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Introduction

- The Office of the Chief Medical Officer of Health produces information and reports on the health status of New Brunswickers. In partnership with colleagues elsewhere in the Department of Health, the Office of the Chief Medical Officer of Health also facilitates the monitoring of health indicators and of the inter-related conditions and factors that influence the health of populations over the life course.
- This first issue of *Health Indicators* presents the latest information and trends on teenage pregnancy in New Brunswick, focusing on live births, stillbirths and therapeutic abortions among women 19 and younger.

Teenage pregnancy in New Brunswick

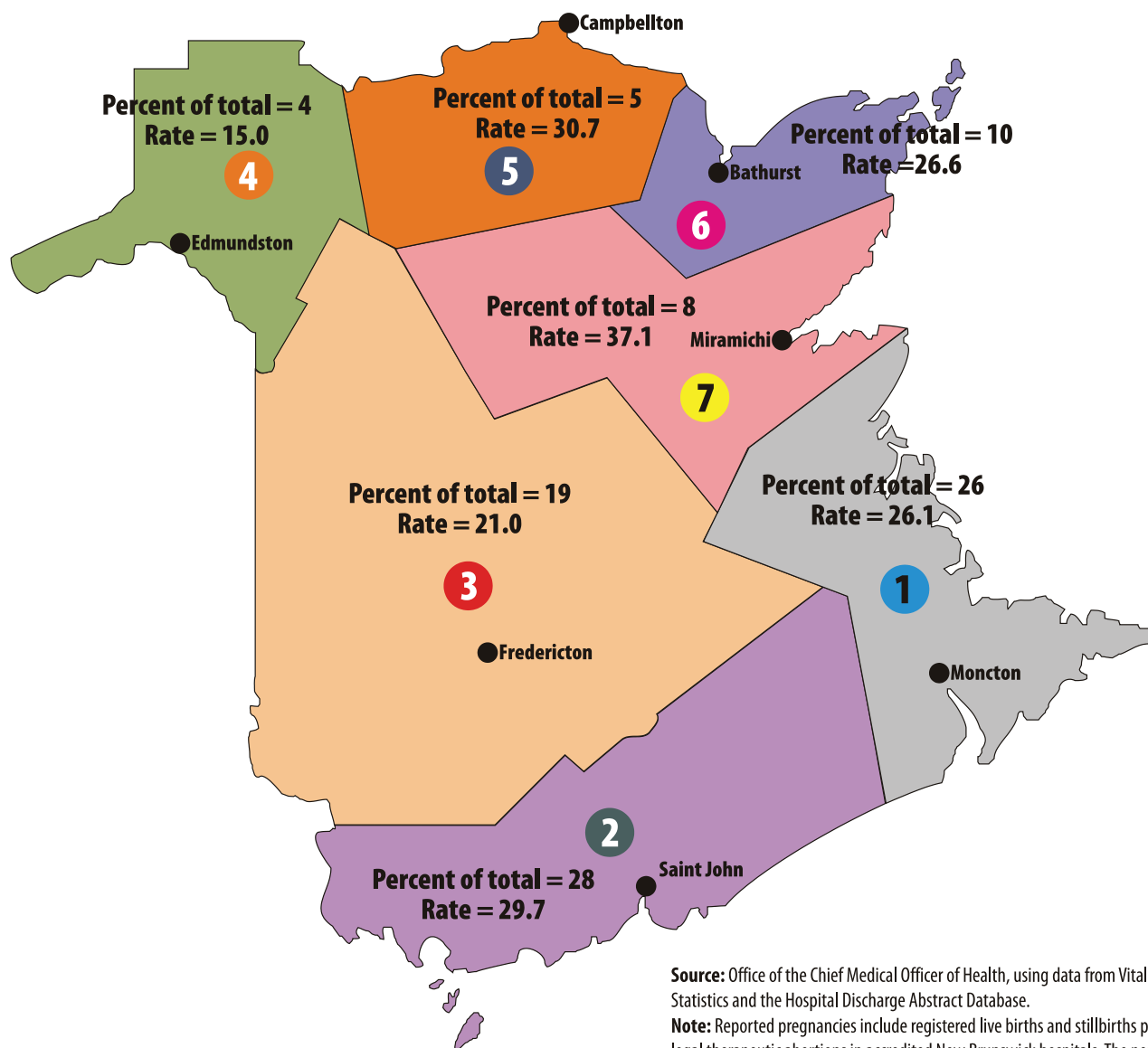
Teenagers account for a small proportion of the total number of pregnancies in Canada and in New Brunswick. Teen pregnancy is considered a public health problem, however, because it may result in important immediate and long-term health consequences for young women and their infants. Compared to women who postpone motherhood, teenage mothers experience a higher rate of pregnancy-related complications and are less likely to complete their education and more likely to have limited career and economic opportunities¹. Furthermore, their babies are at increased risk of preterm birth, low birth weight and death during infancy^{2,3}. Along with rates of infection of HIV, chlamydia and other sexually transmitted infections, teen pregnancy rates illustrate the importance of ensuring optimum reproductive and sexual health for all Canadians⁴.

The teen pregnancy rate is the number of pregnancies occurring per 1,000 teenage females per year.

The number of pregnancies consists of the number of registered live births, registered stillbirths and legal therapeutic abortions in accredited New Brunswick hospitals for females 19 and younger and living in the province. The translation of statistics on teen pregnancies into rates provides a basis for comparison across populations, geographic areas and time periods.

In New Brunswick in 2009, there were a reported total of 613 teen pregnancies, for a rate of 25.9 per 1,000 females 15 to 19. Two-thirds (409, or 67 per cent) of teen pregnancies were among those 18 to 19 at the time of the pregnancy outcome. Fewer than one per cent were among those younger than 15. As seen in Figure 1, three-quarters of teen pregnancies occurred in the three most populous of the province's seven health regions: 26 per cent in the Moncton area (Region 1, for a rate of 26.1 per 1,000), 28 per cent in the Saint John area (Region 2, for a rate of 29.7 per 1,000) and 19 per cent in the Fredericton area (Region 3, for a rate of 21.0 per 1,000).

Figure 1: Distribution and rate of reported pregnancies among women 19 and younger, by health region, New Brunswick, 2009



Source: Office of the Chief Medical Officer of Health, using data from Vital Statistics and the Hospital Discharge Abstract Database.

Note: Reported pregnancies include registered live births and stillbirths plus legal therapeutic abortions in accredited New Brunswick hospitals. The percentage distribution is for pregnancies among females 19 or younger at the time of the pregnancy outcome by health region. Rates are per 1,000 females 15 to 19.

¹ Hofferth SL. Social and economic consequences of teenage childbearing. In: Hofferth SL, Hayes CD, eds. *Risking the future: adolescent sexuality, pregnancy and childbearing*. Washington, DC: National Academy Press; 1987;2:123-44.

² Friede A, Baldwin W, Rhodes PH, et al. Young maternal age and infant mortality: the role of low birth weight. *Public Health Rep* 1987;102:192-9.

³ Brown HL, Fan YD, Gonsoulin WJ. Obstetric complications in young teenagers. *South Med J* 1991;84:46-8.

⁴ Rusen ID, McCourt C, eds. *Measuring Up - A Health Surveillance Update on Canadian Children and Youth*. Ottawa: Public Health Agency of Canada, 1999 (www.phac-aspc.gc.ca/publicat/meas-haut).

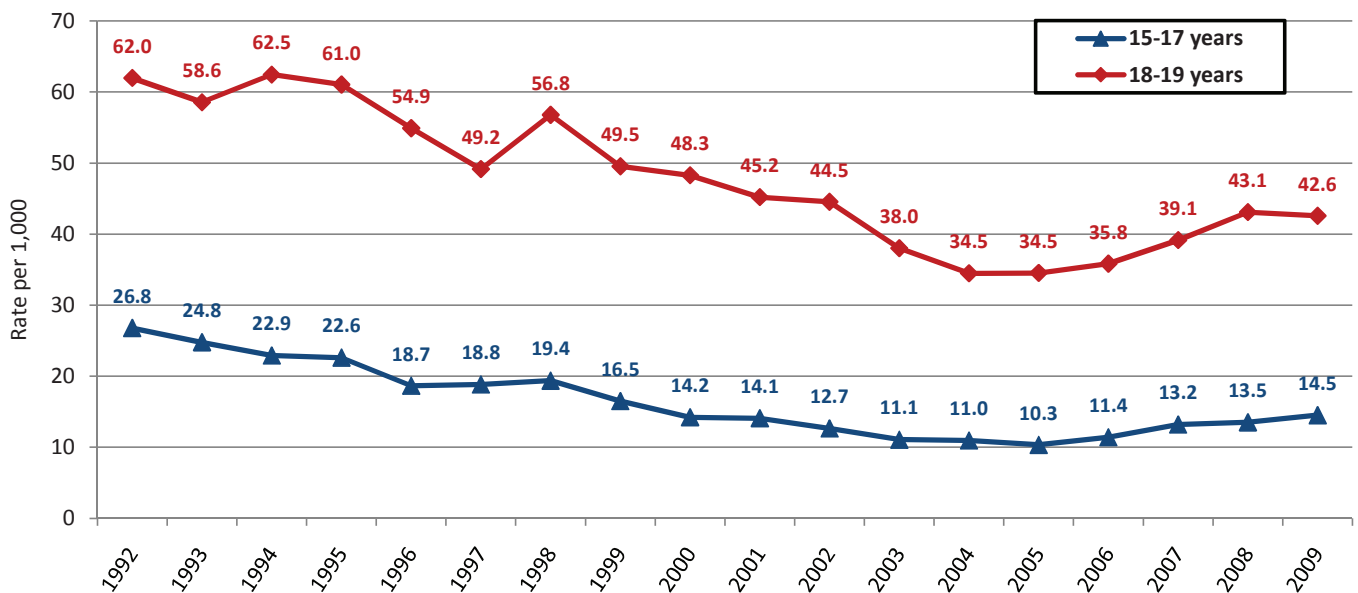
Trends in teenage pregnancy

During the past two decades, the number of reported pregnancies among women 19 and younger has dropped in half: to 613 in 2009 from 1,162 in 1992. This is a reflection of changing reproductive behaviours among women and couples and changing demographics. As can be seen in Figure 2, there has been an overall decline in the population-adjusted teen pregnancy rates in

the province. Since the medical, social and economic consequences of pregnancy tend to be less serious among women 18 or 19 compared to those who are younger, data are presented for two different age groups. Among older teens, 18 or 19, the pregnancy rate has dropped by almost a third since 1992, to 42.6 from 62.0 per 1,000. Among teens

15 to 17, the decline has been even faster, with the rate cut nearly in half between 1992 and 2009 (26.8 versus 14.5 per 1,000). The declining trend has reversed in recent years, with the rates having increased almost each year since 2005 among both age groups (by about six to eight per cent each year on average).

Figure 2: Trends in the teenage pregnancy rate by age group, New Brunswick, 1992-2009



Source: Office of the Chief Medical Officer of Health.

Note: Pregnancies among women younger than 15 are included with women 15 to 17 at the time of the pregnancy outcome.

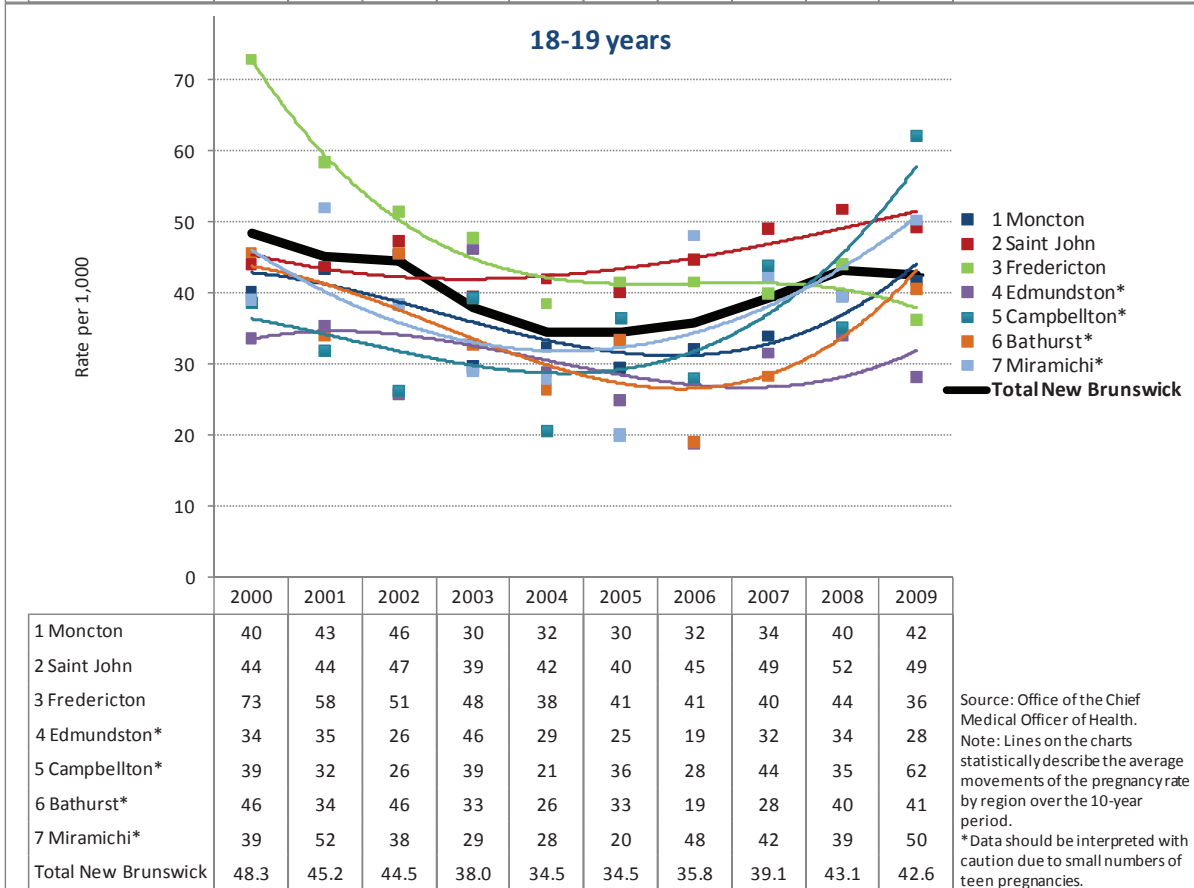
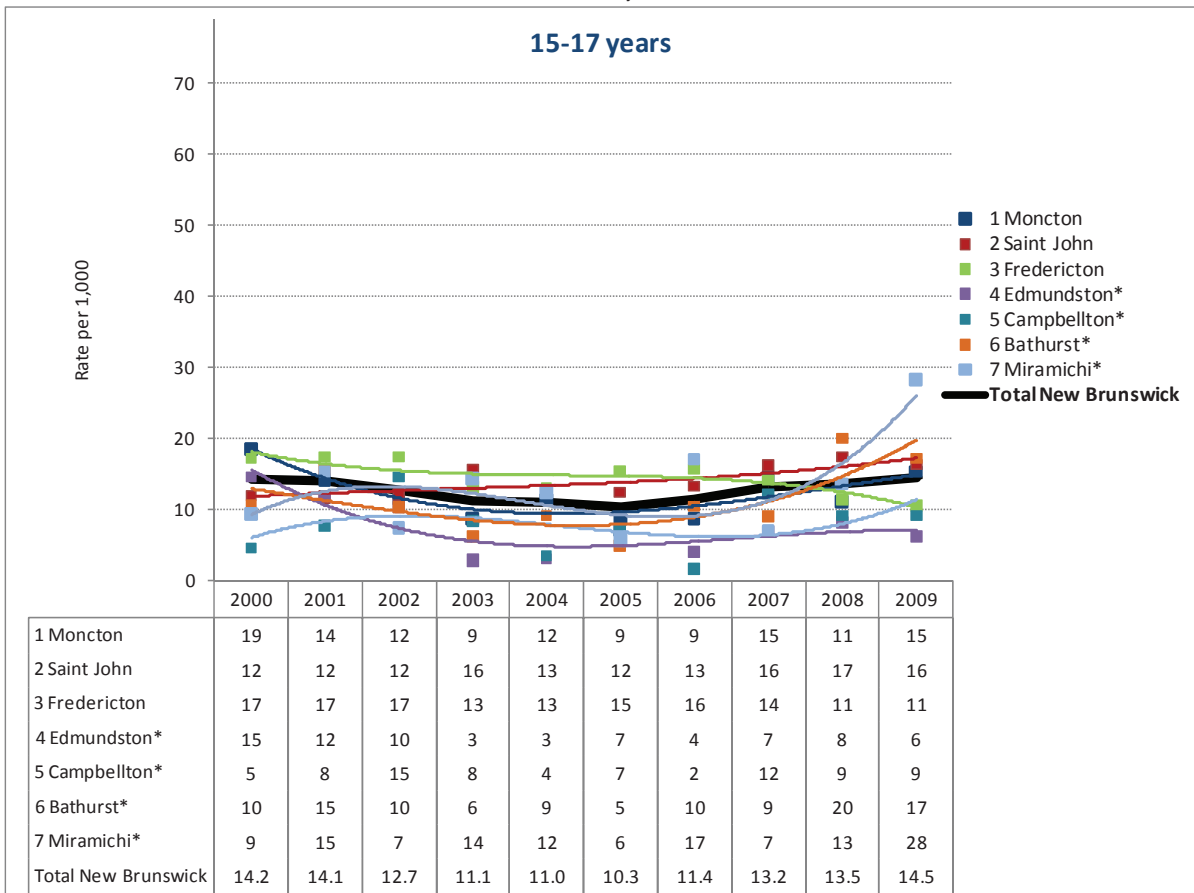
The different health regions have likewise seen both upward and downward trends in the teen pregnancy rate, although not necessarily with the same patterns as observed provincially. Relatively higher increases in the rate were experienced between 2005 and 2009 in selected health regions

– Bathurst and Miramichi among those 17 and younger, and in Moncton and Campbellton among those 18 to 19 (Figure 3). However, the absolute numbers of teen pregnancies by region remain small, and typically fluctuate from year to year; seemingly larger variability over time may be attributable to the small numbers, which present an

obstacle to the precise assessment of annual trends. Figure 3 shows the prevailing direction of the teen pregnancy rate by region during the last 10 years.

Additional time-trend data on teen pregnancies by outcome, according to each county in New Brunswick, may be found in the annex.

Figure 3: Trends in the teenage pregnancy rate by age group, according to health region, New Brunswick, 2000-2009



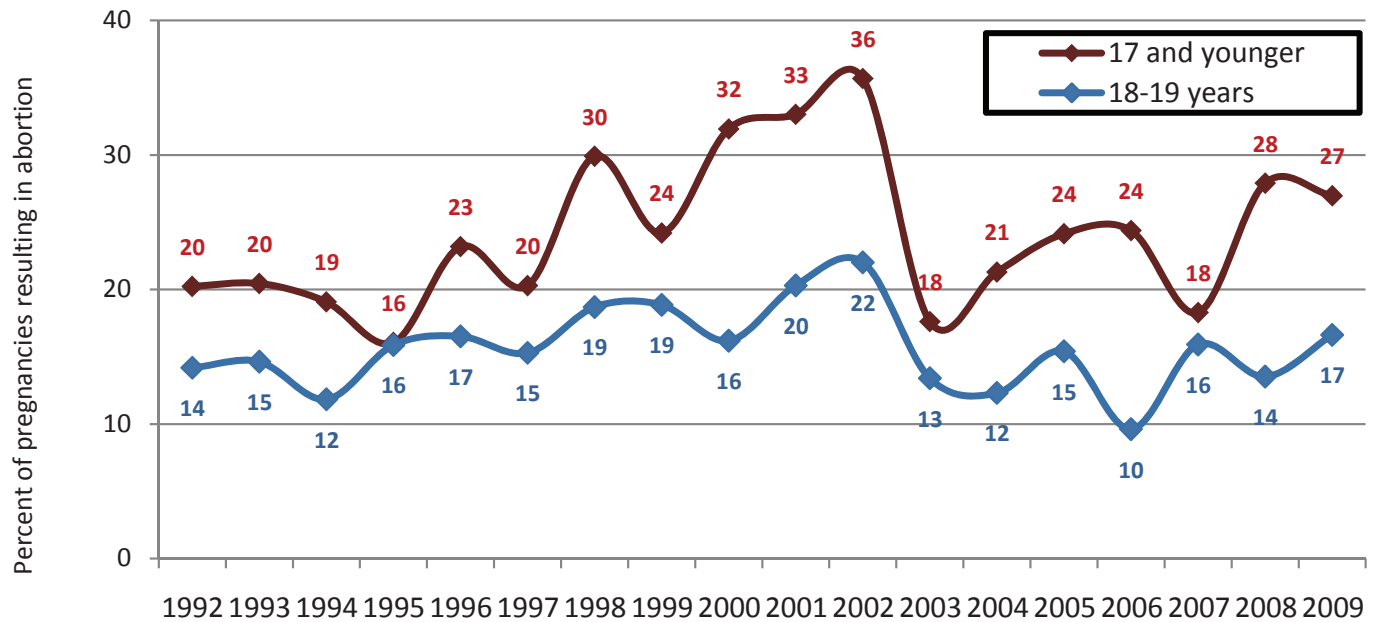
Abortion trends

As mentioned, the data on teen pregnancy rates are a reflection of the numbers of live births, stillbirths and legal therapeutic abortions in accredited New Brunswick hospitals. The latter constituted about one-quarter of reported teen pregnancies between 1992 and 2009, with the proportion higher among younger teens compared to

their older counterparts (Figure 4). The proportion had generally been increasing since 1992, reaching a peak in 2002 among both age groups, but this has declined since. The somewhat sharper single-year drop between 2002 and 2003 in the proportion of pregnancies resulting in abortion was, conversely, accompanied with an increase in

the proportion resulting in birth (live birth or stillbirth), especially among younger teens. In 2002, one of the province's former regional health authorities announced elective abortions would no longer be performed as a resource-saving measure for specialist hospital services⁵.

Figure 4: Percent of reported teen pregnancies resulting in therapeutic abortions in hospitals, by age group, New Brunswick, 1992-2009



Source: Office of the Chief Medical Officer of Health.

Hospital induced abortions do not represent all fetal losses. Induced abortions may be performed legally in private clinics in New Brunswick. Between 2005 and 2009, an almost equal number of abortions was performed among teens in private clinics as in hospitals. As could be expected, given their larger population sizes, the Moncton, Saint John and Fredericton areas were home to most teens who had had an abortion in a private clinic.

In addition, hospital records reveal a small number of spontaneous abortions among New Brunswick teens resulting in admission to a medical facility: an annual average of 11 admissions between 2004 and 2008.

Including the data on numbers of therapeutic abortions in New Brunswick private clinics plus spontaneous abortions resulting in admission to a medical facility, the total number of pregnancies

in 2009 among women 19 and younger is estimated at 710 – about 15 per cent higher than the official report (assuming the same of hospital spontaneous abortions in 2009 as in the previous year). Given that the available data capture neither therapeutic abortions performed outside the province nor spontaneous abortions for which no medical attention was sought, it is likely the true number of teenage pregnancies is somewhat higher.

⁵ *Abortion in Canada* (www.abortioninCanada.ca/history/Abortion_Canada_Timeline.html).

Comparisons with the rest of Canada and internationally

The trend in teenage fertility (counting live births only) in New Brunswick during the last two decades generally parallels the national trend. The number of annual births to Canadian mothers fell steadily throughout the 1990s, with an upward trend observed in the most recent years⁶. According to the latest published figures from Statistics Canada, the national teenage fertility rate declined steadily until about 2005; since then, it has inched upward (Figure

5). The rate for New Brunswick remains higher than the national average (19.8 versus 14.0 per 1,000 in 2007), and slightly higher than for Newfoundland and Labrador, Prince Edward Island and Nova Scotia. It may be noted the data presented here include only the number of live births.

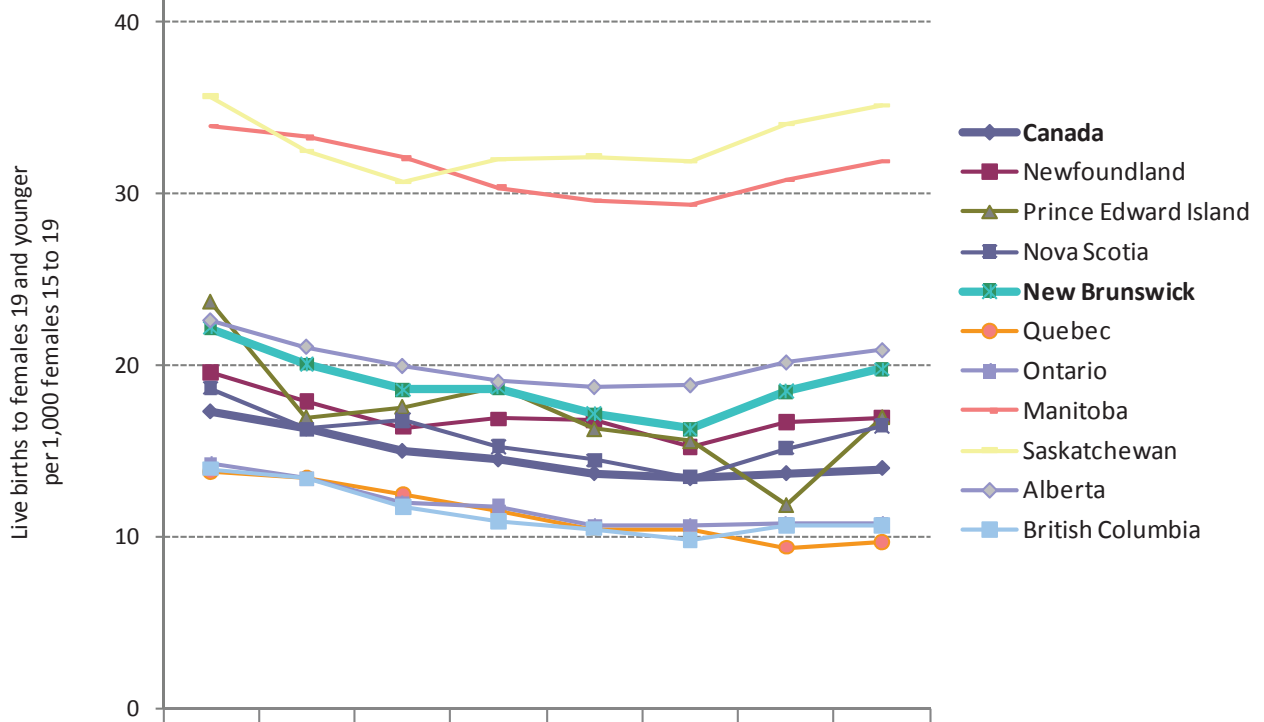
There are variations in teen fertility rates among countries. Compared with cross-national statistics collated by the United Nations, as depicted

in Figure 6, New Brunswick's rate is higher than the rates in Australia, France, Ireland and several other industrialized countries. The rate is lower than that in other countries, including New Zealand, the United Kingdom and the United States. From an international perspective, New Brunswick's teen fertility rate is considerably lower than the global average (47 per 1,000) and somewhat lower than the average among high-income countries (21 per 1,000)⁷.

⁶ Statistics Canada. *Births 2007*. (Catalogue no. 84F0210X.) Ottawa: Statistics Canada, 2009.

⁷ World Health Organization. *World Health Statistics 2010*. Geneva: World Health Organization, 2010.

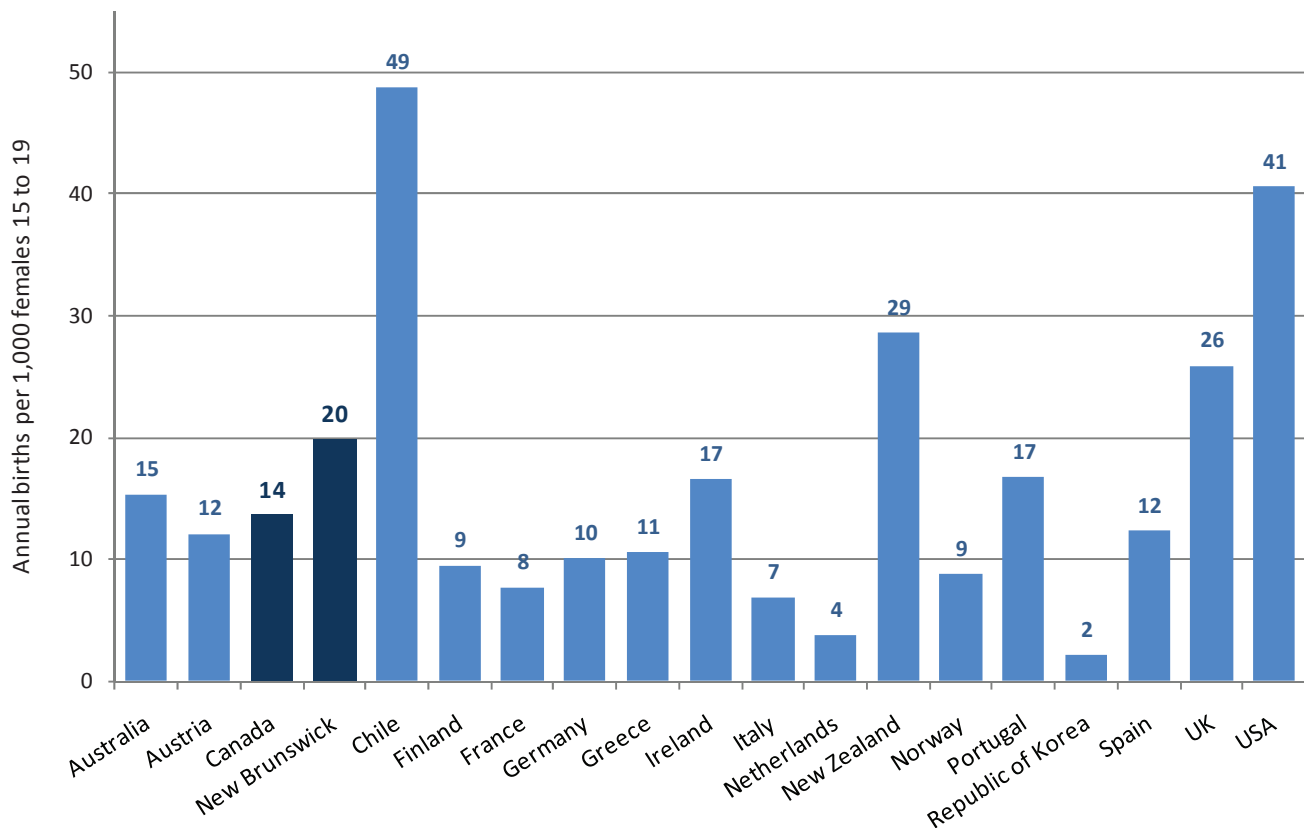
Figure 5: Trends in the teenage fertility rate, Canada and by province, 2000-2007



	2000	2001	2002	2003	2004	2005	2006	2007
Canada	17.3	16.3	15.0	14.5	13.7	13.4	13.7	14.0
Newfoundland	19.6	17.9	16.4	16.9	16.8	15.3	16.7	17.0
Prince Edward Island	23.7	17.0	17.6	18.8	16.3	15.6	11.9	17.0
Nova Scotia	18.7	16.3	16.8	15.3	14.5	13.5	15.2	16.5
New Brunswick	22.2	20.1	18.6	18.7	17.2	16.3	18.5	19.8
Quebec	13.8	13.5	12.5	11.5	10.5	10.4	9.4	9.7
Ontario	14.3	13.4	12.0	11.8	10.7	10.7	10.8	10.8
Manitoba	34.0	33.3	32.1	30.4	29.6	29.4	30.8	31.9
Saskatchewan	35.7	32.5	30.7	32.0	32.2	31.9	34.1	35.2
Alberta	22.6	21.1	20.0	19.1	18.8	18.9	20.2	20.9
British Columbia	14.0	13.4	11.8	10.9	10.5	9.8	10.7	10.7

Source: Statistics Canada. *Table 102-4505 - Crude birth rate, age-specific and total fertility rates (live births), Canada, provinces and territories, annual* (accessed 18 January 2011).

Figure 6: Teenage fertility rate, Canada and selected countries



Source: United Nations, *World Fertility Data 2008*. New York: UN Department of Economic and Social Affairs (POP/DB/Fert/Rev2008) (accessed 18 January 2011).

Data sources and limitations

Data on live births, stillbirths and abortions in New Brunswick by age at the time of pregnancy outcome have been collated by the Office of the Chief Medical Officer of Health, using custom extractions of anonymized records from Vital Statistics and the Hospital Discharge Abstract Database. There are several limitations in the presentation and interpretation of teen pregnancy data. The data for New Brunswick used in the calculation of teen pregnancy rates do not include therapeutic abortions performed in private clinics or outside the province, spontaneous abortions or other fetal losses. Supplementary data for the Canadian and

international comparisons only include the number of live births in the numerator. A failure to account accurately for all teen pregnancies, including terminated pregnancies, may limit the interpretation of national and international comparisons. As well, categorizing teen pregnancies by the age group 15 to 19 fails to acknowledge the different implications of pregnancy at age 15 compared to pregnancy at age 19. At the time of preparation of this report, data were not available on pregnancies in New Brunswick disaggregated by the woman's language, ethnicity or other socio-cultural characteristics.

New Brunswick population estimates used for the denominator in calculating teen pregnancy rates are drawn from the latest version of Statistics Canada's population estimates for 1992 to 2008 by five-year age group and sex, released on Jan. 15, 2009. Updates to the population count methodology mean comparisons with previously published population-based rates from the Office of the Chief Medical Officer of Health must be made with caution. Population estimates for females 15 to 17 and 18 to 19 are based on the proportional distribution of the 2008 single-year population estimates for New Brunswick. The denominator used to calculate the 2008 and 2009 rates are the 2008 population estimates.

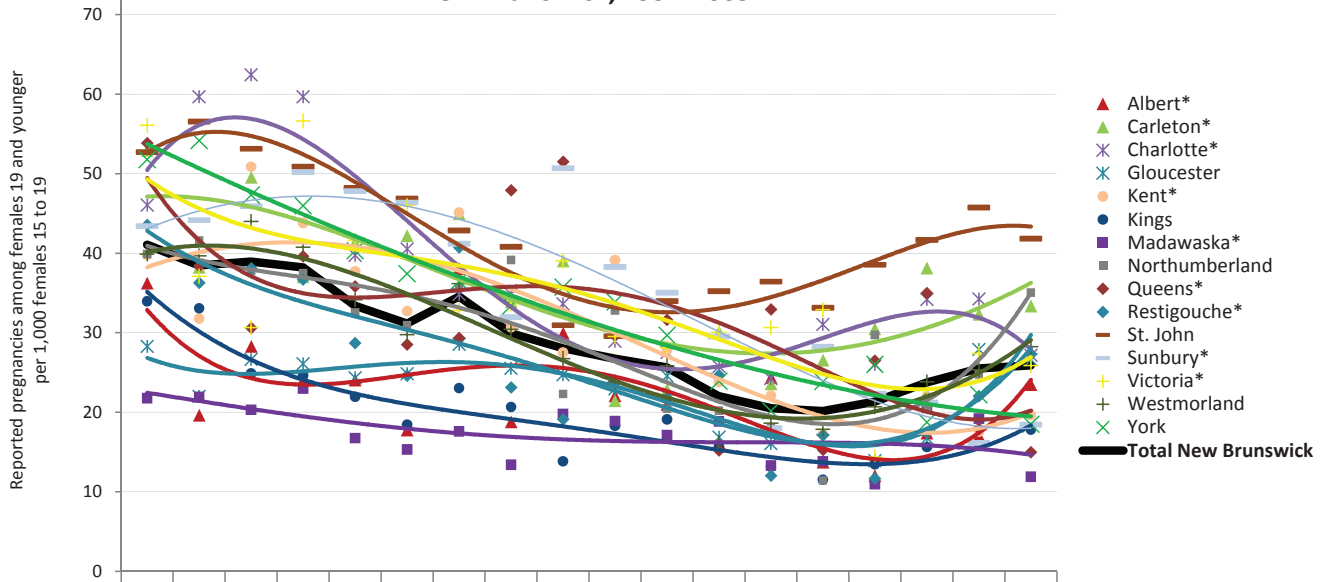
Annex

This annex presents time-trend data for the period 1992-2009 on the teen pregnancy rate by county of New Brunswick. The information is further disaggregated according to whether the pregnancy resulted in

live birth (fertility rate). These data should be interpreted with caution due to the small numbers of events, which may seem to be indicative of a shift in trend when they are actually within a range that could

be considered reasonable in the light of the history of variability in the data. Trend lines on the charts indicate the prevailing direction of the observed rates by county during the 18-year period.

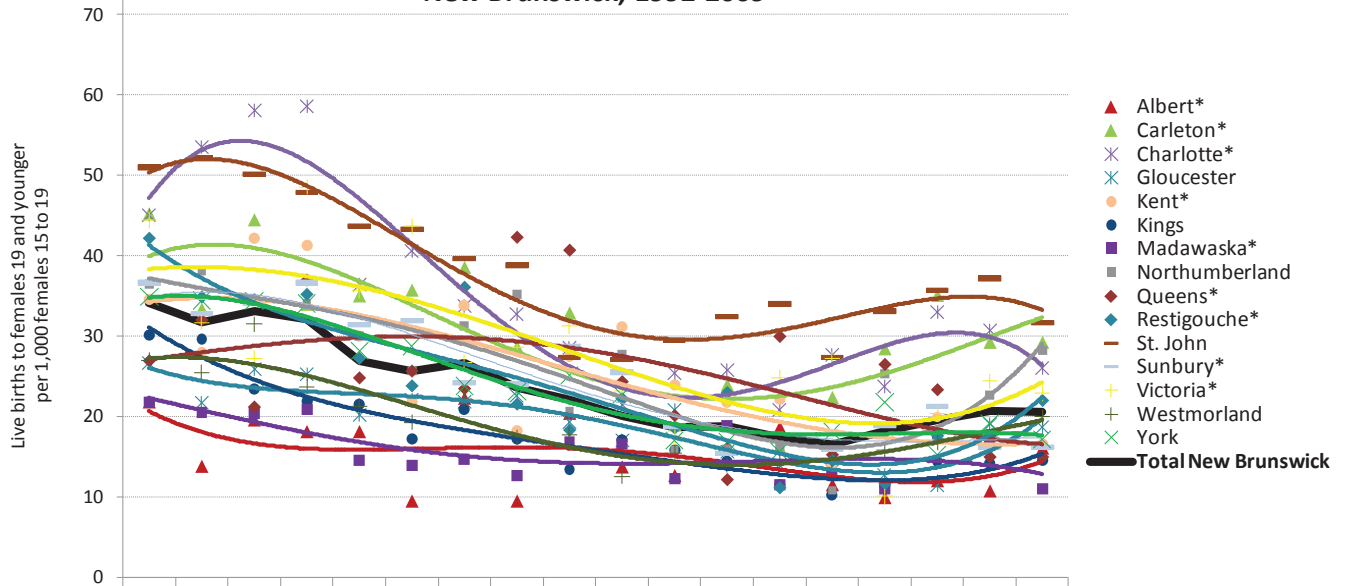
A1. Trends in the teenage pregnancy rate by county, New Brunswick, 1992-2009



	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Albert*	36	20	28	24	24	18	38	19	30	22	21	16	24	14	12	17	17	23
Carleton*	53	38	50	37	41	42	45	34	39	21	23	30	24	27	30	38	32	33
Charlotte*	46	60	62	60	40	41	35	35	34	29	28	26	24	31	26	34	34	27
Gloucester	28	22	27	26	24	25	29	26	25	23	25	17	16	16	14	17	28	27
Kent*	40	32	51	44	38	33	45	31	28	39	28	24	22	17	14	22	18	20
Kings	34	33	25	25	22	18	23	21	14	18	19	16	13	12	13	16	16	18
Madawaska*	22	22	20	23	17	15	18	13	20	19	17	19	13	14	11	21	19	12
Northumberland	40	42	38	38	33	31	36	39	22	33	20	20	18	11	30	21	25	35
Queens*	54	38	31	40	36	28	29	48	51	30	32	15	33	15	26	35	18	15
Restigouche*	44	36	38	37	29	25	41	23	19	24	22	25	12	17	12	22	22	27
St. John	53	57	53	51	48	47	43	41	31	30	34	35	36	33	39	42	46	42
Sunbury*	43	44	46	50	48	46	41	32	51	38	35	30	18	28	22	21	16	18
Victoria*	56	37	31	57	42	46	33	34	39	30	28	30	31	33	14	22	27	26
Westmorland	40	40	44	41	34	30	36	30	27	24	26	16	19	18	21	24	25	28
York	52	54	47	46	40	37	36	33	36	34	30	24	20	24	26	19	22	18
Total New Brunswick	41.1	38.5	39.0	38.2	33.4	31.1	34.6	29.9	28.1	26.7	25.6	22.0	20.5	20.2	21.3	23.7	25.5	25.9

Source: Office of the Chief Medical Officer of Health.
 Note: Lines on the chart statistically describe the average movements of the pregnancy rate by county over the period of observation.
 *Data should be interpreted with caution due to small numbers of teen pregnancies.

A2. Trends in the teenage fertility rate by county, New Brunswick, 1992-2009



	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Albert*	22	14	19	18	18	9	22	9	20	14	13	16	19	11	10	12	11	16
Carleton*	45	33	44	34	35	36	39	29	33	16	19	24	16	22	28	35	29	29
Charlotte*	45	53	58	59	36	41	34	33	29	21	25	26	21	28	24	33	31	26
Gloucester	27	22	26	25	20	22	22	23	19	17	21	16	14	13	13	11	19	19
Kent*	35	28	42	41	30	22	34	18	28	31	24	22	22	14	12	20	18	17
Kings	30	30	23	22	22	17	21	17	13	17	16	14	11	10	11	14	14	15
Madawaska*	22	21	20	21	15	14	15	13	17	17	12	19	12	13	11	18	16	11
Northumberland	36	38	35	34	30	26	31	35	21	28	16	16	16	11	25	17	23	28
Queens*	27	32	21	37	25	26	23	42	41	24	20	12	30	15	26	23	15	15
Restigouche*	42	35	35	35	27	24	36	22	18	22	19	23	11	15	12	18	18	22
St. John	51	52	50	48	44	43	40	39	27	27	29	32	34	27	33	36	37	32
Sunbury*	37	33	34	37	31	32	24	24	29	26	19	15	14	16	19	21	16	16
Victoria*	44	32	27	49	36	44	27	29	31	23	17	22	25	27	10	20	24	23
Westmorland	27	25	31	24	21	19	22	17	18	13	15	14	15	14	16	17	18	20
York	35	34	34	34	28	29	24	23	25	23	17	17	16	18	22	15	19	17
Total New Brunswick	34.1	31.7	33.1	32.1	26.9	25.6	26.6	23.6	22.1	20.1	18.6	18.7	17.4	16.4	18.2	19.6	20.7	20.5

Source: Office of the Chief Medical Officer of Health.
 Note: Lines on the chart statistically describe the average movements of the fertility rate by county over the period of observation.
 *Data should be interpreted with caution due to small numbers of teen births.

For information about the New Brunswick Sexual Health Program, visit: <http://www.gnb.ca/publichealth>

For information and reports about the status of notifiable communicable diseases in New Brunswick, visit: http://www.gnb.ca/0053/public_health/cd_epidemiology-e.asp

For more data and reports about teenage pregnancy across Canada, visit: <http://www.statcan.gc.ca/search-recherche/bb/info/3000020-eng.htm>