



CITY OF WORCESTER, MASSACHUSETTS
Department of Health & Human Services
Division of Public Health

Matilde Castiel, MD
Health & Human Services
Commissioner

Karyn E. Clark
Public Health
Director

DATE: MAY 2, 2017
TO: EDWARD M. AUGUSTUS, JR., CITY MANAGER
FROM: MATILDE "MATTIE" CASTIEL, MD
RE: **CC ORDER 8653 - INFANT MORTALITY**

I am pleased to provide information relative to Council Order 8653: Motion Lukes @ #9.32E CM – Request City Manager provide City Council with an update concerning the implementation of an infant mortality reduction initiative, including what has and has not worked and if there has been a reduction in infant mortality. This report was written in consultation and coordination with the Worcester Healthy Baby Collaborative and Worcester Division of Public Health. I respectfully request that the same be forwarded to the City Council.

History and Local Efforts

A substantial piece of the intentional infant mortality (IM) reduction efforts in the city have been taken on by the Worcester Healthy Baby Collaborative (WHBC), in partnership with the Worcester Division of Public Health (WDPH). For many years the WHBC meetings have also been hosted by WDPH. Additionally, WDPH provides resources and collaborates with WHBC efforts in a variety of other ways. WDPH is currently working with the Centers for Disease Control and Prevention (CDC) through their Public Health Associate Program to provide additional staffing support in the form of a CDC employee stationed at WDPH to work on local issues of Maternal and Child Health, with a particular focus on infant mortality reduction. WDPH plans to continue this relationship with the CDC and has applied for another public health associate, and if awarded, will begin in October 2017.

The WHBC consists of a group of volunteers from organizations with an interest in reducing infant mortality in Worcester, including representatives from UMass Memorial, Family Health Center of Worcester, the Massachusetts Department of Public Health, and the March of Dimes. The organization originally began as the Worcester Infant Mortality Reduction Task Force in the mid-1990s in order to examine trends in Worcester infant mortality. This work has continued, evolving in response to changes in both the needs and desires of the local community, and has come to encompass several intervention and reduction strategies over the past two decades. Ultimately, in pursuit of the goal of IM reduction, the WHBC seeks to make a wide variety of improvements in the "social determinants of health." These strategies can include conducting educational programs for parents, providing resources for infant care, or advocating for system improvements that



affect the health of the overall community. The WHBC collects and examines data around IM by conducting reviews of the medical charts surrounding an infant death, and is currently pursuing an expansion of this program into a formalized Fetal Infant Mortality Review (FIMR) as conducted in other cities across the country.

Data

Neonatal mortality is driven by high rates of preterm birth, which is the leading cause of infant death as well as the leading cause of long-term neurological disabilities in children, according to the Centers for Disease Control and Prevention (CDC). An infant mortality rate (IMR) is defined as the number of infant deaths per year in an infant's first year of life per 1,000 live births for that year. The national IMR has been in decline since 2005, down from 6.87 per 1,000 in 2005 to 5.82 per 1,000 in 2014. Similarly, Worcester's IMR has also improved in that time period, from over 8 per 1,000 in 2003-2005 to fewer than 6 per 1,000 in 2012-2014. Worcester's IMR is generally reported in the form of a 3-year average, as, due to the relatively low population and birth rate in the city, there can be a lot of variability in the infant mortality rate from year to year. The 3-year average IMR presents a clearer picture of the actual direction of trends over longer periods of time. Worcester's IMR remains higher than that of the state overall, however, which was most recently reported as 4.3 deaths per 1,000 live births in 2015.

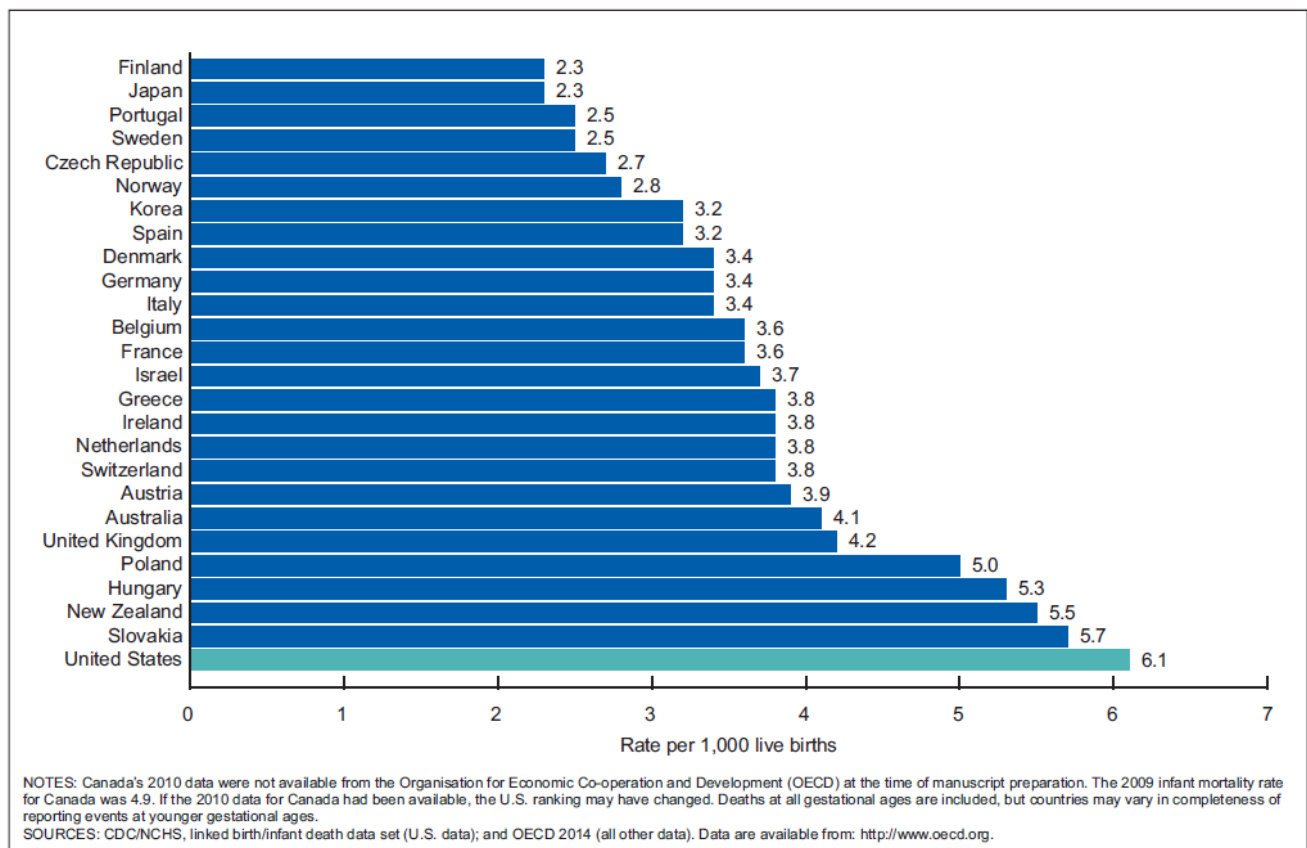


Figure 1. IMR for Selected Developed Nations, 2010
Source: CDC - National Center for Health Statistics

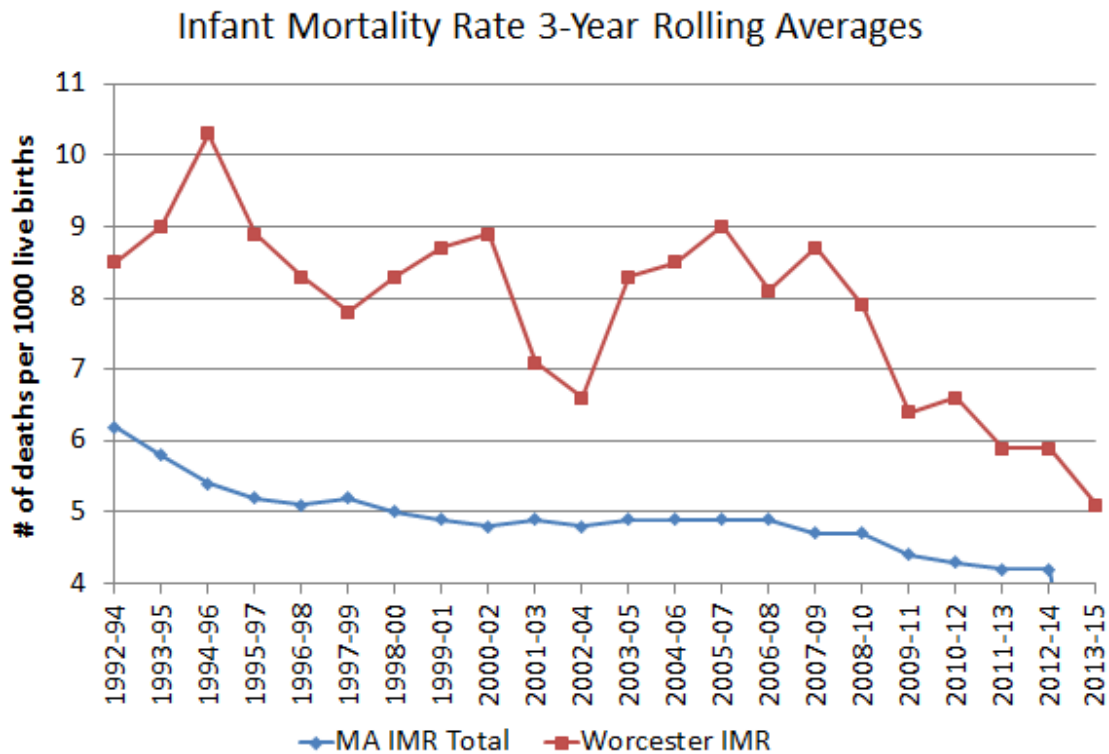


Figure 2. 3-year rolling average of IMR in Worcester
Source: Worcester Healthy Baby Collaborative

Worcester's high IMR represents the influence of many other factors on the health of Worcester's children. While several medical risk factors can influence preterm birth, a broader influence comes from what are commonly referred to as the "social determinants of health." The Healthy People 2020 program defines social determinants of health as "conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health and quality-of-life outcomes and risks." Therefore, social determinants of health can include individual and environmental stress, poor social support, an adverse physical environment, an overall lack of trust in primary care, lack of educational attainment, and poverty. The connections between infant mortality and so many other health factors also make infant mortality a key measure of the overall health of a community. The 2016 CHIP is looking at infant mortality rates in the city as an overall indicator of success in implementing objectives in the "Access to Care" section. A downward trend in infant mortality between 2016 and 2020 in Worcester would suggest that some of the CHIP strategies in the "Access to Care" section were successful.

In addition to an overall higher IMR, Worcester has shown particularly concerning trends in Hispanic IMR over the past decade. This includes an increase in Hispanic infant mortality during a time that the state Hispanic IMR did not show any similar increase. National trends in Hispanic IMR are also different from Worcester's. Between 2005-2011, the overall national IMR declined 12% and Hispanic IMR declined 9% nationally. Although the Hispanic IMR in Worcester since 2010 has been in decline overall, it remains over twice the state Hispanic IMR. For the 3 year period 2012-2014 Worcester's Hispanic IMR surpassed the Black IMR for the first time. A significant portion of infant deaths in Worcester are to

Hispanic mothers as well, ranging from 36 to 63% of all infant deaths in Worcester over the last five years.

Baby Box Initiative

In September 2016, the WHBC held a community forum to invite community opinions on a number of potential new infant mortality reduction strategies and, in response to the trends in infant mortality rate in the Latino and Hispanic communities, particular efforts were made to include Latino and Hispanic community leaders. At this event, City Councilor and Health and Human Services Sub-Committee Member Tony Economou read a mayoral proclamation of the day as “Infant Mortality Awareness Day” in Worcester. The WHBC holds one public event annually, in addition to their open quarterly meetings, to provide updates and education, as well as connect with community concerns. This also allows the WHBC the opportunity to hear the “community voice,” and find strategies that the community is interested in participating in. A variety of different strategies were presented and considered during this event, and, ultimately, community members in attendance voted strongly in favor of pursuing a “Baby Box” project to offer infant care supplies, education, and a safe place for a baby to sleep.

In order to implement the intervention strategy chosen at the community forum, the WHBC has partnered with the nationally recognized Baby Box Co., based out of Los Angeles, to implement a universal Baby Box distribution program in the city of Worcester. This company provides a “Baby Box” product based on a long-running and successful evidence-based program in Finland that provides a box of infant supplies to all parents of newborn infants. Additionally, the box itself is padded and able to serve as a safe-sleep surface, similar to a crib or bassinette. It is in part thanks to Finland’s usage of this intervention that Finland has one of the lowest infant mortality rates in the world. The Baby Box Co. is supported by the Bezos Family Foundation to provide the padded box to interested communities. The Baby Box Co. has agreed to provide these boxes, free of charge, to the Worcester community for all 6,000 infants born annually to hospitals within the city of Worcester.

The WHBC is partnering with a number of local community organizations to provide infant supplies and information to go inside the box. Some community partners will act as distribution sites where new parents can go to receive their box. The remainder of the distribution will take place upon discharge from the hospital after a mother delivers her baby. The Baby Box Co. also provides a large library of infant-care educational videos on their “Baby Box University” site that anyone can access. Worcester parents receiving their box would also be connected to this educational site, and the WHBC is currently working with the Baby Box Co. to create a number of Worcester-specific educational videos for local parents. Filming these videos in Worcester would allow the Worcester baby box educational curriculum to reflect the diversity of the local population, and individual presenters would both understand the local community and reflect community members.

An initial pilot distribution of boxes has already been conducted, with plans to scale up to several hundred boxes distributed over the next year. These boxes also provide an opportunity for various other services to connect with new parents in the community. Literature from services such as WIC, Baby Café, or the Text4Baby program can be provided inside the boxes, as well as for services that are not strictly Maternal and Child Health related. The WHBC, in partnership with WDPH, has also pursued a number of funding opportunities, including a recent application for the 2017 Health Foundation of Central Massachusetts Activation Fund, in order to support contracting a project manager

to oversee the implementation of the Baby Box distribution effort in Worcester. Ultimately this project can provide an ongoing multi-faceted approach to issues of infant mortality arising from various social determinants of health.

Other Initiatives and CHIP

The WHBC is continuing to support existing IM reduction efforts, including plans to expand the Centering Pregnancy prenatal education classes and the Text4Baby education through text messaging program. The group is also pursuing further outreach to the community at churches, hair salons, laundromats, and through a number of community events and fairs. The WHBC is working with the March of Dimes to make local businesses aware of their “Health Babies, Healthy Business” program for employers to support healthy pregnancies in their employees. Additionally, the group is supporting work on the 2016 Greater Worcester Community Health Improvement Plan (CHIP) in the area of “Access to Care” as these strategies have the greatest relevance towards ultimately reducing IM. In September 2016, the group met with City Manager Edward M. Augustus, Jr. in order to brief him on these various issues directly, as well as to provide data and potential city-wide strategies that would lead to IM reduction. The WDPH Epidemiologist will continue to support data analysis and report generating on issues of infant health in the city, including a planned partnership with the potential FIMR implementation. WHBC and WDPH will be holding another infant mortality awareness event in September to recognize National Infant Mortality Awareness Month, and would like to respectfully request that another mayoral proclamation of an infant mortality awareness day in Worcester be read.

Conclusion

I want to thank the Worcester Healthy Baby Collaborative and the Worcester Division of Public Health for their on-going efforts to reduce infant mortality rates in the City of Worcester. Although there have been many successes around prevention and creative strategies to mitigate these tragedies, there is still more important work to be done, in particular with the Hispanic community. In the words of former Commissioner of Public Health Leonard Morse, MD, “a community’s wealth is a child’s health.”

Sincerely,

A handwritten signature in cursive script that reads "Matilde Castiel MD".

Matilde “Mattie” Castiel, MD
Health & Human Services Commissioner