

This review analyzes the evidence for the determinants or causative factors, and the strategies for prevention of adverse pregnancy outcomes related to preterm, LBW, IUGR or small for gestational age (SGA) births.

C. Burden of illness:

a. Global:

IUGR and LBW infants represent a significant health problem worldwide.^{1;14-17} The IUGR-LBW rate is highest in South-Central Asia followed by Middle and Western Africa, Oceania and Latin America.¹⁸ The significance of these findings should be understood within the context that 75% of these infants are born in Asia (greater total number of live births) while a small number of children are born in Oceania. These rates of IUGR-LBW are probably underestimates of the global situation as in the developing world a significant proportion of infants are born at home and are not registered as live births.¹⁸

The incidence of preterm birth is increasing. This rise is particularly noted in developed countries (the quality of data from the developing countries precludes any firm conclusions).^{14;16;19-21} Dramatic reductions in mortality rates have been reported in the last 2 decades among preterm infants with less of a reduction in morbidity.^{14;22} In the developed countries only France and Finland reported a reduction in preterm birth rates²³ until the early 1990's. However, the rates for LBW births have been reported to be on the rise again in Finland (4.4% rate for LBW births in 1998 compared to 4.0% in 1991).²⁴ The increase was chiefly attributed to a rising incidence of multiple births.²⁴ LBW/preterm birth rates are higher in the US compared to other developed countries and are believed to contribute to higher infant mortality in the US compared to other industrialized nations despite technological advances.²²

b. National (Canada):

The rate of LBW among live born infants in Canada was 5.77% in 1995. This was a significant decline from 6.64% in 1975. However, there was a slight increase in the LBW rate, 5.77% in 1995 compared to 5.53% in 1985.¹² This rate was still higher than that reported from some European countries (Finland 4.0% in 1985, Ireland 4.4% in 1987, Norway 4.5% in 1985).¹⁸

The incidence of preterm birth has increased in Canada (excluding Ontario) (6.4% in 1981 to 6.7% in 1992 and 7.1% in 1997).^{20;21} This increase is secondary to an increase in multiple births, an increase in obstetrical interventions, an increase in the registration of early gestation births and an increase in the use of ultrasound to estimate gestational age.²⁰ Higher incidences of preterm birth in twins and higher order pregnancy have been noted.²¹ However, the major contribution (80%) to the increase in the preterm birth rate relates to singleton pregnancies.²¹

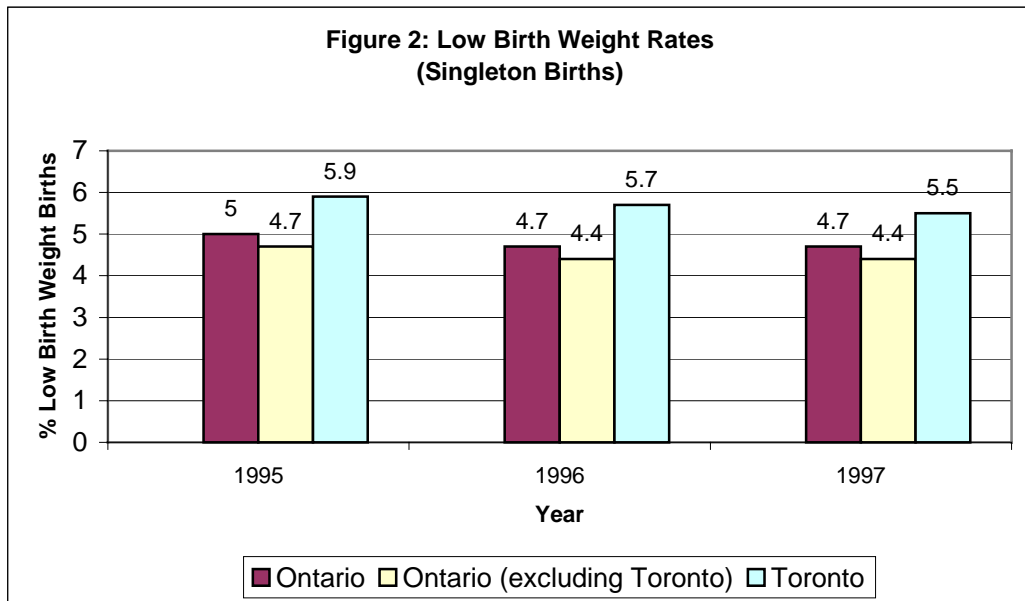
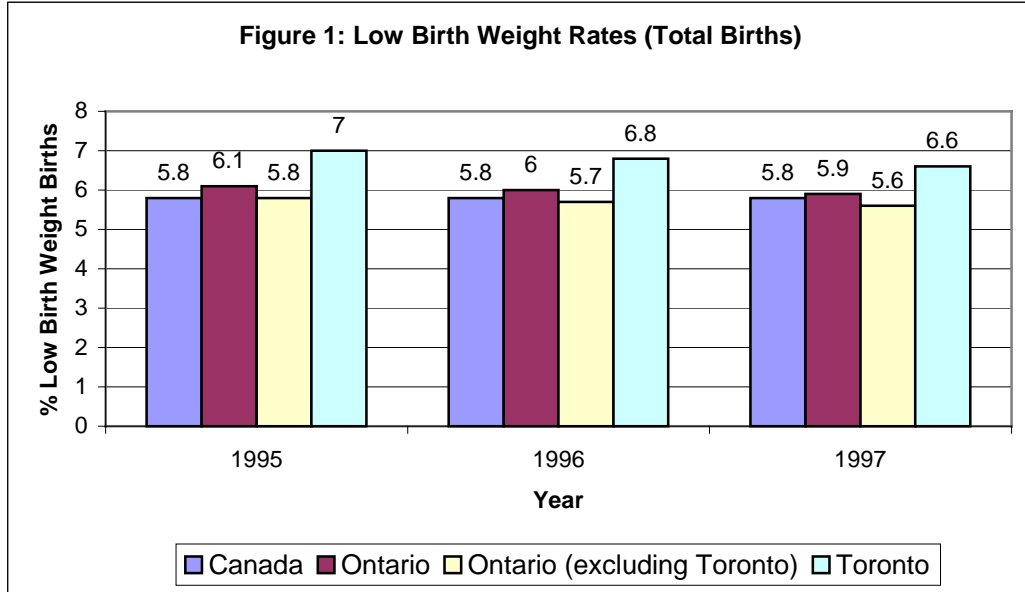
c. Provincial (Ontario):

The rate of LBW among singleton live births in Ontario decreased from 1995 to 1997 (5.0% in 1995, 4.7% in 1996 and 4.7% in 1997) (Toronto Public

Health) (fig. 1,2). Preterm birth rates for Ontario are not included in this report due to data accuracy concerns.

d. Local (Toronto):

LBW rates for singleton live births have been consistently higher for Toronto compared to Ontario over the period 1986-1997. The rates of LBW among singleton live births were 6.0% in 1993, 5.9% in 1994, 5.9% in 1995, 5.7% in 1996 and 5.5% in 1997. These rates are well above the rates for the province of Ontario (5.0, 4.9, 5.0, 4.7 and 4.7% respectively). (Toronto Public Health) (fig. 1,2). The preterm birth rates for Toronto are not included in this report due to data accuracy concerns.



Source: Canadian rates: Statistics Canada, Vital Statistics, Birth Database.

Source: Ontario and Toronto rates: Live Birth Database, Health Planning System (HELPS), Ministry of Health & Long Term Care (MOHLTC)

Data Limitations: A number of live births are not reported in the Ontario vital statistics each year. This number increased in 1996 and again in 1997. It is estimated that 2.3% of Ontario live births and 3.2% of Toronto live births were not reported in 1997. The number under-reported is disproportionately higher among mothers under 20 years of age, low birth weight births and pre-term births. Therefore, the number of low birth weight births in 1997 may be higher than reported. Provided by: Health Information, Toronto Public Health.

D. Data accuracy:

The three components of an effective surveillance system are data collection, data analysis and response. Concerns about data accuracy have prevented the Canadian Perinatal Surveillance System of Health Canada from