

# Behind the numbers

## LOW BIRTHWEIGHT

The indicator data that the FCFC collects and reports are intended to provide “fuel for community conversations, just like gasoline for a car.”<sup>1</sup> A good example is Low Birthweight, the percentage of babies born weighing less than 2,500 grams (five-and-a-half pounds). This is one of the community indicators chosen by the FCFC when we began Phase I of our reporting on outcomes and indicators.

Babies born with a low birthweight are at increased risk of death and of a wide

range of disorders that can affect them throughout childhood and beyond, including learning disorders, behavior problems, lower respiratory tract infections, and neurodevelopmental conditions. In short, the personal, societal and financial costs made this a key indicator worthy of attention in Phase I, and it remains an important indicator in Phase II.

In our first report, *Turning the Curve* (1998), it was clear that the local trend was not in the desired direction. **Fig. 1**,

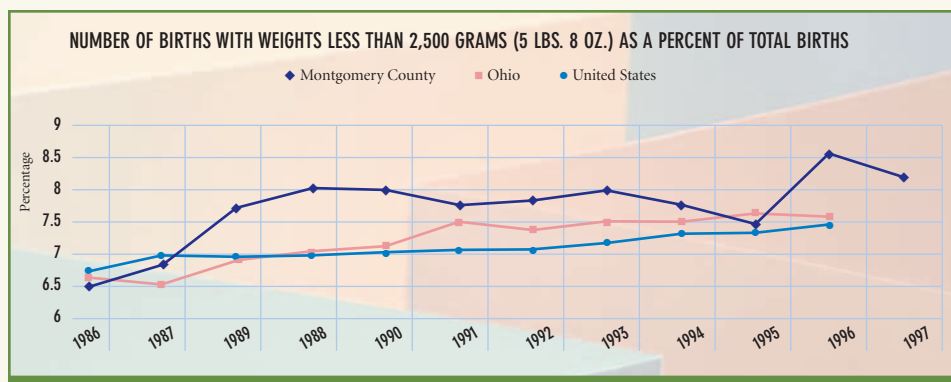
based on the data presented in that report, reveals a definite upward trend for Montgomery County as well as for the state and the nation.

The steady increase of the national rate began in 1984 when it was 6.72%, having fallen from a value of 7.93% in 1970.<sup>2</sup> This rise had already caught the attention of health professionals and policy makers. By the mid-1990s efforts to explain the increase and to respond to the “seemingly intractable problem of preventing death and disability in infants as a result of being born too soon at low birthweight”<sup>3</sup> were well underway.

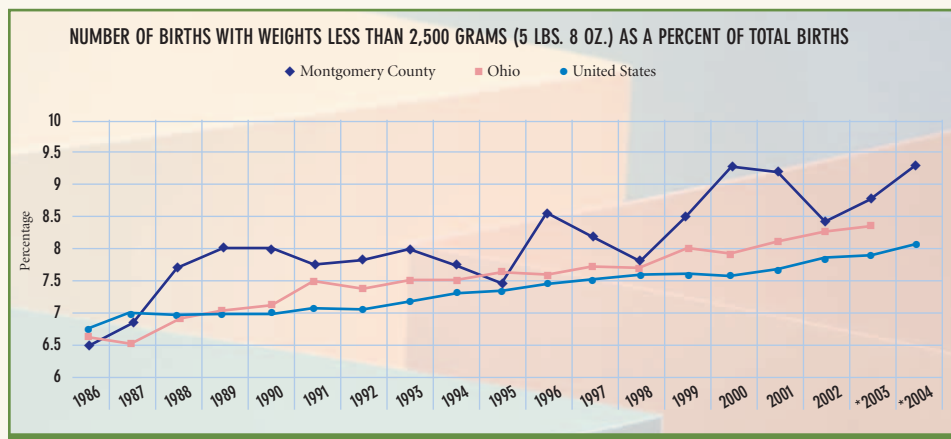
Unfortunately, a decade later the problem remains. **Fig. 2** shows the most current data for the Low Birthweight indicator. The wide swings in the county’s rate, reflecting the relatively small size of the local population compared to the state and the nation, certainly do not mask the continuing upward trend.

Preterm delivery (before 37 weeks of gestation, at least three weeks before the “due date”) has been called “the principal cause of low birthweight in developed countries.”<sup>4</sup> Consistent with the rise in the low birthweight rate has been the steady increase in the percentage of babies born preterm in the United States. **Fig. 3** shows that the rate in 2004 was 33% higher than the rate in 1981.<sup>5</sup> Black mothers are more likely than white mothers to deliver preterm, but the difference has been narrowing, primarily because the rate for white mothers has increased much faster.<sup>6</sup> (**Fig. 4.**)

Because the causes of preterm birth remain poorly understood, a significant



**Fig.1** Low Birthweight data through 1996 were presented in the FCFC’s first report, as well as the provisional value for Montgomery County for 1997. This graph shows the final value for 1997, which is slightly lower than the provisional value.



**Fig.2** Current data for the Low Birthweight indicator. Compared to the most recent data in **Fig. 1**, the national rate is up 9%, the Ohio rate 11%, and the rate for Montgomery County 13%. \*2003 and 2004 data are provisional.



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reduction in the rate is unlikely to happen soon.<sup>7</sup> One thing that is known is that twins, triplets and higher order multiple births are more likely to be born preterm than singletons (babies born alone). Multiple births are also accounting for an increasingly greater proportion of all preterm births. There are two reasons for this. First, the percentage of all multiple birth babies who are born preterm has been rising; in the 1981-83 period 42% of all multiple births were born preterm while by 1995-97 the figure had grown to 56%.<sup>8</sup> Second, multiple births are becoming more common; for example, the rate of multiple births in 2003 was 73% higher than the rate in 1980.<sup>9</sup> However, these facts are not sufficient to explain the overall increase in the rate of preterm births because the preterm rate for singletons alone has also risen, by 7 percent between 1990 and 2002 (from 9.7 to 10.4 percent).<sup>10</sup>

During the period that the percentage of multiple order births born preterm was rising from 42% to 56%, the

percentage of multiple order births (whether preterm or later) which were low birthweight babies was also rising, but at a much slower pace, from 52% to 56%.<sup>11</sup> Therefore, the dramatic increase in the rate of multiple births over the last two decades or so, rather than an increase in the rate at which multiple births are of low birthweight, may be what has contributed to the increase in the overall low birthweight.<sup>12</sup>

A next logical question might be “What is the cause of the increasing rate of multiple births?” Some associate this increase with two related trends: the older age at childbearing (older mothers are more likely than younger mothers to spontaneously conceive multiples) and the increasing use of fertility therapies.<sup>13</sup> Further analysis is beyond the scope of this article, but it is clear that the “community conversation” fueled by this indicator involves more than just our local community. The FCFC Healthy People Outcome Team will help us participate in that conversation knowledgeably.

<sup>1</sup>2004 Progress Report: Outcomes, Indicators, and Strategic Community Initiatives, Montgomery County Family and Children First Council, p. 16.

<sup>2</sup>National Center for Health Statistics. Health, United States, 2005, With Chartbook on Trends in the Health of Americans. Hyattsville, Maryland: 2005

<sup>3</sup>Richard E. Behrman, “Statement of Purpose”, *Low Birth Weight*, from *The Future of Children*, a publication of the David and Lucile Packard Foundation, vol. 5, no. 1 – Spring 1995.

<sup>4</sup>Nigel S. Paneth, “The Problem of Low Birth Weight,” *Low Birth Weight*, from *The Future of Children*, a publication of the David and Lucile Packard Foundation, vol. 5, no. 1 – Spring 1995.

<sup>5</sup>National Vital Statistics Reports; multiple issues. Hyattsville, Maryland: National Center for Health Statistics.

<sup>6</sup>Branum AM, Schoendorf, KC. Changing patterns of low birthweight and preterm birth in the United States, 1981-98. *Pediatric and Perinatal Epidemiology* 2002; 16:8-15.

<sup>7</sup>Martin JA, Hamilton BE, Sutton PD, Ventura SJ, Menacker F, Munson ML. Births: Final data for 2002. National vital statistics reports; vol. 52 no 10. Hyattsville, Maryland: National Center for Health Statistics. 2003.

<sup>8</sup>Blondel B, Kogan MD, Alexander GR, Dattani N, Kramer MS, Macfarlane A, Wen SW. The impact of the increasing number of multiple births on the rates of preterm birth and low birthweight: An international study. *American Journal of Public Health* 2002; 92:1323-1330.

<sup>9</sup>Martin JA, Hamilton BE, Sutton PD, et al. Births: Final data for 2003. National vital statistics reports; vol 54 no 2. Hyattsville, MD: National Center for Health Statistics. 2005.

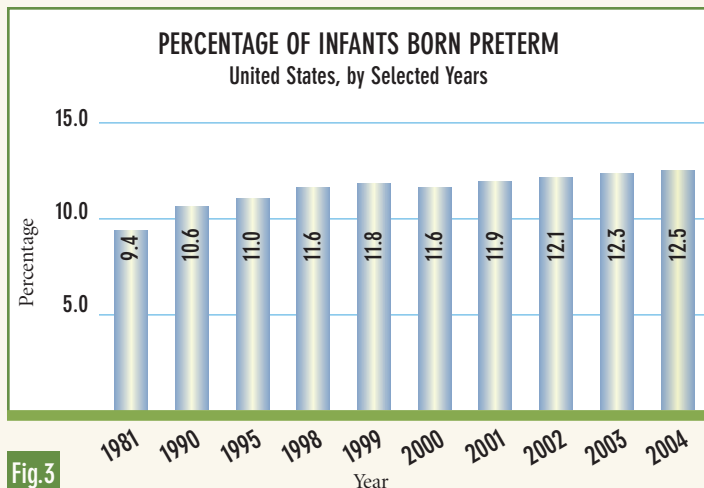


Fig.3

The percentage of infants born preterm has been rising steadily in the United States, with the drop in 2000 being the first decrease since 1992 (not shown).

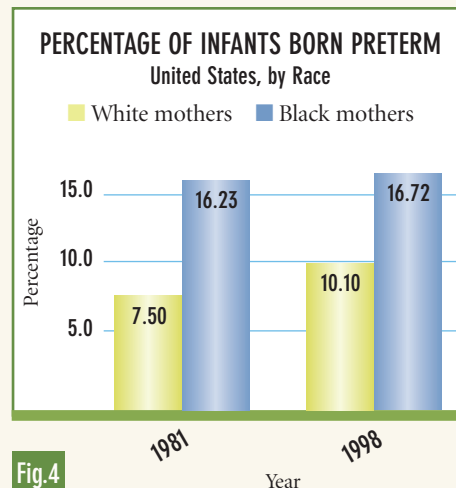


Fig.4

The rate of preterm births for black mothers was 3% higher in 1998 than it was in 1981. For white mothers the increase was 35%.

<sup>10</sup>ibid.

<sup>11</sup>Blondel et al., *op cit*.

<sup>12</sup>ibid.

<sup>13</sup>Martin et al. 2005. *op cit*.