

HALDIMAND & NORFOLK

# Reproductive Health Report



## Message from the Acting Medical Officer of Health

November, 2005.

The Reproductive Health Report 2005 is the first focused reproductive health report to be released by the Haldimand-Norfolk Health Unit. It provides a 6 year overview (1996-2001) of the reproductive health status of Haldimand-Norfolk residents, based on selected reproductive health indicators.

The goal of this report is to provide hospitals, community agencies, physicians, media, schools, local government and the general public with important information for the purpose of reproductive health program planning.

It is fundamentally understood that reproductive health can affect the future health and development of the child. Understanding the reproductive health status of our community can help agencies and individuals capitalize on factors that are being accomplished well and to plan for the areas that need improvement. This planning can directly affect the outcome of the future health of the most precious resource—our children.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Tschirhart", is displayed on a light gray rectangular background.

Jeff Tschirhart, M.D., C.C.F.P.  
Acting Medical Officer of Health  
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## Executive Summary

The Reproductive Health Report 2005 is the first focused reproductive health report to be completed for Haldimand-Norfolk. This report provides a six year perspective (1996-2001) of reproductive health in Haldimand-Norfolk, based on selected reproductive health indicators, as well as illuminates the reproductive health programs and services offered at the health unit. The Reproductive Health Report 2005 is an important document for understanding reproductive trends over a six year period. It is intended to provide hospitals, community agencies, physicians, media, health units, schools, local government and the general public with useful information for the purpose of reproductive health program planning. This executive summary lists some key highlights of the report. A glossary has also been included at the beginning of the report. The reader is encouraged to review the glossary and then read the full report for additional information on reproductive health in Haldimand-Norfolk. The complete report may be downloaded from the Health Unit website ([www.haldimand-norfolk.org/health/publications](http://www.haldimand-norfolk.org/health/publications)).

## Fertility and Pregnancy

### Public Education Initiatives and Programs

The programs offered at the Health Unit include:

- Prenatal Classes
- Pregnant Teen Program
- Workplace Reproductive Health Programs
- Reproductive Health School Program
- Prenatal and Postnatal Nurse Practitioner Initiative - Mother's Care Clinic
- Prenatal and Postnatal Nutrition Services
- Community Presentations and Ongoing Resources
- Sexual Health Programs
- Therapeutic Abortion Services
- Starting Point Program
- Healthy Babies/Healthy Children Program
- Family Home Visitor Program

### Live Birth Rate

- From 1996-2000, the live birth rate among women in Haldimand-Norfolk aged 15-49 slightly declined with each successive year and then slightly increased in 2001.
- From 1996-2000, the live birth rate among women in Haldimand-Norfolk aged 15-49 was lower than Ontario for each successive year.
- Between 1996-2001, the average live birth rate among women aged 15-49 in Haldimand-Norfolk was 39.7/1000 compared to 43.9/1000 for Ontario.

### Age Specific Live Birth Rate

#### Teen Mothers

- The live birth rate among teen mothers in Haldimand-Norfolk has been relatively consistent over the past 6 years (1996-2001).
- The average number of live births among teens between 1996-2001 in Haldimand-Norfolk was slightly higher (17.7/1000) than Ontario (16.0/1000).



*“Reproductive health status is an important measure of the overall health and well-being of a community. This report will assist health care providers in strategic planning of community reproductive health initiatives and providing individual health care.”*

**Melanie Laundry**  
Program Coordinator  
Haldimand-Norfolk  
Health Unit

- Compared with the surrounding Health Units, Haldimand-Norfolk had the second lowest average rate of live births among teens from 1996-2001.

### *Adult Mothers*

- In 2001, the live births rate among adults in Haldimand-Norfolk has slightly increased over the past few years (2000-38.2/1000 and in 2001- 45.3/1000 respectively).
- From 1996-2001, the average live birth rate among adults in Haldimand-Norfolk has been slightly lower, compared with Ontario for each successive year.
- Haldimand-Norfolk had the lowest average rate of live births among adult mothers from 1996-2001 compared with surrounding Health Units.
- The number of live births among women aged 30-34 in Haldimand-Norfolk has increased from 69.1/1000 in 2000 to 91.7/1000 in 2001.

### **Multiple Live Birth Rate**

- From 1996 to 2001, the multiple live births rate in Haldimand-Norfolk was relatively consistent for each successive year.
- The average multiple live birth rate in Haldimand-Norfolk among women aged 15-49 was the same as Ontario (2.8/100 live births).

### **Pregnancy Rate**

- The pregnancy rate for females in Haldimand-Norfolk aged 15-49 slightly decreased between 1996 and 2000 with the exception of 1998, and then slightly increased in 2001.
- From 1996-2001, the average pregnancy for women aged 15-49 was lower in Haldimand-Norfolk than Ontario (47.4/1000 and 58.0/1000 respectively).

### **Age Specific Pregnancy Rate**

#### *Teenage Pregnancy Rate*

- In the late 1990s (1997-1999) to 2000 pregnancy rates among teenagers in Haldimand-Norfolk appear to have slightly fallen and then slightly increased in 2001 (30/1000).
- From 1996-2000, the teenage pregnancy rate in Ontario has been consistently higher compared to Haldimand-Norfolk.
- The average teen pregnancy rate between 1996-2001 for Haldimand-Norfolk is 30.9/1000 compared with Ontario (37.1/1000).
- Haldimand-Norfolk had the lowest average teenage pregnancy rate for the years 1996-2001 compared with the surrounding Health Units.

#### *Adult Pregnancy Rate*

- In Haldimand-Norfolk, the pregnancy rate for females aged 20-49 has slightly decreased from 1996-2000, with the exception of 1998, and then slightly increased in 2001. This pattern is relatively similar to Ontario.
- Haldimand-Norfolk had the lowest average pregnancy rate for the years 1996-2001 compared with the surrounding Health Units.

## Therapeutic Abortion Rate

- From 1996-2001, the therapeutic abortion rates among women aged 15-49 in Haldimand-Norfolk, remained relatively consistent for each year.
- The therapeutic abortion rate has remained substantially lower in Haldimand-Norfolk than Ontario for each year (1996-2001).
- The average rate of therapeutic abortions among teens from 1996-2001 in Haldimand-Norfolk was 7.4/1000 compared to Ontario 13.7/1000.

### *Teen Therapeutic Abortion Rate*

- From 1996-2001, the therapeutic abortion rate among teens in Haldimand-Norfolk, has remained relatively consistent with each year.
- The therapeutic abortion rate among teens in Haldimand-Norfolk (12.9/1000) remains lower than Ontario (20.9/1000).
- Compared with the surrounding Health Units, Haldimand-Norfolk had the lowest rate of therapeutic abortions among teenagers.

### *Adult Therapeutic Abortion Rate*

- From 1996-2001, the therapeutic abortion rate among adults in Haldimand-Norfolk, has remained relatively consistent with each year.
- Adult therapeutic abortion rates are lower in Haldimand-Norfolk than that reported for the province as a whole, averaging 6.4/1000, compared to Ontario (12.8/1000).
- Compared with the surrounding Health Units, Haldimand-Norfolk had the third lowest average rate of therapeutic abortions among adults.

## Fetal and Infant Health Outcomes

### Public Education Initiatives and Programs

The programs offered at the Health Unit include:

- Post Partum Screening and Support Programs
- 48 Hour Contact and Referral
- Preterm Birth Weight Services
- Low Birth Weight Services

### Preterm Birth Rate

- From 1996-2001, the preterm birth rate among females aged 15-49 in Haldimand-Norfolk, has remained relatively consistent with each year.
- Compared to Ontario as a whole, the average preterm birth rate in Haldimand-Norfolk was slightly lower (6.8/100 and 7.7/100 respectively).

### Low Birth Weight Rate

- From 1999-2001, the low birth rate among females aged 15-49 in Haldimand-Norfolk, has remained relatively consistent with each year.
- The average rate of low birth weight babies in Haldimand-Norfolk was 5.4/100 live births compared with Ontario 5.7/100.



### Perinatal Mortality Rate

- In Haldimand-Norfolk perinatal deaths have been relatively consistent for each year with the exception of 1997.
- In 1997, the perinatal mortality rate was at an all time low in Haldimand-Norfolk (4.7/1000).
- Compared to Ontario, the perinatal mortality rate has been slightly higher with each successive year with the exception of 1996 and 1997.

### Infant Mortality Rate

- The infant mortality rate in Haldimand-Norfolk has been increasing slightly since 1997, and is highest in 2001.
- Over the years (1996-2001), Ontario's infant mortality rate has been more stable, averaging 5.4 deaths per 1000 births, compared with Haldimand-Norfolk (6.0/1000).

## Glossary

*Bronchopulmonary Dysplasia:* Abnormal development of tissue (of bronchi and lungs).

*Congenital abnormality:* An abnormality present at birth.

*Down's Syndrome:* A variety of congenital abnormalities, moderate-to-severe mental retardation.

*Eclampsia:* Coma and convulsive seizures between the 20th week of pregnancy and the end of the first week postpartum.

*Hypertension:* A condition in which the patient has a higher blood pressure than that judged to be normal.

*Intrauterine Growth Retriction:* Intrauterine growth restriction describes a fetus whose weight is below the 10th percentile for gestational age.

*Intraventricular Haemorrhage:* Bleeding within a ventricle (small cavity of the brain).

*Malpresentation:* Abnormal positioning of the fetus rendering natural delivery difficult or impossible.

*Methotrexate:* An antimetabolite drug used in treatment of certain neoplastic diseases (cancer) including acute leukemia in children and choriocarcinoma. Also used for psoriasis and Rheumatoid arthritis.

*Placenta Previa:* Placenta which is implanted in the lower uterine segment. There are three types: centralis, lateralis, and marginalis.

*Prematurity:* The state of an infant born any time prior to completion of the 37th week of gestation.

*Pre-term delivery:* A delivery occurring prior to the 259th day (39th week) of gestation.

*Renal Disease:* Disease of the kidneys.

*Retinopathy of Prematurity:* A blinding eye disorder that primarily affects premature infants.

*RU-486:* A pill which causes the uterus to contract, resulting in the expulsion of the pregnancy tissue.

*Spontaneous Abortion:* Abortion occurring without apparent cause (miscarriage).



## Introduction

This report provides a 6 year overview (1996-2001) of the reproductive health status of Haldimand-Norfolk residents, based on selected reproductive health indicators. Reproductive health includes the time period from preconception, pregnancy, to labour and delivery. It is understood that reproductive health can affect the future health and development of the child.

The report consists of two chapters: Fertility and Pregnancy and Fetal and Infant Health Outcome. The first chapter provides an overview of live birth rates, maternal age, multiple births, pregnancy, and therapeutic abortion in Haldimand-Norfolk, and Ontario. In addition, comparisons were made to surrounding Health Units for selected reproductive health indicators. The second chapter of this report features a profile of fetal and infant health outcomes. Preterm birth weight, low birth weight rate, perinatal mortality rate and, infant mortality were summarized for Haldimand-Norfolk and Ontario. Besides providing new information and illuminating several aspects of reproductive health, a valuable overview of Haldimand-Norfolk Health Unit's reproductive public education initiatives and programs are also included in this report, with a particular emphasis on the following topics:

- folic acid supplementation before conception and early pregnancy;
- adequate nutrition including optimal weight gain in pregnancy;
- smoking cessation and exposure to second-hand smoke;
- physical activity;
- avoidance of alcohol and other substance use in pregnancy;
- benefits of support systems;
- stress reduction and management;
- access to prenatal care;
- and early recognition and appropriate response to pre-term labour.

This report can provide hospitals, community agencies, physicians, media, health units, schools, local government and the general public with important information for the purpose of reproductive health program planning.

## Data Interpretation

All the figures in this report contain "rates" for Haldimand-Norfolk, Ontario, and surrounding health units. A rate is an expression of the frequency with which an event occurs in a defined population.<sup>1</sup> It is used to compare different places, different times, and different groups of people.<sup>1</sup> Since medical terminology is used in this report, a glossary is provided in the beginning of the report. To date, data from 2001, is the most current data. Data was extracted by Health Unit from the Provincial Health Planning Database (PHPDB), and HELPS (Health Planning System) database.

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# Fertility & Pregnancy

## Introduction

The first chapter of this report provides a summary of the reproductive health programs offered at the Health Unit and features a profile of fertility and pregnancy. The examination of both fertility and pregnancy trends has a demographic and social importance to the health of populations.<sup>2</sup> Fertility and pregnancy are vital factors in the lifecycle, and directly affect the social and demographic makeup of a society.<sup>2</sup> This chapter documents various aspects of reproductive interest. It provides a 6 year overview (1996-2001) of live birth rates, maternal age, multiple births, pregnancy, and therapeutic abortion in Haldimand-Norfolk, and Ontario. Average age specific live birth rates, pregnancy rates, and therapeutic abortion rates (TAR) from 1996 to 2001 were explored in Haldimand-Norfolk and compared with surrounding Health Units namely, Hamilton, Niagara, Oxford, Elgin-St. Thomas and Brant.

## Public Education Initiatives and Programs

The Health Unit offers a variety of public education initiatives and programs with a primary focus on fertility and pregnancy that include:

- Prenatal Classes
- Pregnant Teen Program
- Workplace Reproductive Health Programs
- Reproductive Health School Program
- Prenatal and Postnatal Nurse Practitioner Initiative - Mother's Care Clinic
- Prenatal and Postnatal Nutrition Services
- Community Presentations and Ongoing Resources

- Sexual Health Programs
- Therapeutic Abortion Services
- Starting Point Program
- Healthy Babies/Healthy Children Program
- Family Home Visitor Program

The proceeding section is a summary of the programs offered at the Health Unit:

### **Prenatal Classes**

The Prenatal Program of the Haldimand-Norfolk Health Unit seeks to provide early and accurate prenatal information to all expecting families and to ensure access to appropriate health care services. Prenatal Classes are typically provided in a group setting, but may also be offered on an individual basis.

Prenatal classes are divided into two series: early classes are for women one to five months pregnant and late classes for women five months and beyond. The early series consists of two classes which focus on fetal growth and development, physical and emotional changes of pregnancy, pre-term labour, healthy eating, healthy lifestyles, comfort measures and relaxation. Participants also receive a resource book titled, "Healthy Beginnings".

The late series consists of four classes and a variety of topics are introduced based on adult learning principles. The first class focuses on stages of labour and delivery, relaxation and breathing. The second class focuses on pain interventions, medications and medical interventions, postpartum care of mom and baby and early postpartum concerns. Participants in the third class learn about new babies and new baby care, infant and child safety and becoming parents. The last class includes information on breastfeeding, a labour rehearsal and postpartum adjustments. Participants also receive a resource book titled, "Joy of Parenting".

A variety of resources are used to deliver this curriculum including videos, overheads, written material, group discussions and lectures. Prenatal classes offered through the Haldimand-Norfolk Health Unit are provided in both Simcoe and Cayuga communities and are taught by Public Health Nurses. The curriculum is updated periodically and contains information contributed by Public Health Dietitians, Public Health Nurses, and Health Promoters.

For expectant mothers who are unable to attend prenatal classes in a group setting, prenatal education is delivered by Public Health Nurses and Family Home Visitors within the family's home. Expectant teens are provided the same services and supports but may also receive additional support services from a Public Health Nurse within their school in order to meet the specific learning needs of the pregnant teen. Since lifestyle issues are typically an important issue among teens, the Public Health Nurse may promote healthy eating and lifestyle choices to decrease the potential health risks to the unborn child.

### **Pregnant Teen Program**

Public Health Nurses work closely with the Teen Resource Program and Canadian Prenatal Nutrition Program. These are both Federally funded initiative for families of children aged 0-6 and administered through the Community Action Program for Children (CAPC).

The Health Unit offers similar services to CAPC. Teens are offered teen prenatal classes to talk about topics such as life with a baby and changing relationships. Food vouchers, used clothing, baby equipment and infant car seats on loan are also available. All services are free and confidential.

## Workplace Reproductive Health Programs

The Health Unit assists workplaces and workplace personnel in supporting a healthy pregnancy. The Health Unit offers presentations to employers and provides ongoing consultation, advice, and resources. Reproductive health promotion in the workplaces addresses issues such as:

- Lifestyle: stress management, tobacco use prevention, healthy eating, and physical activity;
- Ergonomics: standing, sitting, carrying and lifting;
- Chemicals: exposure to chemicals;
- Biological: exposure to various materials and infections; and
- Physical: noise, radiation.

## Reproductive Health School Programs

The Health Unit provides a variety of reproductive health services in both the elementary schools and high schools to include: individual counselling, support, education, resources, consultation on a variety of reproductive health issues, and school presentations upon request. These services are offered for students in Grades 7 to 12.

## Prenatal and Postnatal Nurse Practitioner Initiative - Mother's Care Clinic

The Mothers Care Clinic in Langton provides comprehensive pre and postnatal health care from a Nurse Practitioner to women and children 0-6 years with an emphasis on disease prevention and health promotion, as well as the treatment of episodic illnesses. The targeted population is Low German speaking community residents as well as teens and low income women and children.

## Prenatal and Postnatal Nutrition Services

The Health Unit provides nutrition services to pregnant women and children 0-6 years of age. Nutrition services may include: home visits by a Public Health Dietitian, Public Health Nurse and/or Family Home Visitor, food vouchers, breastfeeding information and support, and referral to other resources as required. All services are free and confidential. The Health Unit also provides presentations and resources to the community on nutrition.

## Community Presentations and Ongoing Resources

The Health Unit provides and promotes reproductive health through a variety of presentations on topics of reproductive interest. Presentations are targeted to youth groups, pregnant women and their partners, and people planning pregnancies.

## Sexual Health Programs

The Health Unit offers a comprehensive range of affordable and accessible clinical and counselling services at five different locations in Haldimand and Norfolk (Simcoe, Dunnville, Caledonia, Langton and Cayuga). The scope of service includes pregnancy and STI's/HIV testing, counselling and referral along with health promotion/education and consultation. The following are a list of sexual health services offered at the Health Unit:

- Current contraceptive information and low cost methods, including the EVRA patch and NUVARING to help avoid unplanned pregnancies;
- Pregnancy testing and options counselling;
- Sexually transmitted infections (STI's/HIV) prevention, testing and treatment;
- PAP testing for youth;
- Sexual health resource library;
- Group presentations;



- Individual counselling including teaching parents strategies to talk to their kids about sex/puberty teaching;
- Sexual Health Newsletter distributed to local professionals and community agencies;
- Abstinence-based programs for youth; and
- Preconception planning.

### **Therapeutic Abortion Services**

The Sexual Health Program and the Family Health Public Health Nurses offer pregnancy testing, emergency contraceptive pills, options counselling, resources, and referrals for therapeutic abortions. This is part of a comprehensive package of sexual health services in both the clinic setting as well as within community schools. The service is available to all woman of child-bearing age.

Post therapeutic abortion counselling is provided by Sexual Health Nurses within the hospital setting to offer education, support and prevention of future unplanned pregnancies. This counselling includes the provision of birth control pills and condoms, abortion after-care instructions, review of alternate methods of birth control, and available community resources including sexual health services.

### **Starting Point**

The Starting Point program is an Early Years Childhood Development project at Addiction Services located at the Health Unit, aimed at assisting pregnant women and women parenting children age 0-6 with substance use concerns. This program offers individual counselling, and resources to assist women in making healthy choices. The program also raises awareness in the community, with community agencies and other health providers about the risks associated with substance use during pregnancy/breastfeeding.

### **Healthy Babies/Healthy Children Program**

The Healthy Babies/Healthy Children program offers prenatal services to high risk families. The Prenatal Screen (Larsen) tool is used to evaluate, "prenatal risk". Women who are identified as, "high risk", are offered a variety of comprehensive services that may include family home visiting services from a Public Health Nurse, Family Home Visitor and/or Public Health Dietitian. Low to moderate risk families may be offered the same support and services.

### **Family Home Visitor Program**

A Family Home Visitor is an experienced parent who has special training in helping families meet the needs of their children. The Family Home Visitor Program supports the family during the prenatal period by helping to prepare the family for the arrival of their new baby and providing information on parenting, safety and healthy lifestyle choices. The Family Home Visitor may also provide:

- Encouragement and support to families;
- Translation and interpretation of information to families;
- Parenting information;
- Information about community programs; and
- Information about child development and safety.

## Fertility

Fertility is defined as the ability to reproduce.<sup>3</sup> Live birth rates or general fertility rates (GFR) are important in determining population growth and service delivery.<sup>4</sup> Demographic indicators (maternal age) can help predict and explain fetal and infant health outcomes and assist in identifying and determining prenatal services.<sup>2</sup> For example, teenage births are associated with a higher percentage of low-birth weight babies (less than 2,500 mg at birth), higher pre-term deliveries, congenital abnormalities, and poorer outcomes than women in their 20 to 30's.<sup>2</sup> In comparison, women over 30 may experience difficulty getting pregnant, and are more likely to have a high risk pregnancy.<sup>2</sup> Multiple births are also an indicator of fetal and infant health outcomes.<sup>5</sup> Multiple births are associated with an increased risk of preterm delivery, and intrauterine growth restriction.<sup>5</sup> The following section will provide a 6 year overview (1996-2001) of live birth rates, maternal age and multiple births in Haldimand-Norfolk compared with provincial data. Age specific live birth rates are also compared with surrounding Health Units.

## Live Birth Rate

### Live Birth Rate – Overview

A live birth is the complete delivery of the baby.<sup>3</sup> Once separated from its mother, the baby must show evidence of life (heartbeat, umbilical cord rhythm, or definite movement of voluntary muscles), regardless if the umbilical cord is cut or the placenta is attached.<sup>3</sup> However, a live birth is not necessarily a viable birth. Live birth rates are a good indicator to determine population growth and characteristics and assists in reproductive health program planning.<sup>3</sup> It is important to note that GFR or live birth rate is not good for comparisons between areas or periods because it ignores differences in the age structures of populations.<sup>3</sup> GFRs may not be comparable across place or time if, for example, one population has a high proportion of women in the most fertile period (25 to 34 years).<sup>3</sup>

### General Live Birth Rates – Data and Interpretation

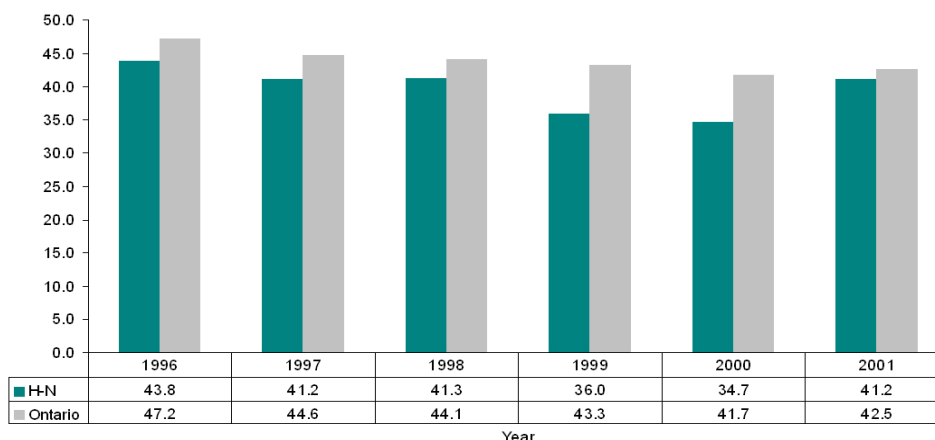
As shown in Figure 1, the number of general live births for females aged 15-49 per 1000 births has slightly declined from 1996 to 2000, and then slightly increased in 2001. The slight decrease in general live birth rates from 1996 to 2000 is likely explained by the slight decrease in pregnancy rates (see Figure 9). Whereas, in 2001 the increase in live birth rates may be accounted for by the slight increase in pregnancy rate in Haldimand-Norfolk for that year (see Figure 9). The number of general live births for females aged 15-49 in Haldimand-Norfolk is lower than Ontario for each successive year (1996-2001). The average rate of live births for women aged 15-49 in Haldimand-Norfolk is 39.7/1000 compared with Ontario 43.9/1000.

This current trend may also be attributed to political and social factors.<sup>2</sup> Fewer children are born to each mother and fewer women are in their childbearing years.<sup>2</sup> According to the Ontario Women's Health Status Report chapter on Fertility (2002, February), "the current trend is moving well below the population replacement window of about two live births per women" (Iron, Ennis, & Manuel, p.165).

#### GFR

*The total number of live births to women aged 15-49, by the total number of women aged 15-49 per 1000 women.*

**Figure 1** – Live births rate per 1000 females aged 15-49 in Haldimand-Norfolk (H-N) and Ontario, 1996-2001



Data Source: Live Birth Data, HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: September 27, 2004)

#### Age Specific Live Birth Rates

##### Teen Mothers

The number of live births to women aged 15-19 over the total number of women aged 15-19 per 1000 women in that age group.

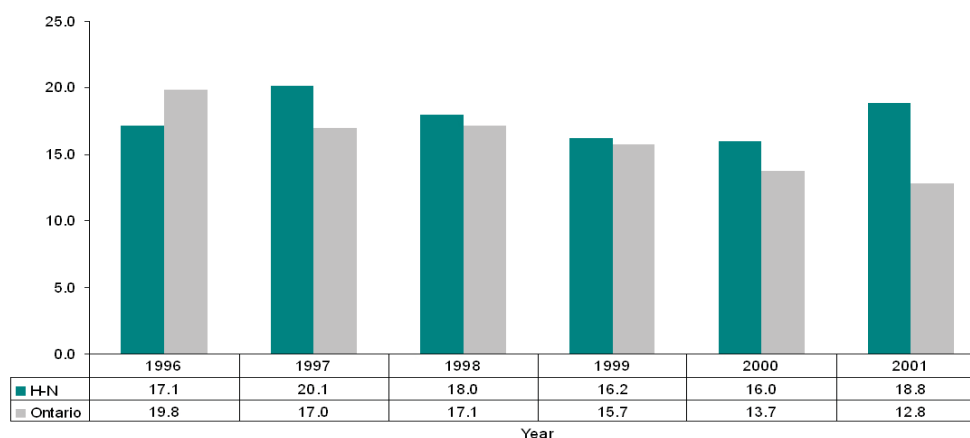
#### Age Specific Live Birth Rates – Data and Interpretation

##### Teen Mothers

As shown in Figure 2, the rate of live births to teen mothers in Haldimand-Norfolk has been relatively consistent. This pattern seen here is relatively consistent with the pregnancy rates among teenagers during that time period (see Figure 10).

With the exception of 1996, the live birth rate to teen mothers has been slightly higher in Haldimand-Norfolk than Ontario with each successive year, and was highest in 2001. The average number of live births among females aged 15-19 in Haldimand-Norfolk is slightly higher (17.7/1000) than Ontario (16.0/1000). Generally, in Ontario the live birth rate among females aged 15-19 is decreasing.<sup>5</sup> In view of this, there is an ongoing need for sexual health services in our community. Services need to be comprehensive and include individual counselling to support a healthy live pregnancy.<sup>6</sup>

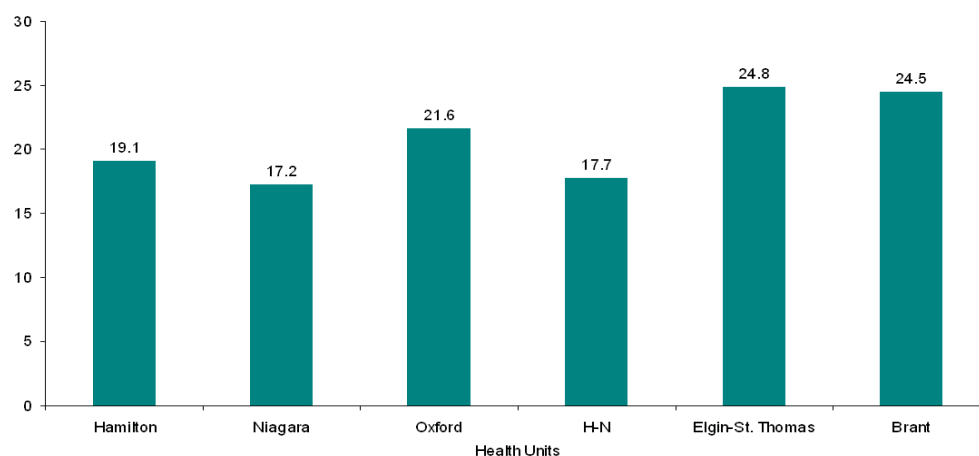
**Figure 2** – Live birth rate per 1000 females, aged 15-19 in Haldimand-Norfolk (H-N) and Ontario, 1996-2001



Data Source: Live Birth Data, HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: September 27, 2004)

The Counties of Haldimand and Norfolk are surrounded by five other Health Units, namely, Oxford, Elgin-St-Thomas, Hamilton, Brant, and Niagara. Compared with the surrounding Health Units, Haldimand-Norfolk had the second lowest average rate of live births per 1000 females aged 15-19 from 1996-2001 (See Figure 3). Elgin had the highest rate of teen pregnancies 24.8/1000 females, while Niagara had the lowest 17.2/1000. The lower live birth rate in Haldimand-Norfolk among females aged 15-19 is likely attributed to the lower teen pregnancy rates, compared to the surrounding Health Units (See Figure 11).

**Figure 3** – Average live birth rate per 1000 females aged 15-19, by surrounding Health Units and Haldimand-Norfolk Health Unit (H-N), 1996-2001



Data Source: HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC  
(Extracted: September 27, 2004)

### Adult Mothers

Consistent with Ontario, the number of live births per 1000 women aged 20-49 in Haldimand-Norfolk has slightly decreased between 1996 and 2000, with the exception of 1998 (see Figure 4). However, in 2001, the number of live births in Haldimand-Norfolk has slightly increased over the past few years (2000-38.2/1000 and 2001-45.3/1000 respectively). In 2001, an increase of live birth rates is likely explained by a slight increase in pregnancy rate (see Figure 12).

Overall, the number of live births for women aged 20-49 has been slightly lower, compared with Ontario. The average rate of live births for women aged 20-49 in Haldimand-Norfolk is 43.7/1000 compared with Ontario 47.8/1000. Compared to its counterparts in Ontario as a whole, the lower live birth rate in Haldimand-Norfolk is likely explained by lower pregnancy rate in Haldimand-Norfolk (see Figure 12).

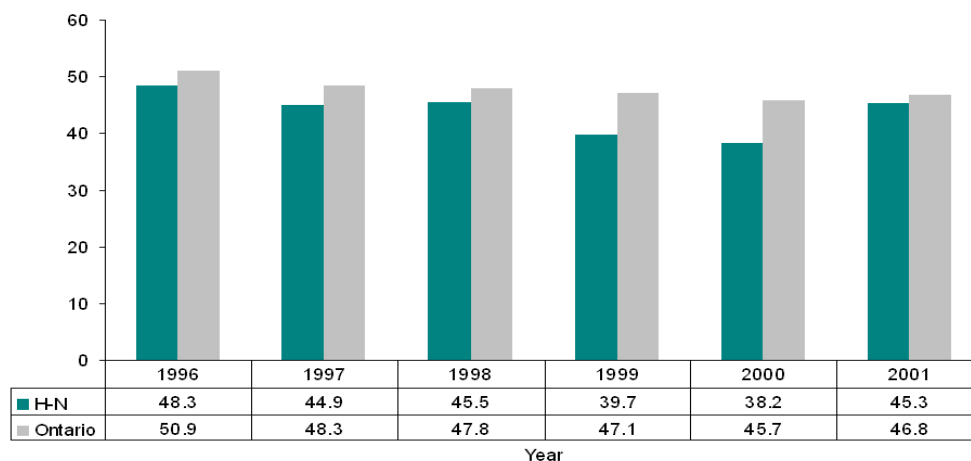
The slight drop in live births among adult mothers from 1996-2000, may also be explained by both the short term and long term changes in the pattern and fertility among women.<sup>2</sup> For example, more women are delaying childbearing because they are career focused and are extending their education.<sup>2</sup> Since women are waiting longer to have children this could decrease the total number of children they may have.<sup>2</sup>

### Age Specific Live Birth Rates

#### Adult Mothers

*The number of live births to women aged 20-49, over the total number of women aged 15-19 per 1000 women in that age group.*

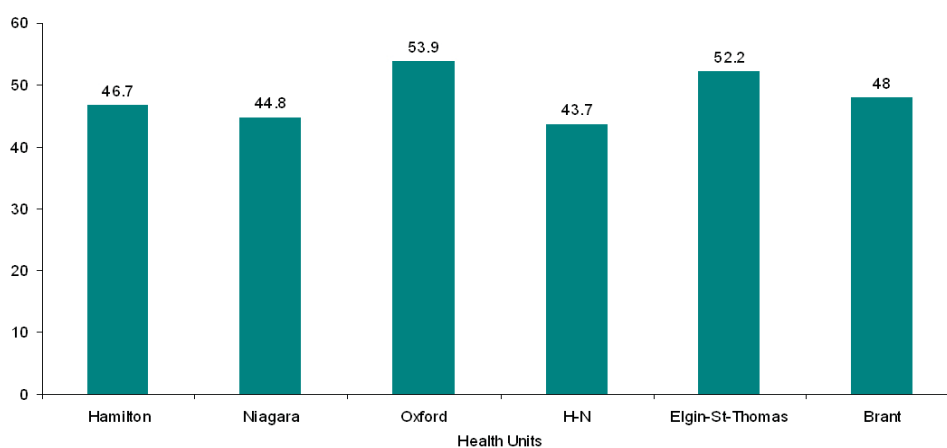
**Figure 4** – Live birth rate per 1000 females aged 20-49 in Haldimand-Norfolk (H-N) and Ontario, 1996-2001



Data Source: Live Birth Data, HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: September 27, 2004)

The average age specific fertility rate for women aged 20-49 from 1996 to 2001 for the surrounding Health Units is illustrated in Figure 5. Overall, Haldimand-Norfolk had the lowest average rate of live births for women aged 20-49 per 1000 women from 1996 to 2001 (43.7/1000). While, Oxford (53.9/1000), Elgin-St.Thomas (52.2/1000) and Brant (48/1000 females) had the highest average rate of live births from 1996 to 2001, per 1000 women aged 20-49. The lower live birth rate in Haldimand-Norfolk among females aged 20-49 is likely attributed to the lower pregnancy rates, compared to the surrounding Health Units (See Figure 13)

**Figure 5** – Average live birth rate per 1000 females aged 20-49 by surrounding Health Units and Haldimand-Norfolk Health Unit (H-N), 1996-2001



Data Source: HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: September 27, 2004)

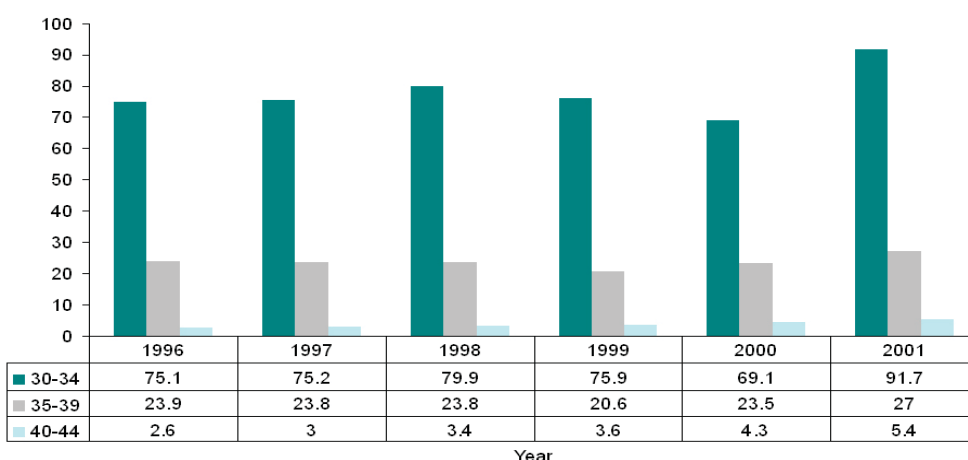
## Mothers Over the Age of 30 – Overview

Trends in live births by maternal age help to explain and predict fetal and infant health outcomes.<sup>5</sup> Older mothers aged 30 and over, have an increased risk of preterm babies, low birth weights, multiple births and admission to newborn intensive care.<sup>5</sup> Also with increasing age, mothers have a higher chance of having a baby with Down's syndrome.<sup>5</sup> Older mothers themselves have a higher risk of having complications associated with delayed childbearing including placenta previa, spontaneous abortion, hypertension, gestational diabetes, and prenatal hospitalization.<sup>5</sup> Labour and delivery complications increase with maternal age.<sup>5</sup> Fetal distress, prolonged labour, malpresentation, postpartum haemorrhage and operative deliveries are associated with increased maternal age.<sup>5</sup> However older mothers who engage in healthy lifestyle behaviours and receive good quality obstetrics care are not at increased risk for small-for-gestational age infants and preterm birth.<sup>5</sup>

## Maternal Age – Data and Interpretation

Particularly interesting as seen in Figure 6, the majority of live births among women aged 30-34 has increased from 69.1/1000 in 2000 to 91.7/1000 in 2001. In Canada, the proportion of older females giving birth has also increased markedly in recent years.<sup>3</sup> More women are delaying childbearing to later in life.<sup>3</sup> There was also a slight increase in the number of women aged 35-39 giving birth in Haldimand-Norfolk from 2000 to 2001 (23.5/1000 to 27/1000). Females aged 40-44 giving birth was relatively consistent from 1996 to 2001.

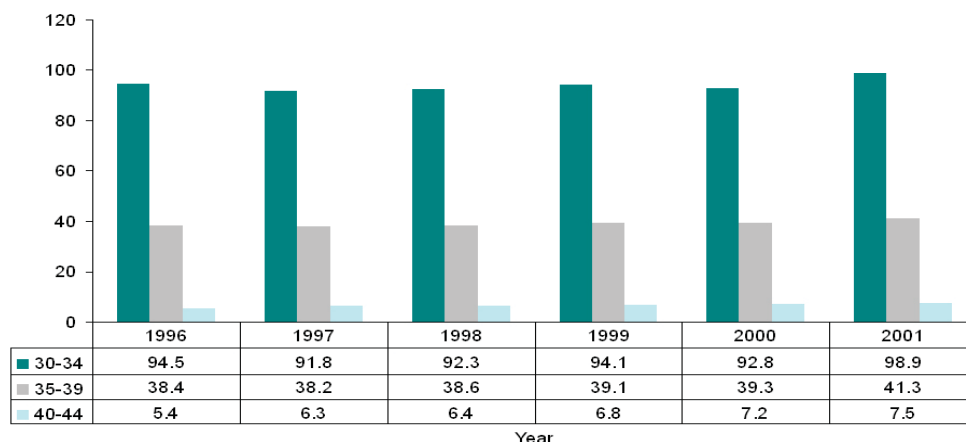
**Figure 6** – Live birth rate per 1000 females aged 30-44 in Haldimand-Norfolk (H-N) by age groups, 1996-2001



Data Source: Ontario Live Birth Data, Population Estimates, Provincial Health Planning Database (PHPDB), (Extracted: April 29, 2005)

Compared with Ontario, live birth rates among women across each age group are lower in Haldimand-Norfolk than Ontario (see Figure 7). Females aged 44-49 were excluded from the analysis, because the number of live births among women aged 44-49 were very small.

**Figure 7** – Live birth rate per 1000 females aged 30-44 in Ontario by age groups, 1996-2001



Data Source: Ontario Live Birth Data, Population Estimates, Provincial Health Planning Database (PHPDB), (Extracted: April 29, 2005)

## Multiple Live Birth Rate

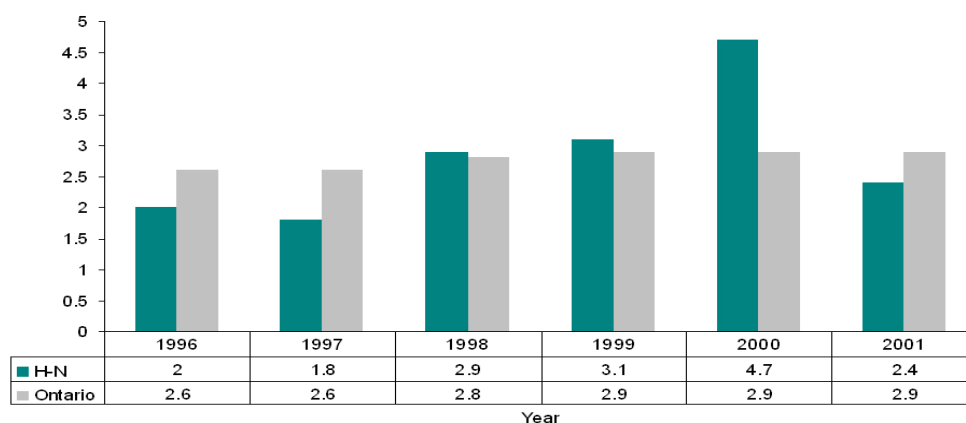
### Multiple Live Birth – Overview

Multiple births are associated with an increased risk of preterm delivery and intrauterine growth restriction and their consequences (retinopathy of prematurity, intraventricular hemorrhage and bronchopulmonary dysplasia).<sup>5</sup>

### Multiple Live Birth Rates – Data and Interpretation

As illustrated in Figure 8, the multiple live births rate in Haldimand-Norfolk was relatively consistent between 1996 to 2001. The average multiple live birth rate in Haldimand-Norfolk among women aged 15-49 was the same as Ontario (2.8/100 live births). Multiple Births may be attributed to assisted conception, and fertility treatments, especially among older mothers.<sup>5</sup>

**Figure 8** – Rate of multiple live births per 100 females aged 15-49 in Haldimand-Norfolk (H-N) and Ontario, 1996-2001



Data Source: Ontario Multiple Live Birth Data, Provincial Health Planning Database (PHBDB) Helps Data, (Extracted: September 27, 2004) and Ontario Live Birth Data, HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: April 29, 2005)

#### Multiple Live Birth Rate

*The proportion of all live births that are babies of multiple gestation (i.e., twins, triplets, etc.)*

## Pregnancy Rate

### Pregnancy – Overview

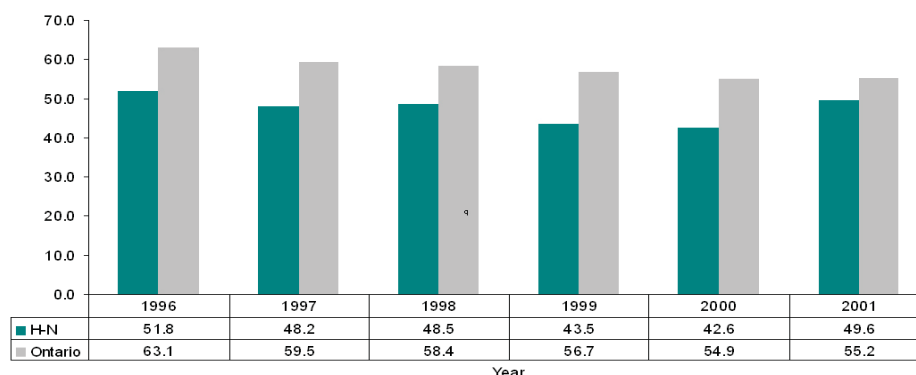
Pregnancy is defined as the gestation process, from conception through to the removal of the fetus or baby from the body whether through therapeutic abortion, miscarriage, caesarean section or vaginal delivery.<sup>3</sup> A full term pregnancy is approximately 38 weeks or 266 days from the day of fertilization.<sup>3</sup> Both teen and adult pregnancy rates are a vital statistic that provides necessary information in determining population growth and reproductive health program planning. The following section will provide a 6 year overview (1996-2001) of pregnancy and therapeutic abortion rates in Haldimand-Norfolk compared with provincial data. Average age specific therapeutic abortion rates (TAR) from 1996 to 2001 were explored in Haldimand-Norfolk compared with surrounding Health Units.

### Pregnancy Rates – Data and Interpretation

The pregnancy rate for females in Haldimand-Norfolk aged 15-49 per 1000 population slightly decreased between 1996 and 2000 with the exception of 1998 (See Figure 9). This may be attributed to the fact that more women are having fewer children and there are fewer women in their childbearing years.<sup>2</sup> In 2001, there was a slight increase in the pregnancy rate for females in Haldimand-Norfolk aged 15-49 per 1000 population (49.6/1000) (See Figure 9). The average pregnancy rate from 1996 to 2001, per 1000 women aged 15-49 was lower in Haldimand-Norfolk than Ontario (47.4/1000 and 58.0 /1000 respectively).

**Pregnancy Rate**  
The sum of live births, still births, and therapeutic abortion per 1000 women aged 15-49 per 1000 women.

**Figure 9** – Pregnancy rate per 1000 females aged 15-49 in Haldimand-Norfolk (H-N) and Ontario, 1996-2001



Data Source: Ontario Pregnancy Data, HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: September 27, 2004)

## Age Specific Pregnancy Rate

### Teenage Pregnancy – Introduction

Teenage pregnancy rates are a vital statistic that provides necessary information in determining population growth and program planning. Pregnant teenagers are at greater risk for health problems and economic consequences.<sup>7</sup> From a health perspective, pregnant teenagers are less likely than older mothers to obtain prenatal health care services and have overall lower rates of prenatal care.<sup>8</sup> Pregnant teenagers also have a greater risk of developing hypertension, anemia, renal disease, depressive disorders, and eclampsia.<sup>7,8</sup> They are also at higher risk for Sexually Transmitted Infections (STIs) resulting from unprotected sex.<sup>7,8</sup> Health behaviours such as tobacco use, substance abuse, and poor diet are more common among teenage mothers and can negatively affect the health of the baby and mother.<sup>8</sup> Teenage pregnancy can also have economic consequences.<sup>7,8</sup> Teenage mothers are less likely to complete their education and as a result are more likely to have limited eco-



### Teenage Pregnancy Rate

*The sum of live births, still births, and therapeutic abortions per 1000 women aged 15-19 per 1000 women.*

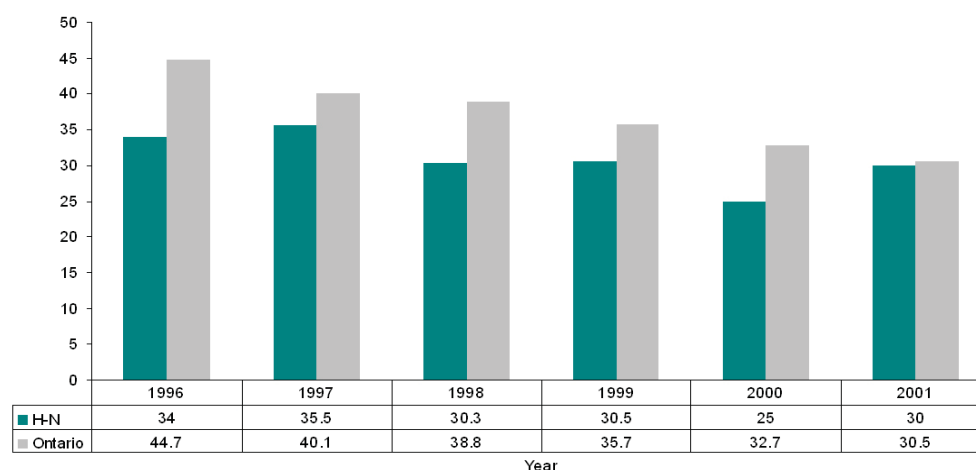
nomic and career opportunities.<sup>9</sup> Moreover, teenagers aged 15 to 17 who give birth are more likely to be a single parent, and are more likely to have higher levels of poverty.<sup>7,8</sup>

### Teenage Pregnancy Rates – Data and Interpretation

Figure 10 reports the teen pregnancy rates for Haldimand-Norfolk and Ontario for the years 1996 to 2001 for females aged 15-19 per 1000 population. In the late 1990s (1997-1999) to 2000 pregnancy rates among teens in Haldimand-Norfolk appear to have slightly fallen and then slightly increased in 2001 (30/1000). The lowest teenage pregnancy rate was reported in 2000 (25/1000). The Ontario teen pregnancy rate has been consistently higher than Haldimand-Norfolk. The average teen pregnancy rate for Ontario is 37.1/1000 compared with Haldimand-Norfolk (30.9/1000).

It is also important to understand that certain risk factors also increase the risk of teenage pregnancy that is not reported here. Poverty, low motivation, low expectations, lower education, past history of sexual abuse, family instability, racism, sexism, lack of job opportunities, are risk factors that may contribute to the pregnancy rate among teens.<sup>10,11</sup> Since an increasing number of teenagers are engaging in sexual activity at an earlier age, continued emphasis on sexual health programs is a necessary component of teenage pregnancy prevention.

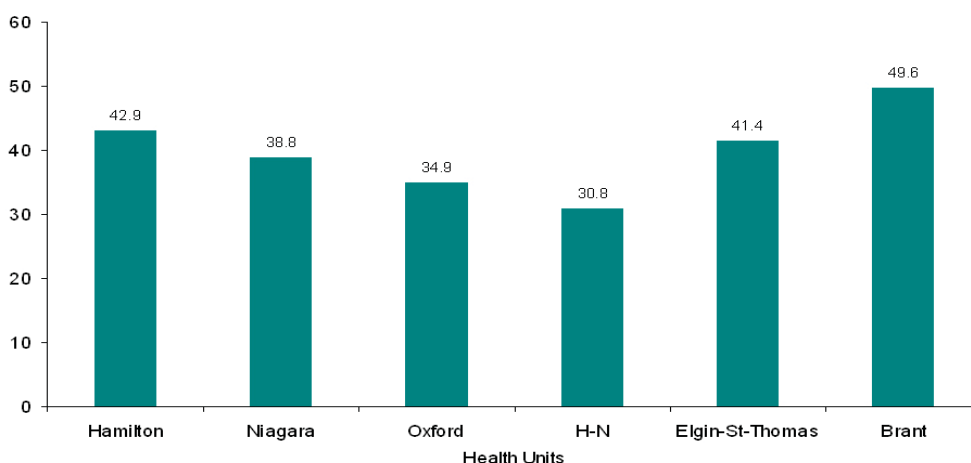
**Figure 10** – Pregnancy rate per 1000 females aged 15-19 in Haldimand-Norfolk (H-N) and Ontario, 1996 to 2001



Data Source: Ontario Pregnancy Data, HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: September 27, 2004)

From a six year perspective (1996-2001), Haldimand-Norfolk (30.8/1000) had the lowest teen pregnancy rate compared with the surrounding Health Units (Brant 49.6/1000, Hamilton 42.9/1000, Elgin-St.Thomas 41.4/1000, Niagara 38.8/1000, and Oxford 34.9/1000) (See Figure 11).

**Figure 11** – Average pregnancy rate per 1000 females aged 15-19 by surrounding Health Units and Haldimand-Norfolk Health Unit (H-N), 1996-2001.

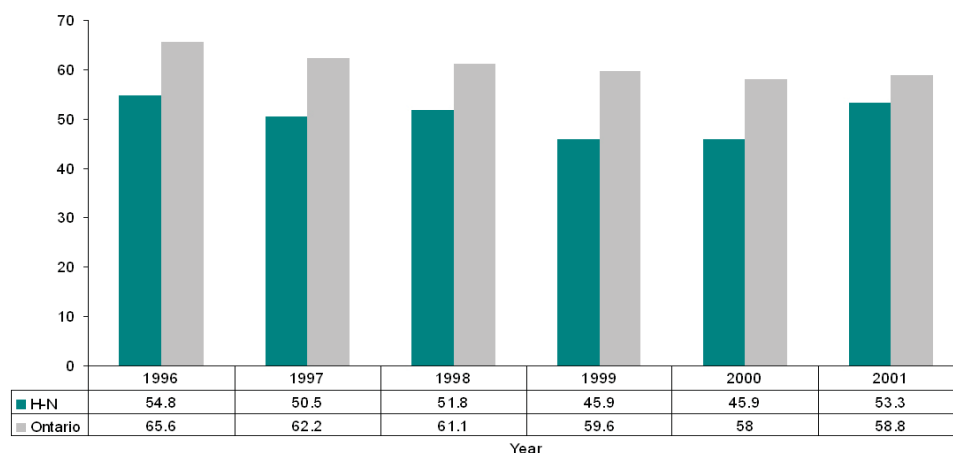


Data Source: HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: September 27, 2004)

### Adult Pregnancy Rates – Data and Interpretation

The pregnancy rate for females aged 20-49, per 1000 has slightly decreased from 1996-2000, with the exception of 1998, and then slightly increased in 2001. This pattern is relatively similar to Ontario (see Figure 12). The decline in pregnancy rates among adults aged 20-49 may be a result of work outside the home, education, effective contraception, personal choices, and access to sexual health resources.<sup>2, 12</sup>

**Figure 12** – Pregnancy rate per 1000 females aged 20-49 in Haldimand-Norfolk (H-N) and Ontario, 1996-2001



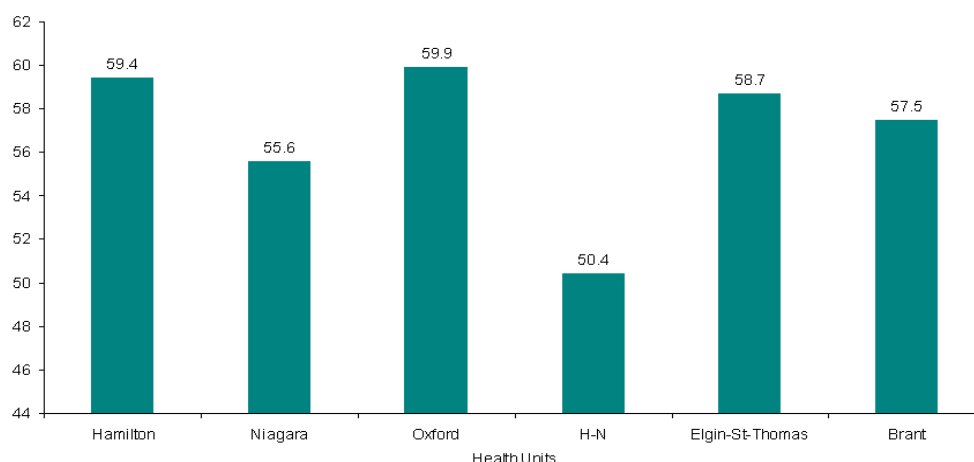
Data Source: Ontario Pregnancy Data: HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: September 27, 2004)

Compared with the surrounding Health Units, Haldimand-Norfolk (50.4/1000) had the lowest average adult pregnancy rate compared with the surrounding Health Units (Oxford-59.9/1000, Hamilton 59.4/1000, Brant 57.5/1000, Niagara 55.6/1000, and Elgin-St-Thomas 58.7/1000) (See Figure 13)

#### Adult Pregnancy Rate

The sum of live births, still births, and therapeutic abortions per 1000 women aged 20-49 per 1000 women.

**Figure 13** – Average pregnancy rate per 1000 females aged 20-49 by surrounding Health Units and Haldimand-Norfolk Health Unit (H-N), 1996-2001



Data Source: Data Source: Ontario Pregnancy Data, HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: September 27, 2004)

## Therapeutic Abortion Rate

### Therapeutic Abortion – Overview

Therapeutic abortion is the deliberate termination of a pregnancy resulting in the death of an embryo or fetus.<sup>3</sup> Therapeutic abortions may be an indicator of an unplanned or unwanted pregnancy. Therapeutic abortions may be performed to terminate a pregnancy as a result of genetic abnormalities such as a suspected spinal cord defect.<sup>3</sup> Therapeutic abortion includes data performed in hospitals, usually through day surgeries.<sup>3</sup> This data does not include clinic-based therapeutic abortions.<sup>3</sup> It is important to note that the number of therapeutic abortions is not an accurate representation of the total therapeutic abortion. Miscarriages (spontaneous abortions), medically/pharmacologically-induced abortions (induced emergency contraceptive pill, RU-486, methotrexate), and abortions completed out of province are also excluded from the analysis.<sup>3</sup> The proportion of TAR can be affected by the number of pregnant women in any given time or place.

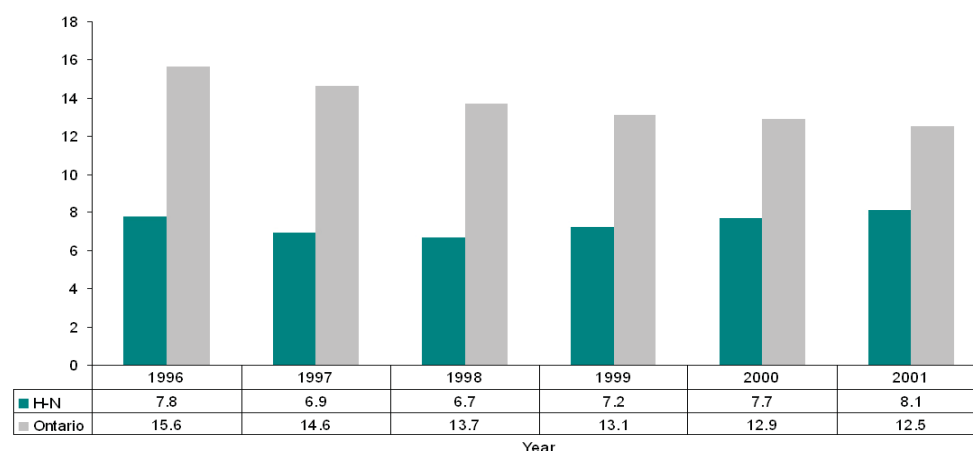
### General Therapeutic Abortion Rates – Data and Interpretation

As shown in Figure 14, the number of therapeutic abortion rates for females aged 15-49 per 1000 women, in Haldimand-Norfolk between 1996-2001, remained relatively consistent for each year. However, compared with provincial data, the rate of abortion per 1000 females has remained substantially lower than Ontario for each year (1996-2001). The average rate of therapeutic abortions for women aged 15-49 in Haldimand-Norfolk is 7.4/1000 compared with Ontario 13.7/1000. Therapeutic abortion rates may be affected by the access or use of contraceptives and may be affected by the access to medical care.<sup>3</sup> As may be expected, because of data constraints it is difficult to determine a rationale for this trend, as explained in the previous section (i.e., medically/pharmacologically induced abortions).

*General Therapeutic Abortion Rate*

*Number of therapeutic abortions per 1000 females aged 15 to 49.*

**Figure 14** – Therapeutic abortion rate per 1000 females aged 15-49 in Haldimand-Norfolk (H-N) and Ontario, 1996-2001



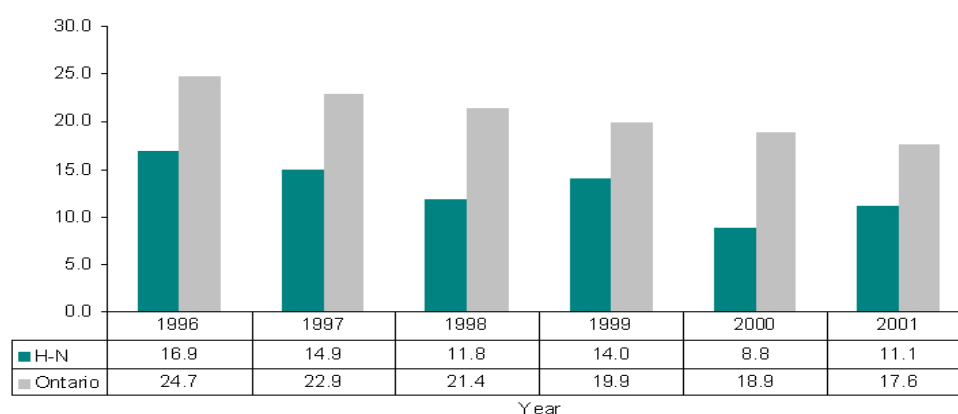
Data Source: Ontario Abortion Data, HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: September 27, 2004).

## Age Specific Therapeutic Abortion Rate

### Teen Therapeutic Abortions Rates – Data and Interpretation

Figure 15, reports the teen TAR among females aged 15-19 from 1996 to 2001. Among women aged 15-19 in Haldimand-Norfolk, the TAR in Haldimand-Norfolk remained relatively consistent with each year: In Haldimand-Norfolk the highest rate reported was 16.9 abortions per 1000 women in 1996, whereas the lowest abortion rate was reported in 2000 (8.8/1000). The TAR in Haldimand-Norfolk remains lower than Ontario. The average TAR in Haldimand-Norfolk among women aged 15-19 between 1996 and 2001 is 12.9 per 1000 women, compared with 20.9 per 1000 women aged 15-19 in Ontario. The lower TAR in Haldimand-Norfolk compared with Ontario is likely attributed to the lower pregnancy rates among teenagers (see Figure 10). As a result of data constraints, the rate of TA is usually underestimated because not all TAs are captured in available databases, hence this data is questionable.

**Figure 15** – Therapeutic abortion rate per 1000 females aged 15-19 in Haldimand-Norfolk (H-N) and Ontario, 1996-2001

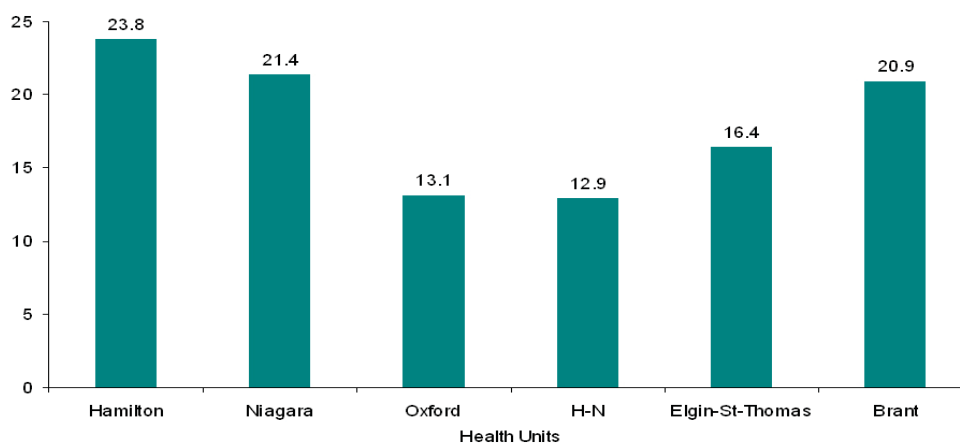


Data Source: Ontario Abortion Data, HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: September 27, 2004)

*Teen Therapeutic Abortion Rate*  
Number of therapeutic abortions per 1000 females aged 15 to 19.

The average age specific abortion rate for women aged 15-19 from 1996 to 2001 for the surrounding Health Units is illustrated in Figure 16. Compared with the surrounding Health Units Haldimand-Norfolk had the lowest average rate of therapeutic abortions per 1000 females aged 15-19 from 1996-2001. This is likely explained by the low pregnancy rates among teens in Haldimand-Norfolk compared to surrounding Health Units (Figure 10). Hamilton had the highest average rate (1996-2001) of therapeutic abortions (23.8/1000), followed by Niagara (21.4/1000), and Brant (20.9/1000).

**Figure 16** – Average rate of abortions per 1000 females aged 15-19 by surrounding Health Units, and Haldimand-Norfolk Health Unit (H-N), 1996-2001



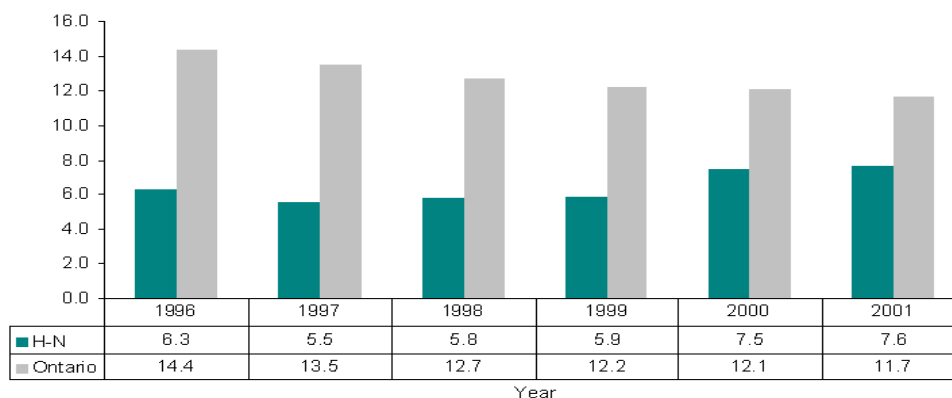
Data Source: Ontario Abortion Data, HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: September 27, 2004)

*Adult Therapeutic Abortion Rate*  
Number of therapeutic abortions per 1000 females aged 20-49.

### Adult Therapeutic Abortions Rates – Data and Interpretation

Figure 17, illustrates abortion rates among women aged 20-49 per 1000 population between 1996 and 2001. As shown in Figure 17, the rate of therapeutic abortions among adult women aged 20-49 in Haldimand-Norfolk has remained relatively consistent from 1996 to 2001. Adult abortion rates are less in Haldimand-Norfolk than that reported for the province as a whole, averaging 6.4/1000, compared with Ontario (12.8/1000). As a result of data constraints, the rate of TA is usually underestimated because not all TAs are captured in available databases, hence this data is questionable.

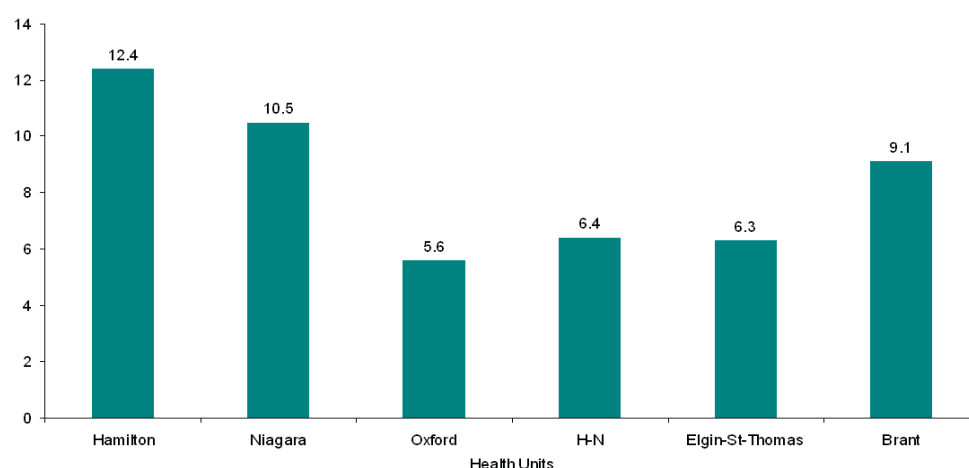
**Figure 17** – Rate of therapeutic abortions per 1000 females aged 20-49 in Haldimand-Norfolk (H-N) and Ontario, 1996-2001



Data Source: Ontario Abortion Data, HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: September 27, 2004)

The average TAR rate per 1000 women aged 20-49 from 1996 to 2001 for the surrounding Health Units is illustrated in Figure 18. Compared to the surrounding Health Units, Haldimand-Norfolk had the third lowest average TAR per 1000 women aged 20-49 (6.4/1000). Hamilton had the highest average TAR (12.4/1000), while Oxford County had the lowest (5.6/1000). This is likely explained by the low pregnancy rates among females aged 20-49 in Haldimand Norfolk compared to surrounding Health Units (see Figure 13)

**Figure 18** – Average therapeutic abortion rate per 1000 females aged 20-49 by surrounding Health Units and Haldimand-Norfolk Health Unit (H-N), 1996-2001



Data Source: Ontario Abortion Data, HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: September 27, 2004)





# Fetal & Infant Health Outcomes

## Introduction

The second chapter of this report features a profile of fetal and infant health outcomes. A summary of the reproductive health programs offered at the Health Unit, with a particular emphasis on fetal and infant health outcomes is summarized at the beginning of the chapter. Preterm birth weight, low birth weight rate, perinatal mortality rate and, infant mortality will be explored in the proceeding chapter. Specifically, this chapter will provide a 6 year overview (1996-2001) of fetal and infant health outcomes in Haldimand-Norfolk, and Ontario.

## Public Education Initiatives and Programs

The Health Unit offers a variety of public education initiatives and programs with a primary focus on fetal and infant health outcomes. The following is a summary of the programs offered at the Health Unit:

### Postpartum Screening and Support Programs

Universal postpartum screening is feasible in Ontario because the vast majority of women give birth to their infants in hospitals. The provincially used Parkyn tool evaluates a number of factors contributing to risk and assigns a numerical value to each. The resultant score provides a priority ranking. The highest risk children are identified and offered in-depth and comprehensive services such as the Healthy Babies/Healthy Children (HB/HC) program with family home visiting services.

The factors identified in the tool include:

- The existence of congenital or acquired health challenges;
- Low birth weight;
- Events of pregnancy;



- Events of labour and delivery;
- Family health history;
- Age of mother;
- Social situation;
- Financial difficulties;
- Presence or absence of prenatal care;
- Mental illness and/or mental challenge in either parent;
- Prolonged postpartum maternal separation;
- Assessed lack of bonding; and
- Education status, parenting difficulties, family violence, smoking, nutrition and high stress related to delivery.

### **48 Hour Contact and Referral**

With the parents consent, information about the birth of the new baby and family is transferred to the Health Unit. The Public Health Nurse contacts all families of newborns within 48 hours of discharge, by telephone. The purpose of the telephone contact is to make families aware of the postpartum services and resources available to them, and to further assess any need for additional services. During the initial contact, the Public Health Nurse offers a home visit. Low to moderate risk families may also be offered support and home visiting by a Family Home Visitor.

### **Preterm Birth Weight Services**

The Health Unit offers preterm birth weight services. Upon discharge from hospital, a Public Health Nurse may visit to assist parents with infant feeding, child care and answer any questions pertaining to the care of their newborn. Care plans are developed and initiated to include additional support from a Family Home Visitor in collaboration with the family in need.

### **Low Birth Weight Services**

The Health Unit offers low birth weight services. Public Health Nurses, Dietitians, and Family Home Visitors work together to support the family and decrease the risk to the infant by providing in-home support, education and referral to other social services and health care agencies. The Health Unit also provides referral to outside agencies like CAPC (Community Action Program for Children) and Haldimand-Norfolk REACH - Infant Development Program.

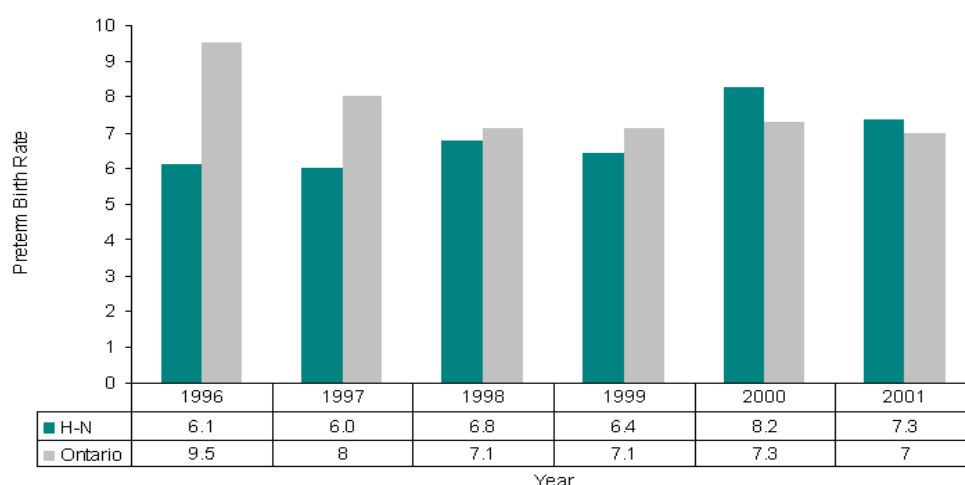
### **Preterm Birth Weight Rate**

In industrialized countries, preterm birth has been identified as the most important cause of perinatal morbidity (chronic respiratory problems, neurodevelopmental handicaps, infections, ophthalmologic problems, to name a few) and perinatal mortality.<sup>5,13</sup> Risk factors associated with preterm birth rate include multiple births, smoking, race, single marital status, maternal age (younger; older), low pre-pregnancy weight, low or high weight gain, and previous preterm delivery.<sup>5</sup> Other risk factors include short stature, poverty, first delivery, existing anomalies or medical conditions, stress, and illicit drug use.<sup>3</sup> Over the long term preterm birth can result in developmental problems, and can negatively affect the quality of life and health of preterm babies throughout their lifetime.<sup>13</sup> It is important to note that there is potential for error in determining gestational age. Since the length of gestation is based in the first day of the mothers last menstrual period, it is subject to error.<sup>3</sup> Inaccurate maternal reporting of the last menstrual period can affect gestational age.<sup>3</sup> However, in recent years gestational age may be more accurate due to ultrasounds.<sup>3</sup>

## Preterm Birth Weight Rates – Data and Interpretation

As shown in Figure 19, the number of preterm births for females aged 15-49 per 100 live births was relatively consistent for each year. Compared to Ontario as a whole, the average number of preterm births in Haldimand Norfolk was slightly lower (6.8/100 and 7.7/100 respectively). Unlike Canada (excluding Ontario), the number of preterm births has increased over the years (1991-2000).<sup>5</sup> Possible explanations include increase likelihood of early gestation births being registered as live births, increase in obstetric intervention, frequency and gestational age of multiple births, and more reliable ultrasound age estimates.<sup>5</sup>

**Figure 19** – Preterm birth rate per 100 females aged 15-49 in Haldimand-Norfolk (H-N) and Ontario, 1996-2001



Data Source: Ontario Live Birth Data, Provincial Health Planning Database (PHPDB) Helps Data, (Extracted: September 27, 2004) and Ontario Live Birth Data, HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: April 29, 2005)

## Low Birth Weight Rate

A birth weight is defined as the weight of a fetus or infant during the time of delivery.<sup>3</sup> This is measured in the first hour of life.<sup>3</sup> Low birth weight is a main determinant of infant morbidity and mortality and perinatal health.<sup>3</sup> Risk factors associated with low birth weight include maternal age, multiple births, lifestyle behaviours, gestational age, weight gain during pregnancy, intrauterine infection, diabetes mellitus, poverty, and genetic factors.<sup>3</sup> Fertility treatments can affect the type of birth (multiple) and thus the rate of low birth weight.<sup>3</sup>

## Low Birth Weight Rates – Data and Interpretation

As shown in Figure 20, in Haldimand-Norfolk the low birth weight rate per 100 women aged 15-49 has been relatively consistent from 1999 to 2001. The average rate of low birth weight babies in Haldimand Norfolk is 5.4/100 live births compared with Ontario 5.7/100 live births. The stable low birth rate may be attributed to continued positive lifestyle behaviours and perinatal education health promotion programming.<sup>4</sup>

### Preterm Birth Weight Rate

*The total number of live births delivered before 37 completed weeks gestation (<259 days) per 100 total live births.*

### Low Birth Weight Rate

*The total number of live births weighing less than 2,500 grams or 5 pounds, 8 ounces by the total number of live births per 100 live births.*

**Figure 20** – Low birth rate per 100 females aged 15-49 in Haldimand-Norfolk (H-N) and Ontario, 1999-2001

Data Source: Ontario Live Birth Data Provincial Health Planning Database (PHPDB) Helps Data, (Extracted: September 27, 2004) and HELPS (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: April 29, 2005)

## Perinatal Mortality Rate

A perinatal death is defined as either a stillbirth or an early neonatal death which occurs in infants 6 days of age or younger.<sup>3</sup> Note that perinatal mortality rate is greatly influenced by small changes in the number of live births per year.<sup>3</sup> Perinatal mortality is associated with marital status, poverty, age of the mother, and length of gestation.<sup>3</sup> Low birth weight is the main risk factor associated with infant mortality.<sup>3</sup> The reported cause of death may be attributed by several factors including the legal and social conditions, and the level of medical investigation.<sup>3</sup>

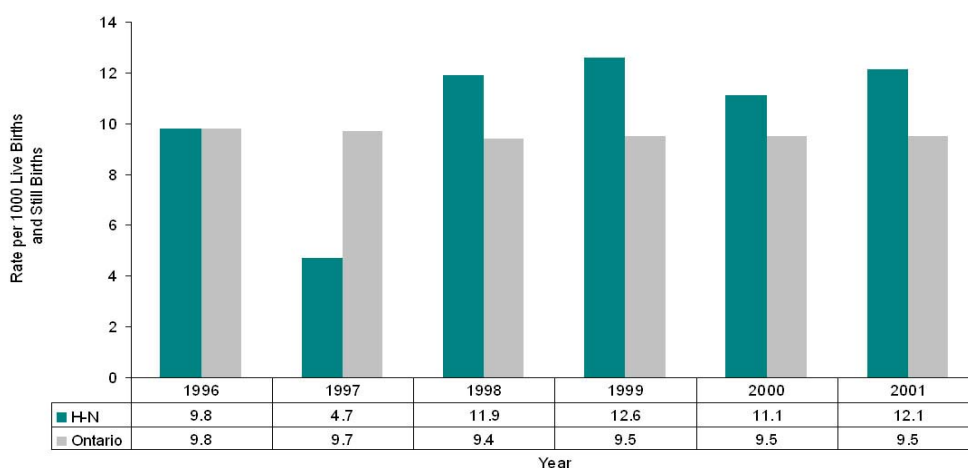
### Perinatal Mortality Rate

*The total number of still births (20 weeks gestation or more) and deaths in infants 6 days of age or younger per 1000 live births and still births.*

## Perinatal Mortality Rates – Data and Interpretation

As shown in Figure 21, perinatal deaths have been relatively consistent for each year with the exception of 1997. In 1997 the perinatal mortality rate was at an all time low in Haldimand-Norfolk (4.7/1000). Compared to Ontario, the perinatal mortality rate has been slightly higher with each successive year with the exception of 1996 and 1997. Overall, the average perinatal mortality rate is slightly higher in Haldimand-Norfolk (10.4/1000), compared with Ontario (9.6/1000). Perinatal death can be attributed to several factors (legal, social conditions, level of medical investigation, demographics, injury ect.) that cannot be explained here.

**Figure 21** – Perinatal mortality rate per 1000 births in Haldimand-Norfolk (H-N) and Ontario, 1996-2001



Data Source: Ontario Provincial Health Planning Database (PHPDB) Helps Deaths and Still Birth Data (Women Aged 15-49) Data, (Extracted: September 27, 2004) and HELPS Still Birth/live Birth Data (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: August 9, 2005).

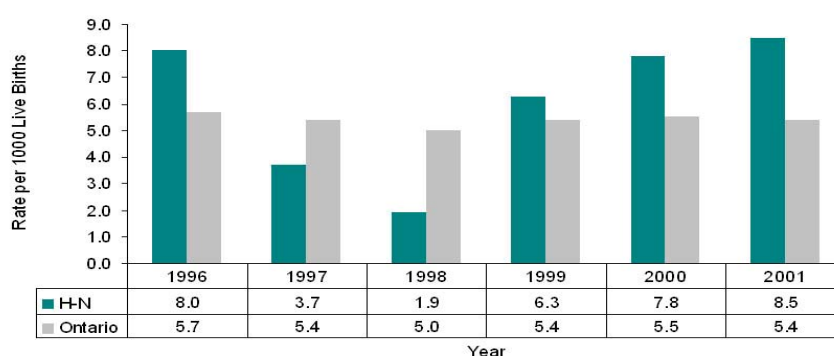
## Infant Mortality Rate

Infant mortality rate is defined as deaths that occur within the first year of life. As shown in Figure 22, the infant mortality rate in Haldimand-Norfolk has been increasing slightly since 1997, and is highest in 2001. Over the years (1996-2001), Ontario's infant mortality rate has been more stable, averaging 5.4 deaths per 1000 births, compared with Haldimand-Norfolk (6.0/1000). In 2000, the causes of death for infants 364 days or younger in Haldimand-Norfolk included: conditions of the heart, lung, brain, skin, and Sudden Infant Death Syndrome (SID). In 2001, the causes of death included: conditions of the lungs, heart, spine, as well as genetic abnormalities and immaturity.

### Infant Mortality Rate

*The total number of deaths of live born infants at 364 days or younger per 1000 live births.*

**Figure 22** – Infant mortality rate per 1000 births in Haldimand-Norfolk (H-N) and Ontario, 1993-2000



Data Source: Ontario Provincial Health Planning Database (PHPDB) Helps Deaths and ICD-10 Data ((Extracted: September 27, 2004) and HELPS Live Birth Data (Health Planning System), Public Health Branch, Ontario MOHLTC (Extracted: August 9, 2005)

## Conclusion

The goal of this Reproductive Health Report 2005 was to provide a six year perspective (1996-2001), of Reproductive Health in Haldimand-Norfolk, based on selected reproductive health indicators. The Reproductive Health Report is an important document for understanding reproductive trends over a six year period. It was intended to provide hospitals, community agencies, physicians, media, health units, schools, local government and the general public with useful information over the last six years for the purpose of reproductive health program planning.

Based on the analysis, this report provided new information and illuminated several aspects of reproductive health in Haldimand-Norfolk. Most notable is the slightly higher average live birth rate among teens, compared to Ontario for each successive year (1996-2001), with the exception of 1996. Perinatal and infant average death rates (1996-2001) were also slightly higher than Ontario. Perhaps a further exploration into examining mortality and cause specific morbidity, and lifestyle behaviour trends over time may be warranted in the future.

Compared with the surrounding Health Units, Haldimand-Norfolk had lowest TAR's among teenagers and teen pregnancy rates. Improvement in many of these indicators may be attributed to sexual health programming, that offer youth low cost birth control methods, current contraceptive information, and confidential counselling to help avoid unplanned pregnancies and sexually transmitted infections (STI's) and sexual health information in the schools.

Compared to Provincial data, General Fertility Rate (GFR), adult live birth, rates of maternal age (over 30), general pregnancy rate, teen pregnancy, general therapeutic abortions, teen abortions, adult abortions, preterm birth and lower birth weight are lower compared with Ontario. Whereas, multiple live birth rate is similar to Ontario.

Continued efforts in reproductive health programming is essential for maternal and child health. At the same time, further examination of additional reproductive indicators would also provide meaningful data that could be used to maintain and further strengthen reproductive health programming in Haldimand-Norfolk in order to further support maternal and child health.

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