



Maternal and Infant Health Monthly Surveillance Report
Hamilton County
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Introduction

Infant Mortality is an important indicator of overall health and well-being in a community. The Infant Mortality Rate (IMR), or number of infants who die before reaching 1 year of age per 1,000 live births, can be associated with factors such as social and economic conditions, maternal health, access and quality of healthcare, and public health practices.¹

Hamilton County has an IMR much higher than the national rate. In 2008 the IMR was *10.5 per 1,000 live births, compared to the most recent preliminary estimate of 6.71 for the United States in 2006.¹ This amounts to a rate of deaths around 56% higher than the national rate.

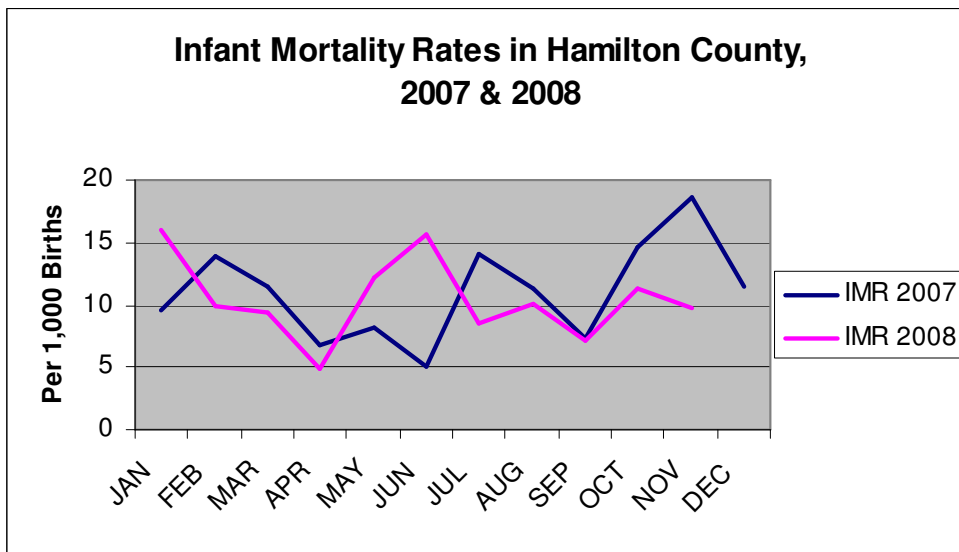
In order to make effective actions which improve the health and safety of infants in the community, it is essential to identify, describe, and monitor the problem and the populations at risk. Tracking specific risk factors for infant mortality can provide additional measures to evaluate efforts aimed at reducing the IMR. This is the first in a series of monthly surveillance reports that will include the most current preliminary data related to infant mortality and risk factors observed at the local level.

Infant Mortality Rates

The IMR in Hamilton County over the past two years (2007-2008) fluctuated widely each month (Figure 1). The average monthly IMR in these years was 10.8 per 1,000 live births (with an interquartile range of 8.2-13.9). See Table 1 for the yearly IMR for 2007-2008.

The monthly IMR does not appear to follow a predictable pattern, such as strong seasonal variation. The rates were lower for both years in April and September, and the highest rate was in November 2007.

Figure 1



*Preliminary Data

Table 1. Infant Mortality Rates in Hamilton County, 2007-2008

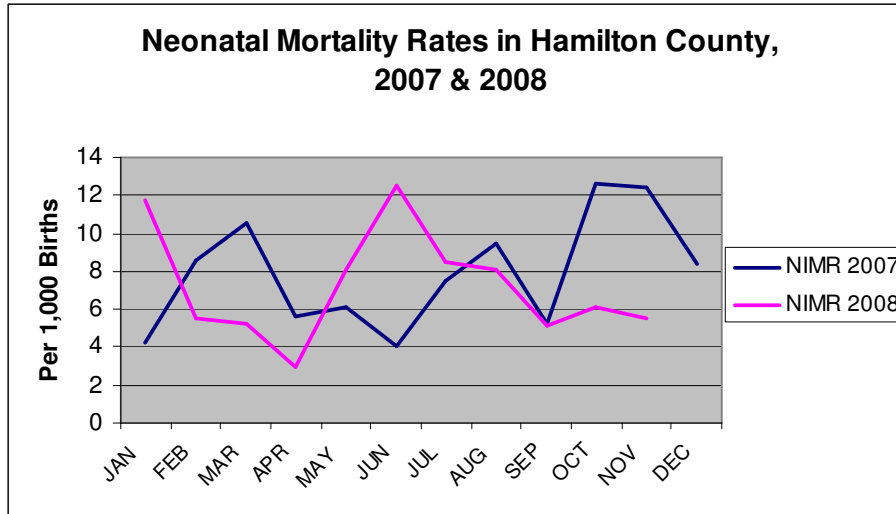
Year	IMR
2007	11.1
*2008	10.5

*Preliminary Data

Neonatal Mortality Rates

Neonatal deaths make up two-thirds of all infant deaths and are most often associated with prematurity.² The Neonatal Mortality Rate (NIMR) is the number of infants <28 days old who die per 1,000 live births. In Hamilton County the NIMR was similar to the IMR in 2007-2008 (Figure 2); the NIMR rates were lower for both years in April and September and higher rates occurred in October and November of 2007.

Figure 2



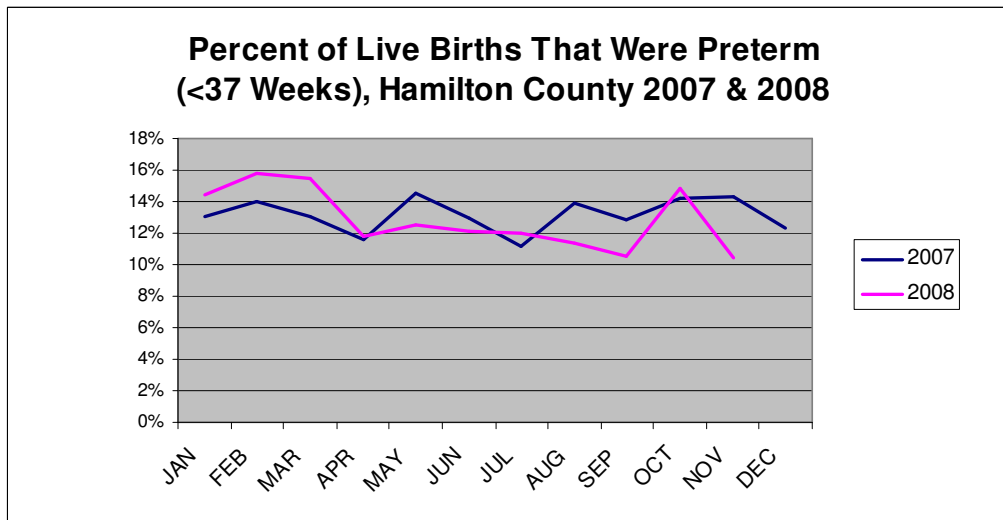
*Preliminary Data

Preterm Births

Prematurity is an important risk factor for infant mortality.¹ A statistically significant decline in the percentage of preterm births (Figure 3) was observed between January and December of 2008; this trend was not observed in 2007. The continued collection of data will elucidate this trend.

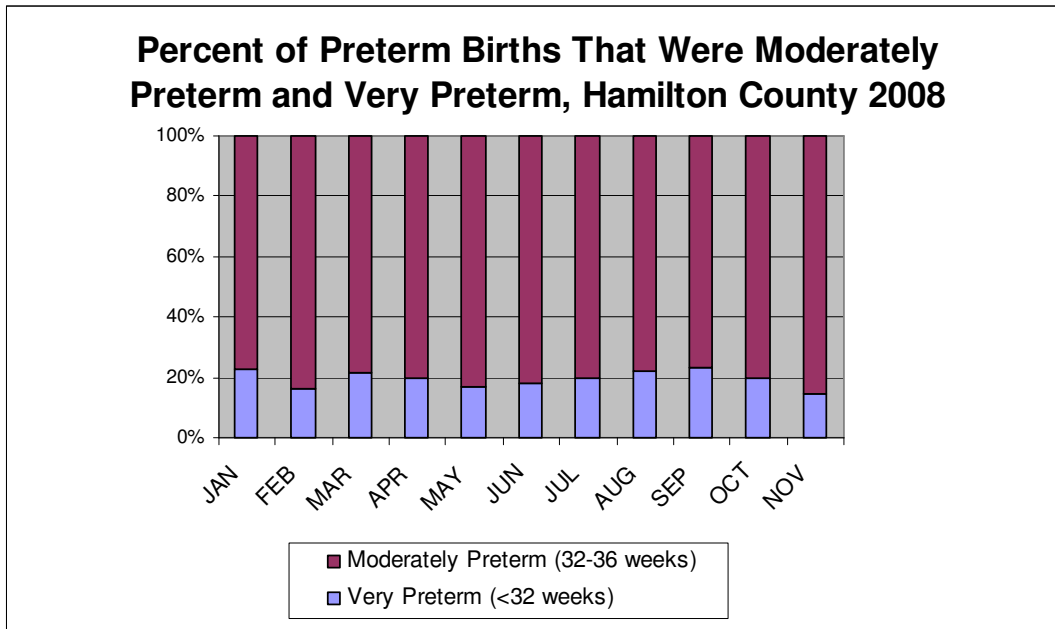
Infants who are born very preterm (<32 weeks) are over 15 times more likely to die than infants who are moderately preterm (32-36 weeks).² Very preterm births in Hamilton County tended to make up roughly 20% of all preterm births each month in 2008 (Figure 4).

Figure 3



*Preliminary Data

Figure 4



*Preliminary Data

*NOTE: Preliminary data were used in this report

¹NCHS Data Brief, No.9, October 2008 (<http://www.cdc.gov/nchs/data/databriefs/db09.pdf>)

²NCHS Infant Mortality Statistics from the 2005 Period Linked Birth/Infant Death Data Set, Vol. 57 No. 2, July 30, 2008 (http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57_02.pdf)