, it requires adequate fiscal and human resources (Papillon, 2008).

There is also a need to address jurisdictional ambiguities over which level of government (federal or provincial) has responsibility for delivering and funding services for

Indigenous peoples. For example, the federal government has responsibility for providing health services to Status First Nations living on reserve and Inuit living within their traditional territories. This responsibility primarily rests with the First Nations and Inuit Health Branch of Indigenous Services Canada¹⁵ who work with First Nations and Inuit organizations to:

- carry out health promotion and protection activities;
- provide funding for the delivery of community-based health programs;
- provide drug, dental, and other health services available through the Non-Insured Health Benefits Program; and
- provide primary care services on reserve in remote and isolated areas where provincial services are not readily available (NCCAH, 2011a).

The federal government also provides funding for health promotion activities for off-reserve Indigenous populations, primarily through the Public Health Agency of Canada; however, Inuit and Métis primarily access provincially funded mainstream health services. A recent landmark ruling from the Supreme Court of Canada (The Daniel's Decision), extending rights to Métis

and non-status Indians under the Constitution (Supreme Court of Canada, 2016), may lead to more equitable services if implemented properly. The responsibility for health care delivery has devolved or been transferred to First Nations and Inuit communities in accordance with the Health Transfer Policy and through treaties and self-governance agreements (NCCAH, 2011b). This has resulted in unequal distribution of services between communities and across provinces, as well as very limited opportunities for increased funding (Lavoie et al., 2005). This complex health care system has resulted in jurisdictional ambiguities and disputes between various levels of government over who has responsibility for paying for particular health services, with disastrous outcomes for the health and well-being of some Indigenous children (Blackstock, Prakash, Loxley, & Wien, 2005; NCCAH, 2011a). Jordan's Principle¹⁶ was intended to mitigate any delays, disruptions or denials of services for Indigenous children in need arising as a result of jurisdictional disputes over funding (Government of Canada, 2018).



¹⁴ This can include land treaties and health service delivery agreements.

¹⁵ In 2017, the Government of Canada announced dissolution of Indigenous and Northern Affairs Canada and the creation of two new departments: Indigenous Services Canada and Crown-Indigenous Relations and Northern Affairs Canada. Indigenous Services Canada assumed administration of the First Nations Inuit Health Branch, which had formerly been administered by Health Canada.

¹⁶ Jordan's Principle was passed by the House of Commons in 2007 and adopted by most provinces and territories, but its implementation has been limited and inconsistent (Canadian Paediatric Society, 2016).



4.0 THE HEALTH AND WELL-BEING OF YOUNG INDIGENOUS CHILDREN



There is a lack of comprehensive and comparable data on most indicators of health and well-being for young Indigenous children. What exists indicates that Indigenous children are generally in poorer health than other Canadian children (Kohen, Bougie, & Guèvremont, 2015; Findlay & Janz, 2012; FNIGC, 2012a). While most Indigenous children have been reported by their caregivers as being in good, very good or excellent health (Module 7 – Fig. 5.8.1; Smylie & Adomako, 2010; FNIGC, 2012a; see also Egeland, Faraj, & Osborne, 2010a; Findlay & Janz, 2012), young Indigenous children fare poorer than other Canadian children on a number of important health indicators, including nutrition, breastfeeding, obesity, chronic diseases, food security, oral health, otitis media, respiratory health, maternal health, and birth outcomes.

4.1 Nutrition and food security

Eating a balanced diet is vital for maintaining good health and for optimal child development. Many Indigenous children lack access to affordable and healthy market foods, primarily due to geography and/or poverty, depriving them of essential minerals and vitamins needed for healthy development and increasing their vulnerability to diet-related health conditions such as obesity and diabetes (Downs, Arnold, Marshall, & McCargar, 2009; El Hayek, Egeland, & Weiler, 2010; Kolahdooz, Sadeghirad, Corriveau, & Sharma, 2017). Data from the 2006 ACS showed that most off-reserve First Nations, Métis and, to a lesser extent, Inuit children age 2-5 years had generally adequate intakes of milk and alternatives, fish, meat or eggs, and fruits or vegetables, while a significant proportion of Indigenous children were not consuming enough grains (Module 7 – Table 5.3.1; Langlois, Findlay, Kohen, 2013). Approximately 57% of on-reserve First Nations children were reported to ‘always’ or ‘almost always’ eat a nutritious diet; however, a sizeable proportion were not meeting the recommended number of servings

as per the Eating Well with Canada's Food Guide with respect to milk/milk products, fruits and vegetables, and protein (FNIGC, 2012a). Indigenous children living in more rural and remote locations consumed fewer fruits and vegetables, milk and alternatives compared to those living in urban locales, which may reflect poorer access to, and availability of, affordable quality market foods in these regions (Langlois et al., 2013). Additionally, the 2006 ACS showed that off-reserve First Nations, Inuit and Métis children age 2-5 years frequently consumed unhealthy foods like fast food and processed foods, soft drinks, juice, salty snacks, sweets and desserts (Module 7 – Table 5.3.2; Langlois et al., 2013). Unhealthy foods also comprised a significant proportion of First Nations children's diets in the 2008/10 RHS and in smaller scale nutrition studies conducted with selected First Nations populations (FNIGC, 2012a; Johnson-Down, & Egeland, 2010; Langlois et al., 2013; Kuhnlein, McDonald, Spiegelski, Vittrekwa, & Erasmus, 2013; Nakano, Fediuk, Kassi, Egeland, & Kuhnlein, 2005a/b).

Traditional foods have been associated with higher nutrient intakes in young Indigenous children. However, they comprise a much smaller proportion of children's diets than they do adults (Kuhnlein et al., 2013; Kuhnlein

& Receveur, 2007; Nakano et al., 2005a/b). The 2006 ACS reported high rates of traditional or country food consumption among off-reserve First Nation (70.3%), Inuit (90%), and Métis (62.4%) children age 2 to 5 years (Module 7, Fig. 5.3.3; Langlois et al., 2013). While no comparable data exists for young First Nations children, in the 12 months prior to the 2008/10 RHS survey, approximately 30% of First Nations children had someone share traditional food with their household 'often' and another 55.1% had someone share traditional food with their household 'sometimes', a slight increase from the 2002/03 RHS (FNIGC, 2012a). Traditional foods consumed by First Nations children fairly often included land-based animals, freshwater fish, berries or other wild vegetation, and bannock. Promoting traditional foods is a key component of public health interventions aimed at improving the health of young Indigenous children.

Breastfeeding

Breastfeeding encourages the development of secure attachment relationships critical for emotional health and psychosocial well-being; plays an important role in providing infants with necessary nutrients that are critical for healthy physical, brain and social development; and is associated with a reduction in a number of illnesses¹⁷ (Badets,

Hudon, & Wendt, 2017; Maggi, Irwin, Siddiqi, & Hertzman, 2010; Stanley et al., 2007). It is currently recommended that infants in Canada be exclusively breastfed for at least the first 6 months of life (Government of Canada, 2015a). Existing data on breastfeeding indicates that rates appear to be lower for Indigenous infants than for non-Indigenous infants, but the duration of breastfeeding varies widely and may be longer for Inuit infants (Egeland et al., 2010a; FNIGC, 2012a; McIsaac, Lou, Sellen, & Young, 2014; McIsaac, Sellen, Lou, & Young, 2015). The 2008/10 RHS reported that 60.2% of First Nations mothers had ever breastfed their child, compared to breastfeeding rates of over 90% in 2006/7 for the general population (FNIGC, 2012a), with duration of breastfeeding increasing with maternal age at birth (Module 7 – Fig. 5.7.7). Approximately two-thirds of Inuit mothers in the 2007/08 Nunavut Inuit Child Health Survey initiated breastfeeding (McIsaac et al., 2015), and it appears that they sustained breastfeeding for longer than the recommended 6 months¹⁸ (Egeland et al., 2010a; McIsaac, Stock, & Lou, 2017). Rates of sustained breastfeeding among off-reserve Indigenous women over the period 2007-2010 who gave birth in the previous five years were relatively low (Module 7 – Fig. 5.7.6; Statistics Canada, 2016b). Given

¹⁷ Studies have shown that a history of breastfeeding is associated with a lower prevalence of acute otitis media, non-specific gastroenteritis, severe lower respiratory tract infections, asthma, atopic dermatitis, obesity, type 1 and 2 diabetes, childhood leukemia, sudden infant death syndrome, and necrotizing enterocolitis, though the relationship between breastfeeding and cardiovascular diseases, and with infant mortality is unclear (Badets, et al., 2017; Stanley et al., 2007).

¹⁸ While Inuit mothers from both food secure and food insecure households were equally as likely to breastfeed for longer than the recommended 6 months, those from insecure households tended to sustain breastfeeding longer than those from food secure households (mean of 21.4 months compared to 16.8 months) (McIsaac et al., 2017).

the well-documented benefits of breastfeeding for child development, culturally relevant approaches are needed to promote and support Indigenous women in their efforts to initiate and sustain breastfeeding for the recommended time. The Public Health Agency of Canada [PHAC] (2014) provides a set of strategies that can be adapted to the cultural and community context as a starting point in this endeavor.

Food security

Lower levels of education, employment, and corresponding income disparities place many Indigenous families at increased risk of food insecurity, which can lead to negative health outcomes (Health Canada, 2007a). Past studies have shown disproportionately high rates of food insecurity among the Indigenous population as a whole or among selected off-reserve Indigenous or First Nations, Inuit and Métis households (Arriagada, 2017; Expert Panel on the State of Knowledge of Food Security in Northern Canada [EPSKFSNC], 2014; FNIGC, 2012a; Skinner, Hanning, & Tsuji, 2014; Statistics Canada, 2015; Tarasuk, Mitchell, & Dachner, 2016). They have also shown high rates of food insecurity among pregnant Inuit women (Teh, Pirkle, Furgal, Fillion, & Lucas, 2017) and among First Nations, Inuit or Métis children of all ages (Bhawra, Cook, Guo, & Wilk, 2017; Pirkle et al., 2014; Ruiz-Castell et

al., 2015). Very few studies focus specifically on households with Indigenous preschoolers, and of those that do, high rates of food insecurity have been documented. Data from caregivers of Inuit children 3-5 participating in the 2007/08 Nunavut Inuit Child Health Survey indicated that more than half of children lived in food insecure households (Module 7 – Fig. 5.3.7; Egeland, Pacey, Cao, & Sobol, 2010b; McIsaac et al., 2017). The majority of caregivers from severely food insecure households reported their children skipped meals, went hungry, or did not eat for a whole day; while the majority of caregivers in moderately food insecure households reported they worried food would run out, fed their children with less expensive food, or did not feed their children enough because there was no money for food (Module 7 – Fig. 5.3.8; Egeland et al., 2010b). Additionally, nearly 25% of caregivers of off-reserve Indigenous preschoolers in the 2006 ACS reported their children had ever experienced hunger (Findlay, Langlois, & Kohen, 2013). Nearly 45% of caregivers of First Nations children under 18 reported their household experienced food insecurity (Module 7 – Fig. 5.3.6; FNIGC, 2012a). Living in a northern or remote region, where food costs and other household expenses may be high, can increase the vulnerability of experiencing hunger (Findlay et al., 2013).¹⁹

4.2 Obesity

Food insecurity and poor nutrition are contributing to an emerging public health issue in some Indigenous communities through high rates of obesity and overweight among Indigenous preschoolers, especially First Nations and Inuit preschoolers. Obesity is a risk factor for a variety of health conditions, including heart disease and stroke, high blood pressure, diabetes, some cancers, gallbladder disease, osteoarthritis, gout, breathing problems, and asthma, and it contributes to poorer mental health and low quality of life (Centers for Disease Control and Prevention, 2015). While there are few studies comparing the body weights of Indigenous and non-Indigenous children, existing research shows consistently higher rates of overweight and obesity for Indigenous children (Module 7 – Fig. 5.8.7, Implications). More than 20% of on-reserve First Nations children aged 2-11 in the 2008/10 RHS were considered to be overweight and 42.2% were considered to be obese (Module 7 – Fig. 5.8.7; FNIGC, 2012a).²⁰ Galloway and colleagues (2012) reported prevalence of obesity amongst Inuit preschoolers in 2007/08 ranging from 26.9% in Nunavik to 50.8% in Nunavut that likely reflect varying degrees of food security, as well as lower income, employment and education

¹⁹ In March 2015, the cost of feeding a family of four in northern communities eligible for the Nutrition North Canada program, which subsidizes the high cost of bringing healthy foods into isolated communities, ranged from \$328.23 to \$499.16 per week (Government of Canada, 2016a).

²⁰ Similarly high rates have been found among First Nations children in smaller scale studies, with combined overweight and obesity rates ranging from 39% to over 80% (Hanley et al., 2000; Shields, 2005; Willows, Johnson, & Ball, 2007; Young, Dean, Flett, & Wood-Steiman, 2000).

levels. The high rates of being overweight among Inuit children 3-5 years of age (Module 7 – Fig. 5.8.8; Egeland et al. 2009) and the increased prevalence of obesity among on-reserve First Nations children age 2-11 since 2002/03 (FNIGC, 2012a) are especially alarming from a public health standpoint, signalling the potential for an emerging crisis in the development of chronic conditions like diabetes in these populations.

4.3 Chronic conditions

High rates of chronic conditions have already been documented among young Indigenous children. The 2006 ACS reported that 30% of status First Nation and 28% of non-status First Nation, Inuit, and Métis children under 6 years of age had a chronic condition (Module 7 – Fig. 5.8.4; Smylie & Adomako, 2010). Similarly high rates of chronic conditions were found among on-reserve First Nations children aged 0-11 years in the 2008/10 RHS, with approximately 33% of these children being told by a health professional that they had at least one chronic condition (FNIGC, 2012a).

One chronic condition that is becoming an important health issue for Indigenous people, not only for adults but also for the pediatric population, is type 2 diabetes (Canadian Paediatric Society, 2005). On-reserve First Nations children have been identified as being at high risk for developing type 2 diabetes (Dean, 1998; Harris, Perkins,

Whalen-Brough, 1996; Li, 2015). In addition to common modifiable risk factors related to diet and lifestyle, a high degree of exposure to diabetes in-utero (resulting from both high rates of type 2 diabetes in First Nations people generally, as well as high rates of gestational diabetes during pregnancy), as well as the possible presence of a genetic polymorphism associated with decreased insulin production in some First Nations populations, may be contributing to this increased risk (Amed et al., 2012; Byrne & Nkongolo, 2012; Mendelson et al., 2011; Millar & Dean, 2012; Osgood, Dyck, & Grassman, 2011; Sellers, Triggs-Raine, Rockman-Greenberg, & Dean, 2002). The First Nations 2008/10 RHS reported that 35.2% of on-reserve First Nations children age 0-11 with diabetes sought treatment for the condition, a decrease of 50.7% since 2002/03 (Module 7 – Fig. 5.8.6; FNIGC, 2012a). The causes behind this decline are unknown, but it suggests a need to identify and address any barriers that may exist in treating diabetes in First Nations children.

4.4 Oral health

Indigenous populations continue to experience poorer oral health than the general population (Canadian Dental Association, n.d.). Access to dental health services may be very challenging for Indigenous people living in rural and remote areas. The 2008/10 RHS found that 74.3% of First Nations children had visited a dental professional in

the 12 months prior to the survey (FNIGC, 2012b), while the 2012 APS reported that only 56% of Inuit people had done so (Wallace, 2014). The lack of access to dental professionals is contributing to higher levels of untreated decayed and missing teeth, and poorer self-reported oral health and oral health status (Health Canada et al., 2011).

Poor oral health can affect the general health, quality of life, and well-being of infants and young children, including pain, difficulty eating and sleeping, speech difficulties, and poor self-image (Baghdadi, 2016). There is no comprehensive data on the prevalence of early childhood caries (ECC) among Indigenous children; however, the 2008/10 RHS reports that 86% of First Nations children aged 3-5 years had dental caries (FNIGC, 2012b). The prevalence of early childhood caries among on-reserve First Nations children under 6 years of age has increased since 2002/03, especially among children less than 3 years of age (Module 7 – Fig. 5.8.12; FNIGC, 2012a). Approximately 18.7% of First Nations infants from birth to age two were affected by baby bottle tooth decay (BBTD) (FNIGC, 2012b). The Inuit Oral Health Survey (2008-2009) reported that 85.4% of Inuit preschoolers aged 3-5 years had experienced one or more cavities at the time of the survey, and that overall, they had experienced 8.22 decayed, missing or filled deciduous (baby) teeth [dmft] (Health Canada et al., 2011).²¹

²¹ Smaller scale studies have shown similarly high prevalence rates of ECC among Indigenous preschoolers, ranging from 50% to 100% across selected communities and populations (Baghdadi, 2016; Lawrence et al., 2004, 2009; Leake, Jozzy, & Uswak, 2008; Peressini, Leake, Mayhall, Maar, & Trudeau, 2004; Schroth, Moore, & Brothwell, 2005; Schroth, Smith, Whalen, Lekic, & Moffatt, 2005).

Indigenous children are at increased risk of ECC due to a higher prevalence of risk factors, including lower socioeconomic status, higher rates of maternal smoking, and lack of health-care services (Baghdadi, 2016). As noted earlier, young Indigenous children often consume sugary drinks, which is increasing the risk of ECC (Module 7 – Fig. 5.8.13; FNIGC, 2012a; Egeland et al., 2009). Encouragingly, the 2008/10 RHS highlights significant improvements in accessing dental services for on-reserve First Nations children aged 0 to 11 years, with a greater proportion of children visiting a dentist for checkups, teeth cleaning, restorative work and fluoride treatment compared to 2002/03 (Module 7 – Fig. 5.8.15; FNIGC, 2012a).

Some preventative measures may decrease the risk of developing ECC. For example, the 2008/10 RHS indicated that on-reserve First Nations children who were exclusively breast-fed for 6 months and continued to be on complementary breast-feeding beyond 6 months up to two years were less likely to have developed ECC than those who were bottle fed (Module 7 – Fig. 5.8.14; FNIGC, 2012a). It also showed that First Nations children who were normal or underweight were less likely to

develop ECC than those who were obese. These findings highlight the need for culturally appropriate health promotion interventions aimed at encouraging breastfeeding and promoting healthy diets and physical activity in children. This may include Vitamin D and fluoride supplements and varnishes, as well as culturally appropriate maternal counselling.

4.5 Hearing loss and otitis media

Hearing loss has the potential to adversely affect cognitive development and the ability to learn, with impacts across the life course. Hearing loss can result from chronic otitis media, the presence of inflammation in the middle ear cavity, which commonly occurs in early childhood. Prevalence of otitis media has been found to be high among Indigenous preschoolers in selected settings (Harris, Glazier, Eng, & McMurray, 1998; MacIntyre et al., 2010; Thomson, 1994). Six percent of First Nations children in the 2008/10 RHS had chronic ear infections (Module 7 – Fig. 5.8.5; FNIGC, 2012a). However, the limited research conducted to date suggests that Inuit children are more likely than other Indigenous children to have chronic otitis media

or ear infections. Data from the 2006 ACS indicated that off-reserve Inuit children aged 1-5 years were more than twice as likely to have had chronic ear infections compared to off-reserve First Nations and Métis children (Badets et al., 2017). Ear infections appear to be very common among Inuit preschoolers (Egeland et al., 2009; Findlay & Janz, 2012). While rates of otitis media and hearing loss tend to decline significantly after the first year of life and become relatively uncommon in children 7 years and older in the general population, high rates of otitis media and hearing loss have been reported even among school aged First Nations and Inuit children (Harris Langan, Sockalingam, Caissie, & Corsten, 2007). Risk factors for chronic and recurrent otitis media include smoking in the household, low social status, the presence of an allergy, patient history of acute otitis media, an upper respiratory tract infection (Zhang, Xu, Zhang, Zeng, Wang, & Zheng, 2014), as well as poor community and domestic infrastructure and overcrowding (Jervis-Bardy, Sanchez, & Carney, 2014). Like ECC, breastfeeding is seen as an important primary prevention intervention (Karunanayake et al., 2016; Thomson, 1994).



4.6 Respiratory illnesses

Young Indigenous (especially First Nation and Inuit) children appear to be disproportionately affected by acute and chronic respiratory infections such as viral bronchiolitis, influenza, lower respiratory tract infection (LRTI), pneumonia and tuberculosis (Alaghebandan, Gates, & MacDonald, 2007; Alharbi et al., 2012; Banerji et al., 2001; Kovesi, 2012; Kovesi, Cao, Osborne, & Egeland, 2011). Indigenous children are hospitalized for respiratory illnesses at rates that are much higher than non-Indigenous children (Guèvremont, Carrière, Bougie, & Kohen, 2017; He et al., 2017; Young, Kandola, Mitchell, & Leamon, 2007).²² For example, more than 40% of Inuit children aged 3-5 years from the 2007/08 Nunavut Inuit Child Health Survey had to be taken to a health centre in the last 12 months for a respiratory problem (Module 7 – Fig. 5.8.11; Egeland et al., 2009, 2010a).

Common respiratory illnesses that young Inuit children appear to be disproportionately affected by, as derived from small scale studies, appear to be LRTI and pneumonia (Alaghebandan et al., 2007; Kovesi

et al., 2011; Young et al., 2007). Common chronic respiratory illnesses diagnosed in on-reserve First Nations children aged 0 to 11 years in the 2008/10 RHS were asthma and bronchitis. Rates of both of these respiratory illnesses showed slight improvements compared to the 2002/03 RHS (Module 7 – Fig. 5.8.5; FNIGC, 2012a). Rates of asthma, however, appear to generally be lower for Indigenous children than for other Canadian children (Chang, Beach, & Senthilselvan, 2012; Gao, Rowe, Majaesic, O'Hara, & Senthilselvan, 2008; Kovesi et al., 2011). Though this may be due to Indigenous children being under-diagnosed as a result of poor access to, or underutilization of, health care services related to geographic, cultural or socio-economic barriers (Crighton, Wilson, & Senècal, 2010). Tuberculosis (TB) rates also remain significantly elevated among on-reserve First Nations and Inuit children (Halverson, Ellis, Gallant, & Archibald, 2014; Health Canada, 2012; Kovesi, 2012).²³ Some factors that may be contributing to the increased risk of respiratory illness or its severity among young Indigenous children include poverty, tobacco exposure (including in utero), overcrowded and/or poor dwelling

conditions, lack of prolonged breastfeeding, low birth weight, undernutrition, vitamin D deficiency, lack of fresh running water, obesity, and underlying medical conditions (Banerji et al., 2009a; Carrière, Garner, & Sanmartin, 2017; Chang et al., 2012; Kovesi et al., 2009; McNally et al., 2009; Paes, Mitchell, Banerji, Lanctôt, & Langley, 2011; Roth, Jones, Prosser, Robinson, & Vohra, 2008; Sin et al., 2004; Ye, Mandhane, & Senthilselvan, 2012).

Given the high costs associated with hospitalization, prevention strategies are critical for reducing the prevalence of respiratory illnesses among Indigenous children. Strategies that have been advocated in the literature for vulnerable populations like Indigenous young children include: promoting prolonged breastfeeding (Mai, Becker, Sellers, Liem, & Kozyrskyi, 2007; Ye et al., 2012), using heat recovery ventilators to improve air quality (Kovesi et al., 2009), restricting smoking to outdoors (Kovesi, 2012), administering palivizumab,²⁴ a costly but effective antibody (Banerji et al., 2009b; Robinson, 2011), providing vitamin D supplements (Leis et al., 2012), and ensuring

²² A national study (excluding Quebec) conducted over the period 2006-2009 found that Indigenous children were being hospitalized for respiratory illnesses at rates that were 1.7 to 2.5 times higher than non-Indigenous children (Guèvremont et al., 2017). A study conducted in Quebec found that First Nations and Inuit infants had substantially elevated burdens of hospitalization due to respiratory system illnesses such as acute bronchiolitis and pneumonia (124.8 per 1000 for First Nations, 129.1 per 1000 for Inuit, and 47.2 per 1000 for non-Indigenous infants) (He et al., 2017). The highest rates of hospitalization for lower respiratory tract infection in current literature were among Inuit infants in Nunavut over the period 2000-2004 (Young et al., 2007). In a study in Nunavut, one-third of Inuit preschoolers had a severe LRTI before age 2 (Kovesi et al., 2011).

²³ For example, the incidence rate of TB among Canadian-born Indigenous children less than five years of age in 2010 was 18.8 per 100,000 population, (Halverson et al., 2014); while not directly comparable, the incidence rate for children age 0-14 years in Canada in 2015 was approximately 2 per 100,000 population (Gallant, Duvvuri, & McGuire, 2017).

²⁴ Current recommendations are to use palivizumab only in situations involving vulnerable infants; that is, infants with chronic lung disease of prematurity who require ongoing medical therapy, children with hemodynamically significant congenital heart disease who are younger than 24 months of age at the start of the RSV season, and infants born prematurely who are younger than six months of age at the start of the RSV season (Robinson, 2011). However, Banerji et al. (2009b) argue that using palivizumab is more cost effective than hospitalization for Inuit infants less than 6 months of age from rural communities in the Canadian Arctic.

optimal use of influenza and other vaccines (Robinson, le Saux, & the Canadian Paediatric Society, 2015). In addition, socio-economic disparities such as poverty, housing, education, and access to health services, must be addressed.

4.7 Vaccination rates

Canada has a prevention strategy for vaccine-preventable diseases which recommends that infants receive one dose of measles vaccine²⁵ by the age of 2 years, with a target immunization coverage of 97% (Health Canada, 2015). While no national level data on immunizations for Indigenous populations exist, program evaluation data from the First Nations and Inuit Health Branch over the period 2008 to 2012 indicates that approximately 80% of on-reserve First Nations infants received the recommended dose of measles, mumps and rubella vaccine, and that the rate of vaccination appears to be increasing over time (Health Canada, 2015). This compares to approximately 90% of two-year old children in the general population. There appears to be no other disaggregated data on immunization coverage for polio, influenza, tuberculosis, chicken pox, rotavirus, respiratory illnesses, and other vaccine-preventable illnesses among young Indigenous children.

4.8 Maternal health

Health and wellness during pregnancy can affect fetal growth, birth outcomes and the start infants get in life, which in turn can

influence their health and well-being across the life course (Maggi et al., 2010). This section focuses on maternal health factors that impact healthy fetal development, including tobacco and alcohol use, prenatal nutrition, and access to prenatal care.

Tobacco use

Research has shown that in utero exposure to tobacco smoke deprives fetuses of oxygen and nutrients, leaving infants with inadequate resources to maintain health and increasing their risk of developing certain types of cancers and behavioural disorders later in life (Maggi et al., 2010), and can result in adverse pregnancy and birth outcomes, including restricted fetal growth, low birth weight, preterm delivery, stillbirth, and sudden infant death symptom (Collins et al., 2012). Rates of tobacco smoking during pregnancy are much higher for First Nations, Inuit and Métis women compared to non-Indigenous women. The FNIGC (2012a) reports that 46.9% of First Nations mothers in the 2008/10 RHS had ever smoked during pregnancy (Module 7 – Fig. 5.7.1), compared to 23% of non-Indigenous women in the 2009-2010 Canadian Community Health Survey (Cui, Shooshtari, Fortet, Clara, & Cheung, et al., 2014). While rates of smoking during pregnancy appear to be trending downwards for Canadian women in general (Al-Sahab, Saqib, Hauser, & Tamim, 2010; Brown & Wilk, 2014; PHAC, 2016), the reverse appears to be the case for on-reserve First Nations women (FNIGC, 2012a). The 2008/10 RHS shows

that age, educational attainment, and income are associated with smoking during pregnancy for First Nations women living on reserve, with women who are younger (Module 7 – Fig. 5.7.2), have lower levels of education (Module 7 – Fig. 5.7.3), and lower household income (Module 7 – Fig. 5.7.4) being more likely to smoke during pregnancy (FNIGC, 2012a). Rates of smoking during pregnancy are especially high among Inuit women, ranging from 60% to more than 90% (Egeland et al., 2010a; Mehaffey et al., 2010; Muckle et al., 2011; PHAC, 2008a).

Alcohol use

Prenatal exposure to alcohol can cause health complications for mothers and developing fetuses, including adverse pregnancy outcomes such as stillbirth, spontaneous abortion, premature birth, intrauterine growth retardation, low birth weight, and fetal alcohol syndrome (FAS) and fetal alcohol spectrum disorders [FASD], resulting in developmental deficits with implications across the life course (Popova, Lange, Probst, Purunashvili, & Rehm, 2017). Studies on alcohol consumption among Indigenous women present somewhat conflicting findings. While the Assembly of First Nations (2007) and the FNIGC (2012a) reported that First Nations women were less likely to drink alcohol compared to non-Indigenous women but more likely to be heavy (binge) drinkers, data specifically on alcohol use and binge drinking during pregnancy indicate much higher prevalence rates of both

²⁵ The measles vaccine is usually given in combination with either mumps and rubella or mumps and chickenpox vaccines (Government of Canada, 2016c).

types of drinking among pregnant Indigenous women (Fortin et al., 2016; Muckle et al., 2011; Office of the Provincial Health Officer, 2009; Popova et al., 2017).²⁶

While data on FAS/FASD is sparse and dated, it has been recognized as having a significant impact on some First Nations and Inuit communities, especially in the north (FAS/FAE Technical Working Group, 1997; Pacey, 2009a). Approximately 1.8% of First Nations children under age 12 years from the 2002/03 RHS suffered from fetal alcohol effects (Assembly of First Nations, 2007), while 0.7% of Indigenous children under age 6 living off reserve from the 2006 ACS were diagnosed with FASD (Module 7 – Fig. 5.8.17; Werk, Cui, & Tough, 2013). Only half of these off-reserve Indigenous children had received treatment for their condition. Data pooled from the few studies conducted to date indicate that FAS/FASD may be considerably more prevalent among Indigenous populations in Canada compared to the general population, with rates of FAS and FASD at 41.6 and 86.8 per 1000 respectively for Indigenous people compared to 1.1 and 5.3 per 1000 respectively in the general population (Popova, et al., 2017).

Nutrition

Nutritional deficiencies can result in adverse maternal and fetal outcomes. Few studies have assessed nutritional deficiencies among pregnant Indigenous women, though some have assessed nutrition deficiencies in Indigenous women of child-bearing age. Nutritional deficiencies, including magnesium, vitamin A, folate (folic acid), vitamin C and Vitamin E have been documented in pregnant and lactating women in the Canadian Arctic (Berti, Soueida, & Kuhnlein, 2008), while vitamin D deficiencies were documented in pregnant First Nations women in Saskatchewan (Lehotay, Smith, Krahn, Etter, & Eichhorst, 2013) and Manitoba (Lebrun et al., 1993). Some nutritional deficiencies have been documented in Indigenous women of childbearing age, including Vitamin D in Inuit and Inuvialuit women (Kolahdooz et al., 2013; Waiters, Godel, & Basu, 1999) and a small sample of Indigenous women in Manitoba (Weiler, Leslie, Krahn, Wood Steiman, & Metge, 2007). While vitamin supplements have been advocated for pregnant Indigenous women, especially in the north (Egeland et al., 2010a; Waiters et al., 1999),²⁷ studies investigating their use in this population have been sparse. Prenatal vitamin use was found to be low among

Inuit mothers from the 2007/08 Nunavut Inuit Child Health Survey (Egeland et al., 2010a). Likewise, a study presenting findings from the Canadian Maternity Experiences Survey (2006–07) revealed that Indigenous women were less aware of the benefits of folic acid (51.5%) and less likely to use it according to recommended guidelines (39.4%) compared to non-Indigenous women (79.6% and 60.2% respectively) (Nelson, Keon, & Evans, 2014). Given the prevalence of food insecurity and poverty among Indigenous populations in Canada, vitamin/mineral supplementation is needed for pregnant Indigenous women, especially in northern and remote locales, to optimize healthy development of their unborn infants.

Diabetes during pregnancy

Diabetes during pregnancy can cause adverse infant outcomes, including high birthweight, hyperbilirubinemia, hypoglycemia, and hypocalcemia (Godwin, Muirhead, Huynh, Helt, & Grimmer, 1999; Liu, Shah, Naqshbandi, Tran, & Harris, 2012), that have impacts across the life course. It is thought to be an important driver of the type 2 diabetes epidemic affecting First Nations people in Canada (Oster, King, Morrish, Mayan, & Toth, 2014a; Sellers et al., 2016).

²⁶ Drawing from pooled data identified through a systematic review of the literature, Popova and colleagues (2017) estimated that 36.5% of Indigenous women in Canada consumed alcohol during pregnancy compared to 10% of women in the general population, while 22.1% of Indigenous women binge drank during pregnancy compared to 3.3% of women in the general population. Similarly high rates were reported by Muckle et al. (2011) and Fortin et al. (2016) among samples of Inuit women from Arctic Quebec, with 60.5% of pregnant Inuit women reporting they continued to drink during pregnancy and 62% reporting at least one episode of binge drinking. In contrast, data from the 2007/08 Nunavut Inuit Child Health Survey reported relatively lower rates of alcohol use (24.2%) or binge drinking (8.6%) during pregnancy among Inuit women (Egeland et al., 2010a).

²⁷ Vitamin deficiencies are more acute in the north due to reduced access to high quality, affordable market foods and the lack of sunlight during the winter months (Halseth, 2015).

First Nations women are at higher risk of developing diabetes during pregnancy due to higher rates of pre-pregnancy diabetes and greater prevalence of risk factors in the development of gestational diabetes mellitus (GDM) compared to non-Indigenous women, including obesity, previous delivery of high birth weight baby, age (increases with age), history of GDM in a previous pregnancy, excessive weight gain during pregnancy, and family history of diabetes, among others (Aljohani et al., 2008; Dyck, Klomp, Tan, Turnell, & Boctor, 2002; Godwin et al., 1999; Harris, Bhattacharyya, Dyck, Naqshbandi Haward, & Toth, 2013; First Nations Health Centre, 2009). In isolated studies, a significant minority of First Nations women were diagnosed with GDM (Godwin et al., 1999; Harris, Caulfield, Sugamori, Whalen, & Henning, 1997; Johnson, Martin, & Sarin, 2002; Mohamed & Dooley, 1998), and rates of GDM were found to be significantly higher among First Nations (Aljohani et al., 2008; Oster et al., 2014a, 2014b; Shen et al., 2016) and Indigenous women (Dyck et al., 2002) compared to non-Indigenous women.²⁸ In contrast to non-First Nations women, where rates of GDM were higher among urban compared to rural residents, the opposite appears to be true for First Nations women (Aljohani et al., 2008; Shen et al., 2016). However, while prevalence of GDM is disproportionately higher among First Nations women, rates may be growing more rapidly

for non-First Nations women (Oster et al., 2014a). Given the increased risk of diabetes among Indigenous women, screening for GDM should be conducted earlier in the pregnancy rather than the currently recommended 24-28 weeks (Chamberlain et al., 2011, 2013). There is also an urgent need for follow-up and preventive programs for Indigenous women who develop GDM during pregnancy and their offspring to prevent type 2 diabetes (Harris et al., 2016; Mohamed & Dooley, 1998).

Pregnancy outcomes

Many Indigenous women do not receive adequate prenatal and maternity care due to a number of geographic, socio-economic, cultural and systemic barriers, contributing to poorer pregnancy outcomes (Lalonde, Butt, & Bucio, 2009; Riddell, Hutcheon, & Dahlgren, 2016; Smylie, 2014). This includes fewer pre- and antenatal care visits, less use of ultrasonography and other obstetric interventions, and more women having to travel to communities far from home and the support of their families to give birth (Lalonde et al., 2009; Liu, Shah, Naqshbandi, Tran, & Harris, 2012; Smylie, 2014; Riddell et al., 2016). Inadequate prenatal care, when coupled with higher-risk behaviours and socio-economic disparities, can increase the risk of adverse pregnancy outcomes (Shah, Zao, Al-Wassia, Shah, & the Knowledge Synthesis Group on

Determinants of Preterm/LBW Births, 2011). National level data on birth outcomes is lacking due to an absence of Indigenous identifiers on birth registration forms in most provinces (Luo et al., 2010a); however isolated studies highlight persistent disparities in pregnancy outcomes among First Nations and Inuit populations compared to non-Indigenous populations (Chen et al., 2015; Gilbert, Auger, & Tjepkema, 2015; Health Canada, 2011; Elias, Hart, & Martens, 2014; Luo et al., 2004a/b, 2010a/b/c/d; Smylie & Adomako, 2010; Xiao et al., 2016).

Infant mortality

The limited data on infant mortality suggests that rates are considerably higher for First Nations and Inuit infants. Among First Nations infants, rates of infant mortality have been between approximately 1.5 to just over 2 times higher than for non-First Nations infants (Chen et al., 2015; Luo et al., 2010b; Simonet et al., 2010), with disparities greater among northern infants compared to southern infants (Luo et al., 2010d). Rates of infant mortality²⁹ are especially high among Inuit populations, ranging from approximately 2 to more than 4 times higher than the rest of Canada (Chen et al., 2015; Luo et al., 2004b; Luo et al., 2010a, 2010d; Simonet et al., 2010; Statistics Canada, 2012). Both Inuit and First Nations women had elevated risks of postneonatal death compared to non-Indigenous women (Luo et al., 2004b). Collins et al. (2012)

²⁸ A significant minority of Swampy Cree women (8.5%) from Manitoba over the period 1987-1995 (Godwin et al., 1999), Ojib-Cree women (8.4%) from northwestern Ontario over the period 1990-1993 (Harris, Caulfield, Sugamori, Whalen, & Henning, 1997), on-reserve Status Indian women (28/1000 live births) from British Columbia in 1997 (Johnson, Martin, & Sarin, 2002), and First Nations women in the Sioux Lookout Zone between 1985-1995 (Mohamed & Dooley, 1998) were diagnosed with GDM.

²⁹ Including still-births and immaturity-related infant mortality.

determined that unexpected infant deaths comprised the majority of all infant deaths in Nunavut between 1999 and 2011, with the leading causes of death being sudden death in infancy (SIDS) (48% of infant deaths) and infection (21%). The excess infant mortality, especially due to postneonatal deaths, among Indigenous women in rural and northern areas suggests a need to not only improve neonatal, medical and infant care in these regions, but also address socioeconomic and living conditions for families with infants and the high rates of smoking in these households (Luo et al., 2004b; 2010d).

Preterm births and birthweight

Existing data indicates that Indigenous infants are generally more likely to be born preterm and with heavier birth weights compared to non-Indigenous infants, and First Nations infants were more likely to be large-for-gestational age (LGA). In 2006, off-reserve First Nation, Inuit and Métis mothers were slightly more likely than the general Canadian population to have low birth weight babies, while First Nations and Métis mothers were more likely to have high birth weight babies (Module 7 – Fig. 5.8.2; Smylie & Adomako, 2010). Similarly, the FNIGC (2012a) reports that 4.8% of First Nations infants were born with a low birth weight and 19.8% had high birth weight, compared to the 6% of infants in the general population with low birth weight and 11.7% with high birth weight reported in 2007 Statistics Canada data. Rates of preterm births were found to be substantially higher among Inuit in Inuit-inhabited areas during 1990-2000 (Luo et al., 2010a) and in Quebec (Chen et

al., 2015; Luo et al., 2004b, 2010d), and among First Nations women in Manitoba (Luo et al., 2010b) compared to the non-Indigenous population. However, there Inuit women from Inuit-inhabited regions were only slightly more likely than non-Indigenous women to have high and low birth weight infants (Luo et al., 2010a), First Nations women had higher birth weight and LGA births relative to non-Indigenous births (Chen et al., 2015; Luo et al., 2004b; 2010b, 2010d). The higher prevalence of macrosomia (defined by high birthweight of greater than 4000 grams or LGA greater than the 90th percentile) may be due to environmental factors, such as maternal smoking (Module 7 – Fig. 5.8.3); however, further research is required to determine reasons for differences in the prevalence of macrosomia among First Nations infants (Luo et al., 2010d).

Being born with low or high birth weight carries both short and long-term health risks. Low birthweight infants are more likely to die compared to high birth weight infants, and they are more likely to have other poor health outcomes, including fetal and neonatal mortality and morbidity, inhibited growth and cognitive development, and chronic diseases later in life (Health Canada, 2011). High birthweight infants are at greater risk of overweight and obesity in childhood and later risk of cardiovascular disease and type 2 diabetes (Harder, Rodekamp, Schellong, Dudenhausen, & Plagemann, 2007; Ong, 2006). The high proportion of Indigenous infants being born with unhealthy birth weights once again underscores the need to address socio-economic

and environmental factors that are likely contributing to these rates.

4.9 Impacts of family violence on child welfare

Family violence is a significant factor affecting the health and well-being of Indigenous children, resulting in psychological, physical, and emotional impacts that can endure throughout the life course. Research indicates that Indigenous people are nearly twice as likely to report being victims of physical or sexual violence at the hands of a current or former partner compared to non-Indigenous people (Brennan, 2011). Children who witness domestic violence are at increased risk of experiencing social, psychological and behavioural problems that can subsequently lead to parenting behaviours later in life that perpetuate the intergenerational cycle of violence (Bopp, Bopp, & Lane 2003; Hughes, Chau, & Poff, 2011). Because exposure to family violence in the home has been classified as a form of emotional maltreatment (Rossiter, 2011), it plays a significant role in the involvement of child welfare authorities in the apprehension of Indigenous children from their families.

When domestic violence occurs during pregnancy, it can lead to adverse birth outcomes for unborn babies that can have negative consequences extending into adulthood. This includes being born preterm, small-for-gestational age, or with low birthweight (Donovan, Spracklen, Schweizer, Ryckman, & Saftlas, 2016). Data from the 2006-2007 Canadian Maternity Experiences Survey indicated that Indigenous mothers were

nearly three times more likely to experience violence from their partners during pregnancy than non-Indigenous women (Daoud et al., 2012, 2013; Kingston et al., 2016).

Indigenous children also disproportionately experience physical and/or sexual abuse, which can lead to poor self-esteem, aggression and conduct disorders, changes in cognitive attitudes (Hughes et al., 2011), as well as greater risk of involvement with the criminal justice and social welfare systems (Turpel-Lafonde & Kendall, 2009). Data from several iterations of the Canadian Incidence Study on Reported Child Abuse and Neglect (CIS) highlighted the disproportionate representation of Indigenous children investigated and appended by the child welfare system due to reports of child abuse and neglect (Fallon et al., 2013; Trocmé, Knoke, & Blackstock, 2004). This is particularly the case for First Nations children who are investigated at rates ranging from 2-6 times higher than non-Indigenous children across the various forms of maltreatment, including neglect, risk, emotional, physical and sexual abuse, as well as exposure to intimate partner violence (Sinha, Trocmé, Fallon, & MacLaurin, 2013).

Strengthening family relationships is thus a key element in improving the health and well-being of young Indigenous children, with benefits extending into adulthood. This includes improving parenting knowledge and skills, encouraging caring and responsive parent/child relationships, and teaching appropriate behaviour management strategies, as well as addressing

substance abuse and mental health issues to break the cycle of family violence in Indigenous communities. Given the growing recognition that the active involvement of fathers in the care of their children has benefits for both fathers and children alike, there is also a need for policies and programs that specifically address the needs of Indigenous fathers (Ball, 2010).

4.10 Knowledge gaps

Data on health indicators and determinants of health for young Indigenous children continue to be problematic due to a number of long-standing challenges. These challenges make it difficult to understand health outcomes and make good decisions related to Indigenous children, at both policy and program levels. They include:

- a lack of disaggregated data for specific sub-sets of the Indigenous population, including data for Indigenous children under 6 years of age, urban Indigenous children, and off-reserve First Nations, Inuit and Métis children, which leads to generalizations across all Indigenous children and a failure to accurately capture differences between groups;
- a lack of longitudinal data, which inhibits the ability to assess improvements over time;
- a lack of data using culturally relevant health and health determinant indicators, such as participation in traditional activities, use of Indigenous languages, community engagement, community assets, involvement of extended family

and community members in the socialization of Indigenous children, availability and satisfaction with support systems, among others;

- an over-representation of selected regions (such as Inuit Nunangat, Ontario, Quebec and Manitoba), and an under-representation of other regions (such as the Maritimes, the Yukon and the Northwest Territories);
- a lack of comprehensive, consistently reported, national level data related to specific health issues, health care utilization, treatment and prevention interventions (ie. vaccinations);
- limited generalizability resulting from smaller regional surveys with inadequate sample sizes or incomplete registries;
- a lack of data on the affordability and accessibility of Indigenous children and their families to culturally appropriate and safe early childhood programs and services, including early learning and daycare programs;
- the absence (or inconsistent use) of Indigenous identifiers on provincial/territorial hospital records, health surveys, birth registries, and vital statistics records; and
- inconsistencies in the ways in which the data is collected for specific populations, preventing meaningful comparisons from being drawn.

As a result of these data challenges, there are numerous gaps in knowledge about the health and well-being of young First Nations, Inuit and Métis children. This includes, but is not limited to, the following gaps:

- the immunological, behavioural, neurological, cardiovascular and endocrine impacts of environmental contaminants on Indigenous children's health (Singh, Bjerregaard, & Man Chan, 2014);
- the impacts of climate change on the health and well-being of young Indigenous children;
- the prevalence of adverse pregnancy and birth outcomes (including preterm births, birthweights, and birth size) across all regions of Canada and for all Indigenous groups);
- the extent of immunization coverage for polio, influenza, chicken pox, rotavirus, tuberculosis, respiratory illnesses, and other vaccine-preventable illnesses among young First Nations, Inuit and Métis children;
- the prevalence of FAS/FASD among First Nations, Inuit and Métis young children (Pacey, 2009b);
- the prevalence of obesity and specific illnesses among young Indigenous children, including diabetes, cancer, hearing loss, otitis media, respiratory illness, chronic conditions, etc.;
- the prevalence of learning and physical disabilities among young Indigenous children;
- the prevalence of mental health issues among young Indigenous children;
- the use of vitamin supplements for pregnant Indigenous women and young Indigenous children, and their effectiveness;
- the diets of and nutritional deficiencies among First Nations, Inuit and Métis children compared to other Canadian children, and the degree to which traditional foods are helping to address any deficiencies;
- the extent to which use of fluoride supplements, varnishes, and other preventative measures have been implemented to address oral health issues among young Indigenous children (Pacey, Nancarrow, & Egeland, 2010);
- health services utilization and treatment data for Indigenous children, including length of hospitalization, quality of care, hospital interventions, use of medication etc. to determine the quality of care they are receiving compared to other Canadian children;
- prenatal and post-natal health services utilization data for pregnant Indigenous women and new mothers, including number of prenatal visits, use of obstetric interventions, birthing interventions, among others, to determine the quality of care they are receiving compared to other Canadian women;
- the true extent of food insecurity among Indigenous children across Canada;
- the role of various elements of family and community well-being in the health and well-being of young Indigenous children; and
- the role of various elements of language use and culture on the health and well-being of young Indigenous children.

The data challenges highlight the need for enhanced immunization and surveillance strategies (Kovesi, 2012), as well as consistency with respect to use of Indigenous identifiers on various registries across provinces and territories (Luo et al., 2010a). This requires intergovernmental cooperation to establish consistency in what type of data is collected and how it is collected, and to establish mechanisms for the sharing of that information across jurisdictions. There is also an urgent need to work in partnership with First Nations, Inuit and Métis stakeholders to improve the quality and coverage of data and information (Smylie & Adomako, 2010). Indigenous data should be collected according to principles of OCAP (ownership, control, access and possession), which asserts Indigenous ownership and control over data collection processes in their communities, in order to redress “longstanding colonial relationships, experiences of vulnerability to decision-makers, claims of jurisdiction, and concerns over collective privacy” (Bruhn, 2014, p. 1).





5.0 INTERSECTORAL INTERVENTIONS FOR INDIGENOUS CHILD HEALTH



Successful intersectoral interventions in Indigenous child health are planned, designed and controlled by Indigenous communities to reflect their values and lived realities. They encompass Indigenous approaches to health and well-being; adopt holistic approaches that aim to address the many determinants affecting Indigenous peoples' health; incorporate Indigenous cultures, languages, and values; and include programming that targets not only Indigenous children's well-being, but also that of their families and communities (Public Policy Forum, 2015). This section provides an overview of the importance of intersectoral action in addressing determinants of Indigenous child health, the roots of resiliency, including Indigenous models and approaches, how Indigenous ECD interventions and programs are funded and managed federally, examples of successful ECD interventions and programs, and tangible actions to address determinants for Indigenous children in Canada.

5.1 Intersectoral collaboration, determinants of health, and Indigenous ECD

Disparities in Indigenous health are rooted in the inequitable conditions in which Indigenous people are born, live, work and age which stem from differential access to power and resources (King, Smith, & Gracey, 2009). The 2002 Romanow Commission report on the state of health care in Canada concluded that the conditions in which Indigenous peoples live are inexcusably poor and that intersectoral and multi-jurisdictional approaches are needed to address these conditions and improve their health and well-being, especially in rural and remote settings where resources are limited (Romanow, 2002). The Commission called for a pooling of funding and resources from all sources and sectors to establish new approaches to improve Indigenous peoples' health.

Intersectoral collaboration refers to the collective actions of a range of sectors, including health, housing, education, transportation, social welfare, among others, from various organizations and agencies, including federal, provincial, and municipal governments, as well as non-state actors like the private sector, non-governmental organizations, universities, research entities, and community groups, among others, working together for a common purpose to address the social determinants of health (Danaher, 2011). The benefits of intersectoral collaborations at a structural level generally include a more comprehensive response to community issues, less fragmentation of services, improved communication across sectors and actors, more effective use of limited resources, capitalization on the strengths of multiple sectors, and a reduction of duplication and gaps (Canadian Council on Social Determinants of Health [CCSDH], 2013; Ministerial Advisory Council on Rural Health [MACRH], 2002; Woodhead, 2014). These benefits are especially pertinent in the context of the complex jurisdictional framework for the delivery of programs and services for Indigenous peoples, and the limited resources and infrastructure available to address the economic, social and environmental factors that collectively influence health and well-being of young children in some Indigenous communities.

Intersectoral approaches are useful for addressing the social determinants of health for Indigenous peoples for several reasons. Because the roots of inequitable health for Indigenous

people lie within the deeper structures of socio-economic inequality, they must be addressed at various levels, from the community program planning and service delivery level to high-level macro social and economic policy changes (Danaher, 2011, p. 3). Additionally, in the context of complex health and social problems within Indigenous communities, where many of the factors impacting health are outside the realm of the health sector, intersectoral collaboration and coordination are critical as the actions of a single sector or the health sector alone would have limited effectiveness. However, while inter-sectoral collaboration has come to be seen as essential for strategies to address health disparities and the determinants of health, research on what types of intersectoral collaborations work and in what contexts is currently lacking (Danaher, 2011; Ndumbe-Eyoh, & Moffatt, 2013; Public Health Agency of Canada, 2008b).

Intersectoral collaboration is ideally suited for ECD programs and interventions because this approach recognizes that the lives of young children (and those of their parents) are lived holistically and not sectorally (Woodhouse, 2014). In the first few years of the early childhood phase, children undergo a period of accelerated growth and their experiences during this period can have significant impacts on their physical, cognitive, emotional and social development (CCSDH, 2017). The factors that influence healthy child development are complex and holistic, encompassing dimensions of health, nutrition, child protection, learning, identity formation, and socialization, among

others, which are influenced by multiple factors at the level of the family, community, and the broader society (Maggie et al., 2010). They thus involve multiple policy and program sectors and actors (ie. social welfare, school systems, health, childcare and community services), as well as a range of state and non-state stakeholders.

Woodhead (2014) identifies multiple pathways for intersectoral collaboration in ECD interventions throughout the various developmental phases of young children, each involving multiple sectors. The ‘before conception’ and ‘conception to birth’ phases focus primarily on optimizing the health and well-being of girls and women, before and during pregnancy, in order to minimize maternal health impacts on fetal development. As such, some pathways for intersectoral collaboration might include: family planning programs; social protection programs to alleviate the impact of poverty on pregnant women; health and nutrition interventions for girls and mothers-to-be; antenatal services; safe birthing practices; and education and health promotion interventions regarding the care of newborns and their early development, among others. The ‘birth to 2 years’ phase focuses primarily on the health and safety of infants, including infant nutrition and developmental checks, early interactions and stimulation, and support for parents. Some pathways for intersectoral collaboration might include birth registration to ensure parental entitlement and access to basic services, legal and policy frameworks that provide for parental leave or promote women’s labour market participation, as well

as initiatives that promote good infant nutrition, reduce childhood illnesses and diseases, foster healthy and safe environments for children and their families, and enhance parenting skills and knowledge. In the ‘preschool phase’, there is a stronger focus on children’s education and learning experiences, and greater engagement from the education sector. Some pathways for intersectoral collaboration might include: centre-based preschool interventions, home and community-based childcare programmes, parenting support and education interventions, integrated ECD services, among others. The final phase focuses on transitioning into compulsory schools and emphasizes ‘school readiness,’ from the perspective of the child, the parent and the school (Woodhead, 2014). Some pathways for intersectoral collaboration might include strategies that ease children’s transition to school, that provide a healthy school environment, or that foster a positive and supportive learning environment for children in the home.

The potential benefits of intersectoral models of ECD for children, families, communities and society are wide-ranging (Haddad, 2002). By addressing children’s basic needs, including food, protection and healthcare, intellectual stimulation, supportive human interaction, and affection, comprehensive ECD programs can enhance children’s self-esteem, build their sense of individual and collective identity, reinforce their learning and communication skills, and develop their social and problem-solving skills, which collectively contribute to a child’s

ability to be resilient in the face of adversity. They can strengthen the environments in which children live by providing opportunities for parents/caregivers to seek employment, build their support networks, and gain the tools and skills they need in their parental roles. For Indigenous populations who continue to experience inequities anchored in historical inequalities, comprehensive ECD interventions can act as a powerful equalizer, supporting Indigenous families in fulfilling their responsibilities and achieving their aspirations for their children (BCACCS, 2014). In fact, these types of approaches are considered one of the most effective ways of helping children, families, communities and nations break the inter-generational cycle of poverty (Haddad, 2002). Innovative models of inter-sectoral collaboration, including in ECD, have shown benefits for Indigenous peoples and communities, including increased satisfaction with services, improved coordination and reduced costs, and increased children’s school readiness (CCSDH, 2013). There are, however, challenges to building effective integrated ECD systems, especially in relatively low resource but high need contexts, which may make full integration unachievable in some contexts. As such, intersectoral collaborations must be context specific (Woodhouse, 2014).

5.2 Roots of resilience: Indigenous approaches and models

Indigenous approaches and models must encompass the values and principles that Indigenous peoples consider important for fostering

healthy, happy and resilient children across the lifespan. Because Indigenous children’s health and well-being are influenced by the socio-economic, cultural and environmental determinants of health, these approaches must be holistic, addressing emotional, physical, psychological, spiritual elements of health and well-being of young Indigenous children within the context of the health and well-being of their families and communities. They must also address the many barriers young Indigenous children and their families face in accessing programs and services. A wide variety of programs are needed to address the distinct needs of First Nations, Inuit and Métis children and families. This includes programs that can:

- enhance children’s cognitive, social, behavioural and physical development, to foster school readiness and set them up for a full engaged adult life
- create positive home environments;
- develop effective and caring parent-child relationships;
- enhance parents’ interactional and parenting skills and their knowledge about child development, including special attention to engaging fathers more in the care of their children;
- involve parents in supporting their children’s learning, both inside and outside formal early learning environments;
- and address lingering effects of colonization that continue to bear down on Indigenous parents and parenting, including

racism and underlying social stigmatization that continues to view Indigenous parents as ‘bad parents’ or blames individuals for circumstances, difficulties and stresses that are often untrue or beyond their control (Kline, 1993).

Indigenous ECD programs and interventions are important sites for promoting resilience in Indigenous children. ECD interventions can provide opportunities to improve aspects of children’s emotional and psychosocial well-being and help them develop the skills and attributes they need to cope with adversity throughout their lives (Newman, 2002; Reynolds, & Ou, 2003). Specifically, ECD programs and interventions can promote resilience in children by:

- providing them with opportunities to develop good social skills, self-esteem, confidence in abilities, feelings of empathy for others, and internal locus of control;
- providing parents/caregivers with the skills and knowledge they need to provide a nurturing and supportive environment in which their children can thrive;
- altering or reducing a child’s exposure to risk, such as providing nutrition to children in food insecure households or learning opportunities for children who would otherwise not have access to them;
- interrupting the chain reaction of negative events that can contribute to preschool children following a pathway that leads them to delinquency

in later years by establishing home-school links to provide much needed child and family supports; and

- creating opportunities for change though the development of positive social networks or interpersonal skills (Newman, 2002).

Indigenous peoples’ notions of resilience are grounded in “culturally distinctive concepts of the person that connect people to community and the environment, the importance of collective history, the richness of Aboriginal languages and traditions, as well as individual and collective agency and activism” (Kirmayer, Dandeneau, Marshall, Kahentonni Phillips, & Williamson, 2011, p. 84). As such, key factors in promoting resilience and reducing adverse health outcomes for Indigenous peoples include connection to land, spirituality, traditional foods and activities, language use, and self-determination. Research has shown that enculturation (the degree to which individuals are integrated into one’s culture) can contribute to the Indigenous children’s well-being in multiple ways. It can increase their sense of self-esteem, which contributes to academic success and is important in developing resiliency in the face of racism and discrimination; it can protect them against delinquency and prevent substance abuse; and it can promote emotional and psychological healing (Chandler & Lalonde, 1998, 2008; Fleming & Ledogar, 2008a/b; McIvor, 2005; McIvor, Napoleon, & Dickie, 2009; Zimmerman, et al., 1998). Indigenous children’s connection to family and community

play important roles in fostering resilience. Strong family networks and communities provide sources of support and are critical for the passing down of cultural protocols, traditions, and a values or belief system for children, which helps them establish a positive identity and pride in themselves (Irvine, 2009; Pilisuk & Froland, 2004), which ultimately contributes to their mental health and well-being.

There are some common features of ECD programs that researchers and early childhood professionals working in Indigenous communities feel constitute ‘best practices’ in Indigenous contexts. They are culturally-focused and aim to revive and protect Indigenous languages and cultures to help restore Indigenous people’s identity; they are community planned, designed and controlled; and they incorporate a holistic approach that promotes the emotional, cognitive, spiritual and physical needs of Indigenous children and families (Public Policy Forum, 2015). Additionally, ECD programs with an early learning and care focus must incorporate Indigenous traditional and contemporary approaches to raising children that are grounded in Indigenous knowledges, cultures and worldviews; reinstate Indigenous principles of collectivity; and incorporate Indigenous pedagogy (BCACCS, 2014; Holland Stairs & Bernhard, 2002; Preston, Cottrell, Pelletier, & Pearce, 2012).

There are some fundamental differences between Western and Indigenous ways of knowing and learning that must be reflected in ECD programs with an early learning focus. Oral communication

and storytelling are key components of Indigenous culture and learning, and are ways of sharing the history, knowledge, values and beliefs adults have with children. Additionally, learning for Indigenous children is hands-on, experiential and built on a foundation of context (Hogue, 2016). These differences are reflected in the developmental outcomes for First Nations, Métis and Inuit children participating in the 2006 ACS (Findlay, Kohen, & Miller, 2014). This study found that across all three Indigenous groups, gross motor and self-help skills were found to be achieved earlier than the internationally established World Health Organization (WHO) windows of achievement, while language skills were achieved slightly later than Canadian children in general. The study highlighted the “importance of establishing culturally specific norms and standards rather than relying on those from general populations” (p. 241). Findlay and Kohen (2013) found that speech-language deficits were a prevalent form of developmental delay among off-reserve Indigenous children and point out that this may be because “Aboriginal children may learn language in a different way than do non-Aboriginal children” (p. 14). As a result, culturally appropriate means of language instruction and assessment are needed.

There is also a need for interventions that address barriers young Indigenous children and their families face in accessing ECD services. The Public Policy Forum (2015) calls for the integration of existing ECD programs and services which support Indigenous families and communities across Canada so that service providers can work

together to provide more continuous and better coordinated services. Additionally, ECD programs must be accessible, affordable, voluntary, and family-centred to enhance their reach (Public Policy Forum, 2015), and be adequately staffed by qualified Indigenous educators (Preston et al., 2012).

5.3 The evolution of Indigenous ECD programs and policies

The federal government began establishing a number of Indigenous-specific ECD policies, programs and services aimed at closing the gap in life chances for Indigenous peoples during the late 1990s (Greenwood, 2009). In 1992, it initiated a five-year national action plan to promote Indigenous children’s health and well-being entitled *Brighter Futures*, involving one component to support First Nations children and families residing on reserve (*Brighter Futures*), and another component to support Indigenous children and families living off reserve or outside Inuit communities (*Community Action Plan for Children*). In 1995, it established the First Nations and Inuit Child Care Initiative (FNICCI), which sought to establish community-based childcare programs for young children on reserve so that parents could pursue work or further education. This was followed the next year by the Aboriginal Head Start Urban and Northern Program (AHSUNP), an early intervention program aimed at meeting the needs of at-risk Aboriginal children living in large, urban and northern communities by offering enriched preschool programming. This program was extended to on-reserve communities

in 1998. With the announcement of the National Children’s Agenda in 1997 and the recognition by the Government of Canada of the importance of early childhood development (ECD) as a national priority in 2000, more attention was given to formalized early childhood programs and services for Indigenous children (Health Canada, First Nations, Inuit and Aboriginal Health, n.d.). In 2002, a five-year funding commitment of \$320 million was announced in support of an ECD strategy for Indigenous children. This strategy supported a ‘single window’ approach to ECD programming to ensure coordination between federal ECD programs, and to improve efficiency by reducing overlap and duplication among existing programs and services (Greenwood, 2009). This was followed up with a commitment of \$45 million over three years and \$14 million in ongoing funding for Early Learning and Child Care (ELCC) programs on reserve (Indian and Northern Affairs Canada, 2008c). These programs were to be culturally adapted to, and by, First Nation and Inuit communities. However, while single window service delivery demonstration projects began in April 2007, this overall approach has not been widely accepted at the policy and program levels. Since 2005, support of Indigenous ECD programs has not changed significantly (BCACCS, 2014).

Four federal departments have been involved in developing policies in support of children and families in the areas of healthy pregnancy, parenting and family support, early childhood development (ECD) and care, and community support. Indigenous Services Canada provides funding for programs and

services for on-reserve First Nations reserve and Inuit communities, including Aboriginal Head Start On-Reserve (AHSOR), Brighter Futures, the Canada Prenatal Nutrition Program (CPNP) – First Nations and Inuit Component; the Children’s Oral Health Initiative; Fetal Alcohol Spectrum Disorder Initiative – First Nations and Inuit Component; and the Maternal and Child Health (MCH) Program. The Public Health Agency of Canada (PHAC) provides funding for programs and services for off-reserve First Nations, Inuit and Metis populations, including AHSUNC, Community Action Program for Children (CAPC); Canada Prenatal Nutrition Program (CPNP); and the Fetal Alcohol Spectrum Disorder Initiative. Aboriginal Affairs and Northern Development Canada (AANDC)³⁰ provides day care programs for on-reserve First Nations in Ontario and for Status Indians and Métis ordinarily on reserve in Alberta. Employment and Social Development Canada³¹ funds the First Nations and Inuit Child Care Initiative (Public Policy Forum, 2015). Some of these programs are designed to respond to the needs of adults, like CPNP and the MCH which provide services and resources to support healthy pregnancies, infant health, and the health and well-being of families of young children, while others are oriented towards the specific needs of the child, like Aboriginal Head Start, which supports the spiritual, emotional, intellectual

and physical development of Indigenous children. Not all of these programs are designed specifically for Indigenous children and families. For example, the CAPC program targets all disadvantaged children in urban locales and is not designed to respond to the cultural and specific needs of Indigenous children. All funding for Indigenous ECD programs flows through the *Early Childhood Development and Early Learning and Child Care – Strategy for First Nations and other Aboriginal children* (BCACCS, 2014). Currently, the Government of Canada is engaging Indigenous peoples and other stakeholders in the development of a new Indigenous Early Learning and Child Care Framework for First Nations, Inuit and Métis children across Canada.³² Support for Métis-specific ECD programs and interventions currently does not exist at the federal level (Public Policy Forum, 2015).

5.4 Examples of successful Indigenous ECD interventions and programs

Several examples of promising approaches to ECD in Indigenous contexts are highlighted below. These examples adopt holistic approaches to address holistic needs and incorporate many of the factors identified as being important for promoting resilience and healthy child development in First Nations, Inuit and Métis children. Most of these examples

are community-designed and controlled, and involve intersectoral collaboration or integrated services.

Aboriginal Head Start programs

The Aboriginal Head Start programs are community-based programs that offer culturally-focused early childhood education (ECE) centred on fostering the spiritual, emotional, intellectual and physical growth of both on and off-reserve Indigenous children, and supporting parents and guardians as their primary teachers. They were first implemented in Canada in 1995 in urban centres and large northern communities across Canada (Aboriginal Head Start in Urban and Northern Communities [AHSUNC]), then extended in 1998 to include on-reserve Indigenous communities (Aboriginal Head Start On Reserve [AHSOR]). The Public Health Agency of Canada is responsible for funding and administration of the AHSUNC programs, while the First Nations and Inuit Health Branch of Indigenous Services Canada (FNIHB) is responsible for the AHSOR programs. Aboriginal Head Start programs seek to support ECD strategies through community-designed, implemented and delivered strategies and programs for young children (0 to 6 years), with a particular concentration on children between the ages of 3-5. Each program must support one or more of six components: education, health promotion, culture and language, nutrition, social support,

³⁰ At the time of research, responsibility for these daycare programs rested with the Aboriginal Affairs and Northern Development Canada (AANDC). However, with the recent dissolution of the AANDC and replacement with two new departments, it was not possible to determine which department has assumed this responsibility by the time of publication.

³¹ Formerly Human Resources and Development Canada (HRDC)

³² See Government of Canada (2017b).

and parental/family involvement (Public Policy Forum, 2015). However, because the programs are designed by communities, each focuses on the needs and desires of individual communities, enabling them to emphasize their own distinct culture, language and identity to empower children and strengthen their pride in themselves and their community (Williams, n.d). The programs also reflect the population being served by hiring Indigenous staff (Office of Audit and Evaluation, 2017). Ensuring the programs are culturally appropriate and safe and engaging parents in the education and care of their children can help to overcome any concerns or mistrust Indigenous parents/caregivers may have about education stemming from their history with the residential school system.

Programs typically run half-days, five days a week, and encompass traditional cultural practices and a holistic approach to learning and early development. This includes language classes to improve children's proficiency in their own language, early learning activities to improve school readiness, health education and awareness activities related to oral health, immunization, nutrition, physical activity, healthy lifestyle choices, and traditional cultural practices (Health Canada, 2007b). Additionally, the programs also focus on building parental skills and knowledge and improving family relationships to support optimal child development, through encouraging parental involvement in their children's education, providing resources and social support for parents, and providing a range of activities specifically targeted at parents, including

parenting workshops, dental hygiene and nutrition information sessions, and cooking classes for preparing traditional foods. The programs are free of charge due to federal subsidies and, in many cases, transportation is provided to and from the AHS site (Indian and Northern Affairs Canada, 2008a). As of 2015, there were 134 AHSUNC sites across Canada serving over 4700-4800 children and 356 AHSOR sites serving over 11,300 children (Office of Audit and Evaluation, 2017). However, access to these programs is limited. The PHAC (2017) reports that there are currently 88 projects serving a majority of First Nations children (serving approximately 55% of the off-reserve First Nations population), 57 projects with a majority of Métis children (serving approximately 19% of the Métis population), and 31 projects serving a majority of Inuit children (serving approximately 21% of the Inuit population).

Both AHSOR and AHSUNC programs have undergone formal national level evaluations; however, only the AHSUNC program appears to have a distinct and readily accessible national evaluation, while the AHSOR program appears to be evaluated collectively as part of the federal network of programs that directly address early learning and healthy development for First Nations children living on reserve, though several regional or local evaluations can be readily accessed. These evaluations have indicated major gains in all areas of children's development. The AHSUNC 2011-12 to 2015/16 evaluation showed significant improvements in school readiness across all measures, including

language, motor and academic skills, social skills, communication, behaviour and attitudes, emotional maturity, and most children had a positive transition to school (Office of Audit & Evaluation, 2017). Nearly three-quarters of parents/caregivers reported that their child learned Indigenous words and 71% said their child was more aware of Indigenous cultures as a result of participating in the program. Site-specific evaluations, such as the one conducted with the Little Red Spirit AHS Program, also showed benefits of participating in cultural activities that extended beyond the children themselves, with 62% of families doing more Indigenous and traditional activities, and 44% using their Indigenous language more often as a result of the program. Some respondents noted how this participation provided them with a sense of empowerment they did not have before. The AHSUNC evaluation also highlighted benefits for parents, with at least 67% attending at least one parental activity during the year, 68% reporting improvements in their parenting skills; and 76% reporting increased knowledge about how to keep their children healthy. Additionally, the qualitative data demonstrated that parents/caregivers received social support from the AHSUNC sites on a regular basis, which was invaluable in helping them heal and become better caregivers; the relationships they formed led to reduced isolation, increased socialization and better mental health; and the AHSUNC sites contributed to their increased self-esteem and confidence, awareness of themselves and their role in their children's lives, and understanding of parenting.

However, the AHSUNC evaluation also highlighted barriers to access. The programs were unable to extend its reach over the five-year evaluation period as a result of a number of factors, including demographic changes, geographic location, static funding levels, transportation and limited capacity to serve special needs children. AHSUNC serves only 98 (56%) of 175 off-reserve Indigenous communities with a critical mass of Indigenous children (defined as a community smaller than 500 km² in size with an Indigenous children population of 200 or higher). Thirty-four of the communities not served by an AHSUNC were CAPC sites, leaving approximately 25% of these communities without either an AHSUNC or a CAPC site (Office of Audit and Evaluation, 2017). In 2015/16, 40% of AHSUNC sites had waiting lists, with an average of 15 children per waiting list. The capacity of these sites to meet the demands for services has been decreasing since the program's inception in 1995. Funding has not kept pace with the rapidly growing Indigenous population and the costs of operating the sites has increased, particularly for training and resources for children with special needs such as autism, attention deficit hyperactivity disorder, speech and language difficulties, FASD, developmental delays and mental health issues. The evaluation also highlighted additional challenges for remote and isolated AHSUNC sites in leveraging funds and in-kind contributions from collaborative partnerships, meeting staffing requirements for licensing, meeting

training needs for ECE and special needs, retaining staff, and getting parents/caregivers involved and engaged in the programs. Some collaborative partnerships have been established to enable students and ECD practitioners to gain the qualifications they need without having to leave their communities, such as the University of Victoria's partnerships with First Nations communities in BC (Ball & Pence, 2006).

Statistics on the utilization of AHSOR programs by young First Nations children living on reserve and Inuit children are more limited and very dated. Information from the AHSOR website³³ indicates that 14,000 First Nations children on reserve participated in an AHSOR program (excluding BC), while the FNIGC (2012a) reports that approximately 36% of all First Nations children on reserve aged 0-11 years in the 2008/10 RHS had attended an AHS program. Data from Indian and Northern Affairs (2008b) indicated that 354 AHSOR sites were funded in that year, providing services to a total of 383 First Nations communities and 9000 young children. This limited evidence shows some benefits to children and families. Children who attended an AHS program performed better in elementary school than those who did not, as measured by the number of students who had to repeat a grade (FNIGC, 2012a). While there is no way of knowing whether the programs were specifically AHSOR programs, the FNIGC (2015) reports increased communication

skills for First Nations children who participated in Indigenous-specific early learning and care programs, with 48% reporting that "other people can understand when my child speaks", 64% reporting that "I can understand when my child speaks", and 73% reporting that "my child can understand when I speak", compared with 24%, 41% and 58% of parents who had preschoolers who did not attend such a program. Likewise, a greater proportion of First Nations children under age 6 who attended an ECE program designed for First Nations children could understand their caregiver and were understood by their caregiver compared to those who did not attend such a program (Module 7 – Fig. 5.9.3; FNIGC, 2015). Further, the Public Policy Forum (2015) reports an increase of approximately 8% in the proportion of children reading daily and weekly among those participating in such programs.

Data from regional and local AHSOR program evaluations show similar benefits for children and parents/caregivers, as well as some differences in the challenges. For example, an evaluation of the Manitoba AHSOR program in 2010-11 showed a broad range of strengths and benefits for children. This included measures of school-readiness, including literacy, numeracy and motor skills, social development and communication skills, and a desire to learn new things; Indigenous language and cultural components; increased access to health services, including vaccinations, oral and dental health services, and physical exams;

³³ See <https://www.canada.ca/en/health-canada/services/first-nations-inuit-health/family-health/healthy-child-development/aboriginal-head-start-reserve-first-nations-inuit-health-canada.html>

and safe and positive program environments (Kaplan & Komishen, 2011). Benefits for parents included: access to healthy child development information and parenting resources and supports; increased access and referrals to community resources and supports; increased time spent with children, and greater involvement in a range of family activities as a result of participation in the program. However, the evaluation showed marginal abilities for children with their Indigenous languages at the end of the year, which was attributed to the lack of familiarity with Indigenous languages on the part of AHSOR staff, and identified program challenges such as the need for more support from FNIHB (esp. funding, training and staff development, facilities and infrastructure), the need to get parents more actively involved in meetings and program activities, and the lack of community resources and organizations. A case study of an AHS program in Ontario highlighted additional benefits for parents and caregivers, including improved self-reported health status, commitment to cultural and linguistic revitalization, increased visits with an Indigenous social support worker, improvements in mental health, reduced tobacco use, improved knowledge of healthy living practices, and improved parenting knowledge and skills as demonstrated through interactions with children (Mashford-Pringle, 2012).

BC Aboriginal Childcare Society

Established in 1996 to administer British Columbia's share of the First Nations/Inuit Child Care Initiative, the non-profit BC Aboriginal Childcare Society (BCACCS) works to help First Nations communities in BC develop high quality, integrated, culturally-appropriate community childcare services to promote First Nations children's development (BCACCS, 2016a). The BCACCS undertakes community outreach, education, research and advocacy on behalf of Indigenous children in BC to ensure they have enriching, culturally relevant and high quality ECD services, resources, and training workshops in partnership with a variety of stakeholders.

In 2016-2017, the BCACCS partnered with a number of Indigenous and non-Indigenous organizations, agencies and governments, regionally, provincially and nationally. They have been working with the Assembly of First Nations, the Government of Canada and other regional First Nations members of a working group to develop an Indigenous early learning and child care (ELCC) framework that focuses on the inclusion of traditional responsibilities (BCACCS, 2017). They have partnered with the Provincial Health Services Authority, First Nations Health Authority, researchers from various universities, Indigenous and non-Indigenous health, ECD,

and childcare agencies, knowledge translation institutes, municipal governments and non-profit organizations to provide training opportunities, promote leadership capacity, develop new forms of traditional curriculum, and share and develop resources that enable them to better advocate for and create necessary supports and resources for ECD and care for Indigenous children and families. They continue to partner with the BC Ministry of Children and Family Development to provide information services, including child care information and consultation, curriculum development, licensing issues and program evaluations (BCACCS, 2016b/c). They are also the host agency for two urban Aboriginal Head Start preschools in Vancouver, and have developed the Moe the Mouse ® speech and language development program, a resource for Indigenous children, parents and early childhood educators that uses Indigenous toys and stories to enhance language development in children ages 3-5. The ECD programs, services and resources are available to children, parents and early childhood educators, and are affordable, flexible, accessible and holistic. For example, workshops are offered to groups and communities by request on-site in both on- and off-reserve communities. Workshops are adapted to fit peoples' schedules, including daytime, evening or weekend options, as well as tailored content to fit shorter timelines.



First Nations/Inuit Child Care Initiative

The First Nations/Inuit Child Care Initiative (FNICCI) is a \$50 million federal government program that supports over 8500 childcare (primarily preschool) spaces in 486 First Nations and Inuit communities across Canada (Government of Canada, 2016b). It is a component of the Aboriginal Skills and Employment Training Strategy (ASETS), funded by Employment and Social Development Canada, which aims to provide Indigenous people with opportunities to find employment. ASETS utilizes an integrated approach to provide programs and services that fit with three priorities: support demand-driven skills development; foster partnerships with the private sector and the provincial and territorial governments; and place emphasis on accountability and results. Funding for this initiative is provided by the federal government to Indigenous agreement holders who design and deliver employment programs and services that are tailored to meet the needs of the clients they serve (Government of Canada, 2016b). This can include programs and services that focus on skills development, training for high-demand jobs, assistance with job finding, access to childcare, and programs for youth, urban and Indigenous people with disabilities.

While no comprehensive national level evaluation of the FNICCI appears to be readily accessible, an evaluation undertaken by Inuit Tapirit Kanatami (ITK) in 2014 highlights the impact that this initiative has had in Inuit Nunangat. The evaluation found

that the initiative has been “vital to child care programs across Inuit Nunangat” and has positively contributed to families, communities and regional economies (ITK, 2014). Specifically, the program funded the construction of childcare centres in every region of Inuit Nunangat, increasing the accessibility of Inuit children and families to childcare centres from 8 in 1995 to 59 centres in 2014, and creating opportunities for many Inuit parents to participate in the labour force. It has contributed to local economies both directly and indirectly in the form of wages and salaries for employees in the childcare centres, with over \$3 million paid out across Inuit Nunangat in 2013 alone, as well as through increasing the proportion of the Inuit population in the work force (ITK, 2014). Additionally, the framework for FNICCI in Inuit Nunangat is built on Inuit sustaining full ownership of early childhood programming grounded “in Inuit knowledge, cultures, languages and involvement of Elders” (ITK, 2014, p. 4).

However, the evaluation also highlighted some ongoing challenges. In some regions, there is a gap between available funding for childcare programs and growing operational costs. Despite the availability of subsidy programs, daily day care fees vary widely across Inuit Nunangat, with family fees highest in Nunavut and lowest in Nunavik where the Quebec government has committed to long-term funding to support universal child care. In 2014, family fees ranged from a low of \$0 in three child development centres managed by the Inuvialuit Regional Corporation and funded through

multiple sources, including the FNICCI and the Government of the Northwest Territories, to a high of \$15-54 for families in the Qikiqtaaluk region (comprising approximately 58% of median personal income) and \$25-50 per day for families living in the Kitikmeot region (comprising 57% of median personal income) (ITK, 2014). In a region where many households are headed by single parents and median personal income is significantly lower than that of the rest of Canada, these family fees can pose a significant barrier to child care access for many Inuit families.

In the face of population growth and increased demand for culturally-based early childhood programming, many regions are struggling to meet the demand because they lack funding to create new childcare spaces. For example, in the Qikiqtaaluk region, there were 23 FNICCI funded sites in 2014, offering 220 funded spaces; however 910 children were on the waitlist (ITK, 2014). There is also a lack of funding to maintain or build centres. For example, 14 of 19 centres in Nunavik were in need of renovations, and four sites in Qikiqtaaluk were closed due to infrastructure needs. There is a need for increased funding to address a number of issues, including pay parity between early childhood educators and teachers, ongoing training and professional development, infrastructure, increasing demand for child care spaces, and the strengthening of Inuit ECD programs rooted in Inuit culture, language, worldview and knowledge (ITK, 2014, p. 4).

Better Beginnings, Better Futures, Walpole Island First Nation

In 1990, the Ontario Ministry of Community and Social Services announced a 25-year longitudinal prevention policy research demonstration project called ‘Better Beginnings, Better Futures.’ The project targeted young children (0 to 4 or 4 to 8 years) from low income, high-risk neighbourhoods from experiencing poor developmental outcomes. Selected socioeconomically disadvantaged communities were given funding for the development of high-quality programs which:

- aimed to reduce emotional and behavioural problems in young children;
- promoted their social, emotional, behavioural, physical and educational development;
- offered integrated services for children and families, and
- involved parents and community leaders working in partnerships with service providers to plan, design and implement the project (Better Beginnings, Better Futures, 2018; CCSDH, 2017; Peters et al., 2000).

While not specifically targeted at First Nations children, a project was funded in Walpole Island, a First Nations reserve community in southwestern Ontario, located on the border between Ontario and Michigan in the United States. These projects encompassed many of the features identified as essential for promoting resilience in the context of Indigenous children and their families, including intersectoral

partnerships; comprehensive and holistic elements focusing on all aspects of a child’s development; service integration to provide seamless support; community-designed and controlled programs that reflected the needs of the children, families and communities in which they reside; and parent and citizen empowerment. In the case of Walpole Island, the project also stressed a set of community values and working principles, based on traditional culture (Peters et al., 2000).

An evaluation of the program was conducted to assess developmental outcomes for participating children as well as health outcomes for parents (Peters et al., 2000). In this evaluation, outcomes were compared between younger and older cohort sites, with the Walpole First Nation being classified as a younger one. All younger cohort sites, including Walpole First Nation, showed some positive child, parent and family, and neighbourhood outcomes. Positive child outcomes included decreased emotional problems rated by junior kindergarten teachers, improved auditory attention and memory, more timely immunizations at 18 months, and for Walpole Island specifically, improved language, motor, attention and memory development. Positive parent and family outcomes included increased accessibility to health professionals when desired, more frequent exercise during pregnancy, reductions in reports of domestic violence (although this was not sustained over the five year period), and for Walpole Island specifically, considerable improvement in the quality of parent-child interactions and decreased parent and family stress and tension. However, the

evaluation highlighted the need for a stronger breastfeeding campaign and physical exercise and nutrition programs to improve the health of pregnant mothers and their newborn infants in all of the sites.

Brighter Futures Program

The Brighter Futures Program, initiated in 1992, is a community-based health promotion and prevention program for First Nations and Inuit communities (Government of Canada, 2013). It adopts a holistic approach to supporting First Nations and Inuit individuals, families and communities, with activities and services provided in any of five components – mental health, child development, parenting, healthy babies, and injury prevention – that are coordinated and linked with each other (Government of Canada, 2013). Indigenous communities have flexibility in determining which components they want to provide services or activities in, the kinds of activities and services provided, and the incorporation of First Nation and Inuit cultural values and traditions, in order to ensure that local priorities are reflected. The mental health component promotes healthy communities through services and activities that promote community health, such as counselling services and wellness activities. The child development component focuses on activities that promote children’s emotional, social, physical, and cognitive development in a nurturing environment. The parenting component promotes culturally-sensitive parenting skills through parenting workshops, parenting training programs like “Nobody’s

Perfect”, and support groups for parents of children with Attention Deficit Hyperactivity Disorder. The healthy babies component aims to improve the health and well-being of mothers, their developing fetuses, and their newborn infants through providing services/activities such as pre- and post-pregnancy services and education on issues like the importance of breastfeeding, pregnancy care, health and nutrition. The injury prevention component funds activities aimed at preventing injuries such as first-aid, CPR training, water, fire and bicycle safety workshops, and seatbelt awareness campaigns, among others. In each of these components, First Nations and Inuit communities are free to emphasize culturally-relevant approaches and activities. Many of the communities established partnerships at the community level with other programs and service delivery agents, while some established partnerships with other Indigenous communities. Partnerships with local hospitals or regional health boards, and with provincial organizations and agencies were rarer.

The Brighter Futures program does not appear to have any recent and accessible evaluation. A 2005 evaluation highlighted the ongoing relevance of the program as well as positive benefits for communities and their members (Auguste Solutions and Associates, Inc., 2005). The programs adopted a holistic approach that took into account all dimensions of health and recognized the interconnectedness of individuals, families, communities and the environment; provided integrated services delivery; recognized and affirmed Indigenous cultures and identity; and combined

traditional and western health philosophies. The majority of participating communities regularly involved Elders in the program, 37.6% made regular referrals to traditional healers, and a minority of the communities allocated resources to educational activities about the community’s history, culture, medicines and languages. The majority of programs also initiated community wellness programs that balanced physical and mental health interventions.

Canada Prenatal Nutrition Program (CPNP)

The CPNP, implemented in 1995, is a federally funded community-based program focused on improving the health and well-being of pregnant women and new mothers and their infants up to one year of age who are facing challenging life circumstances, including poverty, teen pregnancy, social and geographic isolation, substance abuse, and family violence (Government of Canada, 2015b). The program’s approach to service delivery is guided by six principles which correspond well with what the literature has identified as important for ECD programs in Indigenous contexts. They include:

- 1) the health and well-being of mothers and babies come first;
- 2) the program must be equitable and accessible for all pregnant women and new mothers across Canada;
- 3) the program must be planned, designed, operated and evaluated by the communities themselves;

- 4) the goal is to strengthen support for parents and families;
- 5) partnerships and collaborative action are central to the development of the program; and
- 6) the program must be flexible to respond to diverse needs and conditions of women in each community.

The programs are holistic, including support for a wide range of activities including nutrition counselling, prenatal vitamins, food and food coupons, healthy living, breastfeeding education and support, food preparation training, birthing support, family and social support, knowledge of child development, child safety, maternal mental health, positive parenting, education and support on infant care and child development, and referrals to other agencies and services that can provide additional support.

While not specifically targeted at Indigenous pregnant women and new mothers and their infants, uniquely Indigenous programs have been established in First Nations and Inuit communities through the First Nations and Inuit Component, funded and administered by Indigenous Services Canada for women living on-reserve, while the Public Health Agency of Canada (PHAC) provides funding and administration for 252 programs that include urban Indigenous women. In many of these programs, the vast majority of participants are Indigenous, reflecting local demographics, while several others, including the Aboriginal Perinatal Outreach and Education Program

in Ottawa and the Aboriginal Prenatal Nutrition Program in Fort Erie, focus exclusively on Indigenous populations. Due to its programming flexibility, the CPNP is able to respond to regional priorities and needs. Indigenous programs are designed to be culturally relevant, including information on traditional childbirth and parenting, the inclusion of traditional foods, and other elements that aim to strengthen cultural identity, as well as cultural awareness and competency training for health and social service providers (PHAC, 2007). They may also include additional supports that may not be readily available in other programs to reflect local realities, including child care, transportation services, and literacy and language development. In 2013-14, 16 CPNP projects were funded on reserves (Office of Audit and Evaluation, 2016).

Results from several evaluations highlighted some positive health outcomes for infants, mothers and communities. Exploratory results from a Levels of Service Analysis showed that higher participation levels were associated with healthier birth weights and higher breastfeeding initiation rates, while a Baseline Comparison Study found that mothers in CPNPs had breastfeeding initiation rates that were nearly double that of mothers who were not participating in these programs (PHAC, 2007). Benefits for mothers in the program have included improved access to services, reduced isolation, improved nutrition, healthier pregnancies and outcomes, more information on breastfeeding, better parenting, reduced stress and greater self-confidence (PHAC, 2007, p. 17).

Research evidence also suggests that CPNP funded projects are helping to build community capacity through collaboration and partnerships. A 2003 Health Canada evaluation showed that projects are well integrated into communities, allowing projects to leverage resources from health professionals, businesses, not-for-profit organizations, schools, other levels of government and Indigenous organizations (PHAC, 2007). For example, in 2005-2006, 40% of CPNP projects in First Nations and Inuit communities leveraged an additional \$6.5 million in funding from other levels of government; nearly 49% of total staff hours required to deliver the programs were in-kind contributions from partnering organizations; and 97% of projects received at least one in-kind contributions of space, materials, food, transportation or other goods (p. 18). The CPNPs truly highlight the benefits of intersectoral collaborations in making a difference in the lives of disadvantaged Indigenous women.

Community Action Program for Children (CAPC)

The CAPC, implemented in 1993, is similar to the CPNP in that it is a national community-based program that aims to promote the health and social development of vulnerable children (0 to 6 years) and their families. Funded by the Public Health Agency of Canada, these programs also adopt a holistic approach, offering a range of activities focused on early learning, literacy/language development, child health and development, parenting skills, nutritional support, family support, physical activity, outreach

and home visits (Government of Canada, 2015c). While not focused specifically on First Nations, Inuit and Métis children, 178 projects are in locations that serve a significantly large Indigenous population, including in urban centres, and a substantial number focus exclusively on Indigenous children, including several programs that target Inuit or Métis children exclusively. Additionally, a 2013-14 evaluation reported that 16 CAPC projects were funded on reserves (Office of Audit and Evaluation, 2016). Like the CPNP, CAPC places a strong emphasis on the development of partnerships with other sectors and organizations, community capacity building, and the adaptation of activities and supports that meet the needs of populations the programs serve.

In a 2015 program evaluation, parents/caregivers who responded to the survey expressed overwhelmingly positive perceptions of the programs and highlighted the positive impacts on the development of knowledge, skills and health behaviours for themselves, their children and their families (PHAC, 2015). The vast majority of respondents felt they were treated with dignity and respect, felt welcomed and accepted, and felt the staff responded to their concerns and helped them get the resources they needed for their children. The programs helped participants gain parenting knowledge and skills about how to keep their child safe and healthy, their children's development, and where to go for additional information and support. The vast majority of respondents indicated they were better able to cope with stress and meet their family's basic

needs, had a better relationship with their child, and were applying what they learned with respect to nutrition, early learning, and other aspects of parenting. The survey also highlighted benefits for children in terms of increased independence, confidence, literacy, language and numeracy skills, as well as enhanced communication and social skills. The survey also found that children and families who were experiencing certain risk characteristics, including Indigenous children and families, consistently reported greater gains from participating in the program.

Success by 6® BC

Success by 6 is a collaborative initiative involving the United Way organizations, British Columbia (BC) Credit Unions, the provincial government's Ministry of Children and Family Development, and Indigenous and community leaders. The initiative is aimed at fostering healthy, safe and secure, socially engaged, responsible, and successful learners by building community, supporting and strengthening existing services, and providing additional support to expand ECD in BC (Success by 6, n.d.a). Coordinators from 21 regions work with early years planning councils in more than 550 communities across BC, bringing together local stakeholders from multiple sectors, including health, education, child care, recreation, libraries etc., to improve service delivery for young children and their families. The initiative aims to build child and family friendly communities through citizen engagement and funding programs that enhance the social, emotional, physical, and cognitive development of young children

under age 6. These programs can include a focus on cultural activities and resources, literacy, nutrition, childcare, children's play, and parenting and skill's development. Examples of collaborative activities funded through the program include supporting service integration, identifying barriers and gaps in early years service development, developing public awareness campaigns, holding local health fairs, developing Indigenous language and cultural resources, planning Indigenous cultural events, and developing new playgrounds or community early years service hubs.

The initiative recognizes the unique needs of Indigenous children and families through a number of ways. First, a specific funding stream is dedicated to Indigenous engagement. Second, Indigenous coordinators work with Indigenous communities on ways to improve service delivery. Third, community programs are based on community priorities and funding decisions are made at the local level, giving Indigenous communities freedom to focus on the unique needs of their communities. Fourth, *Success by 6* operates on some unique guiding principles when working with Indigenous communities. These include:

- mindfully recognizing the diversity of Indigenous populations in BC, including urban Indigenous and Métis populations;
- supporting Indigenous children and families through recognition of their right to self-determination and community-driven approaches;

- supporting the progress of communities, local initiatives, and the provincial implementation team; and
- building on the strengths of existing relationships and partnerships (Success by 6, n.d.b).

Additionally, *Success by 6* has implemented an Aboriginal Engagement Strategy with four key priorities:

- 1) increase Indigenous participation and representation in the initiative,
- 2) work with Indigenous communities to strengthen community capacity building,
- 3) increase cultural awareness within the context of Indigenous ECD, and
- 4) promote and increase awareness of the importance of ECD.

The engagement approach commits *Success by 6* to engage with Indigenous peoples and communities in a manner that respects their protocols and diversity, working with them not to get 'buy in' but to determine the relevancy of *Success by 6* to their own priorities for supporting their children and families (Success by 6, n.d.c).

Success by 6 has been working on a shared measurement evaluation tool, a challenge given the diversity of activities and services funded across BC. As such, only a pilot evaluation has been undertaken to date to assess parents' experiences

about the services and activities offered, as well as the broad utility of a shared evaluation framework. The evaluation indicated that the programs were addressing the outcomes being evaluated. Of respondents participating in the evaluation survey, 89% of those in parent-centered programs and 85% of those in child-centred programs felt that program staff demonstrated both relational and participatory practices; 92% of respondents in parent-centred programs and 90% of respondents in child-centred programs felt they could easily get information they needed from program staff most of the time; 84% of respondents in parenting programs indicated their parenting ability increased; and 74% of respondents in parent-centred programs indicated their social support had increased (Munro, 2010). Separate evaluations have been undertaken to evaluate community capacity building as a result of *Success by 6*. For example, a 2013 evaluation involving managers and stakeholders highlighted successes in the area of community planning, with stakeholders indicating an improved ability to identify and address community needs, an increased level of collaboration among community partners, and more effective coordination related to the ECD planning tables (Success by 6, 2013). The majority of ECD tables had undertaken various activities aimed at improving coordinated service provision and address barriers to services for children and families. Approximately 60% of respondents indicated that ECD services and supports have improved for Indigenous families; however, only 28% indicated improvements

in access to food and 18% indicated improved transportation to programs and services for families living on low income.

Integrated 'single window' models

While most communities in Canada maintain an individual-centred and non-integrated approach to child and family services, a number of Indigenous communities have moved towards an integrated model because they feel the non-integrated approach focuses on a specific 'need' or 'problem' rather than on the functioning of the 'whole person' and well-being of the whole family (Ball, 2004). These models integrate child health and development on-site in their childcare programs and provide clear links to other health, cultural and social programs intended to benefit children and their families such as parenting programs, substance abuse treatment services, and job training. For example, Tł'azt'en Nation, located near Prince George, BC, has integrated their licensed childcare and Aboriginal Head Start programs, located at the local elementary school, with access to other specialist services such as physical therapists, occupational therapists and speech-language pathologists (Ball, 2009). Likewise, Lil'wat Nation developed a comprehensive integrated service model, offering infant, child and after school care, a preschool program, and access to a range of child development specialists, co-located in the same facility as a community kitchen, health information and promotion area, health services offices, and a range of family services, including alcohol and drug counselling,

tobacco reduction, diabetes prevention, and parent support programs. This model allows for some sharing of staff and resources to increase efficiency, and acts as a 'hook' and 'hub' that attracts families and caregivers by delivering quality child care and providing access to other 'laddered' health and social services into other activities, supports and services they may not have sought out had they not been so readily accessible. These models also contribute to family and community well-being by facilitating parent participation and volunteerism, strengthening parenting skills, fostering cultural knowledge, identity and pride, and providing culturally safe services. However, in order to be successful, intersectoral collaboration is needed to reduce the burden on communities resulting from multiple funding applications and accountability requirements, enable the construction of facilities that can house multiple services, and support integrated case management across multiple services (Ball, 2004).

Many ELC programs also empower parents/caregivers by attending to the needs of parents and communities in additional ways (Ball, 2005; Benzies, Tough, Edwards, Mychasiuk, & Donnelly, 2011; Preston et al., 2012). For example, Ball (2005) argues that ELC programs should be the hub of Indigenous communities because they can instigate a variety of community services and social supports that mobilize family wellness and promote the holistic wellness of entire communities. They can provide prenatal nutrition, health information and counseling for expectant mothers; develop parenting skills and enhance

community well-being; and focus on other child development outcomes beyond school readiness, such as instilling good oral hygiene practices, healthy eating habits and healthy behaviours. However, Benzies and colleagues (2011) point out that in order to penetrate the deeply rooted challenges within Indigenous families and communities, ELC programs which incorporate interventions for caregivers as well as for children “may need to focus more on spiritual and emotional healing rather than on changing specific parenting behaviours” (p. 317).

Home Instruction for Parents of Preschool Youngsters (HIPPY) – Aboriginal HIPPY

The Home Instruction for Parents of Preschool Youngsters (HIPPY), operating since 1999, is the core program of the Mothers Matter Centre (Mothers Matter Centre, 2016a). The program provides access to home-based learning for more than 10,000 low-income newcomer, Indigenous and other Canadian mothers of 3 to 5 year old children, including structured lessons and practical information and community connections to develop mothers’ parenting skills. The program operates for 30 weeks over the year and consists of weekly home visits by peer Home Visitors who were previously mothers in the program to deliver high-quality child-centered curriculum activities, and monthly group meetings to support mothers’ social integration and the establishment of support networks. The curriculum consists of nine storybooks, weekly activity packages and basic learning supplies, with easy-to-follow lesson plans for parents. Skills and concepts

are introduced progressively to the parent and child, using wide-ranging and fun learning activities that include reading, writing, drawing, singing, rhyming, games, puzzles, cooking, baking and more.

The Aboriginal HIPPY program has been operational since 2002 and serves urban Indigenous families across Canada. It utilizes a culturally relevant curriculum to “maximize the educational and holistic potential of Aboriginal children” and re-establish Indigenous parents’ traditional roles as parents and teachers of their children (Mothers Matter Centre, 2016b, para. 2). The program is developed in collaboration with stakeholders to provide culturally competent, high quality Indigenous early childhood training and support to Indigenous children, parents/caregivers, and communities across Canada. Curriculum is based on Indigenous principles and values, including:

- respect for Indigenous ways of knowing;
- Indigenous knowledge and learning as a foundation of their work;
- trust to foster life-long learning rooted in Indigenous ways of knowing;
- peaceful listening to support healthy dialogue and decision-making;
- integrity of the Aboriginal process and decision-making;
- operation as a community-driven organization;
- cooperation through collaborative sharing, responsibility and partnering; and

- sustainability by responsible planning for future generations (Mothers Matter Centre, 2016b, para. 3).

Indigenous parents are hired and provided accredited training to deliver the HIPPY program in the home. These Home Visitors typically spend approximately 1.5 hours with the parent each week. Indigenous families commit to participating 30-40 weeks a year for a minimum of two years. Parents spend 15-20 minutes a day working with their child, using role-play to deliver the curriculum. In recognition that Indigenous parents may be experiencing negative impacts of colonialism, including residential school and child welfare practices, all instructional materials are prepared at a grade 3 reading level.

Research evidence indicates several positive outcomes for children, mothers, and Home Visitors. Benefits for children have included improved academic performance, with positive outcomes for school readiness, reading ability and school behaviour, as well as increased self-esteem and self-confidence (Mothers Matter Centre, 2016a). Benefits for mothers include improved parent-child relationships, greater self-confidence, reduced isolation, improved opportunities for expanding social networks and social support, acquisition of parenting skills, increased confidence in their role as their child’s teacher, improved language skills, greater participation in their children’s learning and more time spent with their children on learning activities (Mothers Matter Centre, 2016a). Benefits for Home Visitors include employment, workplace training,

and goal setting and job-search support to assist in transitioning Home Visitors to other jobs or higher education. (Mothers Matter Centre, 2016a). For Indigenous families, the HIPPY model has helped remove some of the cultural and social barriers to participating in early learning programs. Benefits have included better health, social and educational outcomes for both children and parents, as well as increased parenting skills (Mothers Matter Centre, 2016b).

Nobody's Perfect

Nobody's Perfect is a facilitated community-based parenting program designed to meet the needs of parents of young children, from birth to age five, who are young, single, socially or geographically isolated, or have low income and limited formal education (Government of Canada, 2017b). The program, developed in the 1980s by Health Canada and the health departments of the four Atlantic provinces, is owned by the Public Health Agency of Canada and delivered to communities across Canada in collaboration with provincial/territorial governments and non-profit organizations. The goal is to improve parents' abilities to maintain and promote the health of their young children by providing them with information and support to promote positive parenting; increase parents' understanding of children's health, safety and behaviour; help parents build on the skills they have and learn new ones; improve their self-esteem and coping skills; increase self-help and mutual support; bring parents in contact with community services and resources; and prevent family

violence (Government of Canada, 2017b). The program is designed to be flexible, accessible and tailored to meet the needs of parents and organizations that sponsor the program. The program is usually offered as a series of group sessions, each about 2 hours long, held over a 6-8 week period; however, it can also be offered one to one. These sessions provide a safe place for parents to share their interests and concerns, with session content revolving around the needs of parents.

The Nobody's Perfect Parenting Program has been organized and run by a number of Indigenous communities and organizations across Canada, including ECD programs like Aboriginal Head Start, CAPC, and Brighter Futures, as well as through Child and Family Services. For example, an Annual Report on the Nobody's Perfect program in Manitoba over the period 2016-2017 highlighted programs at: All Nations Family Resource Centre, Birdtail Sioux Health Centre, Black River First Nation, Little Red Spirit Aboriginal Head Start, Manitoba Metis Federation southwest region, Peguis Family Centre, Sagkeeng Health Centre, Sandy Bay Child and Family Services, Waywayseecappo Head Start, Niji Mahkwa School, among others (Paterson-Payne, 2017).

Parents who have participated in these programs have developed confidence in their parenting skills, better ability to cope with stress and solve problems, improved resilience, more frequent positive parent-child interactions, more frequent use of positive discipline techniques, and improved access to peer, social and community support

(Kennett, Chislett, & Olver, 2012; Skrypnek, & Charchun, 2009). While the program is not intended for families in crisis, these changes in parents help reduce the risk of families experiencing crises.

Indigenous Triple P

The Triple P – Positive Parenting Program is considered one of the world's most effective parenting programs. It provides parenting and family support to prevent, and treat, behavioural and emotional problems in children by equipping parents and caregivers with the skills and confidence they need to manage family issues as they arise so as to promote a positive healthy family environment to optimize a child's development (Triple P Positive Parenting Program, n.d.; CCSDH, 2017). The program has shown success in improving behavioural problems, as well as in developing positive relationships, attitudes and conduct. The program is delivered to parents of children up to age 12 (with an option also available for parents of teenagers). The program provides flexibility through multiple delivery formats, with versions appealing to the preferences of a wide range of families.

A special Triple P program has been developed for Indigenous peoples, in consultation with Elders, professionals and parents from remote and urban Indigenous communities. Steps have been taken to ensure the program is accepted in Indigenous communities and is community-led. This includes developing a local advisory group to negotiate different components of the program format, assessment procedures, resources and

supervision structures, as well as drawing from both Indigenous and non-Indigenous knowledge systems about healthy relationships, parenting, modeling, discipline, inclusion and healing (Turner, Hodge, Forster, & McIlduff, 2017). The program has shown positive child and family outcomes, including reduced emotional and behaviour problems in children; fewer child maltreatment and placements in out-of-home care; decreased hospital visits for child abuse injuries; and reduced depression, parenting stress and coercive parenting practices (Nowak, & Heinrichs, 2008; Prinz, Sanders, Shapiro, Whitaker, & Lutzker, 2009; Sanders et al., 2008). Combined with its flexibility and proven effectiveness in promoting adaptive child and parent functioning in a number of cultural contexts, Triple P is an excellent preventive intervention for children at risk for externalizing behaviours (Toth, Petrenko, Gravener-Davis, & Handley, 2016; Turner, Richards, & Sanders, 2007).





6.0 CONCLUSIONS AND AREAS FOR ACTION



Young Indigenous children experience many health disparities, which can be largely attributed to the socio-economic, environmental, political and historical conditions in which they live, experienced within the context of families, communities, and broader societal systems and structures. High quality, holistic and culturally relevant ECD and care programs provide a promising avenue for addressing these health disparities by optimizing Indigenous children's physical, emotional, psychological, cognitive and spiritual development, and enhancing the family and community environments in which they live, thus giving them the best start in life and, ultimately, improving the health and well-being of Indigenous families and communities over the long-term. However, there are gaps in services for Indigenous children living in the smallest communities that lack the resources and capacity to initiate or maintain these programs. The challenges faced by such communities include requirements for early learning teachers to attain standardized qualifications and be licensed; prohibitive costs associated with ensuring infrastructure for such programs and meeting standards and staffing requirements; the large geographical distances between Indigenous communities and the post-secondary institutions that provide early learning education (Preston et al., 2012); the lack of adequate and sustainable funding; as well as lack of local capacity, services and resources. There are also gaps in services in larger urban centres where there may be an abundance of ECD programs available but they lack culturally appropriate programming (BCACCS, 2014).

The literature highlighted a number of tangible actions to address the social determinants of health for Indigenous children. To redress the legacy of Indian Residential Schools and advance the process of reconciliation, the Truth and Reconciliation Commission (TRC) (2015) recommended a number of actions be taken by the federal, provincial, territorial and Indigenous governments that can support the health and well-being of young Indigenous children. These include:

- fully implementing Jordan's Principle (#3);
- eliminating the discrepancy in federal education funding for First Nations children being educated both on and off reserves (#8);
- drafting new Indigenous education legislation with the full participation and informed consent of Indigenous peoples, committing to provide sufficient funding to close education gaps within one generation and incorporating key principles, including culturally appropriate curricula, protection of Indigenous languages and their inclusion in teaching, full participation of parents in the education of their children, and parental and community responsibility, control and accountability over education (#10); and
- developing culturally appropriate early childhood education programs for Indigenous families (#12).

In addition, a number of additional actions can be taken to address the social determinants of health and promote healthy development for young Indigenous children. These actions, derived from both general conclusions that can be drawn from the overall body of literature as well as specific recommendations made in the literature, include:

- increasing support for integrated and coordinated models of service delivery, wherever possible, to improve access to a wider range of health, education, child welfare and social services and supports for Indigenous children and their families;
- working in partnership with all levels of governments and Indigenous groups to develop an integrated early childhood funding strategy that extends early childhood education to all Indigenous children, offers parental involvement and choice in early childhood education options, and provides accessible funding (Royal Commission on Aboriginal Peoples, 1996);
- providing access to a wide variety of programs that address the wide-ranging needs of families and communities, including programs that enhance young children's cognitive, social, behavioral and physical development; create positive home environments and parental-child relationships; and foster well-being within Indigenous communities (Kline, 1993);

- ensuring programs are driven by the needs and priorities of Indigenous families and communities and reflect their culture, language, values and worldviews so as to help restore Indigenous people's identity and well-being;
- ensuring programs are flexible to accommodate the local realities of Indigenous peoples and communities, including limited resources, funding, transportation, local capacity, and health, social, and education programs and services;
- maximizing Indigenous control over the planning, design and delivery of programs to empower individuals and build local capacity to better identify local issues and develop more effective solutions;
- expanding the reach of ECD programs for Indigenous children and families by addressing barriers related to access, including ensuring programs are accessible, affordable, voluntary, family-centred, and adequately staffed by qualified Indigenous educators;
- supporting Indigenous communities to be engaged in the care and education of their children, consistent with the TRC Calls to Action and Article 23 of the United Nations Declaration on the Rights of Indigenous Peoples (Office of Audit and Evaluation, 2017);

- taking into account Indigenous controlled and culturally appropriate education curricula and pedagogy in early learning programs (Nguyen, 2011);
- shifting the focus of federal investments in daycare from a labour market policy to one that emphasizes the benefits of child development or the reduction of inequalities in the overall population to enhance all aspects of children's development (Williams, n.d.);
- developing an Indigenous-specific early childhood education training program rooted in Indigenous worldviews and knowledge of early childhood education and Indigenous languages (ITK, 2014);
- investing in the production of Indigenous-specific educational materials (Best Start Resource Centre, 2010); and
- conducting evaluations of post-ECD program life to follow up with parents and children who participated in them to assess impacts on children's development, as well as on cultural identity over the course of that child's life to inform program improvements.

The gaps in Indigenous ECD programs and services are heightened by the need for funding to keep pace with population growth and inflation. In 2017, the federal government spent only 0.3% of its GDP in early childhood education, far below the United Nations International Children's Education Fund benchmark of 1% of GDP, and there has been no increase in federal government funding for AHSUNC and AHSOR programs since their inception (Office of Audit and Evaluation, 2017). Increased funding is needed to address the funding challenges faced by Indigenous communities in initiating and maintaining ECD programs, including the need to establish pay parity between early childhood educators and teachers, provide ongoing training and professional development, build new and maintain existing infrastructure, meet the increasing demand for child care spaces, and increase the reach of both on and off-reserve Indigenous children to Indigenous-specific preschool programs (ITK, 2014; Office of Audit and Evaluation, 2017; PHAC, 2017; Public Policy Forum, 2015).

In addition to direct investments in ECD and care, there must also be tangible actions taken to address the social determinants of health for Indigenous children

more broadly. First, a holistic perspective must be adopted that utilizes multi- and intersectoral approaches in the development of policies and programs that aim to improve the socio-economic conditions of Indigenous families and communities, and foster an environment more conducive to promoting optimal health and well-being for young Indigenous children. This includes addressing issues related to poverty, food insecurity, education, employment, housing, language and culture revitalization, community self-determination, parent-child relationships, intergenerational trauma, equitable access to quality early childhood education and care programs, environmental health, and the structural and systemic barriers to health, education and child welfare systems. Second, the challenges associated with indicators of young Indigenous children's health that continue to impact the ways in which the data can inform policy and program development must be addressed. This requires developing enhanced surveillance strategies; cooperation between various levels of government to establish consistency in the types of data collected and the methods of collecting and sharing data across provinces and territories; and developing partnerships with Indigenous stakeholders to improve the quality, coverage, and cultural appropriateness of data and information.



REFERENCES



- Adamson, P. (2013). *Child well-being in rich countries: A comparative overview*. Firenze, IT: Innocenti Report Card 11, UNICEF Office of Research – Innocenti. Retrieved January 29, 2017 from http://www.unicef-irc.org/publications/pdf/rc11_eng.pdf
- Agency for Toxic Substances and Disease Registry. (n.d.). *Health effects of chemical exposure*. Atlanta, GA: US Department of Health and Human Services, Center for Disease Control. Retrieved August 10, 2018 from <https://www.atsdr.cdc.gov/emes/public/docs/health%20effects%20of%20chemical%20exposure%20fs.pdf>
- Aguiar, W., & Halseth, R. (2015). *Aboriginal peoples and historic trauma: The processes of intergenerational transmission*. Prince George, BC: National Collaborating Centre for Aboriginal Health.
- Alaghebandan, R., Gates, K.D., & MacDonald, D. (2007). Hospitalization due to pneumonia among Innu, Inuit and non-Aboriginal communities, Newfoundland and Labrador, Canada. *International Journal of Infectious Diseases*, 11(1), 23-28.
- Alharbi, S., Van Caesele, P., Consunji-Araneta, R., Zoubeidi, T., Fanella, S., Souid, A.-K., & Alsuwaidi, A.R. (2012). Epidemiology of severe pediatric adenovirus lower respiratory tract infections in Manitoba, Canada, 1991-2005. *BMC Infectious Diseases*, 12, 55.
- Aljohani, N., Rempel, B.M., Ludwig, S., Morris, M., McQuillen, K., Cheang, M., Murray, R. et al. (2008). Gestational diabetes in Manitoba during a twenty-year period. *Clinical Investigative Medicine*, 31(3), E131-E137.
- Al-Sahab, B., Saqib, M., Hauser, G., & Tamim, H. (2010). Prevalence of smoking during pregnancy and associated risk factors among Canadian women: A national survey. *BMC Pregnancy and Childbirth*, 10, 24.
- Amed, S., Hamilton, J.K., Sellers, E.A.C., Panagiotopoulos, C., Hadjiyannakis, S., Shah, B.R., Booth, G.L., et al. (2012). Differing clinical features in Aboriginal vs. non-Aboriginal children presenting with type 2 diabetes. *Pediatric Diabetes*, 13(6), 470-475.
- Arriagada, P. (2017). Food insecurity among Inuit living in Inuit Nunangat. *Insights on Canadian Society*, Feb., 1-12.
- Assembly of First Nations [AFN]. (n.d.). *Children and environmental health*. Ottawa, ON: Author. Retrieved October 12, 2017 from http://www.afn.ca/uploads/files/env/ns_-_children_and_environmental_health.pdf
- Assembly of First Nations [AFN]. (2007). *Longitudinal Health Survey (RHS): Our voice, our survey, our reality*. Selected results from RHS Phase 1 (2002/03). Ottawa, ON: Authors.
- Auguste Solutions and Associates Inc. (2005). *Evaluation of the Brighter Futures and Building Healthy Communities initiatives*. Ottawa, ON: Health Canada. Retrieved February 19, 2018 from http://publications.gc.ca/collections/collection_2016/sc-hc/H14-158-2006-eng.pdf
- Badets, N., Hudon, T., & Wendt, M. (2017). Association between breastfeeding and select chronic conditions among off-reserve First Nations, Métis and Inuit children in Canada. *Insights on Canadian Society*, March, 1-14.
- Baghdadi, Z.D. (2016). Early childhood caries and Indigenous children in Canada: Prevalence, risk factors, and prevention strategies. *Journal of International Oral Health*, 8(7), 830-837.
- Ball, J. (2004). *Early childhood care and development programs as hook and hub for community development: Promising practices in First Nations*. Victoria, BC: University of Victoria, School of Child and Youth Care, Early Childhood Development Intercultural Partnerships Program.
- Ball, J. (2005). Early childhood care and development programs as hook and hub for inter-sectoral service delivery in First Nations communities. *Journal of Aboriginal Health*, 2(1): 36-53.
- Ball, J. (2009). Centring community services around early childhood care and development: Promising practices in Indigenous communities in Canada. *Child Health and Education*, 1(4), 183-206.
- Ball, J. (2010). Father involvement in Canada: An emerging movement. *Journal of Childhood Education*, 87(2), 113-118.
- Ball, J., & Pence, A. (2006). *Supporting Indigenous children's development: Community-University Partnerships*. Vancouver, BC: University of British Columbia Press.
- Banerji, A., Bell, A., Mills, E.L., McDonald, J., Subbarao, K., Stark, G., Eynon, N., et al. (2001). Lower respiratory tract infections in Inuit infants on Baffin Island. *Canadian Medical Association Journal*, 164(13), 1847-50.

- Banerji, A., Greenberg, D., Forsberg White, L., Macdonald, W.A., Saxton, A., Thomas, E., Sage, D. et al. (2009a). Risk factors and viruses associated with hospitalization due to lower respiratory tract infections in Canadian Inuit children: A case-control study. *The Pediatric Infectious Disease Journal*, 28(8), 697-701.
- Banerji, A., Lanctôt, K.L., Paes, B.A., Masoud, S.T., Derrick, T., Macdonald, W.A., & Roberts, A. (2009b). Comparison of the cost of hospitalization for respiratory syncytial virus disease versus palivizumab prophylaxis in Canadian Inuit infants. *The Pediatric Infectious Disease Journal*, 28(8), 702-706.
- Barrera, J. (2018). Ottawa to increase funding for First Nations child welfare services. *CBC News [online]*, February 1. Retrieved February 1, 2018 from <http://www.cbc.ca/news/indigenous/ottawa-fnchildwelfare-tribunal-1.4513951>
- Benzies, K., Tough, S., Edwards, N., Mychasiuk, R., & Donnelly, C. (2011). Aboriginal children and their caregivers living with low income: Outcomes from a two-generation preschool program. *Journal of Child & Family Studies*, 20, 311-18.
- Berti, P.R., Soueida, R., & Kuhnlein, H.V. (2008). Dietary assessment of Indigenous Canadian Arctic women with a focus on pregnancy and lactation. *International Journal of Circumpolar Health*, 67(4), 349-62.
- Best Start Resource Centre. (2010). *Founded in culture: Strategies to promote early learning in First Nations children in Ontario*. Toronto, ON: Author.
- Better Beginnings, Better Futures. (2018). Homepage, <http://bbbf.ca/Home/tabid/520/language/en-US/Default.aspx>
- Bhawra, J., Cooke, M.J., Guo, Y., & Wilk, P. (2017). The association of household food security, household characteristics and school environment with obesity status among off-reserve First Nations and Métis children and youth in Canada: Results from the 2012 Aboriginal Peoples Survey. *Chronic Diseases and Injuries in Canada*, 37(3), 77-86.
- Blackstock, C., Prakash, T., Loxley, J., & Wien, F. (2005). *Wen:de: We are coming to the light of day*. Ottawa, ON: First Nations Child and Family Caring Society of Canada.
- Bombay, A., Matheson, K., & Anisman, H. (2009). Intergenerational trauma: Convergence of multiple processes among First Nations people in Canada. *Journal of Aboriginal Health*, 5(3), 6-47.
- Bopp, M., Bopp, J., & Lane, P. (2003). *Aboriginal domestic violence in Canada*. Ottawa, ON: Aboriginal Healing Foundation.
- Boss-O'Reilly, S., McCarty, K.M., Steckling, N., & Lettmeier, B. (2010). Mercury exposure and children's health. *Curr Probl Pediatr Adolesc Health Care*, 40(8), 186-215.
- British Columbia Aboriginal Child Care Society [BCACCS]. (2014). *An environmental scan of public policy and programs for young Aboriginal children in BC: A cold wind blows*. West Vancouver, BC: Authors.
- British Columbia Aboriginal Child Care Society [BCACCS]. (2016a). *Who we are*. West Vancouver, BC: Author, http://www.acc-society.bc.ca/files_2/who-we-are.php
- British Columbia Aboriginal Child Care Society [BCACCS]. (2016b). *What we do*. West Vancouver, BC: Author, http://www.acc-society.bc.ca/files_2/what-we-do.php
- British Columbia Aboriginal Child Care Society [BCACCS]. (2016c). *Aboriginal CCRR Program*. West Vancouver, BC: Author, http://www.acc-society.bc.ca/files_2/aboriginal-ccrr.php
- British Columbia Aboriginal Child Care Society [BCACCS]. (2017). *BC Aboriginal Child Care Society (BCACCS) annual report, 2016-2017*. West Vancouver, BC: Author. Retrieved February 16, 2018 from http://www.acc-society.bc.ca/files_2/documents/BCACCSAR_Alt_finalweb.pdf
- Brown, H.K., & Wilk, P. (2014). Changes in smoking during pregnancy in Ontario, 1995 to 2010: Results from the Canadian Community Health Survey. *Journal of Obstetrics & Gynaecology Canada*, 36(10), 878-884.
- Bruhn, J. (2014). Identifying useful approaches to the governance of Indigenous data. *The International Indigenous Policy Journal*, 5(2), Article 5.
- Byrne, C., & Nkongolo, K.K. (2012). Genetic susceptibility for type 2 diabetes mellitus among North American Aboriginals. *International Journal of Medicine and Medical Sciences*, 4(10), 220-231.
- Canadian Council on Social Determinants of Health [CCSDH]. (2017). *Implementing multi-sectoral healthy child development Initiatives: Lessons learned from community-based interventions*. Ottawa, ON: Author.
- Canadian Council on Social Determinants of Health [CCSDH] (2013). *Roots of resilience: Overcoming inequities in Aboriginal communities*. Ottawa, ON: Author.
- Canadian Dental Association. (n.d.). *Position paper on access to oral health care for Canadians*. Ottawa, ON: Author. Retrieved January 12, 2016 from http://www.cda-adc.ca/_files/position_statements/accessToCarePaper.pdf
- Canadian Paediatric Society. (2005). Risk reduction for type 2 diabetes in Aboriginal children in Canada. *Paediatrics Child Health*, 10(1), 49-52.
- Canadian Paediatric Society. (2016). Jordan's Principle. In *Are we doing enough? A status report on Canadian public policy and child and youth health*. Ottawa, ON: Author. Retrieved February 22, 2018 from <https://www.cps.ca/en/status-report/jordans-principle>
- Carrière, G.M., Garner, R., & Sanmartin, C. (2017). Housing conditions and respiratory hospitalizations among First Nations people in Canada. *Health Reports*, 28(4), 9-15.
- Centers for Disease Control and Prevention. (2015). *The health effects of overweight and obesity*. Atlanta, GA: Authors. Retrieved February 24, 2018 from <https://www.cdc.gov/healthyweight/effects/index.html>
- Chamberlain, C., McNamara, B., Williams, E.D., Yore, D., Oldenburg, B., Oats, J., & Eades, S. (2013). Diabetes in pregnancy among Indigenous women in Australia, Canada, New Zealand and the United States: A systematic review of the evidence for screening in early pregnancy. *Diabetes Metabolism Research and Reviews*, 29(4), 241-256.

- Chamberlain, C., Yore, D., Li, H., Williams, E., Oldenburg, B., Oats, J., McNamara, B., & Eades, S. (2011). Diabetes in pregnancy among Indigenous women in Australia, Canada, New Zealand, and the United States: A method for systematic review of studies with different designs. *BMC Pregnancy and Childbirth*, 11, 104.
- Chandler, M., & Lalonde, C. (1998). Cultural continuity as a hedge against suicide in Canada's First Nations. *Transcultural Psychiatry*, 35(2), 191-219.
- Chandler, M., & Lalonde, C. (2008). Cultural continuity as a protective factor against suicide in First Nations youth. *Horizons*, 10(1), 68-72.
- Chang, J.-J., Beach, J., & Senthilselvan, A. (2012). Prevalence of and risk factors for asthma in off-reserve Aboriginal children and adults in Canada. *Canadian Respiratory Journal*, 19(6), e68-e74.
- Chen, L., Xiao, L., Auger, N., Torrie, J., Gros-Louis McHugh, N., Zoungrana, H., & Luo, Z.-C. (2015). Disparities and trends in birth outcomes in Aboriginal vs. non-Aboriginal populations: A population-based study in Quebec, Canada, 1996-2010. *PLoS One*, 10(9), e0138562.
- Chiefs Assembly on Education [CAE]. (2012). *A portrait of First Nations and education*. Gatineau, QC: Palais des Congrès de Gatineau, October 1-3. Retrieved February 1, 2017 from http://www.afn.ca/uploads/files/events/fact_sheet-ccoe-3.pdf
- Chino, M., & DeBruyn, L. (2006). Building true capacity: Indigenous models for Indigenous communities. *American Journal of Public Health*, 96(4), 596-599.
- Collins, S.A., Surmala, P., Osborne, G., Greenberg, C., Williamson Bathory, L., Edmunds-Potvin, S., & Arbour, L. (2012). Causes and risk factors for infant mortality in Nunavut, Canada 1991-2011. *BMC Pediatrics*, 12, 190.
- Cornell, S. (2006). *Indigenous peoples, poverty and self-determination in Australia, New Zealand, Canada and the United States*. Tucson, AZ: The Native Nations Institute for Leadership, Management, and Policy, University of Arizona, Joint Occasional Papers on Native Affairs.
- Cornell, S., & Kalt, J. (1995). *Cultural evolution and constitutional public choice: Institutional diversity and economic performance on American Indian Reserves*. Cambridge, MA: The Harvard Project on American Indian Economic Development.
- Cui, Y., Shooshtari, S., Fortet, E.L., Clara, I., & Cheung, K.F. (2014). Smoking during pregnancy: Findings from the 2009-2010 Canadian Community Health Survey. *PLoS One*, 9(1) e84640. DOI: a0.1371/journal.pone0084640.
- Crighton, E.J., Wilson, K., & Senècal, S. (2010). The relationship between socio-economic and geographic factors and asthma among Canada's Aboriginal populations. *International Journal of Circumpolar Health*, 69(2), 138-150.
- Danaher, A. (2011). *Reducing health inequities: Enablers and barriers to inter-sectoral collaboration*. Toronto, ON: Wellesley Institute.
- Daoud, N., Smylie, J., Urquia, M., Allan, B., & O'Campo, P. (2013). The contribution of socio-economic position to the excesses of violence and intimate partner violence among Aboriginal versus non-Aboriginal women in Canada. *Canadian Journal of Public Health*, 104(4), e278-283.
- Daoud, N., Urquia, M.L., O'Campo, P., Heaman, M., Janssen, P.A., Smylie, J., & Thiessen, K. (2012). Prevalence of abuse and violence before, during, and after pregnancy in a national sample of Canadian women. *American Journal of Public Health*, 102(10), 1893-1901.
- Dean, H.J. (1998). NIDDM-Y in First Nation children in Canada. *Clinical Pediatrics*, 37, 89-96.
- Dewailly, E., Nantel, A., Weber, J.P., & Meyer, F. (1989). High levels of PCBs in breast milk of Inuit women from Arctic Quebec. *Bulletin of Environmental Contamination & Toxicology*, 43(5), 641-6.
- Donovan, B.M., Spracklen, C.N., Schweizer, M.L., Ryckman, K.K., & Saftlas, A.F. (2016). Intimate partner violence during pregnancy and the risk for adverse infant outcomes: A systematic review and meta-analysis. *BJOG: An International Journal of Obstetrics and Gynaecology*, 123, 1289-99.
- Downie, D.L., & Fenge, T. (Eds.). (2003). *Northern lights against POPs: Combatting toxic threats in the Arctic*. Kingston, ON & Montreal, QC: McGill-Queen's University Press.
- Downs, S.M., Arnold, A., Marshall, D., & McCargar, L.J. (2009). Associations among the food environment, diet quality and weight status in Cree children in Québec. *Public Health Nutrition*, 12(9), 1504-1511.
- Dyck, R., Klomp, H., Tan, L.K., Turnell, R.W., & Boctor, M.A. (2002). A comparison of rates, risk factors and outcomes of gestational diabetes between Aboriginal and non-Aboriginal women in the Saskatoon health district. *Diabetes Care*, 25(3), 487-493.
- Earle, L. (2013). *Traditional Aboriginal diets and health*. Prince George, BC: National Collaborating Centre for Aboriginal Health.
- Edelman, L. (2004). A relationship-based approach to early intervention. *Resources and Connections*, 3(2), 1-9.
- Egeland, G.M., Faraj, N., & Osborne, G. (2010a). Cultural, socioeconomic, and health indicators among Inuit preschoolers: Nunavut Inuit Child Health Survey, 2007-2008. *Rural and Remote Health*, 10, 1365.
- Egeland, G.M., & the Qanuipitali Steering Committee. (2009). *Qanuipitali? The International Polar Year Nunavut Inuit Child Health Survey 2007-2008*. Ste-Anne-de-Bellevue, QC: Centre for Indigenous Peoples' Nutrition and Environment (CINE) & School of Dietetics and Human Nutrition, McGill University.
- Egeland, G.M., Pacey, A., Cao, Z., & Sobol, I. (2010b). Food insecurity among Inuit preschoolers: Nunavut Inuit Child Health Survey, 2007-2008. *Canadian Medical Association Journal*, 182(3), 243-8.
- El Hayek, J., Egeland, G., & Weiler, H. (2010). Vitamin D status of Inuit preschoolers reflects season and vitamin D intake. *Journal of Nutrition*, 140, 1839-45.
- Elias, B., Hart, L., & Martens, P. (2014). "Just get on with it." Linking data systems to report on infant mortality and the First Nations population in Manitoba (Canada). *Statistical Journal of the LAOS*, 30(3), 285-295.

- Encyclopedia on Early Childhood Development. (2011). *Importance of early childhood development*, <http://www.child-encyclopedia.com/importance-early-childhood-development>
- Expert Panel on the State of Knowledge of Food Security in Northern Canada [EPSKFNSNC]. (2014). *Aboriginal food security in northern Canada: An assessment of the state of knowledge*. Ottawa, ON: Council on Canadian Academies.
- Fallon, B., Chabot, M., Fluke, J., Blackstock, C., MacLaurin, B., & Tonmyr, L. (2013). Placement decisions and disparities among Aboriginal children: Further analysis of the Canadian incidence study of reported child abuse and neglect – part A: Comparisons of the 1998 and 2003 surveys. *Child Abuse & Neglect*, 37(1), 47-60.
- FAS/FAE Technical Working Group. (1997). *It takes a community: Framework for the First Nations and Inuit Fetal Alcohol Syndrome/Fetal Alcohol Effects Initiative*. Ottawa, ON: Health Canada.
- Findlay, L.C., & Janz, T.A. (2012). The health of Inuit children under age 6 in Canada. *International Journal of Circumpolar Health*, 71(1), 18580.
- Findlay, L.C., & Kohen, D.E. (2013). Measures of language outcomes using the Aboriginal Children's Survey. *Health Reports*, 24(1), 10-16.
- Findlay, L., Kohen, D., Miller, A. (2014). Developmental milestones among Aboriginal children in Canada. *Paediatrics & Child Health*, 19(5), 241-5.
- Findlay, L.C., Langlois, K.A., & Kohen, D.E. (2013). Hunger among Inuit children in Canada. *International Journal of Circumpolar Health*, 72, 20324. DOI: 10.3402/ijch.v72i0.20324
- First Nations Health Authority. (2017). *Drinking water advisories*. West Vancouver, BC: Author, <http://www.fnha.ca/what-we-do/environmental-health/drinking-water-advisories>
- First Nations Health Centre. (2009). *Gestational diabetes and First Nations women*. Ottawa, ON: National Aboriginal Health Organization.
- First Nations Information Governance Centre [FNIGC]. (2012a). *First Nations Regional Health Survey (RHS) 2008/10: National report on adults, youth and children living in First Nations communities*. Ottawa, ON: Authors.
- First Nations Information Governance Centre [FNIGC]. (2012b). *Report on the findings of the First Nations Oral Health Survey (FNOHS) 2009-2010: National Report*. Ottawa, ON: Authors.
- First Nations Information Governance Center (2015). *Early Childhood Education in First Nations Communities* (poster providing stats re early childhood education). Ottawa, ON: Author. Retrieved January 29, 2018 from http://fnigc.ca/sites/default/files/docs/reces_1_lifepath_childhood_0.pdf
- First Nations Information Governance Centre. (2016). *Our data, our stories, our future: The national report of the First Nations Regional Early Childhood, Education and Employment Survey, 2016*. Ottawa, ON: Author.
- Fleming, J., & Ledogar, R. (2008a). Resilience and Indigenous spirituality: A literature review. *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health*, 6(2), 47-64.
- Fleming, J., & Ledogar, R. (2008b). Resilience, an evolving concept: A review of literature relevant to Aboriginal research. *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health*, 6(2), 7-23.
- Fortin, M., Muckle, G., Anassour-Laouan-Sidi, E., Jacobson, S.W., Jacobson, J.L., & Bélanger, R.E. (2016). Trajectories of alcohol use and binge drinking among pregnant Inuit women. *Alcohol and Alcoholism*, 51(3), 339-346.
- Gallant, V., Duvvuri, V., & McGuire, M. (2017). Tuberculosis in Canada – Summary 2015. *Canadian Communicable Diseases Report*, 43(3), 77-82.
- Galloway, T., Niclasen, B.V.L., Muckle, G., Young, K., & Egeland, G.M. (2012). Growth measures among preschool-age Inuit children living in Canada and Greenland. *Scandinavian Journal of Public Health*, 40(8), 712-17.
- Gao, Z., Rowe, B.H., Majaesic, C., O'Hara, C., & Senthilselvan, A. (2008). Prevalence of asthma and risk factors for asthma-like symptoms in Aboriginal and non-Aboriginal children in the northern territories of Canada. *Canadian Respiratory Journal*, 15(3), 139-145.
- Gilbert, N.L., Auger, N., & Tjepkema, M. (2015). Stillbirth and infant mortality in Aboriginal communities in Quebec. *Health Reports*, 26(2), 3-8.
- Godwin, M., Muirhead, M., Huynh, J., Helt, B., Grimmer, J. (1999). Prevalence of gestational diabetes mellitus among Swampy Cree women in Moose Factor, James Bay. *Canadian Medical Association Journal*, 160(9), 1299-1302.
- Government of Canada. (2011). What do we know about the well-being of young Aboriginal children in Canada. In *The well-being of Canada's young children* (pp. 71-76). Ottawa, ON: Human Resources and Skills Development Canada, the Public Health Agency of Canada, and Indian and Northern Affairs.
- Government of Canada. (2013). *Brighter futures and building healthy communities*. Ottawa, ON: Author, <https://www.canada.ca/en/health-canada/services/first-nations-inuit-health/health-promotion/mental-health-wellness/brighter-futures-building-healthy-communities.html>
- Government of Canada. (2015a). *Nutrition for healthy term infants: Recommendations from six to 24 months*. Ottawa, ON: Author. Retrieved January 25, 2018 from <https://www.canada.ca/en/health-canada/services/food-nutrition/healthy-eating/infant-feeding/nutrition-healthy-term-infants-recommendations-birth-six-months/6-24-months.html>
- Government of Canada. (2015b). *Canada Prenatal Nutrition Program*. Ottawa, ON: Author. <https://www.canada.ca/en/public-health/services/health-promotion/childhood-adolescence/programs-initiatives/canada-prenatal-nutrition-program-cpnp.html>

- Government of Canada. (2015c). *Community Action Program for Children*. Ottawa, ON: Author. <https://www.canada.ca/en/public-health/services/health-promotion/childhood-adolescence/programs-initiatives/community-action-program-children-capc.html>
- Government of Canada. (2016a). *Cost of the Revised Northern Food Basket in 2014-2015*. Ottawa, ON: Author. <http://www.nutritionnorthcanada.gc.ca/eng/1458130696862/1458130716818>
- Government of Canada. (2016b). *Aboriginal Skills and Employment Training Strategy*. Ottawa, ON: Author, <https://www.canada.ca/en/employment-social-development/services/indigenous/asets.html>
- Government of Canada. (2016c). Part 4 – Active vaccines. In *Canadian Immunization Guide*. Ottawa, ON: Author. Retrieved February 23, 2018 from <https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-4-active-vaccines/page-20-rubella-vaccine.html>
- Government of Canada. (2017a). *Drinking water advisories: First Nations south of 60*. Ottawa, ON: Author. <https://www.canada.ca/en/health-canada/topics/health-environment/water-quality-health/drinking-water/advisories-first-nations-south-60.html>
- Government of Canada. (2017b). *Engaging Canadians on Indigenous early learning and child care*. Ottawa, ON: Author, https://www.canada.ca/en/employment-social-development/programs/indigenous-early-learning/consultation-indigenous-early-learning.html?utm_campaign=not-applicable&utm_medium=vanity-url&utm_source=canada-ca_indigenous-early-learning
- Government of Canada. (2017b). *Nobody's Perfect*. Ottawa, ON: Author, <https://www.canada.ca/en/public-health/services/health-promotion/childhood-adolescence/parent/nobody-perfect.html>
- Government of Canada. (2018). *Jordan's Principle*. Ottawa, ON: Author. Retrieved February 1, 2018 from <https://www.canada.ca/en/health-canada/services/first-nations-inuit-health/jordans-principle.html>
- Greenwood, M. (2009). *Places for the good care of children: A discussion of Indigenous cultural considerations and early childhood in Canada and New Zealand*. Vancouver, BC: PhD dissertation, Faculty of Graduate Studies, Cross-Faculty Inquiry in Education, UBC.
- Greenwood, M. (2016). Determinants of health module. *Module 7 - The health of Canada's children and youth – A CICH Profile*. Ottawa, ON: Canadian Institute of Children's Health. Retrieved February 1, 2018 from <https://cichprofile.ca/module/7/a-determinants-of-health-model/a-determinants-of-health-model/>
- Greenwood, M.L., & de Leeuw, S.N. (2012). Social determinants of health and the future well-being of Aboriginal children in Canada. *Paediatrics & Child Health, 17*(7), 381-384.
- Greenwood, M., de Leeuw, S., Lindsay, N.M., & Reading, C. (eds.). (2015). *Determinants of Indigenous peoples' health in Canada: Beyond the social*. Toronto, ON: Canadian Scholars' Press.
- Gregg, P., Propper, C., & Washbrook, E. (2008). *Understanding the relationship between parental income and multiple child outcomes: A decomposition analysis*. Bristol, UK: The Centre for Market and Public Organization, Bristol Institute of Public Affairs, University of Bristol, Working Paper No. 08/193.
- Guèvremont, A., Carrière, G., Bougie, E., & Kohen, D. (2017). Acute care hospitalization of Aboriginal children and youth. *Health Reports, 28*(7), 11-17.
- Haddad, L. (2002). *An integrated approach to early childhood education and care*. Paris: UNESCO Early Childhood and Family Policy Series, no. 3. Retrieved January 30, 2018 from <http://unesdoc.unesco.org/images/0012/001279/127983e.pdf>
- Halseth, R. (2015). *The nutritional health of the First Nations and Métis of the Northwest Territories: A review of current knowledge and gaps*. Prince George, BC: National Collaborating Centre for Aboriginal Health.
- Halverson, J., Ellis, E., Gallant, V., & Archibald, C.P. (2014). Chapter 1 – Epidemiology of tuberculosis in Canada. In Public Health Agency of Canada, *Canadian Tuberculosis Standards, 7th edition*. Ottawa, ON: Author.
- Hanley, A.J., Harris, S.B., Gittelsohn, J., Wolever, T.M., Saksvig, B., & Zinman, B. (2000). Overweight among children and adolescents in a Native Canadian community: Prevalence and associated factors. *The American Journal of Clinical Nutrition, 71*, 693–700.
- Harder, T., Rodekamp, E., Schellong, K., Dudenhausen, J.W., & Plagemann, A. (2007). Birth weight and subsequent risk of type 2 diabetes: A meta-analysis. *American Journal of Epidemiology, 165*(8), 849-857.
- Harding, J.F., Morris, P.A., & Hughes, D. (2015). The relationship between maternal education and children's academic outcomes: A theoretical framework. *Journal of Marriage and Family, 77*, 60-76.
- Harris, S.B., Bhattacharyya, O., Dyck, R., Naqshbandi Haward, M., & Toth, E.L. (2016). Type 2 diabetes in Aboriginal peoples. In *Diabetes Canada Clinical Practice Guidelines* (ch. 38). Toronto, ON: Diabetes Canada.
- Harris, S.B., Bhattacharyya, O., Dyck, R., Naqshbandi Haward, M., & Toth, E.L. (2013). Type 2 diabetes in Aboriginal peoples. *Canadian Journal of Diabetes, 37*(suppl 1), S1-S212.
- Harris, S.B., Caulfield, L.W., Sugamori, M.E., Whalen, E.A., & Henning, B. (1997). The epidemiology of diabetes in pregnant native Canadians: A risk profile. *Diabetes Care, 20*(9), 1422-1425.
- Harris, S.B., Glazier, R., Eng, K., & McMurray, L. (1998). Disease patterns among Canadian Aboriginal children: Study in a remote rural setting. *Canadian Family Physician, 44*, 1869-1877.
- Harris, S.B., Perkins, B.A., & Whalen-Brough, E. (1996). Non-insulin-dependent diabetes mellitus among First Nations children. New entity among First Nations people of Northwestern Ontario. *Canadian Family Physician, 42*, 869-76.
- He, H., Xiao, L., Torrie, J.E., Auger, N., Gros-Louis McHugh, N., Zoungrana, H., & Luo, Z.-C. (2017). Disparities in infant hospitalizations in Indigenous and non-Indigenous populations in Quebec, Canada. *Canadian Medical Association Journal, 189*(21), e739-e746.

- Health Canada. (2007a). *Canadian Community Health Survey Cycle 2.2. Nutrition: Income-related household food security in Canada*. Ottawa, ON: Office of Nutrition Policy and Promotion, Catalogue Number H164-42/2007E.
- Health Canada. (2007b). *First Nations and Inuit health program compendium*. Ottawa, ON: Health Canada.
- Health Canada. (2011). *A statistical profile on the health of First Nations in Canada: Vital statistics for Atlantic and Western Canada, 2001/2002*. Ottawa, ON: Authors.
- Health Canada. (2012). *Epidemiology of tuberculosis in First Nations living on-reserve in Canada, 2000-2008*. Ottawa, ON: Author.
- Health Canada. (2015). *Evaluation of the First Nations and Inuit Health Branch Communicable Disease Control and Management Programs 2008-2009 to 2013-2014*. Ottawa, ON: Author.
- Health Canada, First Nations, Inuit and Aboriginal Health (n.d.). *Early Childhood Development Strategy for Aboriginal Children*. Ottawa, ON: Author. Retrieved April 29, 2009 from http://www.hc-sc.gc.ca/fniah-spnia/famil/preg-gros/ece-dpe_strateg-eng.php
- Health Canada, Nunavut Tunngavik Incorporated, Nunatsiavut Government, Inuvialuit Regional Corporation, & Inuit Tapiriit Kanatami. (2011). *Inuit oral health survey report, 2008-2009*. Ottawa, ON: Authors.
- Hogue, M.M. (2016). Aboriginal ways of knowing and learning, 21st Century learners, and STEM success. *In Education*, 22(1), 161-172.
- Holland Stairs, A., & Bernhard, J.K. (2002). *Considerations for evaluating 'good care' in Canadian Aboriginal early childhood settings*. Toronto, ON: Ryerson University, Early Childhood Education Publications and Research paper 7.
- Hughes, J., Chau, S., & Poff, D.C. (2011). "They're not my favourite people": What mothers who have experienced intimate partner violence say about involvement in the child protection system. *Children and Youth Services Review*, 33(7), 1084-89.
- Human Rights Watch. (2016). *Make it safe: Canada's obligation to end the First Nations water crisis*. New York, NY: Author.
- Indian and Northern Affairs Canada (2008a). *Early childhood development*. Ottawa, ON: Author. Retrieved December 18, 2009 from <http://www.ainc-inac.gc.ca/hb/sp/ece/index-eng.asp>
- Indian and Northern Affairs Canada. (2008a). *Aboriginal Head Start in Urban and Northern Communities*. Ottawa, ON: Indian and Northern Affairs Canada. Retrieved April 6, 2010 from <http://www.ainc-inac.gc.ca/hb/sp/ece/unc-eng.asp>
- Indian and Northern Affairs Canada. (2008b). *Aboriginal Head Start On Reserve*. Ottawa, ON: Indian and Northern Affairs Canada. Retrieved April 6, 2010 from <http://www.ainc-inac.gc.ca/hb/sp/ece/ahs-eng.asp>
- Indigenous and Northern Affairs Canada. (2017). *First Nations Child and Family Services*. Ottawa, ON: Author. Retrieved January 22, 2018 from <https://www.aadnc-aandc.gc.ca/eng/1100100035204/1100100035205>
- Intergovernmental Panel on Climate Change (IPCC). (2013). Summary for policymakers. In T.F. Stocker et al. (Eds.), *Climate change 2013: The physical science basis. Contribution of Working Group 1 to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, UK: Cambridge University Press.
- Inuit Tapiriit Kanatami [ITK]. (2014). *Assessing the impact of the First Nations and Inuit Child Care Initiative (FNICCI) across Inuit Nunangat*. Ottawa, ON: Author. Retrieved February 15, 2018 from https://itk.ca/wp-content/uploads/2016/07/2014_Report_FNICCI_Impacts_Inuit_Nunangat.pdf
- Irvine, K. (2009). *Supporting Aboriginal parents: Teachings for the future*. Prince George, BC: National Collaborating Centre for Aboriginal Health.
- Jervis-Bardy, J., Sanchez, L., & Carney, A.S. (2014). Otitis media in Indigenous Australian children: Review of epidemiology and risk factors. *The Journal of Laryngology & Otology*, 128(S1), S16-S27.
- Johnson-Down, L., & Egeland, G.M. (2010). Adequate nutrient intakes are associated with traditional food consumption in Nunavut Inuit children aged 3-5 years. *The Journal of Nutrition*, 140, 1311-16.
- Johnson, S., Martin, D., & Sarin, C. (2002). Diabetes mellitus in the First Nations population of British Columbia, Canada. Part 3. Prevalence of diagnosed cases. *International Journal of Circumpolar Health*, 61(3), 260-264.
- Kaplan, G., & Komishin, S. (2011). *Evaluation Aboriginal Head Start on Reserve 2010-2011: "A place of our own"*. Winnipeg, MB: Kaplan Research Associates. Retrieved February 9, 2018 from <http://www.fnhca.ca/wp-content/uploads/2014/05/AHSOR-EVALUATION-1.pdf>
- Karunanayake, C.,P., Albritton, W., Rennie, D.C., Lawson, J.A., McCallum, L., Gardipy, P.J., Seesequasis, J. et al. (2016). Ear infection and its associated risk factors in First Nations and rural school-aged Canadian children. *International Journal of Pediatrics*, Article ID 1523897
- Kennett, D.J., Chislett, G., & Olver, A.L.S. (2012). A reappraisal of the Nobody's Perfect Program. *Journal of Child and Family Studies*, 21(2), 228-236.
- King, M., Smith, A., & Gracey, M. (2009). Indigenous health part 2: The underlying causes of the health gap. *Lancet*, 374, 76-85.
- Kingston, D., Heaman, M., Urquia, M., O'Campo, P., Janssen, P., Thiessen, K., & Smylie, J. (2016). Correlates of abuse around the time of pregnancy: Results from a national survey of Canadian women. *Maternal & Child Health Journal*, 20, 778-789.
- Kirmayer, L.J., Dandeneau, S., Marshall, E., Kahenttonni Phillips, M., & Jessen Williamson, K. (2011). Rethinking resilience from Indigenous perspectives. *Canadian Journal of Psychiatry*, 56(2), 84-91.
- Kline, M. (1993). Complicating the ideology of motherhood: Child welfare law and First Nation women. *Queen's Law Journal*, 18(2), 306-342.
- Kohen, D.E., Bougie, E., & Guèvremont, A. (2015). Housing and health among Inuit children. *Health Reports*, 26(11), 21-27.

- Kolahdooz, F., Barr, Z., Roache, C., Sheehy, T., Corriveau, A., & Sharma, S. (2013). Dietary adequacy of vitamin D and calcium among Inuit and Inuvialut women of child-bearing age in Arctic Canada: A growing concern. *PLoS One*, *8*(11), e78987.
- Kolahdooz, F., Sadeghirad, B., Corriveau, A., & Sharma, S. (2017). Prevalence of overweight and obesity among Indigenous populations in Canada: A systematic review and meta-analysis. *Critical Reviews in Food Science and Nutrition*, *57*(7), 1316-1327.
- Kovesi, T. (2012). Respiratory disease in Canadian First Nations and Inuit children. *Paediatrics Child Health*, *17*(7), 376-380.
- Kovesi, T.A., Cao, Z., Osborne, G., & Egeland, G.M. (2011). Severe early lower respiratory tract infection is associated with subsequent respiratory morbidity in preschool Inuit children in Nunavut, Canada. *Journal of Asthma*, *48*(3), 241-47.
- Kovesi, T., Creery, D., Gilbert, N.L., Dales, R., Fugler, D., Thompson, B., Randhawa, N., & Miller, J.D. (2006). Indoor air quality risk factors for severe lower respiratory tract infections in Inuit infants in Baffin Region, Nunavut: A pilot study. *Indoor Air*, *16*, 266-75.
- Kovesi, T., Zaloum, C., Stocco, C., Fugler, D., Dales, R.E., Ni, A., Barrowman, N., Barrowman, N., et al. (2009). Heat recovery ventilators prevent respiratory disorders in Inuit children. *Indoor Air: International Journal of Indoor Environment and Health*, *19*(6), 489-499.
- Kuhnlein, H.V., McDonald, M., Spiegelski, D., Vittrekwa, E., & Erasmus, B. (2013). Gwich'in traditional food and health in Tetlit Zheh, Northwest Territories, Canada: Phase II. In *Indigenous Peoples' Food Systems and Well-being interventions and policies for healthy communities*, H.V. Kuhnlein et al. (eds.), pp. 101-120. Rome: Food and Agriculture Organization of the United Nations and Centre for Indigenous Peoples' Nutrition and Environment.
- Kuhnlein, H.V., & Receveur, O. (2007). Local cultural animal food contributes high levels of nutrients for Arctic Canadian Indigenous adults and children. *The Journal of Nutrition*, *137*(4), 1110-4.
- Ladner, K.L. (2009). Understanding the impact of self-determination on communities in crisis. *Journal of Aboriginal Health*, *5*(2), 88-101.
- Harris Langan, L.A., Sockalingam, R., Caissie, R., & Corsten, G. (2007). Occurrence of otitis media and hearing loss among First Nations elementary school children. *Canadian Journal of Speech-Language Pathology and Audiology*, *31*(4), 178-185.
- Lafrance, J., & Collins, D. (2013). Residential schools and Aboriginal parenting: Voices of parents. *Native Social Work Journal*, *4*(1), 104-125.
- Lalonde, A.B., Butt, C., & Bucio, A. (2009). Maternal health in Canadian Aboriginal communities: Challenges and communities. *Journal of Obstetrics and Gynaecology Canada*, *31*(10), 956-962.
- Langlois, K.A., Findlay, L.C., & Kohen, D.E. (2013). Dietary habits of Aboriginal children. *Health Reports*, *24*(4), 3-7.
- Lavoie, J.G., O'Neil, J., Sanderson, L., Elias, B., Mignone, J., Bartlett, J., et al. (2005). *The evaluation of the First Nations and Inuit Health Transfer policy. Final report: Vol. 1, Executive summary*. Winnipeg, MB: Centre for Aboriginal Health Research, University of Manitoba.
- Lawrence, H.P., Binguis, D., Douglas, J., McKeown, L., Switzer, B., Figueiredo, R., & Reade, M. (2009). Oral health inequalities between young Aboriginal and non-Aboriginal children living in Ontario, Canada. *Community Dentistry and Oral Epidemiology*, *37*(6), 495-508.
- Lawrence, H.P., Romanetz, M., Rutherford, L., Cappel, L., Binguis, D., & Rogers, J.B. (2004). Effects of a community-based prenatal nutrition program on the oral health of Aboriginal children in northern Ontario. *Probe*, *38*(4), 172-90.
- Leake, J., Jozzy, S., & Uswak, G. (2008). Severe dental caries, impacts and determinants among children 2-6 years of age in Inuvik region, Northwest Territories, Canada. *Journal of the Canadian Dental Association*, *74*(6), 519a-519g.
- Lebrun, J.B., Moffatt, M.E., Mundy, R.J., Sangster, R.K., Postl, B.D., Dooley, J.P., Dilling, L.A. et al. (1993). Vitamin D deficiency in a Manitoba community. *Canadian Journal of Public Health*, *84*(6), 394-6.
- Lehotay, D.C., Smith, P., Krahn, J., Etter, M., & Eichhorst, J. (2013). Vitamin D levels and relative insufficiency in Saskatchewan. *Clinical Biochemistry*, *46*(15), 1489-1492.
- Leis, K.S., McNally, J.D., Montgomery, M.R., Sankaran, K., Karunanayake, C., & Rosenberg, A.M. (2012). Vitamin D intake in young children with acute lower respiratory infection. *Transnational Pediatrics*, *1*(1), 6-14.
- Li, A. (2015). *Type II diabetes: Aboriginal children and youth in Canada. Fact sheet no. 6*. Healthy Weights Connection. Retrieved January 23, 2018 from <http://www.healthyweightsconnection.ca/ModuleFile/resource?id=3370>
- Liu, S.L., Shah, B.R., Naqshbandi, M., Tran, V., & Harris, S.B. (2012). Increased rates of adverse outcomes for gestational diabetes and pre-pregnancy diabetes in on-reserve First Nations women in Ontario, Canada. *Diabetic Medicine*, *29*(8), e180-e183.
- Loiselle, M., & Laretta, M. (2006). The wellness wheel: An Aboriginal contribution to social work. *Breaking barriers and creating common ground through a holistic approach: The medicine wheel*. Waterloo, ON: Paper for a workshop conducted at the First North-American Conference on Spirituality and Social Work, May 27. Retrieved October 17, 2017 from <http://www.reseaudialog.qc.ca/Docspdf/LoiselleMcKenzie.pdf>
- Loppie, S., Reading, C., & de Leeuw, S. (2014). *Aboriginal experiences with racism and its impacts*. Prince George, BC: National Collaborating Centre for Aboriginal Health.
- Luo, Z.-C., Kierans, W.J., Wilkins, R., Liston, R.M., Uh, S.-H., & Kramer, M.S. (2004a). Infant mortality among First Nations versus non-First Nations in British Columbia: Temporal trends in rural versus urban areas, 1981-2000. *International Journal of Epidemiology*, *33*(6), 1252-1259.

- Luo, Z.-C., Sénécal, S., Simonet, F., Guimond, E., Penny, C., & Wilkins, R. (2010a). Birth outcomes in the Inuit-inhabited areas of Canada. *Canadian Medical Association Journal*, *182*(3), 235-242.
- Luo, Z.-C., Wilkins, R., Heaman, M., Martens, P., Smylie, J., Hart, L., Simonet, F. et al. (2010b). Birth outcomes and infant mortality by the degree of rural isolation among First Nations and non-First Nations in Manitoba, Canada. *The Journal of Rural Health*, *26*(2), 175-181.
- Luo, Z.-C., Wilkins, R., Heaman, M., Martens, P., Smylie, J., Hart, L., Wassimi, S., et al. (2010c). Neighbourhood socioeconomic characteristics, birth outcomes and infant mortality among First Nations and non-First Nations in Manitoba, Canada. *Open Women's Health Journal*, *4*, 55-61.
- Luo, Z.-C., Wilkins, R., Heaman, M., Smylie, J., Martens, P.J., McHugh, N.G.L. Labranche, E., et al. (2010d). Birth outcomes and infant mortality among First Nations, Inuit, and non-Indigenous women by northern versus southern residence, Quebec. *Journal of Epidemiology & Community Health*, *66*(4), 328-333.
- Luo, Z.-C., Wilkins, R., Platt, R.W., & Kramer, M.S. (2004b). Risks of adverse pregnancy outcomes among Inuit and North American Indian women in Quebec, 1985-97. *Paediatric and Perinatal Epidemiology*, *18*(1), 40-50.
- Macdonald, D., & Wilson, D. (2016). *Shameful neglect: Indigenous child poverty in Canada*. Ottawa, ON: Canadian Centre for Policy Alternatives.
- MacIntyre, E.A., Karr, C.J., Koehoorn, M., Demers, P., Tamburic, L., Lencar, C., & Brauer, M. (2010). Otitis media incidence and risk factors in a population-based birth cohort. *Paediatrics & Child Health*, *15*(7), 437-442.
- Maggi, S., Irwin, L.J., Siddiqi, A., & Hertzman, C. (2010). The social determinants of early child development: An overview. *Journal of Paediatrics and Child Health*, *46*(11), 1-9.
- Mai, X.-M., Becker, A.B., Sellers, E.A.C., Liem, J.J., & Kozyrskyj, L. (2007). The relationship of breast-feeding, overweight, and asthma in preadolescents. *Journal of Allergy and Clinical Immunology*, *120*(3), 551-556.
- Mashford-Pringle, A. (2012). Early learning for Aboriginal children: Past, present and future and an exploration of the Aboriginal Head Start Urban and Northern Communities Program in Ontario. *First Peoples Child & Family Review*, *7*(1), 127-140.
- Mason, C., & Koehli, J. (2012). Barriers to physical activity for Aboriginal youth: Implications for community health, policy, and culture. *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health*, *10*(1), 97-108.
- Mattison, D.R. (2010). Environmental exposures and development. *Current Opinion in Pediatrics*, *22*(2), 208-218.
- McCalman, J., Campbell, S.K., Chamberlain, C., Strobel, N.A., Bainbridge, R.G., Wenitong, M., Ruben, A. et al. (2016). Family-centred interventions for Indigenous early childhood well-being by primary healthcare services. *Cochrane Database of Systematic Reviews*, *12*, CD012463.
- McIssac, K.E., Lou, W., Sellen, D., & Young, T.K. (2014). Exclusive breastfeeding among Canadian Inuit: Results from the Nunavut Inuit Child Health Survey. *Journal of Human Lactation*, *30*(2), 229-41. DOI: 10.1177/0890334413515752
- McIsaac, K.E., Sellen, D.W., Lou, W., & Young, K. (2015). Prevalence and characteristics associated with breastfeeding initiation among Canadian Inuit from the 2007-2008 Nunavut Inuit Child Health Survey. *Maternal and Child Health Journal*, *19*(9), 2003-11.
- McIsaac, K.E., Stock, D.C., & Lou, W. (2017). Household food insecurity and breast-feeding duration among Canadian Inuit. *Public Health Nutrition*, *20*(1), 64-71.
- McIvor, O. (2005). *Building the nests: Indigenous language revitalization in Canada through early childhood immersion programs*. Unpublished Master's thesis, School of Child and Youth Care, University of Victoria, Victoria, BC, Canada.
- McIvor, O., Napoleon, A., & Dickie, K. M. (2009). Language and culture as protective factors for at-risk communities. *Journal of Aboriginal Health*, *5*(1), 6-25.
- McNally, J.D., Leis, K., Matheson, L.A., Karuananyake, C., Sankaran, K., & Rosenberg, A.M. (2009). Vitamin D deficiency in young children with severe acute lower respiratory infection. *Pediatric Pulmonology*, *44*(10), 981-988.
- Mehaffey, K., Higginson, A., Cowan, J., Osborne, G.M., & Arbour, L.T. (2010). Maternal smoking at first prenatal visit as a marker of risk for adverse pregnancy outcomes in the Qikiqtaaluk (Baffin) Region. *Rural & Remote Health*, *10*, 1484.
- Mendelson, M., Cloutier, J., Spence, L., Sellers, E., Taback, S., & Dean, H. (2011). Obesity and type 2 diabetes mellitus in a birth cohort of First Nation children born to mothers with pediatric-onset type 2 diabetes. *Pediatric Diabetes*, *12*, 2919-228.
- Miller, K., & Dean, H.J. (2012). Developmental origins of type 2 diabetes in Aboriginal youth in Canada: It is more than diet and exercise. *Journal of Nutrition and Metabolism*, Article ID 127452.
- Ministerial Advisory Council on Rural Health [MACRH]. (2002). *Rural health in rural bands: Strategic directions for rural, remote, northern and Aboriginal communities*. Ottawa, ON: Office of Rural Health. Retrieved February 5, 2018 from <http://www.ruralontarioinstitute.ca/file.aspx?id=29b5ba0b-c6ce-489f-bb07-2febfb576daa>
- Mohamed, N., & Dooley, J. (1998). Gestational diabetes and subsequent development of NIDDM in Aboriginal women in northwestern Ontario. *International Journal of Circumpolar Health*, *57*(Suppl 1), 355-358.
- Morency, J.-D., Caron-Malenfant, É., Coulombe, S., Langlois, S., & the Demosim team. (2015). *Projections of the Aboriginal population and households in Canada, 2011 to 2036*. Ottawa, ON: Statistics Canada, Catalogue 91-552-X.
- Mothers Matter Centre. (2016a). HIPPY Program. Vancouver, BC: Author, <http://www.mothersmattercentre.ca/program/>

- Mothers Matter Centre. (2016b). Aboriginal HIPPIY in Canada. Vancouver, BC: Author, <http://www.mothersmattercentre.ca/aboriginal/>
- Muckle, G., Ayotte, P., Dewailly, E., Jacobson, S.W., & Jacobson, J.L. (2001). Prenatal exposure of the northern Québec Inuit infants to environmental contaminants. *Environmental Health Perspectives*, 109(12), 1291-1299.
- Muckle, G., Laflamme, D., Gagnon, J., Boucher, O., Jacobson, J.L., & Jacobson, S.W. (2011). Alcohol, smoking, and drug use among Inuit women of childbearing age during pregnancy and the risk to children. *Alcoholism: Clinical and Experimental Research*, 35(6), 1081-91.
- Muir, N., & Bohr, Y. (2014). Contemporary practice of traditional Aboriginal child rearing: A review. *First Peoples Child & Family Review*, 9(1), 66-79.
- Munro, C. (2010). *Monitoring and improving parenting education & support programs in BC: A report on the pilot test of the adapted parenting experiences scale*. Retrieved February 14, 2018 from <https://static1.squarespace.com/static/5786b464bebafb879f1f70a1/t/596e4325e4fcb5b3481c01d9/1500398374680/Pilot+Report+June+24+2010.pdf>
- Nakano, T., Fediuk, K., Kassi, N., Egeland, G.M., & Kuhnlein, H.V. (2005a). Dietary nutrients and anthropometry of Dene/Metis and Yukon children. *International Journal of Circumpolar Health*, 64(2), 147-56.
- Nakano, T., Fediuk, K., Kassi, N., Egeland, G.M., & Kuhnlein, H.V. (2005b). Food use of Dene/Métis and Yukon children. *International Journal of Circumpolar Health*, 64(2), 137-46.
- National Collaborating Centre for Aboriginal Health [NCCAHA]. (2009/10). *Poverty as a social determinant of First Nations, Inuit and Métis health*. Prince George, BC: Author.
- National Collaborating Centre for Aboriginal Health. [NCCAHA]. (2011a). *Access to health services as a social determinant of First Nations, Inuit and Métis health*. Prince George, BC: Author.
- National Collaborating Centre for Aboriginal Health. [NCCAHA]. (2011b). *The Aboriginal health legislation and policy framework in Canada*. Prince George, BC: Author.
- National Collaborating Centre for Aboriginal Health [NCCAHA]. (2016). *Culture and language as social determinants of First Nations, Inuit and Métis health*. Prince George, BC: Author.
- National Collaborating Centre for Aboriginal Health [NCCAHA]. (2017a). *Education as a social determinant of First Nations, Inuit and Métis health*. Prince George, BC: Author.
- National Collaborating Centre for Aboriginal Health [NCCAHA]. (2017b). *Employment as a social determinant of First Nations, Inuit and Métis health*. Prince George, BC: Author.
- National Collaborating Centre for Aboriginal Health [NCCAHA]. (2017c). *Housing as a social determinant of First Nations, Inuit and Métis health*. Prince George, BC: Author.
- Ndumbe-Eyoh, S., & Moffatt, H. (2013). Intersectoral action for health equity: A rapid systematic review. *BMC Public Health*, 13, 1056.
- Nelson, C.R.M., Leon, J.A., & Evans, J. (2014). The relationship between awareness and supplementation: Which Canadian women know about folic acid and how does that translate into use? *Canadian Journal of Public Health*, 105(1), e40-e46.
- Newman, T. (2002). Promoting resilience: A review of effective strategies for child care services. Exeter, UK: Centre for Evidence Based Social Services, University of Exeter. Retrieved February 6, 2018 from <http://www.cumbria.gov.uk/eLibrary/Content/Internet/537/6942/6944/6954/42191163412.pdf>
- Nguyen, M. (2011). Closing the education gap: A case for Aboriginal early childhood education in Canada, a look at the Aboriginal Headstart program. *Canadian Journal of Education* 34(3), 229-248.
- Nowak, C., & Heinrichs, N. (2008). A comprehensive meta-analysis of Triple P-Positive parenting program using hierarchical linear modeling: Effectiveness and moderating variables. *Clinical Child & Family Psychology Review*, 11, 114-144.
- O'Donnell, V., & Wallace, S. (2011). *First Nations, Métis and Inuit women*. Ottawa, ON: Statistics Canada, Component of Statistics Canada Catalogue no. 89-503-X.
- Office of Audit and Evaluation. (2016). *Evaluation of the Community Action Program for Children, Canada Prenatal Nutrition Program and associated activities 2010-011 to 2014-2015*. Ottawa, ON: Health Canada and the Public Health Agency of Canada. Retrieved November 8, 2018 from <https://www.canada.ca/en/public-health/corporate/transparency/corporate-management-reporting/evaluation/2010-2011-2014-2015-evaluation-community-action-program-children-canada-prenatal-nutrition-program-associated-activities.html#a21>
- Office of Audit and Evaluation. (2017). *Evaluation of the Aboriginal Head Start in Urban and Northern Communities Program 2011-2012 to 21015-2016*. Ottawa, ON: Author. <https://www.canada.ca/en/public-health/corporate/transparency/corporate-management-reporting/evaluation/2011-2012-2015-2016-aboriginal-head-start-urban-and-northern-communities-program.html>
- Office of the Provincial Health Officer. (2009). *Pathways to health and healing – 2nd report on the health and well-being of Aboriginal people in British Columbia*. Provincial Health Officer's Annual Report 2007. Victoria, BC: Government of British Columbia, Ministry of Healthy Living and Sport.
- Ong, K.K. (2006). Size at birth, postnatal growth and risk of obesity. *Hormone Research in Paediatrics*, 65, 65-69.
- Osgood, N.D., Dyck, R.F., & Grassman, W.K. (2011). The inter-and intergenerational impact of gestational diabetes on the epidemic of type 2 diabetes. *American Journal of Public Health*, 101(1), 173-179.
- Oster, R.T., King, M., Morrish, D.W., Mayan, M.J., & Toth, E.L. (2014a). Diabetes in pregnancy among First Nations women in Alberta, Canada: A retrospective analysis. *BMC Pregnancy and Childbirth*, 14, 136.
- Oster, R.T., Mayan, M.J., & Toth, E.L. (2014b). Diabetes in pregnancy among First Nations women. *Qualitative Health Research*, 24(11), 1469-80.

- Pacey, A., Nancarrow, T., & Egeland, G.M. (2010). Prevalence and risk factors for parental-reported oral health of Inuit preschoolers: Nunavut Inuit Child Health Survey, 2007-2008. *Rural and Remote Health*, 10, 1368.
- Pacey, M. (2009a). *Fetal alcohol syndrome & fetal alcohol spectrum disorder among Aboriginal peoples*. Prince George, BC: National Collaborating Centre for Aboriginal Health.
- Pacey, M. (2009b). *Fetal alcohol syndrome & fetal alcohol spectrum disorder among aboriginal Canadians: Knowledge gaps*. Prince George, BC: National Collaborating Centre for Aboriginal Health.
- Paes, B.A., Mitchell, I., Banerji, A., Lancôt, K.L., & Langley, J.M. (2011). A decade of respiratory syncytial virus epidemiology and prophylaxis: Translating evidence into everyday clinical practice. *Canadian Respiratory Journal*, 18(2), e10-e19.
- Papillon, M. (2008). Aboriginal quality of life under a modern treaty: Lessons from the experience of the Cree Nation of Eeyou Istchee and the Inuit of Nunavik. *Choices*, 14(9), 1-26.
- Paterson-Payne, C. (2017). *Nobody's Perfect Parenting: Manitoba Annual Report, 2016-2017*. Winnipeg, MB: Youville Centre. Retrieved February 13, 2018 from <http://nobodysperfect.ca/wp-content/uploads/2017/03/2016-2017-NPP-Annual-Report.pdf>
- Peressini, S., Leake, J.L., Mayhall, J.T., Maar, M., & Trudeau, R. (2004). Prevalence of early childhood caries among First Nations children, District of Manitoulin, Ontario. *International Journal of Paediatric Dentistry*, 14(2), 101-110.
- Peters, R. deV., Arnold, R., Petrunka, K., Angus, D.E., Brophy, K., Burke, S.O., Cameron, B. et al. (2000). *Developing capacity and competence in the Better Beginnings, Better Futures communities: Short-term findings report – Executive Summary*. Kingston, ON: Better Beginnings, Better Futures Research Coordination Unit Technical Report.
- Petten, C. (2000). Aboriginal foster parents needed. *Raven's Eye*, 3(12). Retrieved January 18, 2018 from <http://www.ammsa.com/publications/ravens-eye/aboriginal-foster-parents-needed>
- Physicians for a Smoke Free Canada. (2013). *Smoking among Aboriginal Canadians – fact sheet*. <http://www.smoke-free.ca/factsheets/pdf/cchs/aboriginal.pdf>
- Pilisuk, M., & Froland, C. (2004). Kinship, social networks, social support and health. *Social Science and Medicine, Part B: Medical Anthropology*, 12, 273-280.
- Pirkle, C.M., Lucas, M., Dallaire, R., Ayotte, P., Jacobson, J.L., Jacobson, S.W., Dewalily, E. et al. (2014). Food insecurity and nutritional biomarkers in relation to stature in Inuit children from Nunavik. *Canadian Journal of Public Health*, 105(4), e233-8.
- Popova, S., Lange, S., Probst, C., Parunashvili, N., & Rehm, J. (2017). Prevalence of alcohol consumption during pregnancy and Fetal Alcohol Spectrum Disorders among the general and Aboriginal populations in Canada and the United States. *European Journal of Medical Genetics*, 60(1), 32-48.
- Power up! Coalition Linking Action and Science for Prevention. (2016). *Promotion of physical activity in rural, remote, northern, and natural settings in Canada: Report on evidence synthesis findings and outcomes from a national priority-setting conference*. Edmonton, AB: School of Public Health, University of Alberta. Retrieved February 7, 2018 from <http://abpolicycoalitionforprevention.ca/wp-content/uploads/2017/02/final-power-up-ra-rural-remote-northern-summary-report.pdf>
- Preston, J.P., Cottrell, M., Pelletier, T.R., & Pearce, J.V. (2012). Aboriginal early childhood education in Canada: Issues of context. *Early Childhood Research*, 10(1), 3-18.
- Prinz, R.J., Sanders, M.R., Shapiro, C.J., Whitaker, D.J., & Lutzker, J.R. (2009). Population-based prevention of child maltreatment: The U.S. Triple P system population trial. *Prevention Science*, 10(1), 1-12.
- Public Health Agency of Canada [PHAC]. (2007). *The Canada Prenatal Nutrition Program: A decade of promoting the health of mothers, babies and communities*. Ottawa, ON: Author. Retrieved February 8, 2018 from http://publications.gc.ca/collections/collection_2012/aspc-phac/HP10-11-2007-eng.pdf
- Public Health Agency of Canada [PHAC]. (2008a). *Canadian Perinatal Health Report, 2008th edition*. Ottawa, ON: Author. Retrieved from <http://www.phac-aspc.gc.ca/publicat/2008/cphr-rspsc/index-eng.php>
- Public Health Agency of Canada [PHAC]. (2008b). *Health equity through intersectoral action: An analysis of 18 country case studies*. Ottawa, ON: Author.
- Public Health Agency of Canada [PHAC]. (2014). *Protecting, promoting and supporting breastfeeding: A practical workbook for community-based programs, 2nd edition*. Ottawa, ON: Author. Retrieved January 25, 2018 from http://publications.gc.ca/collections/collection_2014/aspc-phac/HP15-18-2014-eng.pdf
- Public Health Agency of Canada [PHAC]. (2015). *The impact of the Community Action Program for Children (CAPC) on knowledge, skills and positive health behaviours*. Ottawa, ON: Author.
- Public Health Agency of Canada [PHAC]. (2016). *Smoking cessation during pregnancy and relapse after childbirth in Canada – fact sheet*. Ottawa, ON: Author. Retrieved January 24, 2018 from <https://www.canada.ca/content/dam/canada/health-canada/migration/healthy-canadians/publications/healthy-living-vie-saine/pregnancy-smoking-cessation-grossesse-renoncement-tabac/alt/pregnancy-smoking-cessation-grossesse-renoncement-tabac-eng.pdf>
- Public Health Agency of Canada [PHAC]. (2017). *Aboriginal Head Start in Urban and Northern Communities: Promising practices from Aboriginal Head Start in Urban and Northern Communities*. Toronto, ON: Presentation at the 14th Annual Summer Institute on Early Childhood Development, Addressing Inequity in Canada through Early Childhood Education, June 2. Retrieved January 29, 2018 from http://www.oise.utoronto.ca/atkinson/UserFiles/File/Events/20170602_Summer_Institute_2017/SI_2017_Presentations/Promising_practices_from_Aboriginal_Head_Start_in_Urban_and_Northern_Communities.pdf

- Public Policy Forum. (2015). *Building leaders: Early childhood development in Indigenous communities*. Ottawa, ON: Authors. Retrieved January 26, 2018 from http://www.ppforum.ca/sites/default/files/Building%20Leaders%20research%20paper%20-%20Final_3.pdf
- Reynolds, A.J., & Ou, S.R. (2003). Promoting resilience through early childhood intervention: Adaptation in the context of childhood adversities. In S.S. Luthar (ed.), *Resilience and vulnerability: Adaptation in the context of childhood adversities* (pp. 436-459). New York, NY: Cambridge University Press.
- Riddell, C.A., Hutcheon, J.A., & Dahlgren, L.S. (2016). Differences in obstetric care among nulliparous First Nations and non-First Nations women in British Columbia, Canada. *Canadian Medical Association Journal*, 188(2), E36-E43.
- Robinson, J.L. (2011). Preventing respiratory syncytial virus infections. *Paediatrics & Child Health*, 16(8), 487-488.
- Robinson, J.L., le Saux, N., & the Canadian Paediatric Society. (2015). Preventing hospitalizations for respiratory syncytial virus infection. *Paediatric Child Health*, 20(6), 321-26.
- Romanow, R.J. (2002). *Building on values: The future of health care in Canada, Final report of the Commission on the future of health care in Canada*. Ottawa, ON: National Library of Canada.
- Rositer, K.R. (2011). *Domestic violence prevention and reduction in British Columbia (2000-2010)*. New Westminster, BC: Centre for the Prevention and Reduction of Violence, Office of Applied Research, Justice Institute of British Columbia.
- Roth, D.E., Jones, A.B., Prosser, C., Robinson, J.L., & Vohra, S. (2008). Vitamin D receptor polymorphisms and the risk of acute lower respiratory tract infection in early childhood. *The Journal of Infectious Diseases*, 197(5), 676-680.
- Royal Commission on Aboriginal Peoples. (1996). *Report of the Royal Commission on Aboriginal Peoples, Vols. 1 and 3*. Ottawa, ON: Author.
- Ruiz-Castell, M., Muckle, G., Dewailly, E., Jacobson, J.L., Jacobson, S.W., Ayotte, P., & Riva, M. (2015). Household crowding and food insecurity among Inuit families with school-aged children in the Canadian Arctic. *American Journal of Public Health*, 105(3), e122-38.
- Sanders, M.R., Ralph, A., Sofronoff, K., Gardiner, P., Thompson, R., Dwyer, S., & Bidwell, K. (2008). Every family A population approach to reducing behavioral and emotional problems in children making the transition to school. *Journal of Primary Prevention*, 29, 197-222.
- Schroth, R.J., Moore, P., & Brothwell, D.J. (2005). Prevalence of early childhood caries in 4 Manitoba communities. *Journal of the Canadian Dental Association*, 71(8): 567e-567f.
- Schroth, R.J., Smith, P.J., Whalen, J.C., Lekic, C., & Moffatt, M.E.K. (2005). Prevalence of caries among preschool-aged children in a northern Manitoba community. *Journal of the Canadian Dental Association*, 71(1), 27a-27f.
- Sellers, E.A.C., Dean, H.J., Shafer, L.A., Martens, P.J., Phillips-Beck, W., Heaman, M., Prior, H.J. et al. (2016). Exposure to gestational diabetes mellitus: Impact on the development of early-onset type 2 diabetes in Canadian First Nations and non-First Nations offspring. *Diabetes Care*, 39(12), 2240-46.
- Sellers, E.A.C., Triggs-Raine, B., Rockman-Greenberg, C., & Dean, H.J. (2002). The prevalence of the HNF-1 α G319S mutation in Canadian Aboriginal youth with type 2 diabetes. *Diabetes Care*, 25(12), 2202-2206.
- Shah, P.S., Zao, J., Al-Wassia, H., Shah, V., & the Knowledge Synthesis Group on Determinants of Preterm/LBW Births. (2011). Pregnancy and neonatal outcomes of Aboriginal women: A systematic review and meta-analysis. *Women's Health Issues*, 21(1), 28-39.
- Shen, G.X., Shafer, L.A., Martens, P.J., Sellers, E., Torshizi, A.A., Ludwig, S., Phillips-Beck, W. et al. (2016). Does First Nations ancestry modify the association between gestational diabetes and subsequent diabetes: A historical prospective cohort study among women in Manitoba, Canada. *Diabetic Medicine*, 33(9), 1245-1252.
- Shields, M. (2005). *Measured obesity: Overweight Canadian children and adolescents*. Ottawa, ON: Statistics Canada, Component of Statistics Canada Catalogue no. 82-620-MWE2004001.
- Simonet, F., Wassimi, S., Heaman, M., Smylie, J., Martens, P., McHugh, N.G.L., Labranche, E. et al. (2010). Individual- and community-level disparities in birth outcomes and infant mortality among First Nations, Inuit and other populations in Quebec. *Open Women's Health*, 1(4), 18-24.
- Sinha, V., Trocmé, N., Fallon, B., & MacLaurin, B. (2013). Understanding the investigation-stage overrepresentation of First Nations children in the child welfare system: An analysis of the First Nations component of the Canadian Incidence Study of Reported Child Abuse and Neglect 2008. *Child Abuse & Neglect*, 37(10), 821-31.
- Sin, D.D., Spier, S., Svenson, L.W., Schlopflocher, D.P., Senthilselvan, A., Cowie, R.L., & Man, P. (2004). The relationship between birth weight and childhood asthma: A population-based cohort study. *Archives of the Pediatric & Adolescent Medicine*, 158(1), 60-64.
- Singh, K., Bjerregaard, P., & Man Chan, H. (2014). Association between environmental contaminants and health outcomes in Indigenous populations of the circumpolar north. *International Journal of Circumpolar Health*, 27, 25808. DOI: 10.3402/ijch.v73.25808.
- Sinha, V., & Kozlowski, A. (2013). The structure of Aboriginal child welfare in Canada. *The International Indigenous Policy Journal*, 4(2), Article 2.
- Skinner, K., Hanning, R., & Tsuji, L. (2006). Barriers and supports for healthy eating and physical activity for First Nations youths in northern Canada. *International Journal of Circumpolar Health*, 65(2), 148-161.
- Skinner, K., Hanning, R.M., & Tsuji, L.J.S. (2014). Prevalence and severity of household food insecurity of First Nations people living in an on-reserve, sub-Arctic community within the Mushkegowuk Territory. *Public Health Nutrition*, 17(1), 31-39.

- Skrypnec, B.J., & Charchun, J. (2009). *An evaluation of the Nobody's Perfect Parenting Program*. Canadian Association of Family Resource Programs (FRP Canada), prepared for the Public Health Agency of Canada.
- Smylie, J. (2013). *Addressing the social determinants of health of Aboriginal infants, children and families in British Columbia*. Prince George, BC: National Collaborating Centre for Aboriginal Health.
- Smylie, J. (2014). *Strong women, strong nations: Aboriginal maternal health in British Columbia*. Prince George, BC: National Collaborating Centre for Aboriginal Health.
- Smylie, J., & Adomako, P. (eds.). (2010). *Indigenous children's health report: Health Assessment in Action*. Toronto, ON: Keenan Research Centre.
- Stanley, I., Chung, M., Raman, G., Chew, P, Magula, N., DeVine, D., Trikalinos, T. et al. (2007). *Breastfeeding and maternal and infant health outcomes in developed countries*. Boston, MA: Tufts-New England Medical Center Evidence-Based Practice Center, Evidence Report/Technology Assessment, no. 153.
- Statistics Canada. (2008a). *Aboriginal Children's Survey, 2006: Supporting data tables*. Ottawa, ON: Author, Catalogue no. 89-634-X. Retrieved February 1, 2018 from <http://www.statcan.gc.ca/pub/89-634-x/89-634-x2008005-eng.htm>
- Statistics Canada. (2008b). *Aboriginal Children's Survey, 2006: Family, community and child care*. Ottawa, ON: Author, Catalogue no. 89-634-X – No. 001.
- Statistics Canada. (2012). Table 102-4512 - Live births, by weeks of gestation and sex, Canada, provinces and territories. CANSIM (database). Ottawa, ON: Author. Retrieved from <http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=1024512&paSer=&pattern=&stByVal=1&p1=1&p2=-1&tabMode=dataTable&csid=>
- Statistics Canada. (2015). *Aboriginal Statistics at a Glance, 2nd Edition*. Ottawa, ON: Author. Retrieved from <http://www.statcan.gc.ca/pub/89-645-x/89-645-x2015001-eng.pdf>
- Statistics Canada. (2016a). Study: Living arrangements of Aboriginal children aged 14 and under, 2011. *The Daily*, April 13.
- Statistics Canada. (2016b). Table 105-0512. Health indicator profile, by Aboriginal identity, age group and sex, four year estimates, Canada, provinces and territories. *CANSIM database*. Ottawa, ON: Author. Retrieved January 25, 2018 from <http://www5.statcan.gc.ca/cansim/a05?lang=eng&id=1050512>
- Statistics Canada. (2017a). Aboriginal peoples in Canada: Key results from the 2016 Census. *The Daily*, October 25.
- Statistics Canada. (2017b). Diverse family characteristics of Aboriginal children aged 0 to 4. *Census in Brief*, October 25. Retrieved January 18, 2018 from <http://www12.statcan.gc.ca/census-recensement/2016/as-sa/98-200-x/2016020/98-200-x2016020-eng.pdf>
- Statistics Canada. (2017c). The housing conditions of Aboriginal people in Canada. *Census in Brief*, October 25.
- Statistics Canada. (2017d). Language for Indigenous children: The Aboriginal languages of First Nations people, Metis and Inuit. *Census in Brief*, October 25.
- Statistics Canada. (2018a). Aboriginal identity (9), age (20), registered or treaty Indian status (3) and sex (3) for the population in private households of Canada, Provinces and Territories, Census Metropolitan Areas and Census Agglomerations, 2016 Census – 25% Sample data. *Data tables, 2016 Census*. Ottawa, ON: Author. Retrieved January 18, 2018 from <http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/dt-td/Rp-eng.cfm?TABID=4&LANG=E&A=R&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=0&GL=-1&GID=1334853&GK=1&GRP=1&O=D&PID=110668&PRID=10&PTYPE=109445&S=0&SHOWALL=0&SUB=0&Temporal=2017&THEME=123&VID=0&VNAMEE=&VNAMEF=&D1=0&D2=0&D3=0&D4=0&D5=0&D6=0>
- Statistics Canada. (2018b). Aboriginal identity (9), individual low-income status (6), low-income indicators (4), Registered or Treaty Indian Status (3), age (6) and sex (3) for the population in private households of Canada, Provinces and Territories, Census Metropolitan Areas and Census Agglomerations, 2016 Census – 25% Sample data. *Data tables, 2016 Census*. Ottawa, ON: Author. Retrieved January 18, 2018 from <http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/dt-td/Rp-eng.cfm?TABID=2&LANG=E&A=R&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=01&GL=-1&GID=1341679&GK=1&GRP=1&O=D&PID=111095&PRID=10&PTYPE=109445&S=0&SHOWALL=0&SUB=0&Temporal=2017&THEME=122&VID=0&VNAMEE=&VNAMEF=&D1=0&D2=0&D3=1&D4=0&D5=0&D6=0>
- Statistics Canada. (2018c). Aboriginal identity (9), highest certificate, diploma or degree (15), labour force status (8), Registered or Treaty Indian Status (3), residence by Aboriginal geography (10), age (10) and sex (3) for the population aged 15 years and over in private households of Canada, Provinces and Territories, 2016 Census – 25% Sample Data. *Data tables, 2016 Census*. Ottawa, ON: Author. Retrieved January 18, 2018 from <http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/dt-td/Rp-eng.cfm?TABID=4&LANG=E&A=R&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=01&GL=-1&GID=1334853&GK=1&GRP=1&O=D&PID=110668&PRID=10&PTYPE=109445&S=0&SHOWALL=0&SUB=0&Temporal=2017&THEME=123&VID=0&VNAMEE=&VNAMEF=&D1=0&D2=0&D3=0&D4=0&D5=0&D6=0>

- Statistics Canada. (2018d). Aboriginal identity (9), employment income statistics (7), highest certificate, diploma or degree (11), major field of study – classification of instructional programs (CIP) 2016 (14), work activity during the reference year (3), age (10) and sex (3) for the population aged 15 years and over in private households of Canada, provinces and territories, 2016 census – 25% sample data. *Data tables, 2016 Census*. Ottawa, ON: Author. Retrieved January 18, 2018 from <http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/dt-td/Rp-eng.cfm?LANG=E&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=0&GID=0&GK=0&GRP=1&PID=110682&PRID=10&PTYPE=109445&S=0&SHOWALL=0&SUB=0&Temporal=2017&THEME=123&VID=0&VNAMEE=&VNAMEF=>
- Statistics Canada. (2018e). Aboriginal identity (9), highest certificate, diploma or degree (7), school attendance (3), registered or treaty Indian status (3), residence by Aboriginal geography (10), age (13A) and sex (3) for the population aged 15 years and over in private households in Canada, provinces and territories, 2016 census – 25% sample data. *Data tables, 2016 Census*. Ottawa, ON: Author. Retrieved January 18, 2018 from <http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/dt-td/Rp-eng.cfm?LANG=E&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=0&GID=0&GK=0&GRP=1&PID=110666&PRID=10&PTYPE=109445&S=0&SHOWALL=0&SUB=0&Temporal=2017&THEME=123&VID=0&VNAMEE=&VNAMEF=>
- Statistics Canada. (2018f). Aboriginal identity (9), dwelling condition (4), Registered or Treaty Indian status (3), residence by Aboriginal geography (10), age (12) and sex (3) for the population in private households of Canada, provinces and territories, 2016 census – 25% sample data. *Data tables, 2016 Census*. Ottawa, ON: Author. Retrieved January 18, 2018 from <http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/dt-td/Rp-eng.cfm?TABID=2&LANG=E&A=R&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=01&GL=-1&GID=1341679&GK=1&GRP=1&O=D&PID=110519&PRID=10&PTYPE=109445&S=0&SHOWALL=0&SUB=0&Temporal=2017&THEME=122&VID=0&VNAMEE=&VNAMEF=&D1=0&D2=0&D3=1&D4=0&D5=0&D6=0>
- Statistics Canada. (2018g). Aboriginal identity (9), number of persons per room (5) Registered or Treaty Indian status (3), housing suitability (6), age (12) and sex (3) for the population in private households of Canada, provinces and territories, 2016 census – 25% sample data. *Data tables, 2016 Census*. Ottawa, ON: Author. Retrieved January 18, 2018 from <http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/dt-td/Rp-eng.cfm?TABID=2&LANG=E&A=R&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=01&GL=-1&GID=1341679&GK=1&GRP=1&O=D&PID=110520&PRID=10&PTYPE=109445&S=0&SHOWALL=0&SUB=0&Temporal=2017&THEME=122&VID=0&VNAMEE=&VNAMEF=&D1=1&D2=0&D3=1&D4=0&D5=0&D6=0>
- Success by 6. (n.d.a.). Overview, <http://www.successby6bc.ca/what-we-do/>
- Success by 6. (n.d.b.). Aboriginal engagement: Guiding principles & framework. <http://www.successby6bc.ca/guiding-principles/>
- Success by 6. (n.d.c.). Aboriginal engagement strategy, <https://static1.squarespace.com/static/5786b464bebafb879f1f70a1/t/57be1028d2b85745ca55f5c6/1472073768559/Aboriginal+Engagement+Strategy+Framework.pdf>
- Success by 6. (2013). *Community capacity building for the early years in BC: Highlights of the 2013 progress report*. Retrieved February 14, 2018 from http://www.mysuccessby6.ca/files/u66/Highlights_-_mgr_stakeholder_FINAL.pdf
- Supreme Court of Canada. (2016). Daniels v. Canada (Indian Affairs and Northern Development). *Judgements of the Supreme Court of Canada*. Ottawa, ON: Author, 2016 SCC23, case #35945.
- Tarasuk, V., Mitchell, A., & Dachner, N. (2016). *Household food insecurity in Canada, 2014*. Toronto, ON: Research to identify policy options to reduce food insecurity (PROOF).
- Teh, L., Pirkle, C., Furgal, C., Fillion, M., & Lucas, M. (2017). Psychometric validation of the household food insecurity access scale among Inuit pregnant women from northern Quebec. *PLoS One*, 12(6), e0178708.
- Thomson, M. (1994). Otitis media. How are First Nations children affected? *Canadian Family Physician*, 40, 1943-1950.
- Toth, S.L., Petrenko, C.L.M., Gravener-Davis, J.A., & Handley, E.D. (2016). Advances in prevention science: A developmental psychopathology perspective. In D. Cicchetti (Ed.), *Developmental psychopathology 3rd edition* (pp. 815-873). Hoboken, NJ: John Wiley & Sons.
- Triple P Positive Parenting Program. (n.d.). Homepage, <http://www.triplep-parenting.ca/can-en/triple-p/>
- Trocmé, N., Knoke, D., & Blackstock, C. (2004). Pathways to the overrepresentation of Aboriginal children in Canada's child welfare system. *The Social Service Review*, 78(4), 577-600.
- Truth and Reconciliation Commission of Canada. (2015). *Honouring the truth, reconciling for the future: Summary of the final report of the Truth and Reconciliation Commission of Canada*. Winnipeg, MB: Authors.
- Turner, A. (2016). Living arrangements of Aboriginal children aged 14 and under. *Insights on Canadian Society, April*, 1-13. Retrieved October 17, 2017 from <http://www.statcan.gc.ca/pub/75-006-x/2016001/article/14547-eng.pdf>
- Turner, K.M.T., Hodge, L.M., Forster, M., & McIlduff, C.D. (2017). Working effectively with Indigenous families. In M.R. Sanders & T.G. Mazzunichelli (eds.), *The power of positive parenting: Transforming the lives of children, parents, and communities using the Triple P system* (pp. 321-331). New York, NY: Oxford University Press.
- Turner, K.M.T., Richards, M., & Sanders, M.R. (2007). Randomised clinical trial of a group parent education programme for Australian Indigenous families. *Journal of Paediatrics and Child Health*, 43, 429-437.
- Turpel-Lafond, M.E., & Kendall, P. (2009). *Joint special report – Kids, crime and care: Health and well-being of children in care: Youth justice experiences and outcomes*. Victoria, BC: Representative of Children and Youth & Office of the Provincial Health Officer.

- United Nations Permanent Forum on Indigenous Issues. (n.d.). *Climate change and Indigenous peoples – Backgrounder*. Retrieved January 22, 2018 from http://www.un.org/en/events/indigenousday/pdf/Backgrounder_ClimateChange_FINAL.pdf
- Wallace, S. (2014). *Inuit health: Selected findings from the 2012 Aboriginal Peoples Survey*. Ottawa, ON: Statistics Canada, Catalogue no. 89-653-X—No. 003.
- Walters, B., Godel, J.C., & Basu, T.K. (1999). Perinatal vitamin D and calcium status of northern Canadian mothers and their newborn infants. *The Journal of the American College of Nutrition*, 18(2): 122-6.
- Weiler, H.A., Leslie, W.D., Krahn, J., Wood Steiman, P., & Metge, C.J. (2007). Canadian Aboriginal women have a higher prevalence of vitamin D deficiency than non-Aboriginal women despite similar dietary vitamin D intakes. *The Journal of Nutrition*, 137(2), 461-465.
- Werk, C.M., Cui, X., & Tough, S. (2013). Fetal alcohol spectrum disorder among Aboriginal children under six years of age and living off reserve, *The First Peoples Child & Family Review*, 8(1), 7-16.
- Wien, F. (2017). *Tackling poverty in Indigenous communities in Canada*. Prince George, BC: National Collaborating Centre for Aboriginal Health.
- Williams, L. (n.d.). *Aboriginal Head Start Program*. Kahnawake, QC: National Indian and Inuit Community Health Representatives. Retrieved March 16, 2010 from <http://www.niichro.com/Child/child4.html>
- Williams, J. (2012). The impact of climate change on Indigenous people – the implications for the cultural, spiritual, economic and legal rights of Indigenous people. *The International Journal of Human Rights*, 16(4), 648-688.
- Willows, N.D., Johnson, M.S., & Ball, G.D.C. (2007). Prevalence estimates of overweight and obesity in Cree preschool children in northern Quebec according to international and US reference criteria. *American Journal of Public Health*, 97(2): 311-16.
- Wilson, D. (2015). *Better governance, greater wellbeing*. First Nations of Quebec and Labrador Health and Social Services Commission. Retrieved February 1, 2018 from http://www.cssspnql.com/docs/default-source/Publications-Gouvernance/css_1509_gouvern_wilson_an_webf.pdf?sfvrsn=2
- Woodhead, M. (2014). *Early childhood development: Delivering inter-sectoral policies, programmes and services in low-resource settings*. Health & Education Advice & Resource Team (HEART). Retrieved January 30, 2018 from <http://oro.open.ac.uk/41552/1/Woodhead%20et%20al%202014%20Early-Childhood-Development-Topic-Guide.pdf>
- Xiao, L., Zhang, D.-L., Torrie, J., Auger, N., Gros-Louis McHugh, N., & Luo, Z.-C. (2016). Macrosomia, perinatal and infant mortality in Cree communities in Quebec, 1996-2010. *PLoS One*, 11(8), e0160766
- Ye, M., Mandhane, P.J., & Senthilselvan, A. (2012). Association of breastfeeding with asthma in young Aboriginal children in Canada. *Canadian Respiratory Journal*, 19(6), 361-366.
- Young, T.K., Dean, H.J., Flett, B., & Wood-Steiman, P. (2000). Childhood obesity in a population at high risk for type 2 diabetes. *Journal of Pediatrics*, 136, 365-369.
- Young, M., Kandola, K., Mitchell, R., & Leamon, A. (2007). Hospital admission rates for lower respiratory tract infections in infants in the Northwest Territories and the Kitikmeot region of Nunavut between 2000 and 2004. *Paediatrics & Child Health*, 12(7), 563-6.
- Zhang, Y., Xu, M., Zhang, J., Zeng, L., Wang, Y., & Zheng, Q.Y. (2014). Risk factors for chronic and recurrent otitis media: A meta-analysis. *PLoS One*, 9(1), e86397.
- Zimmerman, M.A., Ramirez-Valles, J., Washienko, K.M., Walter, B., & Dyer, S. (1998). Enculturation hypothesis: Exploring direct and protective effects among Native American youth. In E.A. McCubbin, E.A. Thompson, A.I. Thompson, & J.E. Fromer (Eds.), *Resiliency in Native American and immigrant families* (pp. 199-220). Thousand Oaks, CA: Sage Publications.

