Council Direction:
This report is provided in keeping with the Board of Health policy on communication between the Medical Officer of Health and the Board of Health, as outlined in Report PH06038.

Information:

BACKGROUND

Preconception care is recognized as a critical component of health care for women of reproductive age. Preconception health care is critical because risk behaviours and exposures can adversely effect fetal development and subsequent pregnancy outcomes. The greatest effect occurs early in pregnancy, often before women enter prenatal care or even know that they are pregnant. Therefore, the promotion of healthy behaviours and access to primary health care during the preconception and prenatal period can promote better outcomes during pregnancy and birth. Reproductive health interventions focus on behavioural changes directed at smoking cessation, avoidance of alcohol and drugs, optimal nutrition, physical activity and limiting environmental exposures.

Pregnant women who receive prenatal care early and regularly have a better outcome than those who do not. However, reports from the Hamilton Roundtable on Poverty Reduction indicate almost 20% of Hamilton residents live in poverty. Poverty contributes to poor pregnancy outcomes through inadequate nutrition, multiple stressors including unstable housing, and barriers to accessing health care (lack of transportation, lack of childcare, no family physician etc.). Public Health Services (PHS) reproductive health/prenatal strategies focus on early identification and interventions for these high risk families.
Prenatal education (classes) is an integral part of prenatal care for all families. A variety of different types of prenatal classes are offered to meet the unique needs of specific populations such as adolescents, immigrant and refugee women, women with low incomes, single women and women having a second or subsequent baby.

MANDATORY HEALTH PROGRAMS AND SERVICES GUIDELINES

In Ontario, public health units are mandated to support healthy pregnancies through the entire reproductive health continuum including preconception and prenatal. Specific requirements for the preconception and prenatal periods include:

- folic acid supplementation,
- adequate nutrition and optimal weight gain during pregnancy,
- smoking cessation and decreased exposure to 2nd hand smoke,
- avoidance of alcohol and other substance abuse in pregnancy,
- access to prenatal care and early recognition and appropriate response to pre-term labour.

Dissemination of reproductive health information should occur through the following means:

- consultation with school boards,
- group sessions,
- education of health professionals,
- community coalitions to determine/maintain a community inventory of reproductive health services
- conduct needs assessments and assist workplaces in supporting healthy pregnancies.

OVERVIEW OF REPRODUCTIVE HEALTH PROGRAMS

Preconception Programs

Folic Acid Supplementation Work Group
Folic acid taken daily for at least three months prior to conception has been demonstrated to reduce the fetus’ risk of neural tube defects (specifically spina bifida) by two thirds. Several public health units including PHS joined together to focus on increasing women’s use of folic acid supplementation. A client resource is being created to address healthy eating and promote the need for supplementation of a multivitamin with folic acid during reproductive health years.

Fetal Alcohol Spectrum Workgroup
No amount of alcohol is safe to drink during pregnancy and harm can occur early, before a woman realizes that she is or might be pregnant. Fetal Alcohol Syndrome and other alcohol-related birth defects can be prevented if women cease intake of alcohol before conception. The Hamilton Taskforce on FASD is comprised of many community partners including McMaster Children’s Hospital, the Hamilton Wentworth District school board, Catholic Children’s Aid Society and Children’s Aid Society, Catholic Family Services, PHS, Lawson Ministries, and several other groups. The focus of this workgroup is:

- Community education, awareness and training
- Starting a Diagnostic Clinic in the City of Hamilton
Reproductive Health in the School Curriculum
A School Program PHN supports the Reproductive Health Committee within the Family Health Division to ensure that: relevant reproductive health information is current, information is supported by best evidence, messaging is consistent within Public Health Services, the most up to date reproductive health information is shared across the division and made available to educators. A reproductive health resource was created to facilitate the above points in the grade 11 Parenting Course and to assist with informing students that current lifestyle choices may affect their future potential for having children. The resource includes curriculum links, lesson plans, overheads, quizzes and solutions. This resource has been approved by the Hamilton Wentworth District School Board and approval is pending for the Hamilton Wentworth Catholic School Board.

Workplace Health – Preconception and Pregnancy
Local workplaces have access to Reproductive Health information through the Healthy Workplace e-mail Bulletins and displays at workplace health fairs. In addition, Public Health staff distributed resources and networked with approximately 100 individuals representing various industries across Hamilton at the May and February 2007 Healthy Workplace Innovation Series sessions. Workplaces are also sent reproductive health resources and have the opportunity for consultations with Public Health staff. PHS has also developed a webpage on www.hamilton.ca/workplace that provides information regarding:

- Practical suggestions regarding how to become a Pregnancy Friendly Workplace
- Facts regarding workplace hazards that can affect a woman’s and a man’s reproductive health in the workplace
- Suggestions regarding how to become a Pregnancy-Friendly Workplace

Prenatal Programs

Prenatal Classes
Prenatal classes are offered in a variety of settings throughout Hamilton. Audiences include youth, singles, multicultural, women and partners from all socio-economic levels. A revised curriculum for prenatal classes including group specific activities was completed early in 2007. Inform Hamilton has a Public Health Services (Healthy Babies Healthy Children) data base which includes a service inventory for all prenatal services offered in the City of Hamilton and is updated annually.

Prenatal Programs for Adolescents
PHS provides prenatal programs tailored to meet the unique needs of these pregnant adolescents. The teen programs all offer incentives such as: bus tickets, food coupons, nutritious snacks, and topic related “prizes.” These incentives are utilized as an evidence-based technique to attract and retain harder to reach populations.

- Teen prenatal classes are based on the adult prenatal curriculum, with adapted content and activities geared to appeal to adolescent population.
- Grace Haven and St. Martin’s Manor provide residential and community programs for pregnant adolescents. A PHN is assigned to each agency to provide health teaching and pre/postnatal support to residents and day students. Teens are linked with other community resources, including HBHC. Additional services provided
include: weekly prenatal classes, breastfeeding classes provided by a Lactation Consultant, and parenting classes.

- Living Rock provides services to homeless or transient youth. Teens share breakfast together followed by a weekly prenatal education drop-in session, facilitated by a PHN.
- Mission Services is a weekly youth CPNP group jointly facilitated by PHS staff

Health Connections
Family Health Division provides an Information Line for the public to address inquiries regarding family health issues from preconception, prenatal, infants and children up to six years of age. There are approximately 350 calls per year with respect to preconception and prenatal topics. Callers are provided with health education and information regarding relevant community resources, including access to medical prenatal care.

Link with the Maternity Centre of Hamilton
The Maternity Centre of Hamilton provides access to prenatal care (by family physicians & NPs) for women who may otherwise not receive regular FP/prenatal care. PHS works collaboratively with the Maternity Centre via a liaison PHN in order to facilitate access to prenatal medical care for high-risk women, and to link families from the Maternity Centre to HBHC for additional support prenatally.

Canadian Prenatal Nutrition Program (CPNP)
The City of Hamilton receives funding from the Public Health Agency of Canada to provide CPNP groups for vulnerable pregnant women at a variety of sites in the community. CPNP aims to reduce the incidence of low birth weights, improve the health of both infant and mother and encourage breastfeeding. Initiation rates for exclusive breastfeeding are approximately 91% of CPNP participants which is very high for an at-risk, population. The funding in Hamilton is shared by Public Health Services (Welcome Baby Program), St Joseph’s Centre for Ambulatory Health Services (Baby’s Best Start) and North Hamilton Community Health Centre (Healthy Mom’s Healthy Babies).

Regional Perinatal Advisory Committee (RPAC)
PHS chairs a network of service providers (hospitals, physicians, community agencies) to provide strategic direction for collaborative planning, implementation and evaluation of services for expectant and new parents. The RPAC meets 3-4 times per year. Current activities include: analysis of relevant data sources to identify trends and issues in Hamilton and working collaboratively to address local issues.

Public Education
PHS has produced two resource kits for pregnant families living in the City of Hamilton. These kits introduce topics including tobacco use, risky or problem drinking, and intimate partner violence during pregnancy. It offers recommendations to potential parents for the healthiest pregnancy possible and information to facilitate self or professional referral to community services. These kits are available free of charge to caregivers (physicians and midwives) for distribution to their patients:

- Let’s Plan a Healthy Baby (preconception information)
- Let’s Grow a Healthy Baby (pregnancy information)
Prevention of Premature Births and Low Birth Weights (LBW)
A premature birth is defined as a birth that occurs before 37 weeks of gestation. The earlier a baby is born, the more likely he/she will have immediate problems such as LBW, breathing difficulties, neonatal infections, as well as long term health issues that may include blindness, difficulty walking, and learning problems. Risk factors for premature birth include smoking and other drug use, maternal health concerns, maternal stress, poor nutrition, underweight, and pregnancy with multiples. However, 50% of pre-term births have none of these risk factors. Prevention strategies for premature births and LBW are included in all PHS reproductive health programs. This information is provided to families with respect to modifiable risk factors, i.e. smoking reduction or cessation, healthy eating, stress management, early and ongoing prenatal care. Signs & symptoms of pre-term labour and advice regarding when to seek immediate medical assessment are core components of the curriculum used in prenatal classes provided by PHS.

Resources: Budget and Source

<table>
<thead>
<tr>
<th>Program Activity</th>
<th>Funding Source</th>
<th>Budget</th>
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<td>Public Health Dietitians</td>
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<td></td>
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<td>Public Health Nurses</td>
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<td>Public Health Agency of Canada</td>
<td>$214,270*</td>
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</table>

*Includes $ 52,790 in revenue from adult prenatal class registration fee (82$ per couple)
*The PHS portion of CPNP = $49,123. The remaining $165,147 is flowed to the partner agencies

HOW WE ARE DOING

i)  Impact on the Health of Hamiltonians

Public Education
Distribution of “Let’s Grow a Healthy Baby” by family doctors, obstetricians and midwives is reaching a majority of pregnant women in Hamilton. Women surveyed, indicate they receive the information early in pregnancy which is important as positive health behaviours and early intervention (e.g. pre-term labour) will improve postpartum outcomes for both mother and baby.
Prenatal Classes

Prenatal program service utilization data indicates we are reaching a large number of clients through a variety of programs and services. Audiences include youth, singles, multicultural, women and partners from all socio-economic levels.

Prenatal Class Attendance

<table>
<thead>
<tr>
<th>Type of Prenatal Classes</th>
<th>Number of Series</th>
<th>Number of Participants 2005</th>
<th>Number of Participants 2006</th>
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<tbody>
<tr>
<td>Adult Evening</td>
<td>54</td>
<td>470</td>
<td>467</td>
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<tr>
<td>Adult Weekend</td>
<td>25</td>
<td>234</td>
<td>245</td>
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<tr>
<td>Adult Single</td>
<td>8</td>
<td>75</td>
<td>86</td>
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<tr>
<td>Teen</td>
<td>4</td>
<td>32</td>
<td>28</td>
</tr>
<tr>
<td>Drop-In*</td>
<td>4 (ongoing)</td>
<td>1119*</td>
<td>1317*</td>
</tr>
<tr>
<td>Canadian Prenatal Nutrition Program</td>
<td>12 groups /week at 9 sites</td>
<td>536</td>
<td>504</td>
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</table>

* Drop In classes are provided at Grace Haven, Mission Services (Murray Street), St Martin’s Manor, Living Rock and Wesley Ontario Early Years Centre (Multicultural). Drop-in figures reflect overall attendance. Figures for all other classes represent total number of participants.

ii) Comparison to Peer Communities

Teen pregnancy rates in Hamilton continue to decline following the provincial trend; however they remain consistently higher than Ontario’s average of 3.4% of all births. In 2006 there were 190 births to adolescents less than 20 years of age, or 4% of all Hamilton births. Approximately 8.6% of babies born in Ontario in 2006\(^1\) were pre-term compared to 8.3% in Hamilton\(^2\). Low birth weight infants (LBW) weigh less than 2500 grams at birth. Many of the contributing risk factors for LBW are the same as for premature births. In 2006 the incidence of LBW in Hamilton\(^3\) was 6.3 % compared to the provincial rate\(^4\) of 7%.

The incidence of smoking among pregnant women who reside in the City of Hamilton is higher than the Central-West Region and the Province of Ontario. Tobacco use during pregnancy increases the risk of pre-term birth and low birth weight. Women who smoke during pregnancy have rates of pre-term birth that are about 40% higher than those of non-smoking women. Pre-term and/or low birth weight infants are at increased risk of: infant death, learning difficulties and behavioural problems.

\(^{1,4}\) 2006 Provincial Perinatal Report

\(^{2,3}\) City of Hamilton: Healthy Babies Healthy Children ISCIS/IRSS database
EMERGING ISSUES AND OPPORTUNITIES

Smoking Cessation
The Family Health Division is partnering with the Tobacco Control Program to address the high incidence of Hamilton prenatal smokers. The strategy to target pregnant women will include the following; public social marketing, education to physicians, referrals to the smoking cessation clinic, and intervention by Public Health Nurses in home visits. All Family Division Public Health Nurses will be trained in Minimal Contact Tobacco Intervention and Motivational Interviewing by the end of November 2007. Minimal Contact Tobacco intervention is a brief smoking cessation intervention, which takes a short time for front line health care professionals and evidence supports that it increases smoking quit rates. Motivational interviewing is a scientifically tested method of counselling clients and viewed as a useful intervention strategy in the treatment of lifestyle problems and disease.

Prenatal and Family Health Fair
The Prenatal and Family Health Fair program review was completed in June 2007. Forty-three percent (178/410) of the April, 2007 Prenatal and Health Fair attendees responded to questionnaires provided. Results indicated attendees were well educated (95.5% completed high school and 70.5% have college or university degree) and 48% of attendees were already involved in City programs. Results of a literature review indicated there is no evidence that Health Fairs change knowledge, attitudes or behaviours. The decision to discontinue the Prenatal and Family Health Fair was shared with community partners in September, 2007.
Prenatal Program Review
Reproductive health services and programs provided by PHS will be examined through a comprehensive program review to be completed by the end of 2008. This program review process will include: program description of services currently provided, review of research evidence for effective interventions and best practices, identification of current gaps in service, benchmarking data from other health units and recommendations for any necessary changes in service delivery. The results of this review will help inform program priorities and planning for 2009.

Prenatal Screening
PHS is working towards universal community-based screening for pregnant women. This process would involve Family Physicians, Midwives and Obstetricians screening pregnant women at the same time the Let’s Grow a Healthy Baby booklet is provided (as early in their pregnancy as possible). Families with risk factors would then be referred to the Healthy Babies Healthy Children program for further assessment.

Poverty
PHS, as a member of the Best Start Network, is collaborating in the development of neighbourhood specific initiatives for pregnant women e.g. Beasely. PHS has just received approval to begin the Nurse Family Partnership feasibility study with its focus on intensive prenatal home visiting for first time, low income women. This service delivery model supports the goal of the Hamilton Roundtable for Poverty Reduction to develop strategies that increase the health of children and families in poor neighbourhoods.

Ontario Public Health Standards
PHS services and programs currently provided under Reproductive Health are consistent with the new Ontario Public Health Standards, and thus significant changes in our programming are not anticipated. At this time The MOHLTC has not indicated whether specific protocols for reproductive health will be developed. The new standards do however indicate a shift to provincial strategies for large campaigns (for example folic acid or Smoke free Ontario), and targeted interventions for local high risk groups. Surveillance and population health indicators will drive program planning to address local population needs. Emphasis will be placed on collaboration with community partners and effectiveness of programs through program evaluations. The new standards’ overall goal for Reproductive Health will be “To enable individuals to achieve their optimal preconception health, experience a healthy pregnancy, have the healthiest infant(s) possible and be prepared for parenthood.”

SUMMARY
Positive preconception and prenatal lifestyle choices are correlated with better pregnancy and birth outcomes, which in turn predict improved health and developmental outcomes for children. PHS divisions work collaboratively with community partners to promote optimal preconception and prenatal health. Mandated programs and are targeted to high risk groups or offered universally. Hamilton citizens have access to a wide variety of effective, accessible, affordable and fiscally accountable services. Strong research evidence supports the effectiveness of
reproductive services offered by PHS. Healthy lifestyle choices and advance preparation for parenting will help provide children with the best start in life.

Elizabeth Richardson, MD, MHSc, FRCPC
Medical Officer of Health
Public Health Services