

# Reproductive Health

## Guidance Document

Standards, Programs & Community Development Branch  
Ministry of Health Promotion  
May 2010

Working Group Co-Chairs  
Liz Haugh  
Lorna Larsen

Working Group Members  
Diane Shrott  
Nancy Summers  
Lia Swanson  
Connie Wowk

Mental Health Consultant  
Cindy Rose

Working Group Writer  
Elizabeth Berry

Editor  
Diane Finkle Perazzo

**ISBN: 978-1-4435-2908-2**  
**© Queen's Printer for Ontario, 2010**

**Published for the Ministry of Health Promotion**

## Table of Contents

List of Tables.....	4
Acknowledgements .....	5
Section 1. Introduction .....	6
a) Development of MHP’s Guidance Documents .....	6
b) Content Overview .....	7
c) Intended Audience and Purpose .....	7
d) Goal of the Reproductive Health Program .....	7
Section 2. Background .....	8
a) Why Is Reproductive Health a Significant Public Health Issue? .....	8
b) What Is the Public Health Burden Associated with Poor Reproductive Health Outcomes? .....	18
c) What Strategies Can Help Reduce the Burden of Poor Reproductive Health Outcomes? .....	19
d) What Are the Provincial Policy Direction, Strategies and Mandates for Optimizing Preconception and Prenatal Health and Supporting the Preparation for Parenting? .....	21
e) What Is the Evidence and Rationale Supporting the Direction? .....	21
Section 3. OPHS Reproductive Health Requirements.....	23
a) Assessment and Surveillance .....	23
Requirement 1 .....	23
1. National .....	23
2. Provincial .....	24
3. Local .....	24
b) Health Promotion and Policy Development .....	25
Requirement 2.....	25
(i) Secondary Schools .....	28
(ii) Workplaces.....	28
(iii) Health Care Providers (and/or possibly Regulatory Bodies).....	29
(iv) Community Partners (Working with Preconception/Prenatal Target Population).....	29
1. National.....	29
2. Provincial .....	29
3. Local .....	30
Requirement 3.....	30
1. National.....	33
2. Provincial .....	33
3. Local .....	34

<i>Requirement 4</i> .....	36
(i) Client Interactions at Sexual Health Clinics .....	36
(ii) Chronic Disease Prevention Programs .....	37
(iii) Child Health Programs .....	37
(iv) School Health Nursing Interactions.....	37
(v) Other .....	37
<i>Requirement 5</i> .....	41
<i>Requirement 6</i> .....	43
c) Disease Prevention .....	47
<i>Requirement 7</i> .....	47
<b>Section 4. Integration with Other Requirements under OPHS and     Other Strategies and Programs</b> .....	48
<b>Section 5. Resources to Support Implementation</b> .....	51
a) Principal Tools and Resources Required for Implementation .....	51
b) Resources for Planning, Implementing and Evaluating (Including OAHPP, Resource Centres and PHRED) .....	51
c) Networks .....	53
<b>Section 6. Conclusion</b> .....	54
<i>Appendix A: Summary of Potential Data Sources for Reproductive Health Indicators</i> .....	55
<i>Appendix B: Linkages between Reproductive Health Requirements and Others</i> .....	58
<b>References</b> .....	61
<b>List of Tables</b>	
<i>Table 1: Reproductive Health Information</i> .....	8
<i>Table 2: Topic Areas for Potential Reproductive Health Communications Strategies</i> .....	32
<i>Table 3: Examples of Priority Populations for Reproductive Health</i> .....	44
<i>Table 4: Sample Level of Integration between Reproductive Health and         Child Health Programs and Other OPHS Programs</i> .....	49
<i>Table 5: Sample Level of Integration within Family Health Program         Components and Comprehensive School Health</i> .....	49

## Acknowledgements

The Reproductive Health Guidance Document Working Group would like to thank the following individuals for their contribution to the development of this Guidance Document:

- Adrienne Einarson (Motherisk)
- Daniela Seskar-Hencic (Region of Waterloo Public Health)
- Barbara Willet (Best Start Resource Centre)
- Family Health staff from public health units across the Province

Guidance and editorial support from the project Steering Committee members, Cancer Care Ontario and Ontario Ministry of Health Promotion staff was also greatly appreciated.

**Liz Haugh**

**Lorna Larsen**

Co-Chairs

## Section 1. Introduction

Under Section 7 of the *Health Protection and Promotion Act* (HPPA), the Minister of Health and Long-Term Care published the *Ontario Public Health Standards* (OPHS) as guidelines for the provision of mandatory health programs and services by the Minister of Health and Long-Term Care. Ontario's 36 boards of health are responsible for implementing the program standards including any protocols that are incorporated within a standard. The Ministry of Health Promotion (MHP) has been assigned responsibility by an Order in Council (OIC) for four of these standards: (a) Reproductive Health, (b) Child Health, (c) Prevention of Injury and Substance Misuse and (d) Chronic Disease Prevention. The Ministry of Children and Youth Services has an OIC pertaining to responsibility for the administration of the *Healthy Babies Healthy Children* components of the Family Health standards.

The OPHS (1) are based on four principles: need; impact; capacity and partnership; and collaboration. One Foundational Standard focuses on four specific areas: (a) population health assessment, (b) surveillance, (c) research and knowledge exchange and (d) program evaluation.

### a) Development of MHP's Guidance Documents

The MHP has worked collaboratively with local public health experts to draft a series of Guidance Documents. These Guidance Documents will assist boards of health to identify issues and approaches for local consideration and implementation of the standards. While the OPHS and associated protocols published by the Minister under Section 7 of the HPPA are legally binding, Guidance Documents that are not incorporated by reference to the OPHS are not enforceable by statute. These Guidance Documents are intended to be resources to assist professional staff employed by local boards of health as they plan and execute their responsibilities under the HPPA and the OPHS. Both the social determinants of health and the importance of mental health are also addressed.

In developing the Guidance Documents, consultation took place with staff of the Ministries of Health and Long-Term Care, Children and Youth Services, Transportation and Education. The MHP has created a number of Guidance Documents to support the implementation of the four program standards for which MHP is responsible, e.g.:

- Child Health
- Child Health Program Oral Health
- Comprehensive Tobacco Control
- Healthy Eating/Physical Activity/Healthy Weights
- Nutritious Food Basket
- Prevention of Injury
- Prevention of Substance Misuse
- Reproductive Health
- School Health

This particular Guidance Document provides specific advice about the *OPHS Requirements* related to REPRODUCTIVE HEALTH.

## b) Content Overview

**Section 2** of this Guidance document provides background information relevant to reproductive health, including the significance and burden of this specific public health issue. It includes a brief overview of provincial policy direction, strategies to reduce the burden, and the evidence and rationale supporting the direction. The background section also addresses mental well-being and social determinants of health considerations.

**Section 3** provides a statement of each program requirement in the OPHS (1), and discusses evidence-based practices, innovations and priorities within the context of situational assessment, policy, program and social marketing, and evaluation and monitoring. Examples of how this has been done in Ontario or other jurisdictions have been provided.

**Section 4** identifies and examines areas of integration with other program standard requirements. This includes identification of opportunities for multi-level partnerships, including suggested roles at each level (e.g., provincial, municipal/boards of health, community agencies and others) and identification of collaborative opportunities with other strategies and programs such as the *Smoke-Free Ontario Strategy* and *Healthy Babies Healthy Children*.

Finally, **Section 5** identifies key tools and resources that may assist staff of local boards of health to implement the respective program standard and to evaluate their interventions. **Section 6** is the conclusion.

## c) Intended Audience and Purpose

This Guidance Document is intended to be a tool that identifies key concepts and practical resources that public health staff may use in health promotion planning. It provides advice and guidance to both managers and front-line staff in supporting a comprehensive health promotion approach to fulfill the OPHS 2008 requirements for the Child Health, Chronic Disease Prevention, Prevention of Injury and Substance Misuse, and Reproductive Health program standards.

## d) Goal of the Reproductive Health Program

The goal of the Reproductive Health program is “to enable individuals and families to achieve optimal preconception health, experience a healthy pregnancy, have the healthiest newborn(s) possible and be prepared for parenthood.” (1) Achievement of this goal involves a complex interplay of internal and external factors that begins long before conception and extends throughout pregnancy to the birth of the infant and beyond. Accordingly, the Reproductive Health Program Standard is structured around three core components: preconception health, healthy pregnancies and preparation for parenting.

In order to achieve the board of health and societal outcomes and overall goal for the Reproductive Health program, all OPHS Foundational Standard and Reproductive Health Program Standard requirements must be met. Reproductive Health program requirements include those addressed in this Guidance Document and the *Healthy Babies Healthy Children Protocol, 2008*.

In the event of any conflict between this Guidance Document and the *Ontario Public Health Standards (2008)*, the *Ontario Public Health Standards* will prevail.

## Section 2. Background

### a) Why Is Reproductive Health a Significant Public Health Issue?

Investing in reproductive health is an upstream investment. Quite simply, a woman’s good health before pregnancy will contribute to a healthy pregnancy; a healthy pregnancy will contribute to a healthy birth outcome; and a healthy birth outcome, along with preparation for parenthood, will contribute to healthy children and families.

Poor birth outcomes will contribute to poor short- and long-term growth and development outcomes for infants and children. These negative outcomes may have lifelong impacts and may result in increased cost and strain to families and to society overall. Poor birth outcomes can levy substantial costs to health care (e.g., more frequent and longer hospital stays, primary care) education, the justice system, non-profit organizations and all levels of government.

The following **Table 1: Reproductive Health Information** provides some data and findings from the literature that highlight the significance of many reproductive health issues and concerns that are relevant to public health.

**Table 1 Reproductive Health Information**

HEALTH COMPONENT	SELECTED INFORMATION	ECONOMIC IMPACT
<b>Access to Primary Health Care</b>	<ul style="list-style-type: none"> <li>▪ Women who receive prenatal care early and regularly have a better outcome than those who do not. (2)</li> <li>▪ A number of factors may influence whether or not women access prenatal care, such as availability of health services, socio-economic status, availability of social support and individual stress levels. (2,3)</li> <li>▪ Preterm delivery, low birth weight and stillbirth are more common among women who receive no prenatal care. (4)</li> </ul>	
<b>Decision To Breastfeed</b>	<ul style="list-style-type: none"> <li>▪ Almost half of women make their infant feeding decision before pregnancy and half make the decision during pregnancy. (5)</li> <li>▪ Prenatal breastfeeding education positively impacts initiation and duration rates, especially for women who have no previous breastfeeding experience. (6)</li> <li>▪ Education initiatives regarding the benefits of breastfeeding, breastfeeding best practices and available supports should be part of preconception and prenatal preparation for parenthood strategies. (5)</li> </ul>	



HEALTH COMPONENT	SELECTED INFORMATION	ECONOMIC IMPACT
<b>Environmental Hazards</b>	<ul style="list-style-type: none"> <li>▪ Studies of human populations show clear links between early life environment and later health and disease. (7)</li> <li>▪ The time of greatest risk related to environmental exposures is likely in the womb. In general, toxic exposures during early pregnancy are more likely to create structural impacts such as birth defects, since this is the time when the form and structure of the body develops. Toxic exposures during late pregnancy are more likely to result in functional impacts, such as learning difficulties resulting from impacts on fetal brain development. (8)</li> <li>▪ The fetus may be more susceptible to toxic effects of environmental exposures because of rapid cell division, a relative lack of metabolic detoxification and excretion mechanisms, and a relatively poorly developed immune system. (10)</li> <li>▪ Environmental toxins can have the following effects: spontaneous abortion, stillbirth, low birth weight, preterm birth, decreased head circumference, birth defects, visual and hearing deficits, cerebral palsy (congenital), chromosomal abnormalities, intellectual deficits/mental retardation and behavioural deficits. (11)</li> <li>▪ Reproductive disorders in men and women can result from chemical exposures of their parents or that they themselves experienced in the womb. Studies have detected lead, pesticide and other toxicants in both follicular fluid (surrounding the female egg) and semen, meaning that human eggs and sperm are directly exposed to chemical contaminants. This can result in both developmental effects in the offspring and multi-generational effects. (11)</li> <li>▪ Birth defects are the leading cause of infant death, followed by premature birth and SIDS. (8)</li> <li>▪ Health impacts from prenatal or childhood environmental exposures can include chronic conditions such as asthma, impacts on brain functioning and effects on learning and behaviour, birth defects, or the development of cancer later in life. (8)</li> </ul>	<p>One study estimates the cumulative annual social and economic costs to the US and Canada of between \$568 and \$793 billion for a range of diseases in adults and children considered to be candidates for “environmental causation.” (9)</p>

HEALTH COMPONENT	SELECTED INFORMATION	ECONOMIC IMPACT
<b>FASD</b>	<ul style="list-style-type: none"> <li>▪ One third of Canadians believe that it is safe to consume a small amount of alcohol during pregnancy. (12)</li> <li>▪ Seventy-two per cent of Canadian women say they would stop drinking alcohol if they were to become pregnant. (12)</li> <li>▪ Thirty-eight per cent of currently pregnant women report not receiving advice from their doctor regarding alcohol consumption during pregnancy. (12)</li> <li>▪ A majority of Canadian physicians and midwives report that they do not consistently discuss smoking, alcohol use or addictions with women of childbearing age and almost half (46%) feel unprepared to care for pregnant women who have substance use problems. (13)</li> <li>▪ FASD is a lifelong disability (developmental delays and adverse health outcomes) and there is no known treatment. Early identification improves outcomes reducing secondary disabilities. (12)</li> <li>▪ The incidence of FASD in Canada is one in one hundred live births. (12)</li> <li>▪ Two-and-a-half per cent of newborns whose first stools are analyzed indicate prenatal alcohol exposure. (12)</li> <li>▪ FASD is described by researchers as the leading cause of developmental and cognitive disabilities (learning disabilities, difficulty understanding consequences of their actions, depression and obsessive-compulsive disorder, physical disability such as kidney and internal organ problems, skeletal abnormalities such as facial deformities). (14)</li> <li>▪ Six communities in Ontario have diagnostic services. (12)</li> <li>▪ Ten-and-a-half per cent of mothers reported drinking alcohol during their pregnancy in 2005, and 1.1% of women who were pregnant in the previous five years reported drinking more than once a week during their pregnancy. (2)</li> </ul>	<p>The annual costs of FASD in Canada are \$5.3 billion/year</p> <ul style="list-style-type: none"> <li>▪ reflects medical, education, social service costs and costs to families</li> </ul> <p>The annual costs per child with FASD (aged 0–53 years) are \$21,642. (14)</p>

HEALTH COMPONENT	SELECTED INFORMATION	ECONOMIC IMPACT
<b>Folic Acid</b>	<ul style="list-style-type: none"> <li>▪ Two thirds of neural tube defects (NTDs) would be prevented if women of childbearing age consumed an adequate amount of folic acid during preconception (three months prior to conception) and during early pregnancy. (15)</li> <li>▪ The percentage of neural tube defects is low. (15)</li> <li>▪ Outcomes from not taking folic acid can range from mild to severe including increased infant mortality and lifelong physical and mental disability. (15)</li> <li>▪ Folate contributes to a healthy pregnancy. It is essential to the normal development of the spine, brain and skull of the fetus and reduces the risk of neural tube defects (NTDs). It is essential, especially during the first four weeks of pregnancy, a time when many women do not realize they are pregnant. (17)</li> <li>▪ Women not taking a folic acid supplement, on restricted diets, with lower socio-economic status and/or experiencing food insecurity are at higher risk for not meeting the requirement. (17)</li> <li>▪ In 2005, 57.8% of women who gave birth in the previous five years reported taking folic acid supplements before they found out they were pregnant, compared to 47.2% in 2000–2001. Younger mothers were less likely to take folic acid supplementation. (2)</li> <li>▪ In 2005, 29.8% of mothers under 20 years reported taking folic acid supplements compared with 64.5% of women aged 35 to 39. (2)</li> </ul>	The lifetime economic cost to society per person with spina bifida is \$258,000 USD. (16)
<b>Healthy Eating, Healthy Weights and Physical Activity During Pregnancy</b>	<ul style="list-style-type: none"> <li>▪ Women who have inadequate gestational weight gains are at increased risk of preterm birth and of delivering a small for gestational age infant or a low birth weight infant. Low birth weight is associated with neonatal morbidity and mortality, physical and cognitive disabilities and chronic health problems later in life. (18)</li> </ul>	

HEALTH COMPONENT	SELECTED INFORMATION	ECONOMIC IMPACT
<p><b>Physical Activity During Pregnancy</b></p>	<ul style="list-style-type: none"> <li>▪ Excessive gestational weight gain is associated with both large for gestational age (LGA) births and macrosomia. The possible consequences of high birth weight (especially &gt;4500g) include prolonged labour and birth, birth trauma, birth asphyxia, caesarean birth and increased risk of perinatal mortality. (18)</li> <li>▪ Forty-two percent of Ontario women aged 18 and over are overweight or obese. (19)</li> <li>▪ Nutritional factors such as low pre-pregnancy weight, weight gain and caloric intake account for 10–15% of small for gestational age births. (2)</li> <li>▪ Among pregnant women who are active, physical activity tends to be of lower duration, frequency and intensity relative to pre-pregnancy levels. (21)</li> <li>▪ Women who are more active during pregnancy may have reduced risks of gestational diabetes, hypertensive disease and preterm birth. (22)</li> <li>▪ Regular exercise during pregnancy is associated with reduced risk of pre eclampsia (23), gestational diabetes (24) and preterm birth (25) as well as improved pain tolerance, lower total weight gain, less fat mass gain and improved self-image. (27)</li> <li>▪ Studies have revealed that a majority of pregnant women are insufficiently active (e.g., less than 150 minutes of physical activity per week) and that as pregnancy progresses, physical activity levels decrease. (27)</li> <li>▪ Regular prenatal exercise is an important component of a healthy pregnancy as it lowers incidence of varicose veins, deep vein thrombosis and low-back pain. (28)</li> </ul>	

HEALTH COMPONENT	SELECTED INFORMATION	ECONOMIC IMPACT
<p><b>Healthy Family Dynamics</b></p> <p><b>Woman Abuse</b></p>	<ul style="list-style-type: none"> <li>▪ Pregnant women aged 18 to 25 years and those in relationships of fewer than two years are at a higher risk for experiencing abuse by their intimate partners. (29)</li> <li>▪ Of women abused during pregnancy, 64% report an escalation of violence prenatally. (30)</li> <li>▪ Violence and abuse are associated with preterm and low birth weights, in addition to a multitude of adverse physical and psychological health outcomes for women. (30)</li> </ul>	<p>Violence against women may cost more than \$4.2 billion dollars per year (in social services/education, health/medicine, criminal justice and labour/employment costs). (31)</p> <p>The health-related costs alone of violence against women amounted to more than \$1.5 billion a year (a figure that is only the “tip of the iceberg,” according to the author of the study). (32)</p>

HEALTH COMPONENT	SELECTED INFORMATION	ECONOMIC IMPACT
<p><b>Low Birth Weight And Pre-Term Babies</b></p>	<ul style="list-style-type: none"> <li>▪ Birth weight is the most important determinant of perinatal, neonatal and post-neonatal outcomes. (30)</li> <li>▪ Low birth weight babies are at greater risk for poor neurological and development outcomes (e.g., learning disabilities, poorer cognitive outcomes, delayed motor and social development, childhood illnesses and re-admittance to hospital for health problems). (33)</li> <li>▪ Eight per cent of babies born in Canada are small for their gestational age. (50)</li> <li>▪ Perinatal mortality in small birth weight babies is 10 to 20 times higher than for those whose growth is not growth restricted. (36)</li> <li>▪ Modifiable risk factors include maternal smoking, poor nutrition, substance abuse, social factors, maternal infection, maternal hypertension and poor access to prenatal care. (37)</li> </ul>	<p>Hospital costs for caring for a small for gestational age infant in 2005-6 was approximately 11 times higher than caring for infants born with a healthy birth weight. (37)</p> <p>Low birth weight and preterm babies account for a disproportionately high percentage of health care costs among all newborns. In Canada, the average hospital cost per newborn born within a healthy birth weight in 2005-6 was approximately \$1,000. (30)</p> <p>For each preterm low birth weight infant born in Canada, the neonatal intensive care and post-neonatal cost up to one year of age was conservatively estimated at \$8,443 in 1987 and \$48,183 in 1995 per surviving low birth weight infant. The projected cost for 2009 would be \$87,923. (30)</p>

HEALTH COMPONENT	SELECTED INFORMATION	ECONOMIC IMPACT
<b>Maternal Age</b>	<ul style="list-style-type: none"> <li>▪ Between 1995 and 2004, the live birth rate among older mothers (35 to 39 years of age) increased by 32.5%. (2)</li> <li>▪ Women who conceive at older ages are more likely to experience hypertension and diabetes, develop placental problems in pregnancy and have an increase in fetal aneuploidy, compared to younger moms. (2)</li> <li>▪ Women aged 35 to 39 experience other complications such as prolonged labour, cesarean delivery, low birth weight, small for gestational age, preterm birth, still birth and perinatal mortality/neonatal morbidity. (2)</li> <li>▪ Teen pregnancy poses greater risk for health problems such as anemia, hypertension, eclampsia and depressive disorders. (26)</li> <li>▪ Teen pregnancy is more common among vulnerable teens, and is a significant predictor of other social, educational and employment barriers in later life. (26)</li> <li>▪ Younger teens (i.e., under 15 years of age) are at an increased risk for delivering low birth weight babies, an outcome associated with low maternal weight and physical immaturity. (55)</li> </ul>	
<b>Maternal Education</b>	<ul style="list-style-type: none"> <li>▪ A low maternal education level has been consistently related to poor perinatal health outcomes. Preterm birth, small for gestational age, stillbirth and infant mortality rates are high among women with a low level of education. (2)</li> <li>▪ There is a strong association between maternal education and maternal smoking, exposure to second-hand smoke and alcohol consumption during pregnancy. In a CCHS 2005 survey, 39% of mothers with less than a high school education smoked prenatally compared with 8.9% of those who were college or university graduates. For alcohol consumption, 7.5% of mothers who had less than a high school education reported drinking prenatally, compared to 11.4% of mothers who were college or university graduates. (2)</li> </ul>	

HEALTH COMPONENT	SELECTED INFORMATION	ECONOMIC IMPACT
<b>Maternal Socio-Economic Status</b>	<ul style="list-style-type: none"> <li>▪ Infant mortality rates amongst the lowest income groups in urban Canada are 1.6 times higher than those among the highest income groups. (26)</li> <li>▪ Poor circumstances during pregnancy can lead to less than optimal fetal development via a chain that may include deficiencies in nutrition during pregnancy, maternal stress, a greater likelihood of maternal smoking and misuse of drugs and alcohol, insufficient exercise and inadequate prenatal care. (61)</li> </ul>	
<b>Mental Health</b>	<ul style="list-style-type: none"> <li>▪ Pregnancy increases incidence of anxiety and depression in women. (38)</li> <li>▪ Prenatal anxiety and depression, along with stressful recent life events, poor social support and a previous history of depression, are consistently identified as strong predictors of postpartum depression. (39)</li> <li>▪ Maternal stress, anxiety and depression are associated with an increased risk of problems during pregnancy and delivery, including low birth weight and preterm births. (40)</li> <li>▪ Prenatal stress, experienced by the fetus either through its connection to the mother's blood supply (and hence to maternal anxiety and stress) or through prematurity and low birth weight, may have important effects on cognition. Early exposure to stress has been shown to be associated with impaired cognitive and intellectual performance in later life. (41)</li> </ul>	<p>An estimated 2,953 pregnant women with depression in Ontario annually discontinue antidepressant therapy and subsequently have a depressive relapse.</p> <p>An estimated \$20,546,982 is spent annually in Ontario on untreated maternal depression in pregnancy.</p> <p>This is the total after subtracting the cost of risks associated with treated depression during pregnancy (\$3,144,053). (42)</p>



HEALTH COMPONENT	SELECTED INFORMATION	ECONOMIC IMPACT
<b>Oral Health</b>	<ul style="list-style-type: none"> <li>▪ Poor oral health can adversely affect a person’s quality of life. (43)</li> <li>▪ Pain, missing teeth and infection can influence the way people speak, eat and socialize, affecting their physical, mental and social well-being. (43)</li> <li>▪ There is an association between oral disease and health problems, e.g., diabetes, pneumonia, heart disease, stroke and preterm and low birth weight babies. (43)</li> <li>▪ Poor oral health may lead to adverse pregnancy outcomes, including pre eclampsia, preterm birth and low birth weight babies. (43)</li> <li>▪ Hormonal changes during pregnancy can increase a prenatal woman’s risk of developing periodontal (gum and bone) disease. Pregnant women with this disease may have a higher risk of delivering a preterm or low birth weight baby. (43)</li> <li>▪ Morning sickness can cause tooth decay and the acid can also erode tooth enamel. (44)</li> <li>▪ Forty-nine per cent of obstetricians rarely or never recommend a dental examination, only 10% of dentists perform all necessary treatments and 14% of dentists are against using local anesthetics during pregnancy. This is concerning as poor oral health can lead to adverse pregnancy outcomes, including pre eclampsia, per-term birth and low birth weight babies. (43)</li> <li>▪ Half of pregnant women experience gingivitis due to increased estrogen and progesterone, which can progress to periodontitis. (43)</li> </ul>	
<b>Positive Parenting</b>	<ul style="list-style-type: none"> <li>▪ Prior to the birth of their first baby, 44% of parents felt prepared for parenthood. After their baby is born, the percentage of parents who felt confident about their parenting abilities dropped to 18%. (45)</li> </ul>	
<b>Smoking</b>	<ul style="list-style-type: none"> <li>▪ Twenty-six per cent of men and women (ages 18 and up) smoke. (46)</li> <li>▪ Ten per cent of Ontario women smoke during pregnancy. (47)</li> <li>▪ Only 20% of women successfully control tobacco dependence during pregnancy; cessation of smoking is recommended before pregnancy. (30)</li> </ul>	

## b) What Is the Public Health Burden Associated with Poor Reproductive Health Outcomes?

“Birth weight is the most important determinant of perinatal, neonatal and post-neonatal outcomes. Poor growth during the intrauterine period increases the risks of perinatal and infant mortality and morbidity throughout life.” (30) Babies born with a healthy birth weight have less risk of complications immediately following birth and more chance of healthy growth and development throughout life. While most babies born with a low birth weight survive and are healthy, as a group they are at greater risk for poor neurological and development outcomes (e.g., learning disabilities, poorer cognitive outcomes, delayed motor and social development), childhood illnesses (e.g., respiratory tract infections, asthma, ear infections) and re-admittance to hospital for associated health problems. (33–36) Babies born with a high birth weight are also at risk (e.g., asthma, childhood leukemia). (48, 49)

Babies who are born small for gestational age are at higher risk of mortality and morbidity at all stages of life. Perinatal mortality in small birth weight babies is 10 to 20 times higher than in those whose growth is not growth restricted. (50)

Preterm birth is one of the most serious perinatal health issues in Ontario. Babies who are born prematurely face a greater risk of perinatal death, serious health problems and long-term disabilities. (47) Delayed childbearing and the use of assisted reproductive technologies are thought to have contributed to an increase in multiple births and preterm deliveries over the last two decades. (50)

The prevalence of neural tube defects (NTDs) has been reduced, (2) yet babies are still being born with NTDs. An overview of the implications of being born with an NTD cites multiple health concerns that can affect quality of life, chronic disabilities and social, financial and psychological burdens for the child and family. Outcomes can range from mild to severe, including increased infant mortality and lifelong physical and mental disability. (15)

Drug- and alcohol-related birth defects such as Fetal Alcohol Spectrum Disorder (FASD) can result in lifelong developmental delays and adverse health outcomes. Unborn babies who are exposed to alcohol in utero may suffer brain damage, vision and hearing difficulties, slow growth, physical disabilities such as kidney and internal organ problems, skeletal abnormalities such as facial deformities, learning disabilities, difficulty remembering and understanding the consequences of their actions, depression, obsessive-compulsive disorder, trouble with the law, drug or alcohol problems and trouble living on their own and keeping a job. (52)

Psychosocial factors can enhance or diminish preconception and prenatal health and preparation for parenthood. According to the Canadian Institute for Health Information (CIHI), (50) positive mental health is a component of overall health, well-being and quality of life.

A number of factors, including spousal conflict, intimate partner violence, unemployment, poverty, social isolation and time stresses can contribute to depressive symptoms and diminished mental well-being. For some of these factors and for women with pre-existing mental health concerns, pregnancy can actually magnify the risk. It has also been noted that pregnant women with pre-existing mental health concerns are often not treated adequately or appropriately during pregnancy. (53)

Public health is particularly interested in reproductive health outcomes that can be modified by comprehensive population-based health promotion interventions. These outcomes include low birth weights, preterm births, congenital infections and preventable birth defects such as NTD and FASD.

The population health approach achieves its goal of improving the health status of the entire population by considering health determinants and strategies to reduce inequalities in health status between groups. (54) Low maternal education, low socio-economic status, social and racial differences and adverse neighbourhood conditions are all cited as key factors consistently related to poor reproductive health outcomes (e.g., preterm birth, small for gestational age, stillbirth and infant mortality rates) and unhealthy maternal behaviours (e.g., smoking, exposure to second-hand smoke, lower rates of breastfeeding and periconceptional folic acid supplementation). (2, 30) Practical guidance for this work is provided in *Steps to Equity: Ideas and Strategies for Health Equity in Ontario, 2008–2010*. (56)

Public health practitioners recognize that health outcomes, as well as health, parenting and breastfeeding practices, are influenced by the external factors (e.g., economics, safe and supportive social environments, accessible services and environmental exposures) that shape people's lives. Various environmental exposures (e.g., pollutants, pesticides, etc.) have also been associated with a number of adverse reproductive health outcomes, from preconception through pregnancy. (8, 30)

Reducing potentially harmful exposures to environmental hazards requires multi-faceted public health interventions. This can include, among other things, increasing staff knowledge about the risks associated with environmental health hazards before, during and post-pregnancy.

The scope of the Reproductive Health OPHS includes population-based activities designed for public health, and working with community partners to address the broader determinants of health and reduce health inequities. (1) External risk factors may include poverty, environmental exposures and psychosocial responses to impoverished conditions (e.g., social isolation, violence, depression).

Activities include working with community partners to influence the development and implementation of healthy policies and the creation or enhancement of clean, safe and supportive environments to address preconception and prenatal health and the preparation for parenting, as well as outreach to priority populations.

### **c) What Strategies Can Help Reduce the Burden of Poor Reproductive Health Outcomes?**

A population health approach to reduce the burden of poor reproductive health outcomes optimizes the health and well-being for people of reproductive age (including, but not limited to, those who are planning a pregnancy), pregnant women, their unborn babies and the children those babies will grow into. Integrated strategies including health care, prevention, protection, health promotion and action on the broader determinants of health are required across multiple settings and are consistent with the Public Health Agency of Canada's definition of a population health approach. (54)

In addition to population-based approaches, universal approaches to improve reproductive health outcomes, outreach to priority populations and targeted programs are important to address the specific needs of the most vulnerable populations (e.g., teen mothers, pregnant women who smoke, drink alcohol or take drugs, women without a primary health care provider).

While the population health approach involves considering the entire population in terms of health outcomes, it may also involve a targeted approach with specific populations where evidence points to health inequities or where a sub-group of the population is disadvantaged in terms of their health outcomes. In the OPHS, these groups are called “priority populations.” (1) For example, *Healthy Baby Healthy Children* program interactions and referral activities include both universal and targeted high-risk family interventions.

The focus on priority populations within a population health approach challenges public health practitioners to make the intervention more accessible to certain sub-groups, or in other cases to develop specific strategies to address inequalities in the social determinants of health that some groups experience.

Community-based strategies that ensure equitable access to primary health and dental care, and improved preconception and prenatal health practices among health care practitioners, are important for improving preconception and prenatal health. However, there is a limit to the impact that clinical interventions alone can have to further improve reproductive health outcomes and reduce the rate of low birth weight and preterm births. (20)

Significant public health action has focused on addressing modifiable individual risk factors associated with poor birth outcomes. Individual risk factors may include maternal health behaviours (e.g., smoking, poor nutrition, physical activity, substance misuse, folic acid supplementation) and maternal characteristics (e.g., maternal infection, hypertension, age, pre-pregnancy weight gain and maternal birth weight). (50, 57) Activities include health communication strategies, behaviour change strategies such as the provision of health education resources, group skill-building programs and one-to-one interventions/services.

Strategies to address individual behaviours in and of themselves are not enough – public health must also work with other partners to address the broader social determinants of health and reduce resulting health inequities. Working with community partners, public health activities might also be directed at secondary prevention strategies such as recommendations for policy development to support the routine universal screening of women for intimate partner abuse, (29) efforts to identify and treat depression during pregnancy (2) or clinical guidelines to ask about and assess, at each contact, the mental health status of pregnant women who have had a pre-existing mental health problem. (58)

Effective mental health promotion activities in the Reproductive Health program should focus on building knowledge, strengths, assets and resources necessary for mental health (e.g., good coping strategies, fostering healthy relationships, emotional and social supports, self-esteem, command over personal resources, access to basic necessities and community resources).

#### d) What Are the Provincial Policy Direction, Strategies and Mandates for Optimizing Preconception and Prenatal Health and Supporting the Preparation for Parenting?

Working towards improving preconception health, health during pregnancies, reproductive health outcomes and preparation for parenting will have long-term benefits for Ontarians. The Ministry of Health Promotion's *Healthy Ontarians, Healthy Ontario Strategic Framework* document states, "Our first priority will be our children and youth. Behaviours and attitudes developed in childhood last the rest of our lives. Healthy, active children become healthy, active adults. We will build a generation of healthier Ontarians." (59) This priority supports the *Ontario Public Health Standards* (OPHS) Family Health Program Standards including the Reproductive Health program.

The Ministry of Children and Youth Services Strategic Framework 2008–12 *Realizing Potential: Our Children, Our Youth, Our Future* ([www.hastingscas.org/uploaded/file/MinistryOfChildrenandYouthServicesStrategicPlan.pdf](http://www.hastingscas.org/uploaded/file/MinistryOfChildrenandYouthServicesStrategicPlan.pdf)) (60) envisions an Ontario where all children and young adults have the best opportunity to succeed and reach their full potential. Provincial strategies (e.g., Poverty Reduction Strategy ([www.growingstronger.ca/english/default.asp](http://www.growingstronger.ca/english/default.asp))) also assist in optimizing the OPHS Reproductive Health Program goal.

Interministerial partnerships and healthy public policies assist in optimizing support for preconception and prenatal health and preparation for parenting. The *Healthy Babies Healthy Children* (HBHC) program is a Reproductive and Child Health program requirement designed to give children the best start in life. The Ministry of Children and Youth Services (MCYS) administers the program and the program components are delivered by public health units. Reproductive and Child Health programs are supported by the Ministry of Health Promotion and outcomes achieved through the implementation of all the Reproductive Health program requirements.

Public health units are responsible for implementing the *Ontario Public Health Standards* including the requirements for the Reproductive Health program. (1) These requirements, along with those mandated through the Child Health program comprise the Family Health Program Standards. Each standard has both board of health and societal outcomes designed to achieve the overall reproductive health goal.

Effectively implementing the Reproductive Health program requires collaboration across multiple public health programs (e.g., Child Health, Chronic Disease Prevention, Sexual Health, Environmental Health, and Infectious Diseases Prevention and Control). See Section 4 for further discussion on integration.

#### e) What Is the Evidence and Rationale Supporting the Direction?

The preconception period is a time to make decisions about pregnancy and parenting and achieve a state of optimal health before conception to prevent problems during pregnancy and improve the health of babies at birth. (62) However, preconception is not a neatly defined period and the opportunities it presents for promoting reproductive health outcomes are often missed. Many pregnancies are not planned or timed, such that women are often unaware of their pregnancy status during the critical early weeks following conception. Even when pregnancies are planned, many mothers-to-be may wait until a pregnancy is confirmed before making healthy lifestyle changes or seeking out primary health care, when it may be too late to address some modifiable risk factors. Therefore, preconception health promotion strategies must increase the proportion of planned pregnancies and the number of people of reproductive age who take conscious steps to improve their health prior to pregnancy. (62)

Prenatal health strategies pick up where preconception health strategies leave off. Positive pregnancy outcomes associated with prenatal health include full-term, uncomplicated births, normal birth weights, a reduced risk of birth defects and healthy infant brain development. Preparation for parenthood should also occur long before the birth of a baby. The transition to parenthood is a period of major change for the individuals involved, their relationship and the dynamics of the family unit.

A national survey of parents of young children (45) found that prior to the birth of their first baby, only 44% of parents felt prepared for parenthood; after their baby was born, the percentage of parents who felt confident dramatically dropped to 18%. These findings are significant as research shows that parenting knowledge and confidence are positively related to the health and well-being of children. (45, 63)

In addition to resources and supports around parenting and baby care for expectant parents, attention should also be paid to the increased stress, new responsibilities and changing roles and relationships between partners and/or family members. (64, 65) Making a healthy transition from partners to parents strengthens a couple's relationship, provides a positive, caring environment for a new child and involves couples in an evolving learning process that will support positive parenting over time.

In terms of infant feeding, many factors influence a family's decision about whether to breastfeed. (66) "Research suggests that close to half of women make their infant feeding decisions before pregnancy and as many as half make the decision during pregnancy." (5) Exclusive breastfeeding for six months and the provision of safe and appropriate complementary foods with continued breastfeeding for up to two years of age and beyond is recommended as the healthiest choice for mothers and infants. (67–69) Prenatal breastfeeding education has been found to impact initiation and duration rates positively, especially for women who have no previous breastfeeding experience. (6) Education initiatives regarding the benefits of breastfeeding, breastfeeding best practices and available supports should be part of preconception and prenatal preparation for parenthood strategies. (5)

## Section 3. OPHS Reproductive Health Requirements

**NOTE:** OPHS Requirement 7 (*Healthy Babies Healthy Children Program*) is not covered in this Guidance Document. The link to the protocol is provided in this section under Requirement 7.

### a) Assessment and Surveillance

#### **Requirement 1**

The board of health shall conduct epidemiological analysis of surveillance data, including monitoring of trends over time, emerging trends and priority populations, in accordance with the *Population Health Assessment and Surveillance Protocol, 2008 (or as current)* in the following areas:

- *Preconception health;*
- *Healthy pregnancies;*
- *Reproductive health outcomes; and*
- *Preparation for parenting.*

#### **1. National**

National data and information sources assist boards of health in monitoring surveillance data for the Reproductive Health program areas. For example:

- *Canadian Perinatal Health Report (CPHR) 2008 (or as current) (2)*  
[www.phac-aspc.gc.ca/publicat/2008/cphr-rspc/index-eng.php](http://www.phac-aspc.gc.ca/publicat/2008/cphr-rspc/index-eng.php)
- *Canadian Community Health Survey (CCHS) 2008 (or as current) (70)*  
[www.statcan.gc.ca/concepts/health-sante/index-eng.htm](http://www.statcan.gc.ca/concepts/health-sante/index-eng.htm)<sup>1</sup>

One-time survey reports also provide Reproductive Health program indicator results. For example:

- *What Mother's Say: The Canadian Maternity Experiences Survey (57)*  
[www.phac-aspc.gc.ca/rhs-ssg/survey-eng.php](http://www.phac-aspc.gc.ca/rhs-ssg/survey-eng.php)
- *National Survey of Parents of Young Children (45)*  
[www.investinkids.ca/parents/aboutus/ourresearch/articletype/articleview/articleid/1258/national-survey-of-parents-of-young-children.aspx](http://www.investinkids.ca/parents/aboutus/ourresearch/articletype/articleview/articleid/1258/national-survey-of-parents-of-young-children.aspx)
- *Preconception Health: Awareness and Behaviours in Ontario (71)*  
[www.beststart.org/resources/preconception/index.html](http://www.beststart.org/resources/preconception/index.html)

Although not a survey report, the Canadian Institute for Health Information's (CIHI) *Reducing Gaps in Health: A Focus on Socio-Economic Status in Urban Canada (37)* [secure.cihi.ca/cihiweb/dispPage.jsp?cw\\_page=PG\\_1690\\_E&cw\\_topic=1690&cw\\_rel=AR\\_2509\\_E](http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=PG_1690_E&cw_topic=1690&cw_rel=AR_2509_E), is an example of a national resource that links SES data with health outcomes and health behaviours.

<sup>1</sup> Public health units receive the "share" file of record-level CCHS data on Ontario respondents who have agreed their data can be shared with provincial health ministries. This is distributed to public health units by the Ministry of Health and Long-Term Care (MOHLTC), Health Analytics Branch. Public health units also receive the Public Use Microdata File (PUMF) of record-level CCHS data, where some of the responses are grouped into categories to ensure anonymity. This arrangement is through Statistics Canada, on the advice of MOHLTC, Health Analytics Branch. CCHS can be used to investigate the health status and health behaviours of men and women of reproductive age.

## 2. Provincial

*The Ontario Perinatal Surveillance System* (47), as of April 2010, BORN – Better Outcomes Registry & Network ([www.bornontario.on.ca](http://www.bornontario.on.ca)) incorporates data from five data sources (Niday Perinatal Database, Fetal Alert Network Database, Ontario Midwifery Database, Ontario Newborn Screening Program and Ontario Multiple Marker Screening Database) to provide the potential for provincial perinatal surveillance.

### *Provincial Public Health Core Indicators*

[www.apheo.ca/index.php?pid=55](http://www.apheo.ca/index.php?pid=55) assist boards of health in monitoring reproductive health data over time. Possible corresponding core indicators for reproductive health currently include folic acid supplementation and smoking during pregnancy. Appendix A provides a sample of data sources available to health units in monitoring core indicators.

Ontario also gathers reproductive health data through ServiceOntario and the Office of the Registrar General, which are processed and provided by Statistics Canada vital statistics reporting (e.g., live birth, stillbirth and mortality data, birth weight, gestational age). Public health unit staff (e.g., epidemiologists and analysts) may be trained on and have access to *intelliHEALTH Ontario*. This is a web-based application that permits the user to query the Ontario clinical administrative datasets held by the Ministry of Health and Long-Term Care in the Provincial Health Planning DataBase (PHPDB).

## 3. Local

The current *Rapid Risk Factor Surveillance System (RRFSS)* [www.rfss.ca/](http://www.rfss.ca/) (72) data collection process, at limited health unit jurisdictions across Ontario, provides the opportunity to monitor local reproductive health modules. The use of the Integrated Services for Children Information System (ISCIS) and select Niday Perinatal Database data collection provides further local data to support reproductive health programming, e.g., *Healthy Babies Healthy Children*.

Local reproductive health status reports help boards of health monitor local-level data and indicators over time. Recent examples include *The Health of Toronto's Young Children* series (73) [www.toronto.ca/health/hsi/hsi\\_young\\_children.htm](http://www.toronto.ca/health/hsi/hsi_young_children.htm) *Reproductive Health Status in Oxford County*. (74) Examples include a comprehensive approach to reporting local reproductive health indicators, outcomes and lifestyle factors.

Local surveys may also assist in data collection. For example, Peterborough County-City Health Unit has developed a survey tool targeting adolescents 14–19 years of age regarding their knowledge of preconception health.

The OPHS, through the Foundational Standard, directs public health units to identify priority populations by surveillance data, epidemiological analysis or other research, including community and other stakeholder consultations. (1) The document *Why We Need to Work with Priority Populations and How this Relates to Population Health*, available at [chd.region.waterloo.on.ca/web/health.nsf/DocID/FD80C0D143A204F78525761D0061829A?OpenDocument](http://chd.region.waterloo.on.ca/web/health.nsf/DocID/FD80C0D143A204F78525761D0061829A?OpenDocument), (75) describes steps to identify and describe the evidence of health status and health inequities.



## b) Health Promotion and Policy Development

### **Requirement 2**

*The board of health shall work with community partners, using a comprehensive health promotion approach, to influence the development and implementation of healthy policies and the creation or enhancement of supportive environments to address the following:*

- *Preconception health;*
- *Healthy pregnancies; and*
- *Preparation for parenting.*

*These efforts shall include the following:*

- a. *Conducting a situational assessment in accordance with the Population Health Assessment and Surveillance Protocol, 2008 (or as current); and*
- b. *Reviewing, adapting and/or providing behaviour change support resources and programs. This could include, but is not limited to, curriculum support resources (in preschools, schools, etc.), workplace support resources and education and skill-building opportunities.*

Within the Reproductive Health program, it is crucial that public health units work with community partners to influence the development and implementation of healthy policies and the creation or enhancement of supportive environments to address preconception health, healthy pregnancies and preparation for parenting. These strategies include reviewing, adapting and/or providing behaviour change support resources and programs. These could include, but are not limited to, curriculum support resources in preschools, schools, etc., workplace support resources and education and skill-building opportunities.

The *Ottawa Charter for Health Promotion* (76) clearly states that strategies to build health policy are beyond the health agenda and must incorporate all sectors and all levels where policy-makers participate: “It is coordinated action that leads to health, income and social policies that foster greater equity.” (76)

Health policy requires efforts to influence policies, operating procedures, bylaws, regulations and legislation that have a direct impact on health. The *Ottawa Charter for Health Promotion* also states that creating a supportive environment by “changing patterns of life, work and leisure [can] have a significant impact on health. Work and leisure should be a source of health for people.” (76)

Health promotion policies and supportive environment strategies may be directed at specific health issues or at high-level social determinants of health. Examples of such high-level activities include exposing the evidence of a relationship between reproductive health and low income to contribute to poverty reduction strategies, advocacy and support for issues such as food security and affordable child care, building social networks amongst isolated expectant parents, involvement in family violence prevention strategies, engaging community and multi-sector collaboration to address the economic needs of priority populations and providing tools, resources and arm’s-length support to community groups organizing around broad reproductive health concerns (community development and empowerment).

Health units can also work towards creating supportive environments that minimize environmental risks. An example is the provision of drinking water for communities with elevated nitrate levels (a health hazard for infants under six months of age). Health units could consider community advisory committees and advocacy on federal or provincial legislation.

Completing a situational assessment for requirements within the Reproductive Health program requires gathering and analyzing the information to make an explicit evaluation of an organization or program within its environment. In *Step 2* of its *Online Health Promotion Planner*, The Health Communication Unit (THCU) (77) provides a comprehensive definition of a situational assessment for the public health context (see [www.thcu.ca/](http://www.thcu.ca/)).

The following resources from Waterloo Region Public Health may be helpful when including priority populations into situational assessment work:

*Why We Need to Work with Priority Populations and How this Relates to Population Health* (2009)

<http://chd.region.waterloo.on.ca/web/health.nsf/DocID/FD80C0D143A204F78525761D0061829A?OpenDocument> (75)

*Evidence and Practice Planning Framework for Addressing Health Inequities* (2009)

<http://chd.region.waterloo.on.ca/web/health.nsf/DocID/FD80C0D143A204F78525761D0061829A?OpenDocument> (78)

*Process to Determine Priority Populations* (2008)

<http://chd.region.waterloo.on.ca/web/health.nsf/DocID/FD80C0D143A204F78525761D0061829A?OpenDocument> (79)

*Process to Determine Priority Neighbourhoods* (2008)

<http://chd.region.waterloo.on.ca/web/health.nsf/DocID/FD80C0D143A204F78525761D0061829A?OpenDocument> (80)

There are a number of different agencies who provide and support reproductive health promotion and direct service delivery. When initiating a situational assessment, collaboration with internal and external health unit partners from the health, social and education sectors should be considered (e.g., Sexual Health Clinics, secondary and post-secondary schools, Ontario Early Years Centres, *Canadian Prenatal Nutrition Program* (CPNP), HBHC Home Visiting Program, etc.). Reviewing external partner mandates, policies, populations served or scope of practice and perception of the identified reproductive health issue can enrich the situational assessment and may reveal areas of alignment that support working together. Provincial resource partners include the Best Start Resource Centre ([www.beststart.org](http://www.beststart.org)) and Motherisk ([www.motherisk.org](http://www.motherisk.org)).

In performing a situational assessment, a review of the reproductive health literature will provide an understanding of the specific health issue, aid in identifying the target population and provide evidence regarding which strategies to implement. Surveillance data sources are also available and provide national, provincial and local comparison to help frame the priority of the health issue.

Best practice guidelines relevant to reproductive health provide recommendations from a review of the literature and expert opinion. Examples from the Registered Nurses' Association of Ontario's (RNAO) *Breastfeeding Best Practice Guideline for Nurses* (6) include *Integrating Smoking Cessation into Daily Nursing Practice* (81), *Client Centre Care* and *Breastfeeding* guidelines. The Centre for Disease Control's *Recommendations to Improve Preconception Health and Health Care – United States* (82) is another example available at [www.cdc.gov/mmwr/preview/mmwrhtml/rr5506a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5506a1.htm)

In addition to collaborating with local agencies and other health units, engaging local priority populations through focus groups, surveys and inviting their participation in the process will assist in informing a health promotion plan.

Once the situational assessment has been completed, analyzing all information, summarizing the findings and communicating the results will help focus the overall vision for a project to determine the most appropriate actions.

The THCU's *Online Health Promotion Planner* [www.thcu.ca/](http://www.thcu.ca/) (77) can assist with further local project development including goal setting, objectives and strategy decisions.

Policy development activities that promote preconception and prenatal health and preparation for parenting may also be implemented within the board of health (e.g., *Routine Universal Comprehensive Screening* (RUCS) (RNAO Best Practice Guideline). (29) Boards of health may also assist community partners in the development of reproductive health policies and the creation of supportive environments within their partner's organization or across community organizations (e.g., CPNP partnerships, prenatal vitamin supplements, medical directives).

Policies should be developed to address equity, access and diversity issues. All Reproductive Health program interventions should be modified to meet the unique needs and capacities of priority populations. Public health should collaborate with community networks and stakeholders to develop policies that ensure reproductive health services are easily accessible for priority populations and provide well-rounded supports that address the factors contributing to health inequities.

Examples of tools that help boards of health integrate diversity, access and equity throughout their programming include those from the Region of Waterloo Public Health, <http://chd.region.waterloo.on.ca/web/health.nsf/DocID/FD80C0D143A204F78525761D0061829A?OpenDocument>, and the following from Toronto Public Health (TPH): *Toronto Public Health Practice Framework*, (83) *Assuring Access and Equity through Diversity Competence* education model for all staff (84) and *TPH Practice Framework Program Planning Kit #1–4*. (85)

The study of environmental risks is an emerging area of focus for public health policy development to support reproductive health outcomes. Specific examples include, but are not limited to, metals, polychlorinated biphenyls, pesticides, air, drinking water and food contaminants. Canadian Partnership for Children's Health and Environment (CPCHE) is a helpful resource for work around environmental contaminants (see [www.healthyenvironmentforkids.ca](http://www.healthyenvironmentforkids.ca)).

The following are further examples of resources that may assist with policy work:

- The RNAO's *Breastfeeding Best Practice Guidelines (6)*, [www.rnao.org](http://www.rnao.org), which provide evidence and recommendations supporting the promotion and assessment during the prenatal period.
- The RNAO's *Best Practice Guideline: Integrating Smoking Cessation into Daily Nursing Practice (81)*, which recommends, wherever possible, intensive intervention with women who are pregnant and postpartum. It also provides evidence for Nicotine Replacement Therapy for pregnant/lactating women who are unable to quit. Both are excellent examples of healthy policy and creating a supportive environment.
- Routine Universal Comprehensive Screening (RUCS) policies have been developed and implemented by many health units.
- Policies have been developed to train staff in the use of narrative and solution-focused approaches to support client-centred, strength-based care, e.g., TPH's *Narrative and Solution Focused Approaches Training Evaluation Summary Report. (86)*

The following are examples of policy work and behaviour change support resources and programs that contribute to the creation of supportive environments in specific community settings and partnerships:

**(i) Secondary Schools** (link to Comprehensive School Health Guidance Document)

- Peel Public Health's *Destination Parenthood: Arrive Prepared* is a curriculum designed to meet many of the expectations associated with the Grade Eleven Parenting Course. It incorporates important health topics such as planning and preparing for parenthood, conception, pregnancy and birth, postnatal care for mothers and babies, as well as early childhood development and parenting.
- Niagara Region Public Health Department also has a reproductive health curriculum for secondary schools.
- Ontario Public Health Association (OPHA) Breastfeeding Promotion Workgroup's breastfeeding information and activity kit for secondary school teachers. (87) (link to Child Health Guidance Document)
- Peterborough County-City Health Unit has used a community-development approach to support expectant teens and young mothers to complete their high school education. Their work in engaging community partnerships resulted in a School for Young Moms, supported by the board of education, public health, Ontario Early Years Centre, social services and a faith organization to provide individualized classroom instruction, health and parenting education, and support and on-site child care.

**(ii) Workplaces**

- Kingston, Frontenac, Lennox and Addington's *Achieving Family Work-Life Balance: Working Together to be Family Friendly (88)* supports the creation of family friendly workplaces, including resources for reproductive health.

### **(iii) Health Care Providers (and/or possibly Regulatory Bodies)**

- Advocate for preconception health counselling at all opportunities with people in reproductive years. Health units can support primary care providers by providing resources summarizing why preconception health counselling is important and what should be done, screening tools, self-help materials and information regarding programs/services available.
- Implement and promote RNAO smoking cessation and NRT best-practice guidelines. (81)
- Advocate for and/or support for practitioner's ability to understand when and how to screen for alcohol use during pregnancy (link to Substance Misuse Guidance Document). Half of all Canadian women and 38% of currently pregnant women report not receiving advice from their doctor regarding alcohol consumption during pregnancy. (12) "A majority of Canadian physicians and midwives report that they do not consistently discuss smoking, alcohol use or addiction with women of childbearing age and almost half (46%) feel unprepared to care for pregnant women who had substance abuse problems." (13)
- Provide support resources, policies and/or training regarding the use of the ALPHA tool (89) or Edinburgh Postnatal Depression Scale (EPDS) (90) to screen women prenatally for depression.

### **(iv) Community Partners (Working with Preconception/Prenatal Target Population)**

- Support other community agencies to achieve *Baby Friendly™ Initiative* (BFI) designation, particularly those components that refer to informed decision-making on whether to breast or bottle feed and the parameters given for organizations to follow regarding the distribution of information. (link to Child Health)
- Train, collaborate with and/or provide other supports for other prenatal care educators and staff in parenting centres.
- Train, collaborate with and/or provide other supports for staff in agencies serving priority populations (e.g., services for newcomers to Canada, community kitchens).

When evaluating activities directed at assisting in the development of policies and the creation of supportive environments within or across community organizations, community partners should be involved upfront at the planning tables. In addition to looking at desired outcome changes in the target population (e.g., changes in health outcomes, behaviours, attitudes), evaluations should consider the impact on priority populations (e.g., changes to accessibility and health inequities). Evaluations may also consider process indicators (e.g., changes to provider practices, client satisfaction, CQI indicators, extent to which policies have been developed and adopted).

### **Potential Reproductive Health program partners for policy development:**

#### **1. National**

- Motherisk
- Breastfeeding Committee for Canada (*Baby Friendly™ Initiative*)
- Canadian Partnership for Children's Health and Environment (CPCHE)

#### **2. Provincial**

- Best Start Resource Centre
- Invest in Kids
- The Health Communication Unit (particularly their planner for workplace interventions)

### 3. Local

- *Canadian Prenatal Nutrition Program* (CPNP)
- Children's Aid Societies (CAS)
- Child and youth networks
- Community Health Centres (CHC)
- Early Years Centres
- Family Health Teams
- Liquor Control Board of Ontario
- Municipal policy-makers (e.g., smoking policies)
- Primary care providers
- Private industry (occupational health and safety)
- Schools and school boards
- Social services

#### **Potential public health Reproductive Health program linkages for policy development:**

Child Health (including Oral Health and *Healthy Babies Healthy Children*), Chronic Disease Prevention (including school and workplace site activities), Sexual Health, Infectious Diseases Prevention and Control, Vaccine Preventable and Environmental Health programs, e.g., Health Hazard Prevention and Preparedness.

#### **Requirement 3**

*The board of health shall increase public awareness of preconception health, healthy pregnancies and preparation for parenting by:*

- a. *Adapting and/or supplementing national and provincial health communications strategies; and/or*
- b. *Developing and implementing regional/local communications strategies.*

A social marketing approach is key to the development of any communication strategy that will support public awareness initiatives focused on preconception health, healthy pregnancies and preparation for parenting. French and Blair-Stevens (91) have defined health-related social marketing as "the systematic application of marketing concepts and techniques to achieve specific behavioural goals, to improve health and reduce health inequalities" (as cited by the National Social Marketing Centre). (92) The National Social Marketing Centre in the United Kingdom provides valuable tools and models to support social marketing practice at [www.nsmcentre.org.uk/component/remository/NSMC-Publications/Its-Our-Health-\(Full-report\)/](http://www.nsmcentre.org.uk/component/remository/NSMC-Publications/Its-Our-Health-(Full-report)/) (132)

Clanz, Rimer and Viswanath (93) define communication channels as the means by which messages are spread, including mass media, interpersonal channels and electronic communication. Some examples are as follows:

- Paid and earned media channels, e.g., radio, television, print media, public service announcements
- Interpersonal channels, e.g., health fairs, presentations, storytelling, community champions, theatre
- Electronic communication channels, e.g., websites, online messaging, compact discs

A targeted situational assessment (see OPHS Requirement 2a) is a good first step in planning communications strategies. Extra attention during the planning process must be paid to identifying specific target audiences and priority populations. Helpful tools to identify priority populations can be found at <http://chd.region.waterloo.on.ca/web/health.nsf/DocID/FD80C0D143A204F78525761D0061829A?OpenDocument> (79)

One of the challenges in developing effective communications strategies for preconception health is that people who are not planning a pregnancy (a necessary part of the target audience) often remain unaware that the message is directed at them. For example, in their *Recommendations to Improve Preconception Health and Health Care – United States*, (82) the CDC suggests that preconception health promotion should not rely on health promotion campaigns aimed at reducing lifestyle risks in the general public (e.g., reducing smoking, intimate partner violence, misuse of alcohol, etc.) as the preconception audience will fail to understand how these and other health and lifestyle factors influence reproductive health outcomes. Instead, it recommends that preconception health promotion “should focus on a general awareness among men and women regarding reproductive health and risks to child-bearing.” (82) Communications strategies to increase awareness for healthy pregnancy and preparation for parenting outcomes are easier to develop because the population is easily identifiable.

Evaluation of communications strategies needs to go beyond process outcomes (e.g., numbers of posters, television commercial air time, etc.) and include the assessment of short- and longer-term outcomes. The goals and outcomes of a project logic model should be clear in order to ensure their effectiveness can be assessed. For example, for a FASD strategy, is the goal to change the behaviour of high-risk women, prevent any drinking during pregnancy for all women or simply create public awareness about the issue? Evaluation should also assess to whom messages are reaching, particularly in terms of the identified priority populations.

It is important to identify relevant communications strategies that exist at the federal, provincial and local level, including their target audiences, whether they address priority populations, key messages, communication channel(s) and timing, the agency responsible and whether or not they have been evaluated. To best achieve resource efficiencies, existing relevant provincial and federal strategies/resources should be adapted or supplemented whenever possible and available provincial resources should be taken full advantage of such as those produced by the Best Start Resource Centre [www.beststart.org](http://www.beststart.org). In addition, collaboration should take place with community partners and/or other health units or regional partners. It will be important to have consistent key messages and to consider branding or developing a consistent look across related messages as a way to increase credibility, clarity and public awareness.

Communications strategy partnerships may include, but are not limited to, the Breastfeeding Committee for Canada, Health Canada, the Society of Obstetricians and Gynaecologists of Canada, Best Start Resource Centre, The Health Communication Unit, the Folic Acid Alliance Ontario, family health teams, workplaces, primary care providers, media/marketing partners and Ontario Early Years Centres.

Helpful Best Start Resource Centre planning resources to support communications strategies include: *A Checklist for the Development of Resources on Preconception, Prenatal and Child Health*, (94) *Health Fairs and Preconception, Prenatal and Child Health* (95) and *Keys to a Successful Alcohol and Pregnancy Communication Campaign*. (52)

The Public Health Agency of Canada’s report *What We Have Learned: Key Canadian FASD Awareness Campaigns*, (97) prepared by the Best Start Resource Centre, may also be useful.

The following table lists a number of topic areas relevant to preconception health, healthy pregnancies and the preparation for parenthood for which communications strategies may be developed in isolation or in combination with other topic areas.

**Table 2: Topic Areas for Potential Reproductive Health Communications Strategies**

TOPIC AREAS	PRE-CONCEPTION HEALTH	HEALTHY PREGNANCIES	PREPARATION FOR PARENTING
Alcohol/Drug Use	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Community Services	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dental	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Environmental Toxins	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (ETS*)
Family Violence	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Folic Acid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
History, Screening, Testing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Home Environment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Nutrition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Perinatal Mood Disorder	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Physical Activity	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Preparation for Breastfeeding	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Repro Primary Care	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Signs and Symptoms of PTL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Tobacco	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Transition of Parenthood	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Work Environment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

\* ETS: Environmental Tobacco Smoke

It is important to remember that communications strategies are just one part of a comprehensive health promotion approach. Therefore, they must be used in conjunction with other strategies such as education, the creation of supportive environments and policy development in order to increase effectiveness. For example, the Peterborough County-City Health Unit conducted a literature review on the topic of transition to parenthood. Based on their findings, they conducted research on the concerns and learning needs of local expectant parents without prenatal education. They subsequently undertook media activities, developed prenatal curriculum and displays, provided training for staff of public health and community partner agencies, and disseminated parent resources to address the issues identified.



The following examples of communications strategies are intended for various target audiences, use a number of approaches, and address a variety of topic areas related to preconception and prenatal health and preparation for parenthood.

## 1. National

- Health Canada ([www.cpha.ca](http://www.cpha.ca)) has communications materials for FASD, folic acid posters and pamphlets, healthy pregnancy graphics, posters and guides, and *Back to Sleep* SIDS posters. An index of their most recent campaigns (not limited to reproductive health) can be found at [www.hc-sc.gc.ca/ahc-asc/activit/market-soc/camp/index-eng.php](http://www.hc-sc.gc.ca/ahc-asc/activit/market-soc/camp/index-eng.php). They also have a webpage *Quitting and Pregnancy*, [www.hc-sc.gc.ca/hc-ps/tobac-tabac/quit-cesser/fact-fait/preg-gros-eng.php](http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/quit-cesser/fact-fait/preg-gros-eng.php) (98), that discusses the benefits of quitting smoking early in pregnancy, the risks of smoking and second-hand smoke to the baby, and suggestions for women to talk to their doctor about which quit methods might be best for them. The webpage includes links for the Quit Smoking telephone counselling protocol for pregnant and postpartum women, further information about pre- and post-natal smoking issues and ordering Health Canada's *On the Road to Quitting: Guide to Becoming a Non-Smoker*. (99)
- Health Canada's *Eating Well with Canada's Food Guide*, [www.hc-sc.gc.ca/fn-an/nutrition/prenatal/index-eng.php](http://www.hc-sc.gc.ca/fn-an/nutrition/prenatal/index-eng.php), materials including advice for women of childbearing age.
- Infant Feeding Action Coalition (INFACT) of Canada has a number of breastfeeding promotional materials, including an annual campaign kit to promote World Breastfeeding Week in the community or health facility. (100)
- Breastfeeding Committee for Canada (BCC) is the national authority for the WHO/Unicef *Baby Friendly™ Initiative* (BFI), oversees and facilitates BFI in Canada. Resource support is available at [www.breastfeedingcanada.ca/html/contents.html](http://www.breastfeedingcanada.ca/html/contents.html)

## 2. Provincial

- *PREGNETS* program designed to decrease the negative consequences of smoking and environmental tobacco smoke on the woman, fetus, and child by encouraging health care providers to include minimal contact interventions into routine assessments and health care. [www.pregnets.org/](http://www.pregnets.org/)
- Best Start Resource Centre's [www.beststart.org](http://www.beststart.org) communications materials can be modified for local use. Topics covered include the following:
  - Abuse and pregnancy
  - Alcohol and pregnancy
  - Breastfeeding
  - Nutrition, food safety, weight gain and physical activity during pregnancy
  - Postpartum mood disorders
  - Preconception health
  - Reproductive health including resources on pregnancy after age 35 and signs and symptoms of preterm labour
  - Shaken baby syndrome
  - Socio-economic status and pregnancy
  - Resources for workplaces that cover family friendly environments, and pregnancy and work

Other resources for communication strategies include Folic Acid Alliance Ontario, print materials available at [www.folicacid.ca](http://www.folicacid.ca), resources available at Motherisk [www.motherisk.org/women/](http://www.motherisk.org/women/), and the Best Start Resource Centre [www.beststart.org/resources/breastfeeding/](http://www.beststart.org/resources/breastfeeding/) (101)

### 3. Local

#### *Preconception*

- Peel Public Health's *The Odds* media campaign strategy, targets men and women 18–34 years of age who are not planning a pregnancy. The campaign's key message is "by not planning for pregnancy, or by assuming an unplanned pregnancy will not happen, your unborn child may be at risk." The campaign has been evaluated and revamped based on results. Associated websites are available at [www.theodds.ca](http://www.theodds.ca), [www.yourboys.ca](http://www.yourboys.ca) and [www.quicktest.ca](http://www.quicktest.ca)
- Niagara Region Public Health Department's website has preconception information online that has generated numerous requests for their *Planning Ahead for a Healthy Pregnancy: Resource Kit* (2008).

#### *Preconception and Prenatal Health Fairs*

- Oxford County Public Health runs reproductive health fairs that include opportunities for one-to-one consultation and educational communication activities with groups.
- Region of Waterloo Public Health runs reproductive health fairs that are targeted to specific audiences such as multicultural and rural communities.

#### *Prenatal*

- Ottawa Public Health, in partnership with the Ottawa Public Library (OPL), has developed Prenatal Xpress, a resource kit that includes an information book and a set of DVDs that can be borrowed from any branch of the OPL and/or from the bookmobile. As part of the partnership, the OPL book and DVD collection was updated with current resources on perinatal health.

#### *FASD*

- Secondary school awareness campaign, Oxford County Public Health.

#### *Folic Acid*

- Campaigns that supplement provincial campaigns run every other year at Leeds, Grenville and Lanark District Health Unit.

#### *Physical Activity*

- DVD with Dr. Matolla, Middlesex-London Health Unit.

#### *Tobacco (Including Environmental Tobacco Smoke)*

- Niagara Region Public Health Department's web and print materials *That Good Reason to be Smoke-Free* (2008).

#### *Signs and Symptoms of Preterm Labour*

- Leeds, Grenville and Lanark District Health Unit's *Recognize and Respond to Preterm Labour* posters and tear-offs were part of a comprehensive campaign that was evaluated using RRFSS.

### *Preparation for Parenthood*

- Niagara Region Public Health Department's website has their *Getting Ready for Parenting Resource Guide* (that includes the 40 developmental assets parents should nurture in their children and the first in a series of parenting booklets titles *Getting Ready for Parenting: Planning for Pregnancy* [2008]), as well as a link to their webpage *Be a Great Parent*, with further information to support positive parenting (2009) [www.beagreatparent.ca](http://www.beagreatparent.ca) (96)

### *Preparation for Breastfeeding*

- Best Start Resource Centre has a website with a chart of posters and displays promoting breastfeeding that have been developed by various health departments, as well as links to international and national breastfeeding resources. The site is available at [www.beststart.org/resources/breastfeeding/](http://www.beststart.org/resources/breastfeeding/) (101)
- Region of Waterloo Public Health's *Put Breastfeeding on the Menu* (2008).
- Middlesex-London Health Unit's prenatal breastfeeding campaign.

### *Family Violence*

- Leeds, Grenville and Lanark District Health Unit's *1 in 6 Pregnant Women are Abused* posters and tear-offs were part of a comprehensive Early Childhood Development project that was evaluated using the RRFSS (2007).

### **Potential Reproductive Health program communication strategy partners:**

#### **1. National**

Health Canada, Public Health Agency of Canada, Breastfeeding Committee for Canada, INFACT Canada, FASD, Folic Acid Alliance Ontario.

#### **2. Provincial**

Best Start Resource Centre, The Health Communication Unit.

#### **3. Local**

Health care, social services and education providers, child and youth networks, corporate and small businesses, media/marketing partners, etc.

### **Potential public health Reproductive Health program linkages for communication strategies:**

Child Health (including *Healthy Babies Healthy Children*), Chronic Disease Prevention (including school and workplace site activities) Prevention of Injury and Substance Misuse, Sexual Health and Environmental Health programs.

#### **Requirement 4**

The board of health shall provide, in collaboration with community partners, prenatal programs, services and supports, which include the following:

- a. Consultation, assessment and referral; and
- b. Group sessions.

Although this requirement is focused on prenatal programs, services and supports, evidence shows that preconception health promotion and risk-prevention strategies are critical early interventions for improving reproductive health outcomes. Many pregnancies are not planned or timed, and as a result, women are often unaware of their pregnancy status during the critical weeks following conception.

Healthy lifestyle changes and seeking primary medical care are often put off until after pregnancy is confirmed, when it may be too late to address a number of modifiable risk factors associated with poor pregnancy outcomes.

For this reason, the *Family-Centred Maternity and Newborn Care: National Guidelines, 4th Edition* (66) [www.phac-aspc.gc.ca/dca-dea/prenatal](http://www.phac-aspc.gc.ca/dca-dea/prenatal) and the Centre for Disease Control's (CDC) *Recommendations to Improve Preconception Health and Health Care – United States* (82) [www.cdc.gov/mmwr/preview/mmwrhtml/rr5506a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5506a1.htm) both highlight the need for preconception health initiatives to be incorporated into a range of health education and health promotion programs, communications materials and settings as well as part of all health encounters during a woman's reproductive years. The intensity of the consultation, assessment and referral process will vary depending on whether the woman has an existing chronic disease, a previous poor pregnancy outcome or a behavioural risk factor, and different models of integration within existing programs and services may be considered.

Public health staff is well positioned to act on these best practices given their exposure to people of reproductive age through other programs and services as well as through their work with community partners. Potential community partners include, but are not limited to, community health centres, dietitians, family health teams, primary care providers, postpartum home visitors and service providers, schools, school boards and post-secondary institutions.

The following are examples of opportunities to incorporate preconception consultation, assessment and referrals into the work of health units and community partners:

#### **(i) Client Interactions at Sexual Health Clinics**

- Individuals who engage in high-risk sexual behaviours (e.g., not using contraception, using ineffective contraceptive methods or using methods inconsistently) are at risk for unplanned pregnancies and/or exposure to sexually transmitted infection. Research has consistently shown that planned pregnancies typically have improved outcomes for both women and infants (82) while untreated STIs are a risk factor associated with poor pregnancy outcomes. The CDC (82) preconception guidelines recommend “publicly funded programs that offer screening and related services for STDs and HIV/AIDS also might provide risk assessment and health promotion interventions” for preconception health (Recommendation 8, para.2). Consultation, assessment and referrals could also be supported with the provision of folic acid supplements as needed. Just under two-thirds of women in Ontario (62.8%) reported taking folic acid supplements before they found out they were pregnant (2), which this leaves a lot of room for improved NTD prevention.

- Closer integration with Sexual Health Clinics can work reciprocally, as in Niagara Region Public Health Department, where the same public health nurses work in high schools and sexual health centres.
- Toronto Public Health has a policy in place for staff to ask all pregnant clients if they've been tested for HIV and to recommend that all clients who have not been tested ask their primary care provider for testing or refer them to a Sexual Health Clinic.

#### **(ii) Chronic Disease Prevention Programs**

- Chronic disease prevention programs, including smoking cessation interventions and client interactions with registered dietitians, are particularly important opportunities. In their review of research on the determinants of low birth weight, Ohlsson and Shah (30) found smoking to be one of the most preventable risk factors. Because a majority of women who smoke continue to do so during pregnancy, cessation of smoking is recommended before pregnancy. (30)
- Likewise, since the two principal determinants of a baby's weight are the mother's pre-pregnancy weight and her own birth weight, strategies to improve healthy eating, physical activity and healthy weights (including food security issues) of women during their reproductive years is recommended. (20) Specifically targeting women during and after pregnancy when weight management is challenging is recommended. (102)
- Women with diabetes have higher rates of complications, e.g., perinatal mortality, hypertension, preterm delivery, caesarean delivery, neonatal morbidity. Women who have gestational diabetes are also at an increased risk of developing type 2 diabetes later in life. Prevalence of gestational diabetes varies from approximately 3.7% in non-Aboriginal populations to 8–18% in Aboriginal populations. Gestational diabetes also poses risks to the infant, e.g., hypoglycemia, hyperinsulinemia, potential long-term obesity and glucose intolerance.

#### **(iii) Child Health Programs**

- Child Health programs, including HBHC and CINOT programs for families with young children, provide valuable opportunities for interconception interventions. Particular attention should focus on work with women who have experienced an adverse outcome in a previous pregnancy, an important predictor of future reproductive risk. (15, 82) The CDC states, "because of the direct association between a mother's oral health and her offspring's risk for dental caries, dental interventions can reduce the risk for prematurity and low birth weight. (82)

#### **(iv) School Health Nursing Interactions**

- Niagara Region Public Health Department incorporates preconception assessment, consultation and referral as part of their nursing interactions with secondary school students.

#### **(v) Other**

- Intake and/or phone lines.
- EatRight Ontario offers resources and healthy eating and nutrition advice provided by Registered Dietitians at [www.ontario.ca/eatright](http://www.ontario.ca/eatright) or call 1-877-510-510-2.
- Promoting preconception consultation, assessment and referral as part of overall preconception care (including preventive visits, interventions for identified risks, interconception care and pre-pregnancy checkups) with primary care providers. (82)

Tools to assess future parents' mental well-being may assist health unit staff in their work. Examples of tools that are appropriate for use with adults and adolescents include Toronto Public Health's use of the *Mental Wellness Assessment for Adult/Adolescent* and *User Guidelines*, (103) which are incorporated into programming at Toronto Public Health, and the *Warwick-Edinburgh Mental Well-being Scale* and *User Guide-Version 1*, along with supporting research. (104)

Similar opportunities for consultation, assessment and referral are also relevant when health unit staff interact with pregnant women and their partners. Additional examples of prenatal strategies for consultation, assessment and referral that are incorporated as a one-to-one component of prenatal group programs, services and supports, as well as specific one-to-one client intervention include the following:

- Toronto Public Health's (TPH) *Healthiest Babies Possible Program* for nutritionally at-risk pregnant women is a very targeted program that includes criteria based on the *Rationale for the Inclusion and Exclusion of Risk Factors in the J-Form Screening Tool*. (105)
- TPH's HARP (*Homeless At-Risk Prenatal*) Program provides intensive one-to-one client support. Individual one-to-one services are run as a component of group CPNP program.
- Many health units screen all of their prenatal class clients. Those who are at-risk are asked to participate in the *HBHC Program* and those who accept are referred.
- Kingston, Frontenac, Lennox and Addington Public Health's *Breastfeeding Buddies Program* provides peer telephone support to breastfeeding mothers. Seventy per cent of the referrals to this program are made prenatally. A mother-to-be is matched with a trained volunteer who contacts the mother before the birth of her baby.
- Many health units provide individual one-to-one services run as a component of group *Canadian Prenatal Nutrition Programs* (CPNP).
- Prenatal referrals to *Healthy Babies Healthy Children* (HBHC) for all those at risk (i.e., scoring over 13 on the Larson screening tool). For example, many health units screen all of their prenatal class clients. Those who are at risk are asked to participate in the *HBHC Program* and those who accept are referred.

An evaluation of consultation, assessment and referral strategies should take into account their primary goals and objectives. Some examples of goals or objectives might include optimal preconception and prenatal health of all women or at-risk women; coordinated, effective, integrated services and supports for preconception and prenatal health; increased access to appropriate supports and services; increased use of needs-based services for women at-risk for poor reproductive health outcomes or increased proportion of at-risk women achieving healthy reproductive outcomes.

Evaluation activities might include validation testing of tools used to assess or screen women deemed to be at-risk; evaluating changes in reproductive health outcomes, knowledge of preconception and/or prenatal health issues and/or changes in risk behaviours, extent of integration of preconception and/or prenatal health services; whether the services needed are available and are being used by those referred, and whether services are better integrated.

Evaluation should also consider who is accessing and benefiting from the consultation, assessment and referral activities and who is not, particularly in relation to the identified priority population(s). Evaluation outcomes should result in recommendations to improve outreach and tailor interventions to improve effectiveness, particularly for priority populations, as this will result in improved overall health outcomes.

Resources to support the modification of public health interventions to meet the unique needs and capacities of priority populations can be found at <http://chd.region.waterloo.on.ca/web/health.nsf/DocID/FD80C0D143A204F78525761D0061829A?OpenDocument> (79)

Prenatal programs, services and supports for this requirement include group sessions. Group sessions provide an opportunity for education and skill-building, improved self-esteem and self-confidence, support for healthy lifestyles, family relationships, preparation for parenting and breastfeeding, improved communication between the woman and her health care provider, and the development of social supports for expectant parents.

Strategies that focus on healthy lifestyles often overshadow those that help to enhance family dynamics and prepare clients for parenthood. Research points to an unfilled need in this area, with the majority of prospective parents lacking confidence in their parenting skills (56%), a figure that rises dramatically after the birth of their baby (82%). (45)

The *Encyclopedia on Early Child Development* (106) states, “the quality of parenting a child receives is considered the strongest potentially modifiable risk factor that contributes to the development of behavioural and emotional problems in children.” (106)

To help future parents get off to a good start, Reproductive and Child Health programs should work with community partners to support preparation for parenting. Potential community partners include the *Canada Prenatal Nutrition Program* (CPNP), Children’s Aid Societies (CAS), homeless shelters, community health centres (CHC), hospitals and primary care providers, Ontario Early Years Centres and community kitchens.

Your situational assessment should include a scan of all existing prenatal group programs, services and supports, including what is covered in their curriculum, the principles on which they are based, what segments of pregnant women and their partners/support persons are attending and who is being missed, etc. The question of who is being missed is critical, as it is important for situational assessments to identify priority populations based on social determinants of health data at [chd.region.waterloo.on.ca/web/health.nsf/DocID/FD80C0D143A204F78525761D0061829A?OpenDocument](http://chd.region.waterloo.on.ca/web/health.nsf/DocID/FD80C0D143A204F78525761D0061829A?OpenDocument) (79)

For both parts of this requirement (e.g., consultation, assessment and referral; and group sessions) health units should collaborate with community partners to develop processes and policies for making referrals from outside agencies to their programs and services, from the health unit to external agencies and within health unit programs. These can include service agreements, operational policies, programming policies and protocols for the sharing of information. Use the data gathered in a situational assessment and any other criteria that will be used to identify what programs, supports and services clients will be referred to.

The health unit should also consider criteria for eligibility to programs, services and supports, and have a policy and process in place for ensuring access, equity and diversity. Communications materials and processes are also needed to promote health unit programs, services and supports to the primary target audience (e.g., expectant parents) and priority populations within those audiences (e.g., low-income expectant teens), as well as to community partners and others who may influence them to access services or programs. Process will also be needed to maintain current information on what programs, supports and services are available through community partners (see Requirement 5).

Prenatal group sessions include, but are not limited to, prenatal education. Most prenatal group sessions also include information on preparation for parenting sessions. Alternative strategies to traditional prenatal group sessions include prenatal health fairs.

While “the benefits of participation in prenatal education are difficult to document in a systematic manner,” the *Family Centred Maternity and Newborn Care National Guidelines* continue to support offering prenatal education to all pregnant women and their families in a variety of settings. (66) The guidelines [www.phac-aspc.gc.ca/dca-dea/prenatal](http://www.phac-aspc.gc.ca/dca-dea/prenatal) further recommend that prenatal education be based on the principles of adult learning theory, or a learner-centred perspective. (66)

The *Baby Friendly™ Initiative* includes recommendations for prenatal education programs based on best practices to promote breastfeeding. (5) The Best Start Resource Centre’s manual, *Prenatal Education in Ontario – Better Practices*, (107) provides a literature review and an overview of the types of prenatal education offered in Ontario, a list of potential topics to cover, a variety of effective practices and a resource list. Their resource *Abuse in Pregnancy: Information and Strategies for the Prenatal Educator* may also be useful. (108)

The province of New Brunswick produced the manual *Healthy Pregnancy ...Healthy Baby – A New Life* (109) and adapted the content into an online prenatal program, *A New Life* [www.anewlife.cipanb.ca/en.php](http://www.anewlife.cipanb.ca/en.php). With numerous excellent resources available for prenatal education curriculum, health units wanting to revise their programs should look to use and/or adapt existing materials before creating their own. Please note that the use of online prenatal classes is an education activity that can cover the same content area as prenatal education classes, but does not meet the requirement for group sessions.

Most health units provide prenatal classes, with variations in their target audience (e.g., all pregnant women, pregnant teens, early pregnancy, etc.), where and when the sessions are offered (e.g., some health units offer early classes in Ontario Early Years Centres, so that families will be familiar with the centre and more likely to use it once their babies arrive) and what content is covered.

Further examples of prenatal group sessions are as follows:

- Niagara Region Public Health Department promotes the Walk this Way tool kit to participants in their prenatal classes. Similarly, Thunder Bay District Health Unit implemented and evaluated a prenatal pedometer pilot.
- Most health units offer prenatal breastfeeding classes to improve breastfeeding knowledge and skills.
- Many public health units offer in-kind support of a public health nurse to weekly CPNP group sessions to provide healthy pregnancy education.
- Ottawa Public Health’s *Pregnancy Circle* initiatives are specially designed prenatal education sessions for vulnerable pregnant women (and their partners) to increase knowledge and skills related to pregnancy, childbirth and early parenting. Sessions are group-focused and participant-led with guidance from a PHN. There are currently three groups with three more to get underway during the summer and early fall: Community Health Centres; Aboriginal Health Centres; CPNP programs; Health and Community Resource Centre; and alternative High Schools (these programs are delivered at the request of the school).
- Ottawa Public Health is also developing *Plus Size Moms* in partnership with teaching hospital dietetic services to provide prenatal education to pregnant women with pre-pregnancy BMI of 30+. The program will include targeted activities related to healthy eating and physical activity as well as regular information provided in other OPH prenatal information sessions.



In terms of evaluating prenatal group sessions, indicators should extend beyond process indicators (e.g., number and hours of group sessions provided, numbers in attendance, whether the primary target audience was reached, number of referrals from community partners, wait list and other accessibility data) and client satisfaction outcomes. Relevant outcome indicators could include those related to changes in behaviours, knowledge and attitudes for health-promoting practices (including preparation for parenting and the benefits and mechanics of breastfeeding), knowledge of where to obtain assistance with the adoption of health-promoting practices (including preparation for parenting and breastfeeding) and follow-up on that knowledge as needed, changes in self-esteem and self-confidence, strengthening of family relationships, improved communication between the woman and her health care provider, and the development of social supports.

Evaluation also needs to address accessibility and benefits of the program to identified priority populations. This will require looking at the evidence for choosing priority populations (from the situational assessment) and seeing whether the program has been successful in reaching those populations and if it has been effective in improving the intended outcomes.

**Potential Reproductive Health program community partners:**

*Canadian Prenatal Nutrition Program* (CPNP), social services (e.g., Children’s Aid Societies [CAS], health services (e.g., Community Health Centres (CHC), Family Health Teams, primary care providers) and education (e.g., schools and school boards).

**Potential public health Reproductive Health program linkages:**

Child Health (including Oral Health and *Healthy Babies Healthy Children*), Chronic Disease Prevention (e.g., smoking cessation, nutrition) and Sexual Health.

**Requirement 5**

*The board of health shall provide advice and information to link people to community programs and services on the following topics:*

- *Preconception health;*
- *Healthy pregnancies; and*
- *Preparation for parenting.*

Similar to Requirement 4, the situational assessment should include a scan of all existing community programs and services relevant to preconception, prenatal health and preparation for parenting (including breastfeeding). This will include the types of activities and issues covered, the principles on which they are based, that target populations (e.g., people of reproductive age, people planning a pregnancy, pregnant women and their partners/ support persons) and priority populations within those groups are eligible/being served, and data on accessibility (e.g., wait times, language/literacy barriers, physical accessibility barriers, child care provisions, accessible by transit, hours of operation).

By responding to specific barriers and other accessibility issues, interventions will be better able to impact both priority population and overall population-level outcomes.

Health units should collaborate with community partners to develop processes and policies for maintaining an up-to-date inventory or directory of what programs and services are available in the community. If the community has an information system such as 211 in Toronto, an inventory can be generated quickly depending on the search. Membership lists for extensive community networks may also serve as a sort of inventory (e.g., the Prenatal Network of Niagara, initiated by the Niagara Region Public Health Department [www.niagararegion.ca/living/health\\_wellness/pregnancy/pnon-background.aspx](http://www.niagararegion.ca/living/health_wellness/pregnancy/pnon-background.aspx)).

A process or policy may also be needed to assist health units in providing clients with advice and information to link them to community programs and services and for those same community supports to link their clients to the health unit. As this requirement is not as formal as the referral process of Requirement 4, operational policies are likely sufficient. Use the data gathered in the situational assessment and any other criteria that will be used to identify which programs and services clients will be linked to. Again, accessibility and appropriateness of programs and services needs to be considered. By evaluating which priority populations are being missed, health units will be better able to advocate for services that meet the needs of these populations. Communications materials and processes, such as those outlined in Requirement 4, will be needed to promote health unit programs, services and supports to community partners if you wish them to also link their clients to the health unit.

Below are examples of how public health staff can provide advice and information to link people to community programs and services:

- Family Health intake lines
- Telephone help lines
- Links provided on website and other online technologies
- Written information (e.g., pamphlets, posters)
- Prenatal programs and services
- EatRight Ontario
- Smoking cessation programs
- Sexual Health clinics
- Mail outs (e.g., to Larson screen clients)
- *Healthy Babies Healthy Children* screening and/or service delivery

**Potential Reproductive Health community partners:**

*Canadian Prenatal Nutrition Program* (CPNP), social services (e.g., Children's Aid Societies [CAS]), health services (e.g., Community Health Centres [CHC], Family Health Teams, primary care providers) and education (e.g., schools and school boards).

**Potential public health Reproductive Health program linkages:**

Child Health (including Oral Health and *Healthy Babies Healthy Children*), Chronic Disease Prevention (e.g., smoking cessation, nutrition) and Sexual Health.

### **Requirement 6**

*The board of health shall provide, in collaboration with community partners, outreach to priority populations to link them with information, programs and services.*

Within the Reproductive Health program's population-based, universal approach to improving reproductive health outcomes, outreach to priority populations and targeted programs are important to support those who are living in at-risk conditions. Activities to identify priority populations, modify public health interventions to meet their unique needs and capacities, and work with the community to address and/or advocate for policy that addresses the socio-economic determinants of health needs to be embedded in all Reproductive Health requirements and not just in Requirement 6.

For this requirement, as for the others, data collected in the situational assessment and Requirement 1 will help to define the priority populations for the area. A process and/or criteria will be needed to help the health unit (and their community partners) make decisions regarding how to define or choose the priority population(s) to be reached at the local level. Resources are available through Region of Waterloo Public Health. (75, 78-80)

Priority populations can be identified from within the target population. In keeping with the *Ontario Public Health Standards* (OPHS) definition for priority populations, this Guidance Document defines priority populations as "those populations that are at risk (of poor reproductive health outcomes) and for whom (preconception and prenatal) public health interventions may be reasonably considered to have a substantial impact at the population level." (1)

Within the target population, there will be groups of people that may have different communication, programming or accessibility requirements (e.g., same-sex marriage partners, Franco-Ontarians and/or Francophones, those living in remote rural communities), but are not necessarily at risk of poor reproductive health outcomes. There may also be groups of people at risk for poor reproductive health outcomes but for whom effective public health interventions do not currently exist (e.g., pregnant women age 35 and over).

**Table 3: Examples of Priority Populations for Reproductive Health** below includes some examples of priority populations for the Reproductive Health program that are common throughout Ontario and resources that support working with identified priority populations.

**Table 3: Examples of Priority Populations for Reproductive Health**

PRIORITY POPULATION (INCLUDES WOMEN OF REPRODUCTIVE AGE AND PREGNANT WOMEN UNLESS OTHERWISE NOTED)	HELPFUL PLANNING RESOURCES AVAILABLE FROM BEST START RESOURCE CENTRE
Women of low socio-economic status	The Impact of Poverty on Pregnant Women: A Guide for Program Managers (2003); Socio-Economic Status & Pregnancy Fact Sheets (2002)
Homeless women (including those who use community kitchens or food banks)	
Women participating in behavioural risks (e.g., smoking, substance misuse, unhealthy weight and/or nutritionally at-risk)	
Women with chronic diseases or mental health conditions	
Women who are socially isolated (may include newcomers to Ontario, ESL)	Giving Birth in a New Land – Strategies for Service Providers Working with Newcomers (2009); How to Reach Francophones – Maternal and Early Years Programs (2008)
Women subject to intimate-partner violence	Abuse in Pregnancy: Information and Strategies for the Prenatal Educator (2002)
Women with previous poor reproductive health outcomes	Preterm Births: Making a Difference (2002) (Note: strategies are not just for women who have had a previous preterm birth)
Pregnant teens (and their partners)	Teen Pregnancy Prevention: Exploring Out-of-school Approaches (2008); Subsequent Teen Pregnancies: Exploring the Issues, Impact and Effectiveness of Prevention Strategies (2009); and Update Report on Teen Pregnancy Prevention (2007)
Women who engage in high-risk sexual behaviours	
Women with cognitive impairment	

Oftentimes, multiple risk factors may exist within the same priority populations (e.g., low-income pregnant teens who smoke and have a low pre-pregnancy weight). Best Start Resource Centre resources that provide research, insight and effective strategies for planning interventions and/or outreach to all of the above priority populations include *Populations at Higher Risk: When Mainstream Approaches Don't Work*, (110) *Reducing the Impact: Working with Pregnant Women Who Live in Difficult Life Situations* (111) and *Self-Help/Peer Support Strategies in Maternal, Newborn and Child Health: Examples from the Provincial Landscape*. (112)

Participant focus groups or other strategies that involve the priority population to be reached will be crucial to the situational assessment as the health unit plans its service and/or outreach strategies. Toronto Public Health's *Project Report: Support for At-Risk Homeless Pregnant and Parenting Women Project Focus Groups and Survey Results* (113) is an example of this work.

Input from the women you hope to reach will help to identify the practical supports and information needed. Their input will also help service providers understand the context of their lives and the attitudes and approaches that will help empower and support these women to cope with their life circumstances and achieve better health outcomes for themselves and their future children. Involvement of priority populations beyond the planning stage to include delivery and evaluation is also critical. Client involvement and participation is a form of empowerment that can help people help themselves, increase self-esteem and social support, and increase comfort for other participants.

Outreach to priority populations is key, as at-risk women face a number of personal and structural barriers to accessing community supports or services including prenatal care. Therefore, strategies should consider ways to overcome personal and system accessibility issues (e.g., transportation, affordability, language, welcoming environment and non-judgmental attitudes, childcare, time stress/exhaustion, knowledge of what is available, etc.). Outreach and promotion strategies should also focus on where and how to best reach the priority population identified.

For health units (or community partners) providing direct services to priority populations, policies and processes should be in place to address eligibility criteria. An example of such a process comes from the *Healthiest Babies Possible* Program at Toronto Public Health (TPH). (114, 115) Program staff defined their priority population and then developed an evidence-based best-practice process for screening and assessing eligibility for their target population. Support strategies should also be developed for priority population clients who are waiting for services (e.g., priority wait-list system for the *Healthiest Babies Possible* Program). (114) Issues of sustainability should also be considered upfront in the planning stages, so that priority populations who manage to overcome numerous challenges to seek/accept supports are not abandoned.

While necessary, outreach strategies and direct service are insufficient on their own to improve reproductive health outcomes for priority populations. Efforts must be connected to high-level advocacy, community action and social change strategies identified in Requirement 2b. Public health and community partners should not only respond to the burden of health inequities but also participate in broad-based societal efforts to address the conditions that contribute to them.

Staff will need current, adequate information to advise and refer priority populations to appropriate community resources and practical supports. Examples of policies to support these activities are discussed under Requirement 4 and Requirement 5. Referrals or linkages can be made through direct client interaction (e.g., telephone help lines, family health intake line, one-to-one or group programs, liaisons with other service providers and settings including Family Health and Sexual Health clinics, shelters, community health centres, etc.), or indirectly (e.g., posters, pamphlets and website listings).

In addition to Toronto Public Health's *Healthiest Babies Possible* Program, another example of one-to-one work with priority populations is Toronto Public Health's HBHC *Homeless At-Risk Prenatal* (HARP) Program, a unique program that offers intensive one-to-one support for teens and homeless pregnant women. This program is part of HBHC, but is even more intensive, with six nurses and two dietitians, and was developed from Early Child Development funding as part of a response to the Jordan Heikamp inquiry.

Health units may also offer group programs to priority populations, such as the many health units who work in partnership with CPNP. The *Teen Prenatal Supper Club* is just one example of a partnership between Best Start Health Coalition in Peel and Peel Public Health, funded by CPNP and Peel Public Health. The program serves teens that would not normally access traditional prenatal classes.

Teens receive nutritional support, counselling, health information and referrals to other services in a comfortable atmosphere where a meal is prepared and served. Through participation of the program, teens receive prenatal/early postpartum education regarding healthy pregnancy and nutrition, childbirth and breastfeeding. To facilitate attending the program, teens receive bus tickets, prenatal vitamins and food vouchers. Ottawa Public Health's *Pregnancy Circle* initiatives are another example of specially designed prenatal education sessions for vulnerable pregnant women (and their partners) to increase knowledge and skills related to pregnancy, childbirth and early parenting. Sessions are group-focused and participant-led with guidance from a PHN. There are currently three groups with three more planned: community health centres; Aboriginal health centres; CPNP programs; Health and Community Resource Centre; and alternative high schools (not ongoing, but delivered at the school's request).

Evaluating initiatives for priority populations poses a number of challenges. For example, health units will often deal with small numbers of participants while costs for one-to-one staffing, transportation, food vouchers, child care, vitamin supplements, etc. may be high.

Issues such as under-reporting and client confidentiality may arise when evaluating sensitive issues such as substance use or violence. Evaluations should consider indicators that go beyond changes to health outcomes and behaviours such as building social support, self-esteem, community collaboration and qualitative participant feedback. Process evaluations (that include participant feedback) will also be important to help refine as well as inform the work of others who work with a similar priority population.

**Potential Reproductive Health community partners:**

Canadian Prenatal Nutrition Program (CPNP), social services (e.g., Children’s Aid Society, Ontario Works) and health services (e.g., Community Health Centres [CHC], Family Health Teams [FHT], primary care providers).

**Potential public health Reproductive Health program linkages:**

Child Health (*Healthy Babies Healthy Children*) and Sexual Health.

**c) Disease Prevention**

**Requirement 7**

*The board of health shall provide all components of the Healthy Babies Healthy Children Program in accordance with the Healthy Babies Healthy Children Protocol, 2008 (or as current) (Ministry of Children and Youth Services). “While the **Healthy Babies Healthy Children** Program does contain Health Promotion and Policy Development components, it has been included in the Disease Prevention Section due to its focus on screening, assessment, referrals and support services.” (OPHS Footnote 16).*

See **Healthy Babies Healthy Children Protocol** [www.health.gov.on.ca/english/providers/program/pubhealth/oph\\_standards/ophs/progstds/protocols/hbhc.pdf](http://www.health.gov.on.ca/english/providers/program/pubhealth/oph_standards/ophs/progstds/protocols/hbhc.pdf)

## Section 4. Integration with Other Requirements under OPHS and Other Strategies and Programs

The three components of the Reproductive Health program, preconception, prenatal and preparation for parenting, and all the factors associated with these areas, should be integrated across other requirements under the OPHS as well as other strategies and programs. Some of these areas of integration are immediately obvious and will increase effectiveness and efficiency of program planning and implementation. For example, Reproductive Health and Chronic Disease Prevention programs should work together on health promotion and disease prevention strategies for people of reproductive age and pregnant women with chronic diseases or associated risk factors (e.g., poor diet, obesity, tobacco use, physical inactivity and alcohol misuse).

The Reproductive Health and Sexual Health, Sexually Transmitted Infections and Blood-borne Infections programs should integrate strategies to reduce high-risk sexual health behaviours, promote planned pregnancies and improve the preconception health of their target populations. Likewise, Reproductive and Child Health programs should work together to promote breastfeeding, positive parenting and healthy family dynamics as a way to improve child health outcomes. For other areas, opportunities for integration may be less obvious (e.g., Environmental Health). Appendix B identifies the linkages between each Reproductive Health requirement and all other OPHS program requirements.

Health units may also find it helpful to determine the level of integration required for the most effective and efficient planning, programming and evaluation. The Relationship Intensity Continuum (116) provides common definitions and assigns a number (1–6) for different levels of integration.

The continuum has been used to fill in the following tables as a sample integration exercise: **Table 4: Sample Level of Integration Between Reproductive Health and Child Health Programs and Other OPHS Programs** and **Table 5: Sample Level of Integration Within Family Health Program Components and Comprehensive School Health**. These tools may assist health units initiate a dialogue across programs to see if managers and staff can agree on the degree of integration that is needed to plan and implement their requirements and then to determine how best to make that happen.

### The Relationship Intensity Continuum

1. **Communication:** Clear, consistent and nonjudgmental discussion; giving or exchanging information in order to maintain meaningful relationships. Individual programs or causes are totally separate.
2. **Cooperation:** Assisting each other with respective activities giving general support, information and/or endorsement for each other's programs, services or objectives.
3. **Coordination:** Joint activities and communications are more intensive and far-reaching. Agencies or individuals engage in joint planning and synchronization of schedules, activities, goals, objectives and events.
4. **Collaboration:** Agencies, individuals or groups willingly relinquish some of their autonomy in the interest of mutual gains or outcomes. True collaboration involves actual changes in agency, group or individual behaviour to support collective goals or ideals.



5. **Convergence:** Relationships evolve from collaboration to actual restructuring of services, programs, memberships, budgets, missions, objectives and staff.
6. **Consolidation:** Agency, group, or individual behaviour, operations, policies, budgets, staff and power are united and harmonized. Individual autonomy or gains have been fully relinquished, common outcomes and identity adopted. (116)

**Table 4: Sample Level of Integration between Reproductive Health and Child Health Programs and Other OPHS Programs**

OPHS	FAMILY HEALTH	REPRODUCTIVE HEALTH	CHILD HEALTH
Chronic Disease and Injuries	Chronic Disease Prevention	4 minimal and 5 best practices	4 minimal and 5 best practices
	Prevention of Injury and Substance Misuse	4 minimal and 5 best practices	4 minimal and 5 best practices
Infectious Diseases	Sexual Health, Sexually Transmitted Infections, and Blood-Borne Infections	4	4
	Infectious Diseases Prevention and Control	2	2
	Tuberculosis Prevention and Control	1	2
	Rabies Prevention and Control	1	1
	Vaccine Preventable Diseases	2	3
Environmental Health	Food Safety	2	2
	Safe Water	3	3
	Health Hazard Prevention and Management	4	4
Emergency Preparedness	Public Health Emergency Preparedness	1	1

**Table 5: Sample Level of Integration within Family Health Program Components and Comprehensive School Health**

FAMILY HEALTH	REPRO HEALTH	CHILD HEALTH	ORAL PROTOCOLS	HBHC	COMPREHENSIVE SCHOOL HEALTH
Reproductive Health	☒	4*	1	4	2
Child Health	4	☒	2	4	2-3*
Oral Protocols	1	2	☒	2	1
HBHC	4	4	2	☒	2
Comprehensive School Health	2	2-3*	1	2	☒

\* Represents a minimum level of integration; higher levels may exist at the local health unit level.

The need for integration extends beyond the OPHS to include partners from multiple sectors and at various levels (e.g., provincial, municipal/boards of health, community agencies and others). In order to function well, all partners should feel engaged, roles and responsibilities should be clearly defined, e.g., identification of the leader(s) and agreed-upon joint priorities.

Similarly, integration across provincial-level partners (e.g., Ministry of Health Promotion Family Health Programs, Ministry of Children and Youth Services including, but not limited to, the *Healthy Babies Healthy Children Program*, Ministry of Health and Long-Term Care and the Ministry of Education) helps support shared reproductive health goals, outcomes and strategic directions. Likewise, improved integration between federal ministries and programs, provincial ministries and programs, and local health unit programs is needed to increase the effectiveness and efficiency of achieving improved reproductive health outcomes.

## Section 5. Resources to Support Implementation

### a) Principal Tools and Resources Required for Implementation

Overarching resources are needed to implement the *Ontario Public Health Standards* (OPHS) including the Reproductive Health program. An understanding of health promotion, health promotion theory and strategies is critical in addressing the standard requirements. The *Ottawa Charter for Health Promotion* defines health promotion as “the process of enabling people to increase control over and to improve, their health...a commitment to dealing with challenges of reducing inequities, extending the scope of prevention and helping people to cope with their circumstances (and to) create environments conducive to health, in which people are better able to take care of themselves.” (76)

A sound knowledge of health promotion theories will provide the background to address the strategies required to implement Reproductive Health requirements and models (e.g., social marketing and healthy public policy). Nutbeam and Harris’ *Theory in a Nutshell* (117) provides a practical guide to health promotion theories, e.g., theories on change. An excellent resource for social marketing can also be accessed through the National Social Marketing Centre, United Kingdom. (131)

An understanding of relevant legislation is also vital, including, but not limited to, the *Health Protection and Promotion Act, Child and Family Services Act* and other legislation that impact on mothers, children and families (e.g., Sandy’s Law).

The *Core Competencies for Public Health in Canada’s* (PHAC) [www.phac-aspc.gc.ca/core\\_competencies](http://www.phac-aspc.gc.ca/core_competencies) population health and individual health strategies are both essential for Reproductive Health activities. Knowing best practices in the community development process also assists in meeting community partnership requirements. The Community Health Nurses Association of Canada ([www.chnac.ca/](http://www.chnac.ca/)) provides guidance on the community development process.

Resources to assist with promoting mental health through competent clinical and consultative practice and education can be found in the *Narrative and Solutions Focused Approaches Training Evaluation Summary Report* of the NSFA Evaluation Work Group. Resources to help address considerations of social determinants of health can be found at <http://chd.region.waterloo.on.ca/web/health.nsf/DocID/FD80C0D143A204F78525761D0061829A?OpenDocument>

### b) Resources for Planning, Implementing and Evaluating (Including OAHPP, Resource Centres and PHRED)

Activity planning and evaluation tools assist local health units in developing activity frameworks. Resources, including tools, are available through, but not limited to the following:

- The Ontario Public Health Association (OPHA), Towards Evidence Informed Practice (TEIP) resources, e.g., assessment, evidence and evaluation tools [www.opha.on.ca/programs/teip.shtml](http://www.opha.on.ca/programs/teip.shtml) (118)
- Public Health Research, Education and Development (PHRED) (119) resources, e.g., Evaluation Tool Kit (see [www.phred-redsp.on.ca/](http://www.phred-redsp.on.ca/))
- The Health Communication Unit (THCU) resources [www.thcu.ca/](http://www.thcu.ca/) (77)
- Best Start Resource Centre’s reproductive health resources at [www.beststart.org/index\\_eng.html](http://www.beststart.org/index_eng.html)

The Canadian Evaluation Society's *Evaluation Methods Sourcebook II* (120) [www.evaluationcanada.ca/site.cgi?s=6&ss=5&\\_lang=en](http://www.evaluationcanada.ca/site.cgi?s=6&ss=5&_lang=en) and planning and evaluation outcome tools through *Results Based Accountability* (121) [www.resultsaccountability.com](http://www.resultsaccountability.com) are other helpful evaluation resources.

Systematic reviews, literature reviews, published reports and "healthvidence.ca" all assist in evidence-informed implementation of the requirements. For example, the Institute of Health Economics (IHE) report *Determinants and Prevention of Low Birth Weight: A Synopsis of the Evidence* (30) provides valuable evidence, results and conclusions to assist with program planning. Examples of preconception health literature include Hood, Parker and Atrash's (122) journal article *Recommendations to Improve Preconception Health and Health Care: Strategies for Implementation* and Thompson, Peck and Brandert's (123) article *Integrating Preconception Health into Public Health Practice: A Tale of Three Cities*.

Best practices, reproductive health content experts and informed colleagues also helping in the information-gathering process have been listed throughout this document. Resource centres (e.g., Best Start Resource Centre) and links to Motherisk services are invaluable resources for the Reproductive Health program. Federal government (e.g., Public Health Agency of Canada (PHAC), Breastfeeding Committee for Canada), non-government organizations (e.g., Fetal Alcohol Spectrum Disorder [FASD] Stakeholders of Ontario, Folic Acid Alliance Ontario) and professional bodies (e.g., the Society of Obstetricians and Gynaecologists of Canada [SOGC] Canadian Paediatric Society [CPS], Community Health Nursing Association of Canada) are also resources for public health Reproductive Health programming.

The *Encyclopedia on Early Childhood Development*, (124) produced online by the Centre of Excellence for Early Childhood Development, presents the most up-to-date scientific knowledge on 37 topics related to the psychosocial development of the child, from conception to the age of five. Intended for policy-makers, service planners and parents, the encyclopedia is available at [www.child-encyclopedia.com/](http://www.child-encyclopedia.com/)

The *CAPC/CPNP National Projects Fund Directory*, (125) lists all National Projects Fund projects including a brief description, resources available and contact information e.g., Father Involvement Initiative. The directory is available at [www.phac-aspc.gc.ca/dca-dea/programs-mes/npf\\_projects-eng.php](http://www.phac-aspc.gc.ca/dca-dea/programs-mes/npf_projects-eng.php). Further reproductive health resources that speak to the importance of men are also available from the Best Start Resource Centre e.g., Preconception Health: Awareness and Behaviours in Ontario and Prenatal Education in Ontario: better practices at [www.beststart.org/resources/rep\\_health/index.html](http://www.beststart.org/resources/rep_health/index.html)

Implementation best practice guidelines for nurses have been developed by the Registered Nurses' Association of Ontario (RNAO) ([www.rnao.org](http://www.rnao.org)). Examples that assist in the implementation of Reproductive Health requirements include *Breastfeeding Best Practice Guidelines for Nurses* (6) and *Integrating Smoking Cessation into Daily Nursing Practice*. (81)

Public health units have also submitted the following suggestions for resources that have helped them incorporate best/better practices into their program planning:

*What Works for Whom? Promising Practices in Parenting Education* (126) and *Promising Practices in Preconception Care for Women at Risk for Poor Health and Pregnancy Outcomes*. (127)

Many health units have developed reproductive health resources beyond those used in this document. Materials developed for fathers and extended family members e.g., parenting, breastfeeding resources, are further examples of local efforts to support implementation of the OPHS Reproductive Health program requirements.

Access to reliable data and information sources, (e.g., Canadian Community Health Survey, Niday Perinatal Database, Ontario Perinatal Surveillance System (OPSS), Core Indicators and Rapid Risk Factor Surveillance System (RRFSS), Integrated Services for Children Information System (ISCIS) are also vital to Reproductive Health program activity planning. OPHEA and the Ontario Agency for Health Promotion and Protection (OAHP) will be invaluable in their provincial support of health unit program indicator and data collection activities.

Specific prenatal tools have and are being developed to assess specific risk factors. For example:

- HBHC Larson screening tool;
- Antenatal Psychosocial Health Assessment (ALPHA) tool (89) <http://dfcm.utoronto.ca/research/alpha> and providers guide <http://dfcm.utoronto.ca/research/alpha/pdf/FinalalphaguideENG.pdf>;
- Tolerance, Worry, Eye-Opener, Amnesia and Cut Down (TWEAK) and Tolerance, Annoyed, Cut Down and Eye-Opener (T-ACE) tools on alcohol consumption (128, 129); and
- TWEAK supporting material for physicians from the Best Start Resource Centre. (130)

Service agreements, protocols, referral flow charts and program policies can all assist the OPHS implementation process. Valuable resources have been included under specific program requirements in this document. Most health units have also developed local resources to help guide their work.

### c) Networks

The Ontario Family Health Management in Public Health Network (OFHMPHN) is a critical communication link between provincial public health units and the Ministry of Health Promotion (MHP). The aim of the network is to foster collaboration both within public health and across sectors, to promote reproductive and child health through leadership and collective action. The goals of the OFHMPHN are consistent with the OPHS Family Health Program and Foundational Standards. Alignment and integration of MHP and network Reproductive Health program efforts assists in achieving the societal outcomes for the OPHS Reproductive Health program.

The provincial HBHC management network facilitated by MCYS provides opportunities for further Family Health program communication.

Regional networks for Reproductive Health program management and staff also afford the opportunity for advocacy, project partnerships, resource sharing and further collaboration on Reproductive Health program issues and activities.

Work groups such as the Ontario Public Health Association (OPHA) Reproductive Health Workgroup help to enrich program support. Email listserves can also provide enhanced support from colleagues (e.g., the Maternal, Newborn and Child Health Promotion Network [MNCHP] facilitated by the Best Start Resource Centre).

## Section 6. Conclusion

This Guidance Document is one of a series that have been prepared by the Ontario Ministry of Health Promotion to provide guidance to boards of health as they implement health promotion programs and services that fall under the 2008 *Ontario Public Health Standards* (OPHS). This Guidance Document has provided background information specific to reproductive health including its significance and burden.

In addition, this Guidance Document has provided information about situational assessments for each OPHS Requirement relevant to reproductive health and included related information about policies, program/social marketing, evaluation and monitoring issues and the social determinants of health. It has also suggested policy direction and strategies for consideration, and examined evidence and rationale.

Achieving overall health goals and societal outcomes will depend on the efforts of boards of health working together with many other community partners such as non-governmental organizations, local and municipal governments, government-funded agencies and the private sector. By working in partnership towards a common set of requirements, Ontario can better accomplish its health goals by reaching for higher standards and adequately measuring the processes involved.

The health of individuals and communities in Ontario is significantly influenced by complex interactions between social and economic factors, the physical environment and individual behaviours and conditions. Addressing the determinants of health and reducing health inequities will also ensure that boards of health are successful in their efforts.

## Appendix A: Summary of Potential Data Sources for Reproductive Health Indicators

REPRODUCTIVE INDICATORS	LOCAL DATA	PROVINCIAL DATA	SOURCE
<b>Preconception Health</b>			
Number of women in childbearing years	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Statistics Canada
Where do women in childbearing years live? (map out)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Statistics Canada
What is the socio-economic status of women in childbearing years? (map out)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Statistics Canada* Canadian Community Health Survey
What is the ethnicity of women in childbearing years? (map out)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Statistics Canada*
How many women of childbearing age have a family doctor?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Canadian Community Health Survey
Use of fertility treatments	<input type="checkbox"/>	<input type="checkbox"/>	
Alcohol consumption among women of childbearing age	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Canadian Community Health Survey
Smoking among women of childbearing age	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Canadian Community Health Survey
Obesity/overweight rates among women of childbearing age	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Canadian Community Health Survey
Intake of multi-vitamins with folic acid among women of childbearing age	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Canadian Community Health Survey (Did you take a vitamin supplement containing folic acid before your last pregnancy?)
STI rates among women of childbearing age (includes HIV)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Integrated Public Health Information System
<b>Healthy Pregnancies</b>			
Teen pregnancies	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Provincial Health Planning Database (PHPDB)
Maternal age of first pregnancy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Niday Perinatal Database* Antenatal Record 1 (obstetrical history)
Primary care provider (e.g., OB, family doctor, midwife, nurse practitioner)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Niday Perinatal Database
Physical activity among pregnant women	<input type="checkbox"/>	<input type="checkbox"/>	

REPRODUCTIVE INDICATORS	LOCAL DATA	PROVINCIAL DATA	SOURCE
Prevalence of prenatal alcohol consumption	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Canadian Community Health Survey  Antenatal Record 1
Use of illicit drugs	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	National Health Survey  Antenatal Record 1
Prevalence of prenatal smoking	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Canadian Community Health Survey  Niday Perinatal Database*  Antenatal Record 1
Depression	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Niday Perinatal Database*  Antenatal Record 1
Prevalence of Hepatitis B	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Niday Perinatal Database*  Antenatal Record 1
STI rates (includes HIV)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Niday Perinatal Database*  Antenatal Record 1
Where do they go for prenatal information?	<input type="checkbox"/>	<input type="checkbox"/>	
Attendances at prenatal class	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Niday Perinatal Database*
Intention to breastfeed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Niday Perinatal Database*
<b>Reproductive health outcomes</b>			
Birth rate	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Provincial Health Planning Database (PHPDB)  Health Planning System (HELPS) Database
Prevalence of live births to teenage mothers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Provincial Health Planning Database (PHPDB)  Health Planning System (HELPS) Database
Prevalence of live births to older mothers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Provincial Health Planning Database (PHPDB)  Health Planning System (HELPS) Database



REPRODUCTIVE INDICATORS	LOCAL DATA	PROVINCIAL DATA	SOURCE
Multiple birth rate	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Statistics Canada  Niday Perinatal Database*  Provincial Health Planning Database (PHPDB)  Health Planning System (HELPS) Database
Low birth weight	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Niday Perinatal Database*  Provincial Health Planning Database (PHPDB)  Health Planning System (HELPS) Database
Caesarean section rate	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Niday Perinatal Database*  Postnatal Visit
Epidural rates	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Niday Perinatal Database
Assisted delivery rates (forceps/vacuum)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Niday Perinatal Database
Prevalence of neural tube defects	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Niday Perinatal Database*
Incidence of gestational diabetes	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Niday Perinatal Database
Incidence of pre-eclampsia and eclampsia	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Niday Perinatal Database
Incidence of placenta previa or abruption	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Niday Perinatal Database
<b>Preparation for parenting</b>			
What are parents doing to prepare themselves for parenting?	<input type="checkbox"/>	<input type="checkbox"/>	

Note: \* special data request required

## Appendix B: Linkages between Reproductive Health Requirements and Others (Appah, 2009)

### List of Acronyms

CH = Child Health

CTC = Comprehensive Tobacco Control

FS = Food Safety

HEHWPA = Healthy Eating, Healthy Weights and Physical Activity

HHPM = Health Hazard Prevention and Management

IDPC = Infectious Diseases Prevention and Control

PHEP = Public Health Emergency and Preparedness

PI = Prevention of Injury

PSM = Prevention of Substance Misuse (including alcohol)

R = Requirement

RH = Reproductive Health

RPC = Rabies Prevention and Control

SH = School Health

SHSTIBI = Sexual Health, Sexually Transmitted Infections, and Blood-borne Infections (including HIV)

SW = Safe Water

TPC = Tuberculosis Prevention and Control

VPD = Vaccine Preventable Diseases

CATEGORY	OPHS REQUIREMENT	HEHWPA	CH	PI	PSM	CTC	SH	IDPC	RPC	SHSTIBI	TPC	VPD	FS	SW	HHPM	PHEP
Assessment & Surveillance	<p>1. The board of health shall conduct epidemiological analysis of surveillance data, including monitoring of trends over time, emerging trends, and priority populations, in accordance with the Population Health Assessment and Surveillance Protocol, 2008 (or as current) in the areas of:</p> <ul style="list-style-type: none"> <li>▪ Preconception health;</li> <li>▪ Healthy pregnancies;</li> <li>▪ Reproductive health outcomes; and</li> <li>▪ Preparation for parenting.</li> </ul>	R1	R1 R3	R1	R1	R1		R1 R2 R3	R3 R4	R1 R2 R3	R2 R3	R1 R2	R1 R2 R3 R4 R5	R2 R3 R4 R5	R1 R2	
Health Promotion & Policy Development	<p>2. The board of health shall work with community partners, using a comprehensive health promotion approach, to influence the development and implementation of healthy policies and the creation or enhancement of supportive environments to address:</p> <ul style="list-style-type: none"> <li>▪ Preconception health;</li> <li>▪ Healthy pregnancies; and</li> <li>▪ Preparation for parenting.</li> </ul> <p>These efforts shall include:</p> <ol style="list-style-type: none"> <li>a. Conducting a situational assessment in accordance with the Population Health Assessment and Surveillance Protocol, 2008 (or as current); and</li> <li>b. Reviewing, adapting, and/or providing behaviour change support resources and programs.</li> </ol> <p>Footnote # 15 ("This could include, but is not limited to, curriculum support resources (in preschools, schools, etc.), workplace support resources, and education and skill-building opportunities.")</p>	R3 R4 R5 R6	R2 R4	R2 R3	R2 R3 R4 R5 R6	R3 R4 R5 R6		R4 R5 R6		R6 R7		R3	R4		R4	R3
	<p>3. The board of health shall increase public awareness of preconception health, healthy pregnancies, and preparation for parenting by:</p> <ol style="list-style-type: none"> <li>a. Adapting and/or supplementing national and provincial health communications strategies; and/or</li> <li>b. Developing and implementing regional/local communications strategies.</li> </ol>	R6 R11	R5	R4 R5	R4 R5 R6 R11	R4 R5 R6		R4 R5 R6	R5	R4			R5	R7 R12	R3	R5

CATEGORY	OPHS REQUIREMENT	HEHWPA	CH	PI	PSM	CTC	SH	IDPC	RPC	SHSTIBI	TPC	VPD	FS	SW	HHPM	PHEP
	4. The board of health shall provide, in collaboration with community partners, prenatal programs, services, and supports, which include: a. Consultation, assessment, and referral; and b. Group sessions	R7	R6	R3	R3	R7		R4 R5 R6 R13		R7						
	5. The board of health shall provide advice and information to link people to community programs and services on the following topics: ▪ Preconception health; ▪ Healthy pregnancies; and ▪ Preparation for parenting.	R11	R7 R8	R3	R3	R9		R6				R3 R5		R6	R9	R4
	6. The board of health shall provide, in collaboration with community partners, outreach to priority populations to link them to information, programs, and services	R8	R7 R8	R3	R3	R9				R5a R11	R4					
Disease Prevention	7. The board of health shall provide all the components of the Healthy Babies Healthy Children Program in accordance with the Healthy Babies Healthy Children Protocol, 2008 (or as current) (Ministry of Children and Youth Services).  Footnote 16 ("While the Healthy Babies Healthy Children program does contain Health Promotion and Policy Development components, it has been included in the Disease Prevention section due to its focus on screening, assessment, referrals, and support services")	R3	R9 R10 R11 R12 R13			R11		R6								
Health Protection						R13		R14								

## References

1. Ministry of Health and Long-Term Care. Ontario public health standards. Toronto (ON): Queen's Printer for Ontario; 2008.
2. Public Health Agency of Canada. Canadian perinatal health report – 2008 ed. Ottawa (ON): 2008. Retrieved Aug 7, 2009.  
Available from: [www.phac-aspc.gc.ca/publicat/2008/cphr-rspc/index-eng.php](http://www.phac-aspc.gc.ca/publicat/2008/cphr-rspc/index-eng.php)
3. Marquis S, Butler E. Practice guidelines for prenatal and postnatal outreach in British Columbia, Canada [draft]. Victoria (BC): Ministry for Children and Families; 2001.
4. Maupin R Jr, Lyman R, Fatsis J, Prytowiski E, Nguyen A, Wright C, et al. Characteristics of women who deliver with no prenatal care. *J Matern Fetal Med* 2004;16(1):45–50.
5. Breastfeeding Committee for Canada. The Baby Friendly TM Initiative in community health services: a Canadian implementation guide. Toronto (ON): BBC; 2002.
6. Registered Nurses' Association of Ontario. Breastfeeding best practice guideline for nurses. Toronto (ON): Registered Nurses' Association of Ontario; 2003. Retrieved Jun 20, 2009.  
Available from: [www.rnao.org/Page.asp?PageID=924&ContentID=795](http://www.rnao.org/Page.asp?PageID=924&ContentID=795).
7. British Medical Association. Early nutrition and lifelong health. UK: BMA Science and Education Department and the Board of Science; 2009. Retrieved Aug 9, 2009.  
Available from: [www.bma.org.uk/health\\_promotion\\_ethics/child\\_health/earlylifenutrition.jsp](http://www.bma.org.uk/health_promotion_ethics/child_health/earlylifenutrition.jsp)
8. Best Start Resource Centre and the Canadian Partnership for Children's Health and Environment. Playing it safe: service provider strategies to reduce environmental risks to preconception, prenatal and child health. Toronto (ON): Ontario Prevention Clearinghouse; 2006. Retrieved Jun 20, 2009.  
Available from: [www.beststart.org/resources/env\\_action/index.html](http://www.beststart.org/resources/env_action/index.html)
9. Muir T, Zegarac M. Societal costs of exposure to toxic substances: economic and health costs of four case studies that are candidates for environmental causation. *Environ Health Perspect* 2001;109(6):885–903.
10. Toronto Public Health. Reproductive health: nursing practice standards. Toronto (ON): Toronto Public Health; 2005.
11. Canadian Partnerships for Children's Health and Environment. Child Health and the Environment: A Primer. Toronto (ON): CPCHE; 2005. Retrieved Aug 9, 2009.  
Available from: [www.beststart.org/resources/env\\_action/index.html](http://www.beststart.org/resources/env_action/index.html)
12. Environics Research Group Ltd. Awareness of the effects of alcohol use during pregnancy and fetal alcohol syndrome: results of a national survey. Public Health Agency of Canada; 2000. Retrieved Jun 20, 2009.  
Available from: [www.phac-aspc.gc.ca/publicat/fas-saf-natsurv-2000/index-eng.php](http://www.phac-aspc.gc.ca/publicat/fas-saf-natsurv-2000/index-eng.php)

13. Poole, N. Fetal alcohol spectrum disorder (FASD) prevention: Canadian perspectives. Public Health Agency of Canada; 2008. Retrieved Jun 20, 2009.  
Available from: URL: [www.phac-aspc.gc.ca/fasd-etcaf/index-eng.php](http://www.phac-aspc.gc.ca/fasd-etcaf/index-eng.php).
14. Stade, B, Ali A, Bennett D, Campbell D, Johnston M, Lens C, et al. The burden of prenatal exposure to alcohol: revised measurement of cost. *Can J Clin Pharmacol*. 16(1):91–102.
15. Health Canada. Congenital anomalies in Canada – a perinatal health report, 2002 ed. Ottawa (ON): 2002. Retrieved Jun 20, 2009.  
Available from: [www.phac-aspc.gc.ca/publicat/cac-acc02/index-eng.php](http://www.phac-aspc.gc.ca/publicat/cac-acc02/index-eng.php)
16. Folic Acid Alliance Ontario [Website]. Retrieved Jun 20, 2009. Available from: [www.folicacid.ca](http://www.folicacid.ca)
17. Public Health Agency of Canada. Folic acid and prevention of neural tube defects. Information update from PHAC – 2008. Ottawa (ON): 2008. Retrieved Aug 7, 2009.  
Available from: [www/phac-aspc.gc.ca/fa-af/fa-af08-eng.php](http://www/phac-aspc.gc.ca/fa-af/fa-af08-eng.php).
18. Goldenberg RL, Culhane JF. Low birth weight in the United States. *Am J Clin Nutr* 2007;85(2):584S–90S.
19. Basrur S. Chief medical officer of health report: healthy weights, healthy lives Toronto (ON): Ontario Ministry of Health and Long-Term Care; 2004. Retrieved Jun 20, 2009. Available from: [www.health.gov.on.ca/english/public/pub/ministry\\_reports/cmoh04\\_report/healthy\\_weights\\_112404.pdf25](http://www.health.gov.on.ca/english/public/pub/ministry_reports/cmoh04_report/healthy_weights_112404.pdf25).
20. McCain Hon. MN, Mustard JF. Early years study: reversing the real brain drain. Toronto (ON): Publications Ontario; 1999.
21. Zhand X, Decker A, Platt RW, Kramer MS. How big is too big? The perinatal consequences of fetal macrosomia. *Am J of Obstet Gynecol* 2008;198(5):517.e1–517.e6.
22. Chasan-Taber L, Schmidt MD, Roberts DE, Hosmer D, Markenson G, Freedson PS. Development and validation of a pregnancy physical activity questionnaire. *Med Sci Sports Exerc* 2004;36(10):1750–60.
23. Heggaard HK, Pedersen BK, Nielsen BB, Damm P. Leisure-time physical activity during pregnancy and impact on gestational diabetes mellitus, preeclampsia, preterm delivery and birth weight: a review. *Acta Obstet Gynecol Scand* 2007;86:1290–6.
24. Mottola MF. The role of exercise in the prevention and treatment of gestational diabetes mellitus. *Curr Sports Med Rep* 2007;6(6):381–6.
25. Juhl M, Andersen PK, Olsen J, Madsen M, Jorgensen T, Nohr EA, et al. Physical exercise during pregnancy and the risk of preterm birth: a study within the Danish national birth cohort. *Am J Epidemiol* 2008;167(7):859–66.

26. Ministry of Health and Long-Term Care, Public Health Division. Initial report on public health: August 2009. Toronto (ON): Queens Printer for Ontario; 2009.
27. Poudevigne M, O'Connor PJ. Physical activity and mood during pregnancy. *Medicine & Science in Sports & Exercise* 2005;37(8):1374–80.
28. Weissgerber TL, Wolfe LA, Davies GAL, Mottola MF. Exercise in the prevention and treatment of maternal-fetal disease: a review of the literature. *Appl Physiol Nutr Metab* 2006;31(6):661–74.
29. Registered Nurses' Association of Ontario. Nursing best practice guidelines, woman abuse: screening, identification and initial response. Toronto (ON): Registered Nurses' Association of Ontario; 2008. Retrieved Jun 20, 2009. Available from: [www.rnao.org/storage/12/655\\_BPG\\_Women\\_Abuse.pdf](http://www.rnao.org/storage/12/655_BPG_Women_Abuse.pdf).
30. Ohlsson A, Shah P. Determinants and prevention of low birth weight: a synopsis of the evidence. AB: Institute of Health Economics; 2008. Retrieved Aug 11, 2009. Available from: [www.ihe.ca/publications/library/2009/determinants-and-prevention-of-low/](http://www.ihe.ca/publications/library/2009/determinants-and-prevention-of-low/).
31. Greaves L. Selected estimates of the costs of violence against women and children. London (ON): Canada Department of National Health and Welfare; 1995.
32. Day T. Health-related costs of violence against women in Canada: The tip of the iceberg. London (ON): Canada Department of National Health and Welfare; 1995.
33. Heidiger ML, Overpeck MD, Ruan WJ, Troendle JF. Birthweight and gestational age effects on motor and social development. *Pediatric and Perinatal Epidemiology* 2002;16:33–46.
34. Pevalin DJ, Wade TJ, Brannigan A. Parental assessment of early child development: biological and social covariates. *Infant and Child Development* 2003;12(2):167–75.
35. Gorman BK. Birth weight and cognitive development in adolescence: causal relationship or social selection. *Social Biology* 2002;49(1-2):13–34.
36. Hack M, Klein NK, Taylor G. Long-term developmental outcomes of low birth weight infants. *The Future of Children* 1995;5(1):176–96.
37. Canadian Institute for Health Information. Reducing gaps in health: a focus on socio-economic status in urban Canada. Ottawa (ON): Canadian Institute for Health Information; 2008.
38. Misri SK. *Pregnancy blues, what every woman needs to know about depression during pregnancy*. New York (NY): Delacorte Press; 2005.

39. Ross LE, Dennis CL, Blackmore ER, Stewart DE. Postpartum depression: a guide for front-line health and social service providers. Toronto (ON): Centre for Addiction and Mental Health; 2005. Retrieved Jun 20, 2009. Available from: [www.camh.net/publications](http://www.camh.net/publications).
40. Bonari L, Pinto N, Ahn E, Einarson A, Meir S, Steiner M et al. Perinatal risks of untreated depression during pregnancy. *Can J Psychiatry* 2004;49(11):726–35.
41. Nulman I, Rovet J, Stewart DE, Wolpin J, Pace-Asciak P, Shuhaiber S, Koren G. Child development following exposure to tricyclic antidepressants or fluoxetine throughout fetal life: a prospective, controlled study. *Am J Psychiatry* 2002;159 (11):1889–95.
42. O'Brien L, Laporte A, Gideon K. Estimating the economic costs of antidepressant discontinuation during pregnancy. *Can J Psychiatry* 2009;54(6):399–408. Retrieved Aug 7, 2009. Available from: <http://publications.cpa-apc.org/media.php?mid=804>
43. Wrzosek T, Einarson A. Dental care during pregnancy. *Canadian Family Physician* 2009;55(6):598–9.
44. Public Health Agency of Canada. Healthy pregnancy: oral health. 2008 ed. Ottawa (ON): 2008. Retrieved Aug 25, 2009. Available from: [www.phac-aspc.gc.ca/hp-gs/know-savoir/ora-dent-eng.php](http://www.phac-aspc.gc.ca/hp-gs/know-savoir/ora-dent-eng.php).
45. Oldershaw L. A national survey of parents of young children. Toronto (ON): Invest in Kids; 2002. Retrieved Jun 20, 2009. Available from: <https://www.investinkids.ca/Portals/0/documents/pdf/A%20Nantional%20Survey%20-%20Final.pdf>
46. Statistics Canada. Canadian community health survey (CCHS), 2008 ed. Ottawa (ON): 2009. Retrieved Jun 20, 2009. Available from: [www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3226&lang=en&db=imdb&adm=8&dis=2](http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3226&lang=en&db=imdb&adm=8&dis=2)
47. Ontario Perinatal Surveillance System. The Ontario Perinatal Surveillance System Report 2008. Ontario Perinatal Surveillance System; 2008. Retrieved Jun 20, 2009. Available from: [https://www.nidaydatabase.com/info/publications\\_provincial.shtml](https://www.nidaydatabase.com/info/publications_provincial.shtml).
48. Flaherman V, Rutherford G. A meta-analysis of the effect of high weight on asthma. *Archives of Disease in Childhood* 2006;91(4):334–9.
49. Caughey R & Michels K. Birth weight and childhood leukemia: a meta-analysis and review of the current evidence. *International Journal of Cancer* 2009;124(11): 2658–70.
50. Canadian Institute for Health Information. Too early, too small: a profile of small babies across Canada. Ottawa (ON): 2009. Retrieved Jun 20, 2009. Available from: [http://secure.cihi.ca/cihiweb/disPage.jsp?cw\\_page=PG\\_1791\\_E&cw\\_topic=1791&cw\\_rel=AR\\_1106\\_E](http://secure.cihi.ca/cihiweb/disPage.jsp?cw_page=PG_1791_E&cw_topic=1791&cw_rel=AR_1106_E)



51. Health Canada. Preconception health – folic acid for the primary prevention of neural tube defects: a resource for health professionals. Ottawa (ON): Minister of Public Works and Government Services Canada; 2002. [Modified Dec 16, 2003]. Retrieved Jun 20, 2009.  
Available from: [www.phac-aspc.gc.ca/fa-af/report/index-eng.php](http://www.phac-aspc.gc.ca/fa-af/report/index-eng.php)
52. Best Start Resource Centre. Keys to a successful alcohol and pregnancy communication campaign. Toronto (ON): 2003. Retrieved Jun 20, 2009.  
Available from: [www.beststart.org/resources/alc\\_reduction/index.html](http://www.beststart.org/resources/alc_reduction/index.html)
53. Richardson K. Conditions in pregnancy: APA: don't under-treat depression in pregnancy. The Medical Post 2003. Retrieved Aug 7, 2009.  
Available from: [www.motherisk.org/women/commonDetail.jsp?content\\_id=815](http://www.motherisk.org/women/commonDetail.jsp?content_id=815)
54. Health Canada. What is the population health approach? The population health template: key elements and actions that define a population health approach. Ottawa (ON): 2001. Retrieved Aug 7, 2009.  
Available from: [www.phac-aspc.gc.ca/ph-sp/pdf/discussion-eng.pdf](http://www.phac-aspc.gc.ca/ph-sp/pdf/discussion-eng.pdf)
55. Best Start Resource Centre & Sex Information and Education Council of Canada. Update report on teen pregnancy prevention [Online]. c2007 [cited January 24] Retrieved Feb 23, 2010.  
Available from: [www.beststart.org/resources/rep\\_health/index.html](http://www.beststart.org/resources/rep_health/index.html)
56. Patychuk D, Seskar-Hencic D. Steps to equity: ideas and strategies for health Equity in Ontario, 2008-2010. Toronto (ON): 2008. Retrieved Jun 20, 2009.  
Available from: [www.healthnexus.ca/policy/firststeps\\_healthyequity.pdf](http://www.healthnexus.ca/policy/firststeps_healthyequity.pdf)
57. Public Health Agency of Canada. What mothers say: the Canadian maternity experiences survey. Ottawa (ON): 2009. Retrieved Aug 7, 2009.  
Available from: [www.phac-aspc.gc.ca/rhs-ssg/pdf/survey-eng.pdf](http://www.phac-aspc.gc.ca/rhs-ssg/pdf/survey-eng.pdf)
58. National Collaborating Centre for Mental Health. Antenatal and postnatal mental health: the NICE guidelines on clinical management and service guidance. UK: The British Psychological Society and The Royal College of Psychiatrists; 2007. Retrieved Jun 20, 2009.  
Available from: [www.nice.org.uk/nicemedia/pdf/CG45fullguideline.pdf](http://www.nice.org.uk/nicemedia/pdf/CG45fullguideline.pdf)
59. Ministry of Health Promotion. Healthy Ontarians, Healthy Ontario strategic framework. Toronto; n.d.
60. The Ministry of Children and Youth Services Strategic Framework 2008–12 Realizing Potential: Our Children, Our Youth, Our Future. Toronto; 2008.
61. Wilkinson R, Marmot M (Editors). The solid facts: social determinants of health. 2nd edition. Social determinants of health: the solid facts [Online]. 2003. [cited 2010 January 24]  
Available from: [www.euro.who.int/document/e81384.pdf](http://www.euro.who.int/document/e81384.pdf)

62. Best Start Resource Centre. Preconception and health: research and strategies. Toronto (ON): 2001.  
Retrieved Jun 20, 2009.  
Available from: [www.beststart.org/resources/preconception/index.html](http://www.beststart.org/resources/preconception/index.html)
63. Morawska A, Winter L, Sanders MR. Parenting knowledge and its role in the prediction of dysfunctional parenting and disruptive child behaviour. *Child: Care, Health & Development* 2009;35(2):217–26.
64. Cowan CP, Cowan PA. When partners become parents: the big life change for couples. 2nd ed. Mahwah, NJ: Lawrence Erlbaum Associates; 1999.
65. Polomeno V. Why is love so important in childbirth education? *Int J Childbirth Educ* 2006;21(1):35–44.
66. Health Canada. Family-centred maternity and newborn care: national guidelines 4th ed. Ottawa (ON): 2000.  
Retrieved Jun 20, 2009.  
Available from: [www.phac-aspc.gc.ca/dca-dea/prenatal](http://www.phac-aspc.gc.ca/dca-dea/prenatal)
67. Health Canada. Exclusive breastfeeding duration: 2004 Health Canada recommendation. Ottawa (ON): 2004.  
Retrieved Jun 20, 2009. Available from: [www.hc-sc.gc.ca/fn-an/nutrition/child-enfant/infant-nourisson/excl\\_bf\\_dur-dur\\_am\\_excl-eng.php](http://www.hc-sc.gc.ca/fn-an/nutrition/child-enfant/infant-nourisson/excl_bf_dur-dur_am_excl-eng.php);
68. Canadian Paediatric Society. Exclusive breastfeeding should continue to six months: position statement from the Nutrition and Gastroenterology Committee. *Paediatr Child Health* 2005;10(3):148. [Reaffirmed and updated 2009]. Retrieved Jun 20, 2009.  
Available from: [www.cps.ca/english/statements/N/BreastfeedingMar05.htm](http://www.cps.ca/english/statements/N/BreastfeedingMar05.htm);
69. World Health Organization & UNICEF. Global strategy for infant and young child feeding. WHO; 2003.  
[Updated 2009]. Retrieved Jun 20, 2009.  
Available from: [www.who.int/nutrition/publications/infantfeeding/9241562218/en/index.html](http://www.who.int/nutrition/publications/infantfeeding/9241562218/en/index.html)
70. Statistics Canada. Canadian community health survey (CCHS), 2008. Ottawa (ON): 2009. Retrieved Jun 20, 2009.  
Available from: [www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3226&lang=en&db=imdb&adm=8&dis=2](http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3226&lang=en&db=imdb&adm=8&dis=2)
71. Best Start Resource Centre. Preconception health: public health initiatives in Ontario. Toronto (ON): 2009.  
Retrieved Jun 20, 2009.  
Available from: [www.beststart.org/resources/preconception/index.html](http://www.beststart.org/resources/preconception/index.html)
72. Rapid Risk Factor Surveillance System [Web site]. Retrieved Aug 7, 2009.  
Available from: [www.rfss.on.ca/index.php?pid=21](http://www.rfss.on.ca/index.php?pid=21)

73. Toronto Public Health. The health of Toronto's young children series 1–3. Toronto (ON): Toronto Public Health; 2006.
74. Oxford County Public Health. Reproductive health status in Oxford County. Oxford County Public Health; 2008.
75. Region of Waterloo Public Health. Why we need to work with priority populations and how this relates to population health. Waterloo (ON): Region of Waterloo Public Health; 2009. Retrieved Feb 23, 2010.  
Available from: <http://chd.region.waterloo.on.ca/web/health.nsf/DocID/FD80C0D143A204F78525761D0061829A?OpenDocument>
76. World Health Organization. The Ottawa charter for health promotion. Proceedings of the First International Conference on Health Promotion; 1986 Nov 21; Ottawa (ON): WHO; 1986.
77. The Health Communication Unit. Online health promotion planner [Website]. Retrieved Aug 11, 2009.  
Available from: [www.thcu.ca/](http://www.thcu.ca/)
78. Region of Waterloo Public Health. Evidence and practice planning framework for addressing health inequities. Waterloo (ON): Region of Waterloo Public Health; 2009. Retrieved Feb 23, 2010.  
Available from: <http://chd.region.waterloo.on.ca/web/health.nsf/DocID/FD80C0D143A204F78525761D0061829A?OpenDocument>
79. Region of Waterloo Public Health. Process to determine priority populations. Waterloo (ON): Region of Waterloo Public Health; 2009. Retrieved Feb 23, 2010.  
Available from: <http://chd.region.waterloo.on.ca/web/health.nsf/DocID/FD80C0D143A204F78525761D0061829A?OpenDocument>
80. Region of Waterloo Public Health. Process to determine priority neighborhoods. Waterloo (ON): Region of Waterloo Public Health; 2009. Retrieved Feb 23, 2010.  
Available from: <http://chd.region.waterloo.on.ca/web/health.nsf/DocID/FD80C0D143A204F78525761D0061829A?OpenDocument>
81. Registered Nurses' Association of Ontario. Integrating smoking cessation into daily nursing practice. Toronto (ON): Registered Nurses' Association of Ontario; 2007. Retrieved Jun 20, 2009.  
Available from: [www.rnao.org/bestpractices](http://www.rnao.org/bestpractices)
82. Center for Disease Control. Recommendations to improve preconception health and health care – United States: a report of the CDC/ATSDR Preconception Care Work Group and the Select Panel on Preconception Care. Center for Disease Control; 2006. Retrieved Jun 20, 2009.  
Available from: [www.cdc.gov/mmwr/preview/mmwrhtml/rr5506a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5506a1.htm)
83. Toronto Public Health. Toronto Public Health practice framework. Toronto (ON): Toronto Public Health; 2005.
84. Toronto Public Health. Assuring access and equity through diversity competence. Toronto (ON): Toronto Public Health; 2004.

85. Toronto Public Health. Toronto Public Health practice framework program planning kits #1–4 and references. Toronto (ON): Toronto Public Health; 2006.
86. Toronto Public Health. Narrative and solution focused approaches training evaluation summary report. Toronto (ON): Toronto Public Health; 2006.
87. Ontario Public Health Association Breastfeeding Promotion Workgroup. A breastfeeding information and activity kit for secondary school teachers. Toronto (ON): Ontario Public Health Association; 2009. Retrieved Jun 20, 2009. Available from: [www.opha.on.ca/resources/topics/b.shtml](http://www.opha.on.ca/resources/topics/b.shtml) – breastfeeding
88. KFL&A Public Health. Achieving family work-life balance: working together to be family friendly. Kingston (ON): KFL&A Public Health; n.d.
89. Blackmore E, Carroll J, Reid A, Biringer A, Glazier R, Midmer D et al. The use of the antenatal psychosocial health assessment (ALPHA) tool in the detection of psychosocial risk factors for postpartum depression. *J SOGC* 2006;28(10):873–8.
90. Cox JL, Holden JM, Sagovsky, R. Detection of postnatal depression: Development of the 10-item Edinburgh postnatal depression scale. *Br J Psychiatry* 1987;150:782–6.
91. French J, Blair Stevens C. Social marketing pocket guide 1st ed. UK: National Social Marketing Centre for Excellence; 2005. Retrieved Aug 9, 2009. Available from: [www.nsms.org.uk/](http://www.nsms.org.uk/).
92. National Social Marketing Centre. It's our health! UK: National Social Marketing Centre; 2006. Retrieved Aug 9, 2009. Available from: [www.nsmcentre.org.uk/component/repository/NSMC-Publications/Its-Our-Health-\(Full-report\)/](http://www.nsmcentre.org.uk/component/repository/NSMC-Publications/Its-Our-Health-(Full-report)/)
93. Clanz K, Rimer BK, Viswanath K. Health behaviour and health education, 4th ed. San Francisco (CA): Jossey-Bass; 2008.
94. Best Start Resource Centre. Checklist for the development of resources for preconception, prenatal and child health. Toronto (ON): 2006. Retrieved Jun 20, 2009. Available from: [www.beststart.org/resources/howto/index.html](http://www.beststart.org/resources/howto/index.html)
95. Best Start Resource Centre. Health fairs and preconception, prenatal and child health. Toronto (ON): 2009. Retrieved Jun 20, 2009. Available from: [www.beststart.org/resources/howto/index.html](http://www.beststart.org/resources/howto/index.html)
96. Niagara Region Public Health Department. Be a Great Parent. Thorold, ON: Niagara Region Public Health Department; 2010. Retrieved May 3, 2010. Available from: [www.niagararegion.ca/living/health\\_wellness/greatparent/default.aspx?domain](http://www.niagararegion.ca/living/health_wellness/greatparent/default.aspx?domain)

97. Public Health Agency of Canada. What we have learned: key Canadian FASD awareness campaigns. Ottawa (ON): Publications Health Canada; 2006. Retrieved Jun 20, 2009.  
Available from: [www.phac-aspc.gc.ca/publicat/fasd-ac-etcaf-cs/pdf/fasd-ac-etcaf-cs\\_e.pdf](http://www.phac-aspc.gc.ca/publicat/fasd-ac-etcaf-cs/pdf/fasd-ac-etcaf-cs_e.pdf)
98. Health Canada. Quitting and pregnancy. Ottawa (ON): 2009. Retrieved Aug 11, 2009.  
Available from: [www.hc-sc.gc.ca/hc-ps/tobac-tabac/quit-cesser/fact-fait/preg-gros-eng.php](http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/quit-cesser/fact-fait/preg-gros-eng.php)
99. Health Canada. On the road to quitting: guide to becoming a non-smoker. Ottawa (ON): 2007. Retrieved Aug 11, 2009.  
Available from: [www.hc-sc.gc.ca/hc-ps/tobac-tabac/quit-cesser/fact-fait/preg-gros-eng.php](http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/quit-cesser/fact-fait/preg-gros-eng.php)
100. INFACT [Web site]. Retrieved Jun 20, 2009. Available from: [www.infactcanada.ca](http://www.infactcanada.ca)
101. Best Start Resource Centre. Breastfeeding local campaigns and displays [Web site]. Retrieved Jun 20, 2009.  
Available from: [www.beststart.org/resources/breastfeeding/index.html](http://www.beststart.org/resources/breastfeeding/index.html)
102. Beyers J, Garcia J, Kennedy E, Mangles J, Rodrigues L, Truscott H. Healthy eating, physical activity and healthy weights guideline for public health in Ontario. Unpublished manuscript; 2009.
103. Toronto Public Health. Mental wellness assessment for adult/adolescent and user guidelines. Toronto (ON): Toronto Public Health; 2008.
104. Stewart-Brown S, Tennant A, Tennant R, Platt S, Parkinson J, Weich S. Internal construct validity of the Warwick-Edinburg mental well-being scale (WEMWBS): a Rasch analysis using data from the Scottish Health Education Population survey 2009. *Health and Quality of Life Outcomes* 2009;7(15).
105. Toronto Public Health. Rationale for the inclusion and exclusion of risk factors in the J-Form screening tool for the Healthiest Babies Possible Program. Toronto (ON): Toronto Public Health; 2007.
106. Synthesis on parenting skills. In: Tremblay RE, deV Peters R, Boivin M, Barr RG, editors. *The Encyclopedia on Early Childhood Development*. Published online Mar 26 2007. [Updated Nov 26, 2008]. Retrieved Jun 20, 2009. Available from: [www.child-encyclopedia.com/pages/PDF/parenting\\_skills.pdf](http://www.child-encyclopedia.com/pages/PDF/parenting_skills.pdf)
107. Best Start Resource Centre. Prenatal education in Ontario: better practices. Toronto (ON): 2007. Retrieved Jun 20, 2009. Available from: [www.beststart.org/resources/rep\\_health/index.html](http://www.beststart.org/resources/rep_health/index.html)
108. Best Start Resource Centre. Abuse in pregnancy: information strategies for the prenatal educator. Toronto (ON): 2002. Retrieved Jun 20, 2009.  
Available from: [www.beststart.org/resources/anti-violence/index.html](http://www.beststart.org/resources/anti-violence/index.html)
109. New Brunswick Department of Health/Collectivité Ingéniereuse de la Péninsule Acadienne (CIPA) inc. A new life/une nouvelle vie [Web site]. c2006. Retrieved Jun 20, 2009.  
Available from: <http://anewlife.cipanb.ca/en.php>

110. Best Start Resource Centre. Populations at higher risk: when mainstream approaches don't work. Toronto (ON): 2006. Retrieved Jun 20, 2009.  
Available from: [www.beststart.org/resources/howto/index.html](http://www.beststart.org/resources/howto/index.html)
111. Best Start Resource Centre. Reducing the impact: working with pregnant women who live in difficult life situations. Toronto (ON): 2003. Retrieved Jun 20, 2009.  
Available from: [www.beststart.org/resources/anti\\_poverty/index.html](http://www.beststart.org/resources/anti_poverty/index.html)
112. Best Start Resource Centre. Self-help/peer support strategies in maternal, newborn and child health: examples from the provincial landscape. Toronto (ON): 2005. Retrieved Jun 20, 2009.  
Available from: [www.beststart.org/resources/howto/index.html](http://www.beststart.org/resources/howto/index.html)
113. Toronto Public Health. Project report: support for at-risk homeless pregnant parenting women project focus groups and survey results. Toronto (ON): Toronto Public Health; 2006.
114. Toronto Public Health. Healthiest Babies Possible eligibility process: screening and nutrition assessment. Toronto (ON): Toronto Public Health; 2007.
115. Toronto Public Health. Healthiest Babies Possible Program: assessment of the screening & assessment tools using revised eligibility criteria. Toronto (ON): Toronto Public Health; April 2008.
116. Corbett T, Noyce J. Human services systems integration: a conceptual framework. Washington (DC): Association for Public Policy Analysis and Management; 2007.
117. Nutbeam D, Harris E. Theory in a nutshell. Australia: McGraw Hill; 2004.
118. Ontario Public Health Association. Towards evidence informed practice resources [Web site]. Retrieved Jun 20, 2009.  
Available from: [www.opha.on.ca/programs/teip.html](http://www.opha.on.ca/programs/teip.html)
119. Public Health Research, Education and Development [Web site]. Retrieved Aug 11, 2009.  
Available from: [www.phred-redsp.on.ca/](http://www.phred-redsp.on.ca/)
120. Love A, editor. Evaluation methods sourcebook II. Canadian Evaluation Society: 1995. Retrieved Aug 11, 2009.  
Available from: [www.evaluationcanada.ca/site.cgi?s=6&ss=5&\\_lang=en](http://www.evaluationcanada.ca/site.cgi?s=6&ss=5&_lang=en).
121. Freidman M. Planning and evaluation outcome tools through results based accountability. USA: Trafford Publishing; 2005. Retrieved Aug 11, 2009.  
Available from: [www.resultsaccountability.com](http://www.resultsaccountability.com)
122. Hood JR, Parker C, Atrash HK. Recommendations to improve preconception health and health care: strategies for implementation. J Womens Health (Larchmt.) 2007;(16):454–7.

123. Thompson BK, Peck M, Brandert KT. Integrating preconception health into public health practice: a tale of three cities. *J Womens Health* 2008;17:723–7.
124. Tremblay RE, deV, Peters R, Boivin M, Barr RG, editors. *The Encyclopedia on Early Childhood Development*. Published online Mar 6, 2007. [Updated Nov 26 2008]. Retrieved Aug 11, 2009. Available from: [www.child-encyclopedia.com/en-ca/home.html](http://www.child-encyclopedia.com/en-ca/home.html)
125. Public Health Agency of Canada. CAPC/CPNP national projects fund directory [Web site]. Retrieved Aug 11, 2009. Available from: [www.phac-aspc.gc.ca/dca-dea/programs-mes/npf\\_projects-eng.php](http://www.phac-aspc.gc.ca/dca-dea/programs-mes/npf_projects-eng.php)
126. Mann B. What works for whom? Promising practices in parenting education. *Canadian Association of Family Resource Programs*; 2008. Retrieved Jun 29, 2009. Available from: [www.frp.ca](http://www.frp.ca) / [www.parentsmatter.ca](http://www.parentsmatter.ca)
127. Biermann J, Dunlop AL, Brady C, Dubin C, Brann A. Promising practices in preconception care for women at risk for poor health and pregnancy outcomes. *Journal of Maternal Child Health* 2006;10:S21–S28.
128. Russell M. New assessment tools for risk drinking during pregnancy: T-ACE, TWEAK and Others. *Alcohol Health and Research World* 1994;18(1):55–61.
129. Sokol RJ, Martier SS, Ager JW. The T-ACE questions: Practical prenatal detection of risk drinking. *Am J of Obstet Gynecol* 1989;160(4):863–70.
130. Best Start Resource Centre & Motherisk. *Screening for alcohol use in pregnancy, physician's desk reference*. Toronto (ON): 2008. Retrieved Jun 20, 2009. Available from: [www.beststart.org/resources/alc\\_reduction/index.html](http://www.beststart.org/resources/alc_reduction/index.html)
131. National Social Marketing Centre. It's our health! Retrieved Feb 23, 2010. Available from: [www.nsmcentre.org.uk/component/remository/NSMC-Publications/Its-Our-Health-\(Full-report\)/](http://www.nsmcentre.org.uk/component/remository/NSMC-Publications/Its-Our-Health-(Full-report)/)