

Development and Dissemination of a Preconception Health Care Tool in Primary Care

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Context & Objective

Good health begins even before conception. Recommendations from Ontario's No Time to Wait: The Healthy Kids Strategyⁱ suggest that optimizing patients' health before conceiving will improve their child's chances of enjoying good health throughout their lives. In response to these recommendations, the Ontario Ministry of Health and Long-Term Care engaged the Centre for Effective Practice (CEP) to develop and disseminate the Preconception Health Care Tool. The tool is designed to improve maternal and infant health outcomes in primary care by guiding providers' discussions of health promotion and illness prevention strategies with all patients of reproductive age.

Design

The tool was developed using CEP's tool development process.

- A working group comprised of a primary care nurse practitioner, a family physician, and CEP staff conducted a comprehensive search, review, and appraisal of existing clinical evidence. Through this process the working group integrated all available evidence and resources into one tool.

- The tool was tested and refined based on feedback from individuals and organizations with expertise in maternal and infant care, and providers who practice comprehensive family medicine.

- By engaging target end-users and key stakeholders throughout the tool development process, CEP was able to better understand the individual needs and challenges faced by providers delivering preconception care, as well as gain insight on how to best address those needs and challenges in the tool.

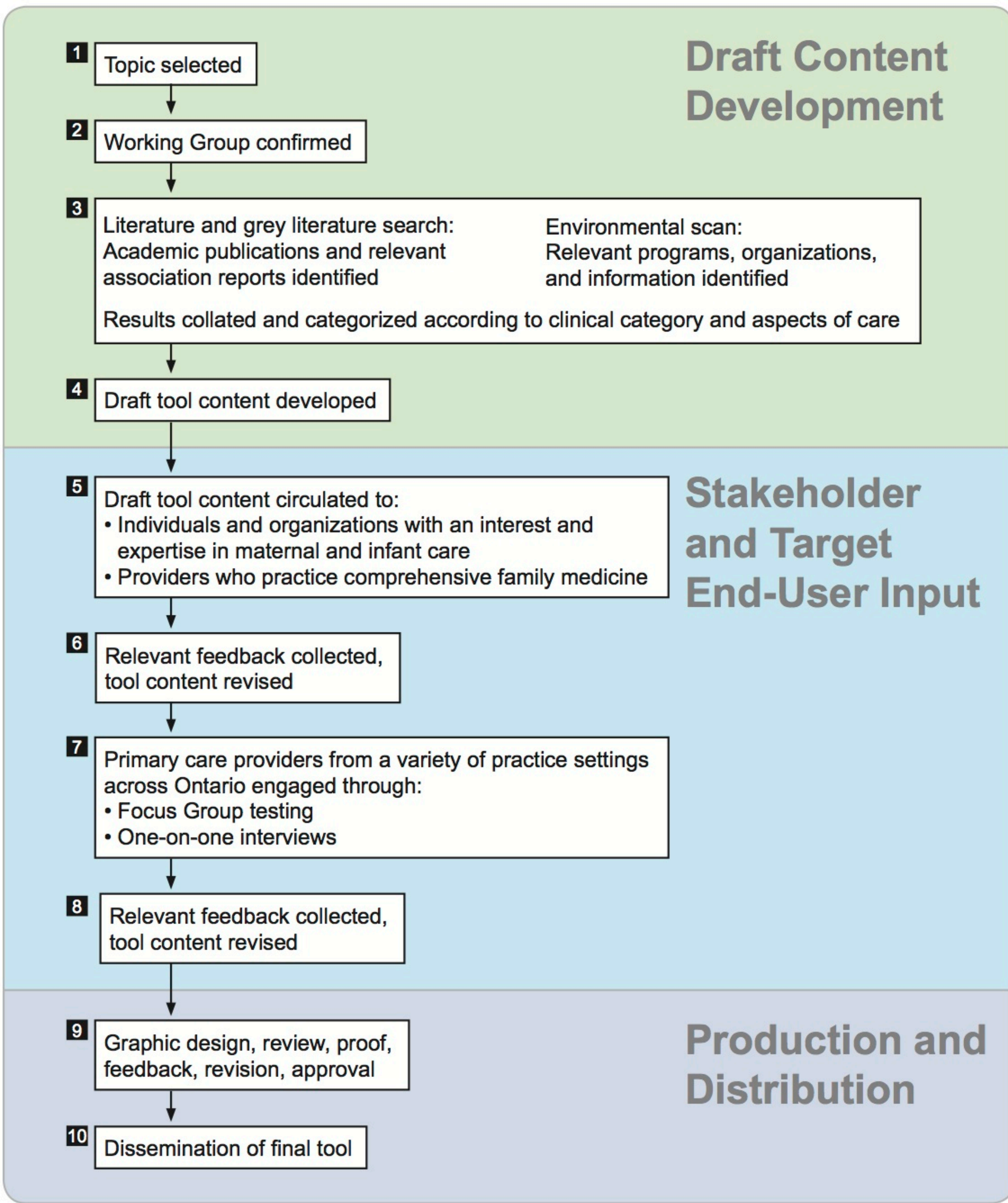
Get Involved

CEP engages providers and stakeholders as often as possible in our tool development processes and related projects. If you would like to:

- Provide feedback on clinical tools
- Receive our newsletter
- Participate in Working Groups
- Learn more about our organization

Please visit www.effectivepractice.org and join the conversation.

Figure 1. Tool Development Process



Tool Highlights

Some key aspects of the tool include:

- It is available in both paper and web format;
- It contains links to current patient and provider resources throughout; with a focus on Canadian sources; and,
- The content will be kept up-to-date on an ongoing basis.

Results

The tool presents information for providers to use over a series of visits with their female and male patients of reproductive age to:

- Encourage patients to develop a reproductive life plan;
- Assess and optimize patients' preconception physical and mental health;
- Optimize chronic medical conditions prior to conception;
- Choose safe medications for women who may become pregnant; and,
- Counsel on lifestyle habits (nutrition, physical activity, alcohol, tobacco and other substances).

Preliminary data on dissemination has been collected and analyzed. **Since the launch of the tool in March of 2015, 1,200 hard copies have been disseminated, and there have been 11,500 visits to the tool web page.**

Conclusion & Next Steps

The Preconception Health Care Tool will help to standardize primary care providers' approach to preconception health care with all patients of reproductive age, and provide guidance and resources to both providers and patients. CEP is currently working to integrate the tool into Telus' Practice Solutions Suite Electronic Medical Record.

Figure 2. Preconception Health Care Tool



Centre for Effective Practice

Preconception Health Care Tool

Preconception Health Care involves identifying potential physical, genetic, psychosocial, environmental, and behavioural risk factors for adverse pregnancy outcomes, and reducing those risks prior to conception through counselling, education, and intervention. Preconception Health Care focuses on health promotion and illness prevention for everyone of reproductive age. It is an important opportunity for primary care providers to improve maternal and infant health outcomes, as the critical period for fetal development often occurs before prenatal care begins. **Each of the preconception topics below should be addressed with every individual of reproductive age on an on-going basis.**

If you are interested in providing feedback on this tool, please visit www.effectivepractice.org/feedback.

References and additional resources available at www.effectivepractice.org/preconception

Patient Name: _____


Birth Date: dd/mm/yy _____




Prevent & Promote		Screen	Manage
<p>A) Reproductive Life Plans: Are all individuals of reproductive age (15-49 years) aware of their role in the next year's pregnancy and the importance of preconception health care?</p> <p> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unsure <input type="checkbox"/> Don't know <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unsure <input type="checkbox"/> Don't know </p> <p>Uniform women of reproductive age that natural fertility and assisted reproductive technology success is significantly lower for women in their late 30s-40s. </p>			
<p>B) Reproductive History: A detailed reproductive history should be obtained for all individuals.</p> <p>Gestational DM: _____ Abortions (Y/N): _____ Full Term (Y/N): _____ Living Children (L): _____ Premature (P): _____ Details: _____</p>			
<p>C) Sexual Health:</p> <p>All individuals should be counseled about safer sexual practices.</p>		<p>Screen (High Risk): <input type="checkbox"/> Chlamydia <input type="checkbox"/> Syphilis <input type="checkbox"/> Trichomoniasis <input type="checkbox"/> Gonorrhea <input type="checkbox"/> Herpes (all lesions)</p>	
<p>Chronic Medical Conditions:  Prevention management for the following diseases, as subclinical medical treatments can increase risk for adverse maternal and/or infant outcomes.</p>			
<p>Maternal:  Diabetes: should be consulted for the safety of any medications taken by patients with chronic conditions. Nontype 1 Diabetes: 1-477-439-2144</p> <p>Asthma: Delay conception until good control is achieved.</p> <p>Cancer: All individuals with cancer should be counseled regarding the potential effects of treatment on fertility and informed of options to preserve fertility, if desired, and referred appropriately.</p> <p>Diabetes: Increased risk of birth defects can be mitigated with good preconception glycemic control. Women with type 1 diabetes should be counseled to delay pregnancy until 12 weeks after conception. ACE-I and statins are contraindicated. Estrogen-containing contraception options should be avoided for those with DM-20 years or target end-organ damage.</p> <p>HIV: Transmission risk is 1% to 2% with antiretroviral therapy. Sexually is contraindicated. Antiretroviral drugs may interfere with hormonal contraceptive methods. Refer to specialist.</p> <p>Hypertension: Increased risk for adverse fetal and maternal outcomes. Assess for target end-organ damage in those with those with DM-20 years or target end-organ damage.</p>		<p>long-standing hypertension. Alternatives to ACE-I are recommended in women of reproductive age. Avoid estrogen-containing contraception options for women with severe hypertension.</p> <p>Inflammatory Bowel Disease: Counsel women to delay conception until disease is in remission. Conception during active episode increases risk of miscarriage, premature delivery, still birth, or low birth weight.</p> <p>Phenytoin: Encourage maintenance of low phenytoin levels during pregnancy, and especially prior to conception.</p> <p>Renal Disease: Encourage optimal control prior to conception, including normal BP. Use alternative to ACE-I. Consult with specialist.</p> <p>Seizure Disorder: Discuss potential pregnancy outcomes related to seizures and seizure medications. Take folic acid 4-5mg daily prior to conception and after 12 weeks after conception. Lowest dose of medication recommended, when possible. Valproic acid, lithium, and topiramate are contraindicated. Many antiepileptic medications may interfere with hormonal contraceptive methods.</p>	
<p>For more information regarding preconception chronic disease management, visit the Before, Between, & Beyond Pregnancy Preconception Care Clinical Toolkit! </p>			
<p>D) Medications:</p> <p>Human teratogenicity risks are unknown for the majority of medications. Use caution when prescribing for women of reproductive age. Consult birthdefects.ca </p>		<p>Screen for teratogenic medication use:</p> <p> <input type="checkbox"/> Prescribed Medications <input type="checkbox"/> Over-the-Counter Medications <input type="checkbox"/> Complementary and Alternative Therapy (herbal, natural, weight loss, athletic products or supplements, etc.) </p>	
<p>E) Mental Health:</p> <p>Promote mental health wellness through adequate sleep, work-life balance, stress reduction and social connections.</p>		<p>Screen: <input type="checkbox"/> Depression <input type="checkbox"/> Anxiety <input type="checkbox"/> Other <input type="checkbox"/> Screen for family history of mental health issues.</p>	
<p>F) Tobacco Use:</p> <p>Encourage all individuals to be tobacco free prior to conception.</p>		<p>Screen: <input type="checkbox"/> Tobacco (all forms) <input type="checkbox"/> Tobacco Exposure (second-hand smoke)</p>	
<p>G) Alcohol and Other Substance Use:</p> <p>Encourage all individuals to be substance free prior to conception.</p>		<p>Screen: <input type="checkbox"/> Alcohol <input type="checkbox"/> Other Substances</p>	
<p>Manage:</p> <p><input type="checkbox"/> Positive pregnancy test, discuss options for prenatal care and refer accordingly.</p> <p><input type="checkbox"/> Provide appropriate referrals.</p> <p><input type="checkbox"/> Advise women with prior caesarean delivery to wait at least 18 months prior to conception.</p> <p><input type="checkbox"/> Recommend folic acid 5mg daily prior to conception and for 12 weeks after conception (positive history of neural tube defect).</p> <p><input type="checkbox"/> Recommend >18 and <59 month interpregnancy interval (IPI).</p> <p><input type="checkbox"/> Provide treatment according to Canadian Guidelines on Sexually Transmitted Infections.</p> <p><input type="checkbox"/> Inform women of genetic herpes risk of vertical transmission.</p> <p>H) Systemic Lupus Erythematosus, Rheumatoid Arthritis, and other Autoimmune Diseases: Delay conception until good control is achieved. Discuss natural history of disease during pregnancy. Cyclophosphamide, Methotrexate, and Leflunomide are contraindicated. Avoid estrogen-containing contraception options in women with SLE and positive baseline antiphospholipid antibody. Discuss use of aspirin and heparin with rheumatologist to manage with SLE and antiphospholipid antibody syndrome.</p> <p>I) Thyroid Disease: Women with thyroid disease who risk for VTE during pregnancy and postpartum is increased, and may well require anticoagulation treatment. Counsel in contraindicated. Avoid estrogen-containing contraceptive options.</p> <p>Thyroid Disease: Achieve euthyroid state prior to conception. Women with hypothyroidism should increase their dose of levothyroxine by 30% to 50% soon as pregnancy occurs. Radioactive iodine is contraindicated. Screen all women for Celiac, TSH, prior to conception.</p> <p><input type="checkbox"/> Bipolar Disorder <input type="checkbox"/> Mood Disorder <input type="checkbox"/> Schizophrenia</p> <p><input type="checkbox"/> Counsel women with mental health diagnosis of risk of pregnancy and relapse. Strategic management.</p> <p><input type="checkbox"/> Stabilize mood and anxiety level, discuss risks and benefits of medications.</p> <p><input type="checkbox"/> Provide brief intervention and provide appropriate referrals </p> <p><input type="checkbox"/> Inform women of available patient resources </p> <p><input type="checkbox"/> Smoker: Helpline 1-877-533-5333</p> <p><input type="checkbox"/> Non-smoker: Canadian Smoking Cessation Guidelines </p> <p><input type="checkbox"/> Counsel women with tobacco addiction of risks of pregnancy and relapse.</p> <p><input type="checkbox"/> Strategic management.</p> <p><input type="checkbox"/> Recommend 30mg of Naltrexone daily for smokers.</p> <p><input type="checkbox"/> Provide lead obstetrician  and provide appropriate referrals.</p> <p><input type="checkbox"/> Recommend folic acid 5mg daily prior to conception for those with addictions </p> <p><input type="checkbox"/> Inform women of available patient resources </p> <p><input type="checkbox"/> Drug and Alcohol Helpline 1-800-565-8903</p> <p><input type="checkbox"/> Counsel low risk drinking guidelines </p>			

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Prevent & Promote	Screen	Manage									
60 Immunizations: All individuals of reproductive age should have their immunization status reviewed and updated, as required. <ul style="list-style-type: none"> <input type="checkbox"/> Vaccinate: <ul style="list-style-type: none"> <input type="checkbox"/> Varicella <input type="checkbox"/> HIV <input type="checkbox"/> Tetanus, Pertussis <input type="checkbox"/> Rubella <input type="checkbox"/> Influenza <input type="checkbox"/> Hepatitis B 	Screen for immunity: <ul style="list-style-type: none"> <input type="checkbox"/> Rubella <input type="checkbox"/> Hepatitis B <input type="checkbox"/> Varicella 	<ul style="list-style-type: none"> <input type="checkbox"/> Provide all immunizations required prior to conception with the exception of the flu vaccine, which can be administered before and/or during pregnancy. 									
61 Infectious Diseases: Assess and discuss the possibility of infectious diseases, and screen for infectious diseases. <ul style="list-style-type: none"> <input type="checkbox"/> HIV <input type="checkbox"/> Hepatitis B <input type="checkbox"/> Tuberculosis <input type="checkbox"/> Toxoplasmosis <input type="checkbox"/> Parvovirus <input type="checkbox"/> Hepatitis C <input type="checkbox"/> Cytomegalovirus 	Screen: <ul style="list-style-type: none"> <input type="checkbox"/> HIV Screen if High Risk: <ul style="list-style-type: none"> <input type="checkbox"/> Hepatitis C <input type="checkbox"/> Tuberculosis 	<ul style="list-style-type: none"> <input type="checkbox"/> Inform women with screen positive for HIV, Hepatitis B or C, of risk for vertical transmission, and offer appropriate treatment. <input type="checkbox"/> Treat women with Tuberculosis prior to conception. 									
62 Family and Genetic History: <ul style="list-style-type: none"> <input type="checkbox"/> Obtain 3 generation family history to identify: <ul style="list-style-type: none"> <input type="checkbox"/> Congenital malformations <input type="checkbox"/> Consanguinity <input type="checkbox"/> First cousins (or closer) <input type="checkbox"/> Children who died at a young age <input type="checkbox"/> May reveal a metabolic condition <input type="checkbox"/> Ethnicity <input type="checkbox"/> History of sudden unexpected death <input type="checkbox"/> Genetic disorders <input type="checkbox"/> Family history of a genetic condition <input type="checkbox"/> History of infertility, multiple miscarriages (>3 or all miscarriages) 	Ethnicity Based Screening Considerations: <ul style="list-style-type: none"> <input type="checkbox"/> CBC and/or high Electrolytes for hemoglobinopathies in African, Mediterranean, Middle Eastern, Asian, Southeast Asian, and Hispanic/South/Central American individuals <input type="checkbox"/> Cystic Fibrosis mutation in Caucasian individuals if family history present <input type="checkbox"/> Tay-Sachs in French Canadian individuals if family history present <input type="checkbox"/> Hematopoietic stem cell screening (Ashkenazi Jewish Screening Panel) for those with Ashkenazi Jewish ancestry. 	<ul style="list-style-type: none"> <input type="checkbox"/> Provide referral to specialists for those with family and genetic history risk factors. <input type="checkbox"/> Recommend fetal and/or fetal dysplasia prior to conception and for 12 weeks after conception if positive family history of neural tube defects or high risk ethnic group (e.g. Ash, Celtic, Northern Chinese). 									
63 Nutrition: Assess and discuss the possibility of nutritional deficiencies. <ul style="list-style-type: none"> <input type="checkbox"/> Recommend folic acid 4-5 mg daily through a multivitamin or supplement. <input type="checkbox"/> 4 folate-folic acid, prior to conception and throughout pregnancy. <input type="checkbox"/> Recommend calcium 1000 mg daily. <input type="checkbox"/> Recommend essential fatty acid rich diet, including omega 3 and 6. <input type="checkbox"/> Recommend avoiding raw/uncooked meat, fish and unpasteurized milk and cheese. <input type="checkbox"/> Caffeine <300 mg/day. <input type="checkbox"/> Recommend 2 tablets 0.600 IU D3 as supplementation daily. <input type="checkbox"/> Recommend 2 mcgograms of vitamin B12 daily through supplement or multivitamin. 	<ul style="list-style-type: none"> <input type="checkbox"/> Do not eat 3 weeks regarding access to food, nutrition, storage, cooking facilities and food, food. <input type="checkbox"/> Screen for iron deficiency anemia at risk. 	<ul style="list-style-type: none"> <input type="checkbox"/> Provide referral to Dietician or dietician for appropriate measures. 									
64 Weight Status: Weight can increase risk of adverse pregnancy outcomes and developing chronic disease. <ul style="list-style-type: none"> <input type="checkbox"/> Target Body Mass Index (BMI) = 18.5-24.9 (for ages ≥19) <input type="checkbox"/> Waist Circumference (WC): <table border="1"> <thead> <tr> <th></th><th>Male Target</th><th>Female Target</th></tr> </thead> <tbody> <tr> <td>European/African, Eastern European, Middle Eastern</td><td><102cm</td><td><88cm</td></tr> <tr> <td>South Asian, Asian, South and Central American</td><td><90cm</td><td><80cm</td></tr> </tbody> </table> <input type="checkbox"/> Target BMI for ages <19 		Male Target	Female Target	European/African, Eastern European, Middle Eastern	<102cm	<88cm	South Asian, Asian, South and Central American	<90cm	<80cm	<ul style="list-style-type: none"> <input type="checkbox"/> Screen BMI: <ul style="list-style-type: none"> <input type="checkbox"/> Annually <input type="checkbox"/> BMI = weight(kg)/height(m)² <input type="checkbox"/> Weight: _____ Height: _____ <input type="checkbox"/> BMI: _____ WC: _____ 	<ul style="list-style-type: none"> <input type="checkbox"/> Underweight (BMI <18.5) <input type="checkbox"/> Overweight (BMI = 25-29.9) <input type="checkbox"/> Obese (BMI ≥30) <input type="checkbox"/> Provide appropriate referrals for management. <input type="checkbox"/> Recommend folic acid 5mg daily prior to conception and for 12 weeks after conception for obese individuals. <input type="checkbox"/> Discuss recommended healthy eating plan
	Male Target	Female Target									
European/African, Eastern European, Middle Eastern	<102cm	<88cm									
South Asian, Asian, South and Central American	<90cm	<80cm									
65 Physical Activity: Being physically active prepares the body for the physical demands of pregnancy, and can assist with stress management. <ul style="list-style-type: none"> <input type="checkbox"/> Recommend at least 150 minutes of moderate to vigorous aerobic physical activity per week, in episodes of 10 minutes or more. <input type="checkbox"/> Add muscle and bone strengthening activities at least 2 days per week. See the Canadian Physical Activity Guidelines. 		<ul style="list-style-type: none"> <input type="checkbox"/> Inform women that violence often worsens during pregnancy and discuss safety plan. <input type="checkbox"/> Provide appropriate referrals. 									
66 Psychosocial Stressors: Stress can have negative impact on pregnancy outcomes. <ul style="list-style-type: none"> <input type="checkbox"/> Identify stressors and discuss strategies to reduce impact. 	Screen: <ul style="list-style-type: none"> <input type="checkbox"/> Access to Care <input type="checkbox"/> Social Isolation/Inequities <input type="checkbox"/> Pregnancy barriers <input type="checkbox"/> Social Support <input type="checkbox"/> Workplace Stress <input type="checkbox"/> Unemployment <input type="checkbox"/> Financials <input type="checkbox"/> Unhealthy Relationship 										
67 Environmental Exposure: Discuss potential exposure to hazards in occupational and recreational activities. <ul style="list-style-type: none"> <input type="checkbox"/> Recommend avoiding fish high in mercury. <input type="checkbox"/> Choose "light" versus "white" tuna and limit consumption to a 2 5oz/week. <input type="checkbox"/> Avoid Barbecue, marin, teflon, tuna steak and any raw fish or shellfish. <input type="checkbox"/> Convey tips for reducing exposures in the home. 	Inquire about exposures to: <ul style="list-style-type: none"> <input type="checkbox"/> Solvents <input type="checkbox"/> Asbestos (ask about use) <input type="checkbox"/> Pesticides <input type="checkbox"/> Poisons <input type="checkbox"/> Treatments (chemotherapy, radiation therapy) <input type="checkbox"/> Metals (lead, mercury) <input type="checkbox"/> Gases <input type="checkbox"/> Pollutants <input type="checkbox"/> Radiation 	<ul style="list-style-type: none"> <input type="checkbox"/> Health Canada's blood mercury advisory guidance levels in pregnancy or reproductive age - 85ng/L (40nmol/L) <input type="checkbox"/> Refer to local health department if potential water/soil exposure. <input type="checkbox"/> Refer to Occupational Health Specialist as needed. 									


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 Indicates Canada resources

 Indicates patient resources

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i. Ontarios Healthy Kids Panel. (2013). No Time to Wait: The Healthy Kids Strategy.

In collaboration with:



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