City of Milwaukee
Health Department

Tom Barrett
Mayor

Bevan K. Baker, FACHE
Commissioner of Health

Joe'Mar Hooper, MPA
Health Operations Administrator

www.milwaukee.gov/health

Frank P. Zeidler Municipal Building, 841 North Broadway, 3rd Floor, Milwaukee, WI 53202-3653 phone (414) 286-3521fax (414) 286-5990
web site: www.milwaukee.gov/health

5/6/2015

City of Milwaukee 2014 Infant Mortality Rate (IMR): Data Brief

A: Facts

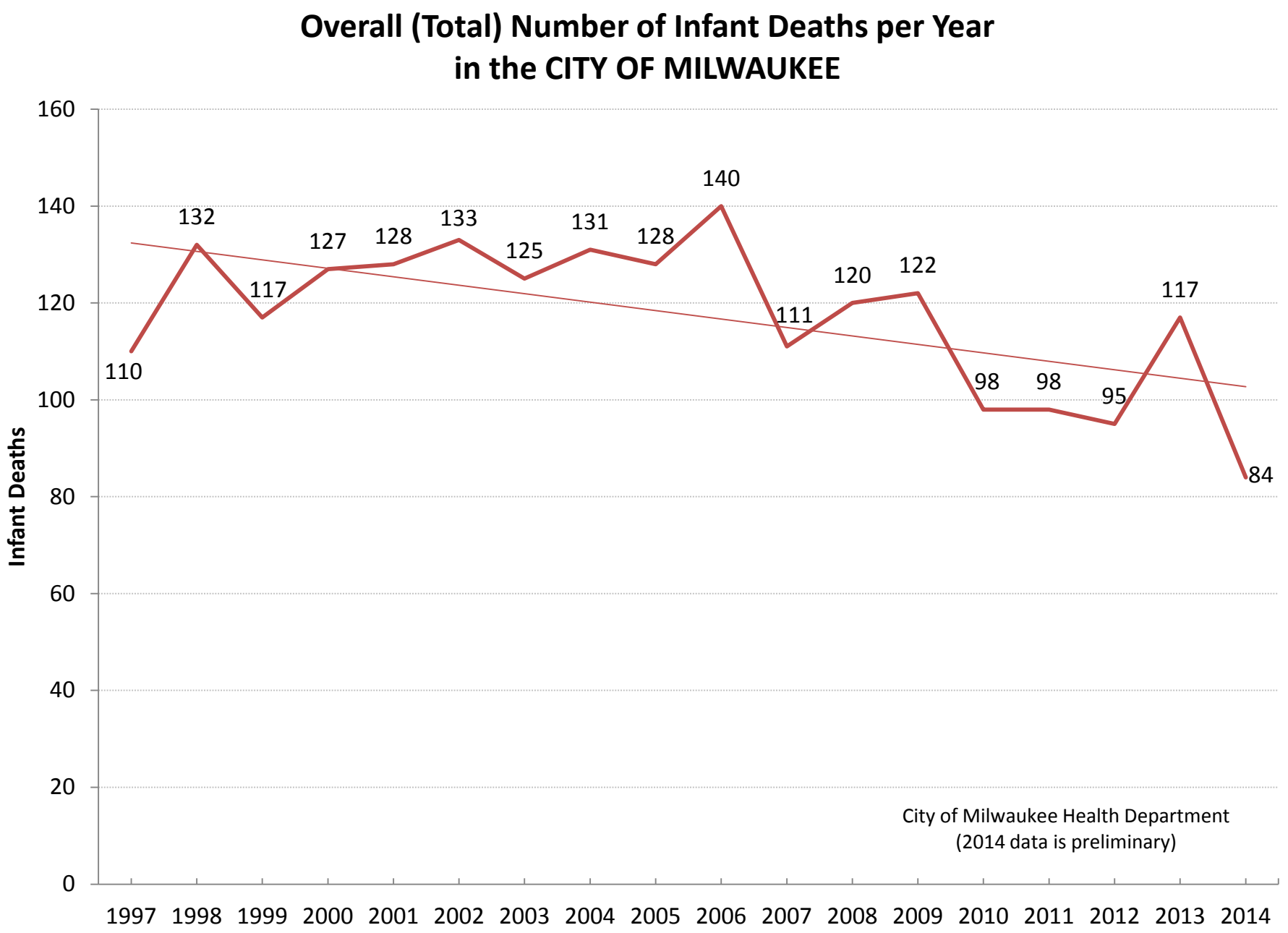
1. Preliminary City of Milwaukee Health Department (MHD) figures (not yet verified by the State) indicate that **in 2014, 84 infants born of City of Milwaukee residents died in Milwaukee prior to their first birthdays.** That compares to 95 deaths in 2012 and 117 in 2013.
2. In 2014, Milwaukee experienced its lowest number of live births in at least 40 years; only 9,984 babies were born in Milwaukee in 2014 compared to previous lows of 10,455 (1976), 10,647 (1997), and 10,021 (2013), and previous highs of 14,089 (1970) and 12,799 (1990).
3. The State has not yet verified 2014 data. Our figures remain preliminary and are subject to future revision, although it is unlikely that they will change significantly.
4. Because the number of infant deaths varies in part with the number of infant births, public health experts use "Infant Mortality Rate" to compare the risk of infant death from year to year, and between racial and ethnic groups. The Infant Mortality Rate (IMR) is the number of infants who died in a particular year for every 1,000 infants born alive in that same year.
5. In 2014, Milwaukee had 9,984 births, according to MHD's preliminary single-year 2014 figures. Therefore, 84 infant deaths in that year means that Milwaukee's IMR for 2014 was 8.4. I.e., overall, 8.4 babies died for every 1,000 live births in Milwaukee in 2014. This overall single-year IMR is notably lower than the previous 2 years (9.5 in 2012 and 11.7 in 2013).
6. The preliminary single-year Milwaukee IMRs by race and ethnicity are as follows for 2014: 13.0 deaths per 1,000 live births for Milwaukee's non-Hispanic Blacks, 3.6 for Milwaukee's non-Hispanic Whites, and 4.3 for Milwaukee's Hispanic babies.
7. **Because single-year IMRs can bounce up and down from year to year, public health experts prefer to look at three-year averages in order to discern any improving or worsening trends.** This is similar to the way the U.S. Department of Labor looks at four-week averages for unemployment to determine trends, rather than relying on weekly unemployment figures, which can bounce up and down.
8. Based on MHD's preliminary figures, **the three-year rolling average IMRs for 2012-2014 for Milwaukee are as follows:** (NH = Non-Hispanic)

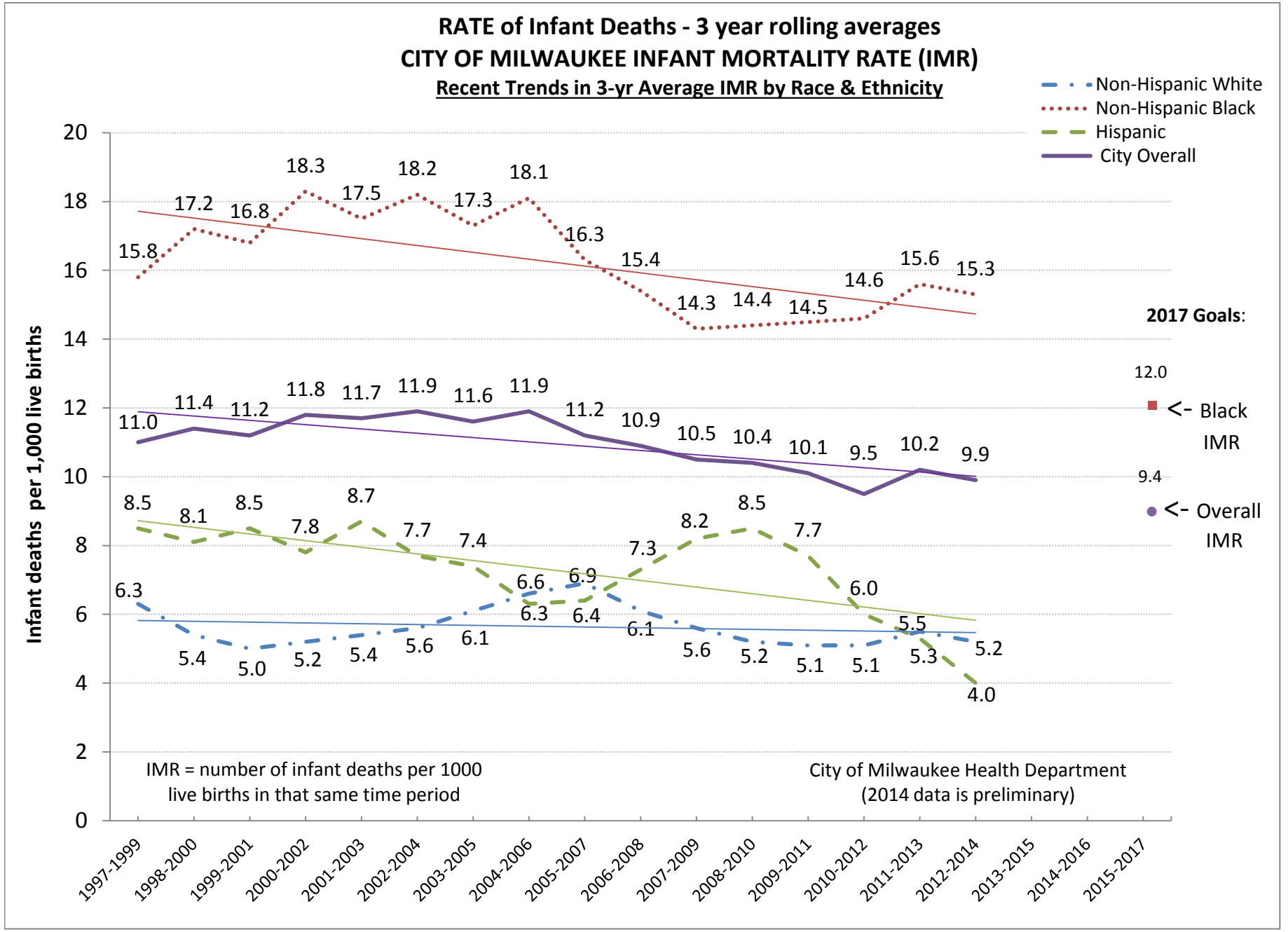
	Overall	NH Black	NH White	Hispanic
2012-2014	**9.9**	**15.3**	**5.2**	**4.0**
2011-2013	10.2	15.6	5.5	5.3
2010- 2012	9.5	14.6	5.1	6.0

9. **Milwaukee's goals are to reduce the 3-year rolling average IMRs to 9.4 overall and 12.0 for non-Hispanic Blacks by the three-year period 2015-2017.** These goals, which were set in fall of 2011, reflect a 10% decrease in the overall IMR and a 15% decrease in the non-Hispanic Black IMR as compared to their respective 2008-2010 3-year rolling averages.
10. We do not yet have an analysis of these deaths by cause-of-death but according to MHD's 2013 FIMR Report, which analyzed the causes of death of 318 infants who died in Milwaukee between 2009 and 2011, about 58 percent of all Milwaukee infant deaths are associated with premature birth, about 15 percent are associated with unsafe sleep, and about 19 percent with mostly non-preventable congenital abnormalities.

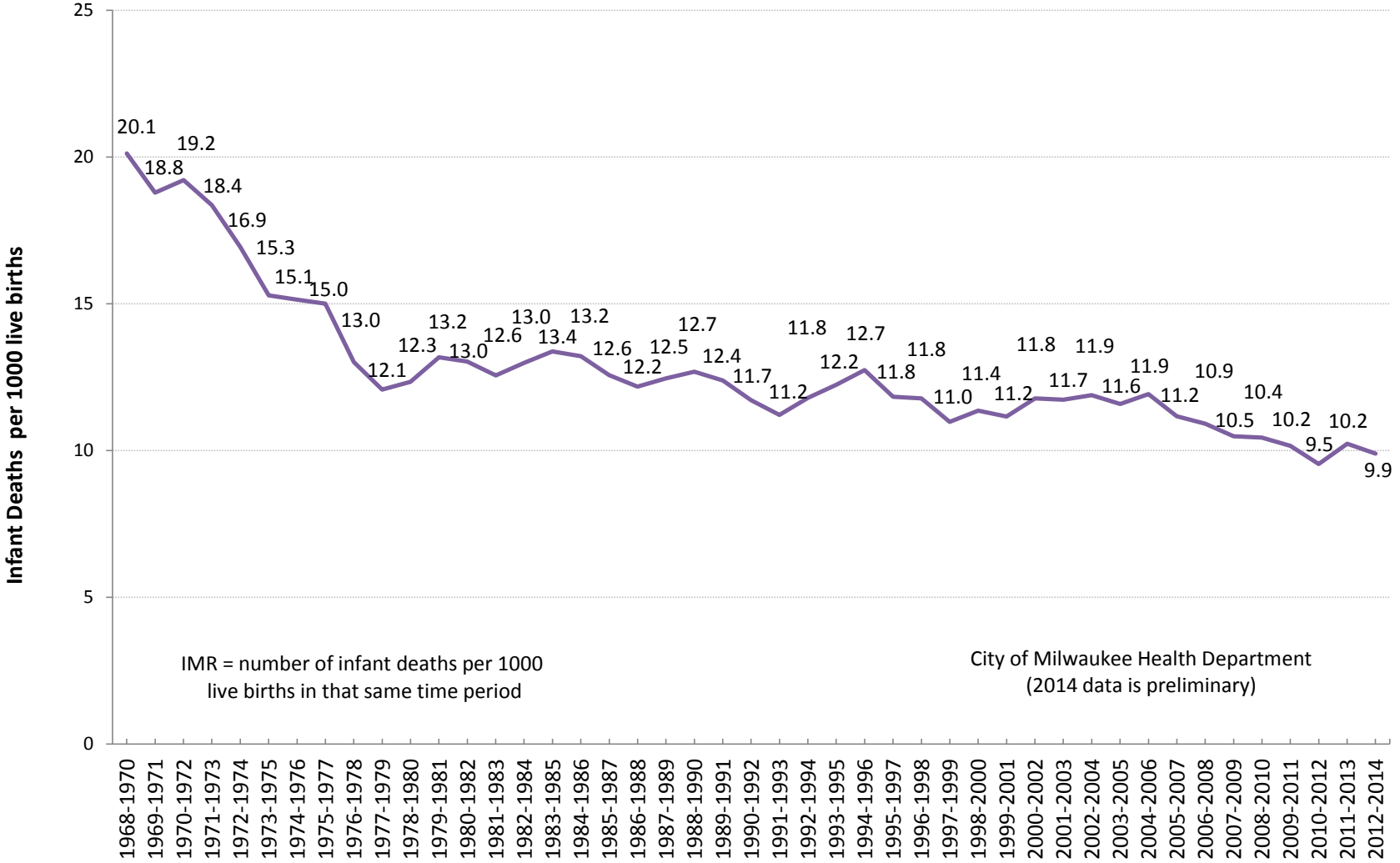
B: Interpretation, and comparison to prior years

11. Milwaukee's three-year rolling-average *overall* IMR of 9.9 for 2012-2014 is down 3% when compared to the 2011-2013 rate of 10.2. However, our 2012-2014 rate is higher (4%) than our record low of 9.5 during 2010-2012. Yet we appear to be roughly on track to meeting our overall 2015-2017 goal.
12. Milwaukee's **non-Hispanic White** three-year rolling average IMR **is down 5%** as compared to 2011-2013, when it was 5.5; it is now 5.2, which is 4% above its record low of 5.0 in 1999-2001.
13. Milwaukee's **Hispanic** three-year rolling average IMR, which had been increasing from 2006-2010, has continued to improve. The three-year rolling average for Hispanic IMR dropped from 5.3 (2011-2013) to 4.0 (2012-2014), and **is now at its third consecutive historic low.**
14. Milwaukee's **non-Hispanic Black** 3-year rolling average IMR, which had been slowly creeping up over the past 4 years, **is down 2%** compared to our previous report. The current 3-year rolling average for non-Hispanic Black IMR is 15.3 (2012-2014), compared to its low of 14.3 in 2007-2009. While this is still significantly below the historically high 3-year average non-Hispanic Black IMRs of 18.1-18.3 from the early-to-mid 2000s, and while the 2012-2014 rates are slightly improved from 2011-2013 our overall trend does not appear likely to meet our 2015-2017 goal.
15. When comparing Milwaukee's non-Hispanic Black IMR to its non-Hispanic White IMR, we see that in 2014 the Black IMR was 3.6 times higher than the White IMR. Using the more reliable three-year rolling average figures, the Black-White IMR ratio was 2.9 during the three-year period of 2012-2014. This means that **Black infants in Milwaukee are 2.9 times more likely to die before their first birthday than White infants in Milwaukee**. This disparity, though better than its recent peak of 3.5 in 2000-2002, remains worse than its more recent low of 2.4 (2005-2007), and substantially worse than its historical low of 1.5 (both 1979-1981 and 1991-1993).
16. Clearly, more needs to be done to address the **primary causes of African-American infant mortality** in Milwaukee, which are **a) premature births** (associated with **about 66%** of Black infant deaths) **and b) unsafe sleep** (associated with **about 15%** of Black infant deaths). The MHD will continue its aggressive interventions in both of these areas, and will continue to work closely with others, including the Lifecourse Initiative for Healthy Families, healthcare systems, social service agencies, policymakers, and many others in an effort to dramatically reduce the number of preterm births and unsafe-sleep-related deaths among Milwaukee's youngest, smallest, and most vulnerable residents.

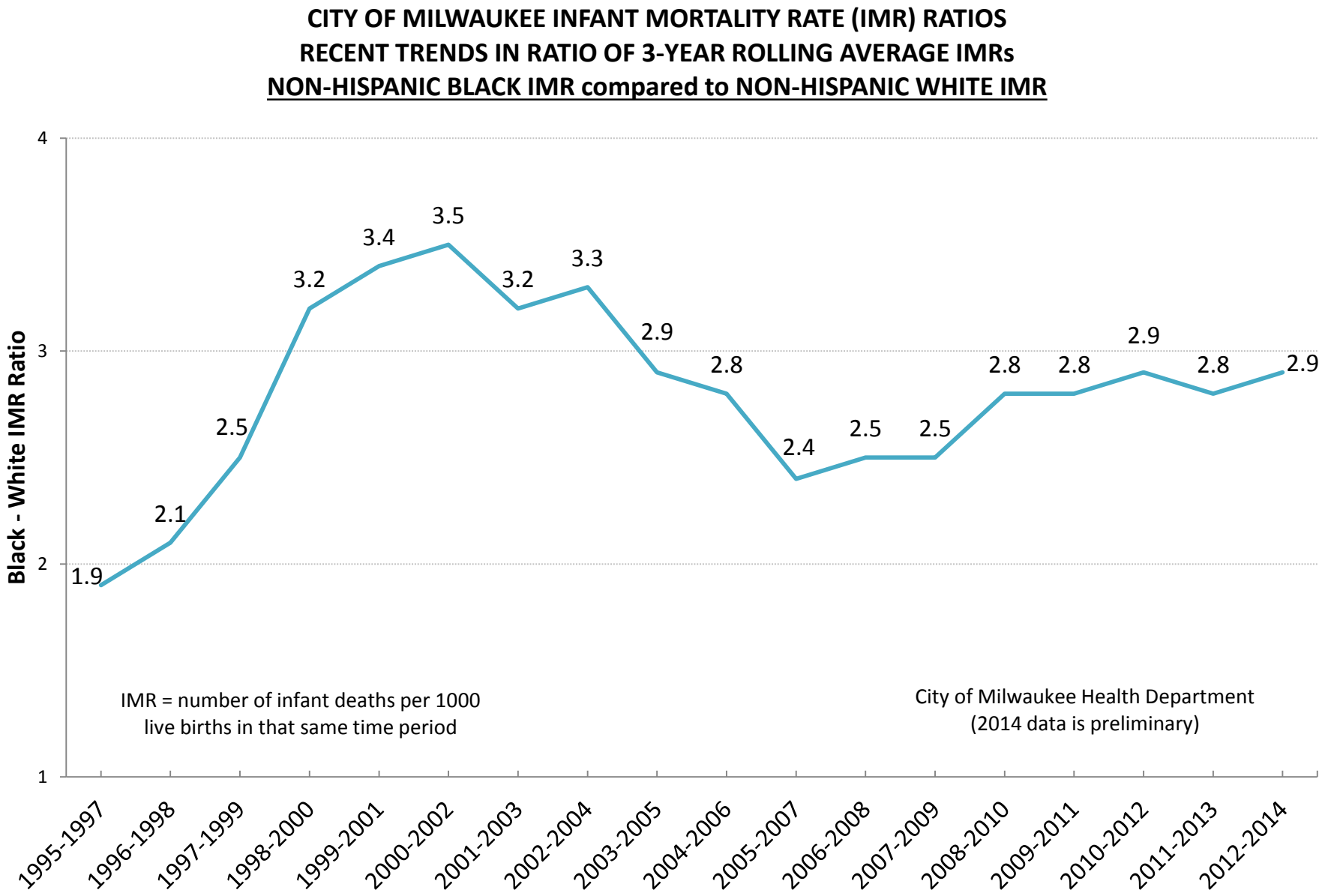

Overall (Total) Number of Infant Deaths per Year
in the CITY OF MILWAUKEE
Infant Deaths
160
140
120
100
80
60
40
20
0
110
132
117
127
128
133
125
131
128
140
111
120
122
98
98
95
117
84
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
City of Milwaukee Health Department
(2014 data is preliminary)


RATE of Infant Deaths - 3 year rolling averages
CITY OF MILWAUKEE INFANT MORTALITY RATE (IMR)
Recent Trends in 3-yr Average IMR by Race & Ethnicity
Non-Hispanic White
Non-Hispanic Black
Hispanic
City Overall
Infant deaths per 1,000 live births
20
18
16
14
12
10
8
6
4
2
0
15.8 17.2 16.8 18.3 17.5 18.2 17.3 18.1 16.3 15.4 14.3 14.4 14.5 14.6 15.6 15.3
11.0 11.4 11.2 11.8 11.7 11.9 11.6 11.9 11.2 10.9 10.5 10.4 10.1 9.5 10.2 9.9
8.5 8.1 8.5 7.8 8.7 7.7 7.4 6.6 6.4 7.3 8.2 8.5 7.7 6.0 5.5 4.0
6.3 5.4 5.0 5.2 5.4 5.6 6.1 6.3 6.9 6.1 5.6 5.2 5.1 5.1 5.3 5.2
1997-1999
1998-2000
1999-2001
2000-2002
2001-2003
2002-2004
2003-2005
2004-2006
2005-2007
2006-2008
2007-2009
2008-2010
2009-2011
2010-2012
2011-2013
2012-2014
2013-2015
2014-2016
2015-2017
2017 Goals:
12.0
<- Black IMR
9.4
<- Overall IMR
IMR = number of infant deaths per 1000 live births in that same time period
City of Milwaukee Health Department
(2014 data is preliminary)

RATE of Infant Deaths - 3 year rolling averages
CITY OF MILWAUKEE INFANT MORTALITY RATE (IMR)
Long-term Trends in Overall IMR Since 1968



Black-White IMR Ratio



City of Milwaukee
Health Department

Tom Barrett
Mayor

Bevan K. Baker, FACHE
Commissioner of Health

Joe'Mar Hooper, MPA
Health Operations Administrator

www.milwaukee.gov/health

Frank P. Zeidler Municipal Building, 841 North Broadway, 3rd Floor, Milwaukee, WI 53202-3653 phone (414) 286-3521fax (414) 286-5990
web site: www.milwaukee.gov/health

What Must we do in Milwaukee to Improve Birth Outcomes?

What are healthy birth outcomes? They include babies being born at full-term (not premature), at a healthy weight, and staying alive and healthy well past their first birthday.

Like health in general, healthy birth outcomes depend on several key factors. Of course **individual health behaviors** are important, as is **access to quality medical care**. But some people might be surprised to learn that **chronic stress** may be the most important driver of prematurity and infant mortality.

Why is chronic stress so important? Everybody has stress, but some people have resources – income, education, a safe and supportive home and neighborhood environment, affordable healthy food, etc. – that can help mitigate that stress. *Even when people engage in healthy behaviors* (which is easier with resources), chronic or unmitigated stress from poverty, racism, neighborhood conditions, or other sources elevates stress hormones in the body (e.g., cortisol, adrenaline).

Chronically elevated cortisol and adrenaline cause serious health problems in everybody, including high blood pressure, diabetes, and much more. In pregnant women, these hormones also cause a) impaired placental blood flow, which reduces oxygen to the baby, causing it to be born too small, and b) uterine irritability, making the uterus much more likely to start contracting too soon (premature labor).

Reducing chronic stress requires efforts across a wide range of areas, from early childhood education and fatherhood involvement, to unemployment and neighborhood safety. Special emphasis is needed on racism and other forms of discrimination, because these drive chronic stress even among people with sufficient resources, and increase levels of chronic stress among those already stressed from other causes.

The three main areas the City of Milwaukee Health Department believes are essential to address in order to improve Milwaukee's birth outcomes are: 1) improve individual behaviors, 2) improve access to quality medical care, and 3) reduce lifecourse stressors. Although these recommendations are numbered for ease of reference, the numbering is not meant to indicate priority. In fact, significant reductions in infant mortality in Milwaukee will require many, if not most, of these areas to be addressed simultaneously. Specific objectives in each of these areas include the following examples:

1. **Improve Individual Behaviors**
    a. Women should start prenatal care as soon as they know they're pregnant
    b. Pregnant women – and every person in a household with an infant or pregnant woman – should stop smoking, and should ask their doctor for help with this
    c. All youth should receive comprehensive sex education, and preventive health services including tobacco use prevention, STD testing, and reproductive life planning counseling
    d. Women should ensure that any chronic conditions (e.g., diabetes, high blood pressure) are well-controlled before, during, and after pregnancy
    e. Babies should be put to sleep in their own crib, on their backs, following the American Academy of Pediatrics' safe sleep guidelines; and no adult should fall asleep with or next to a baby

f. Babies should never be in a car without an appropriate car-seat
g. Cribs and car-seats should be available to and utilized by every Milwaukeean

2. Improve access to quality healthcare

a. Healthcare systems and primary care providers must
   i. Promote accessible preconception care (including asking every woman if they want to become pregnant within the next year) and provide family planning options to promote pregnancy intent
   ii. Provide culturally competent, respectful, and affordable services, and ensure that their staff reflect the community they serve
   iii. Assure accessible prenatal care (e.g., evenings, weekends, and no long delays to first prenatal visit)
b. Prenatal care providers should provide every pregnant woman with
   i. Screening and treatment for common infections (STDs, UTIs) and common chronic medical problems (hypertension, diabetes)
   ii. Screening for smoking in both pregnant women and their household members, and support for smoking cessation for all household members
   iii. Screening for alcohol and drug use, and treatment or referrals when indicated
   iv. Screening for prior preterm birth, and special care (e.g., progesterone supplementation) for women who have had a prior preterm birth, or referral to someone who can provide that care
c. Financial and marketing support for smoking cessation programs such as First Breath and Quit Line must be increased

3. Reduce lifecourse stressors

a. Make it easier for working women to obtain prenatal care for themselves, and medical care for their infants and children throughout their childhood years (e.g., expand Medicaid, require all employers to offer paid family and medical leave to their employees)
b. Support fatherhood involvement (e.g., Expand healthcare access to all fathers, Repeal Wisconsin's "Birth Cost Recovery" program, Assist men with education, employment, and legal issues as needed)
c. Improve educational attainment, including general education (e.g., GED and dropout prevention programs) and especially early childhood education (e.g., expand Head Start and pre-K programs)
d. Reduce poverty (e.g., expand low income housing opportunities and/or tax credits, expand the Earned Income Tax Credit (EITC), increase minimum wage, support robust transitional jobs programs)
e. Expand access to affordable, quality child care
f. Expand accessibility of affordable healthy foods (e.g., incentives for corner stores, zoning restrictions for high-caloric-density restaurant outlets, neighborhood gardens)
g. Expand programs that provide social support to individuals, families and neighborhoods, and that work to reduce racism and its effects (e.g., Big Brothers Big Sisters, YMCA/YWCA)
h. Support neighborhood revitalization (e.g., increased green-space, expanded public transportation, safer walkable neighborhoods, housing rehabilitation loan and grant programs, lead hazard reduction)
i. Follow up on and support additional recommendations by the Milwaukee Lifecourse Initiative for Healthy Families and the Milwaukee Fetal Infant Mortality Review (FIMR) program

Note that some of these recommendations are dependent upon others. For example, the recommendation that women start prenatal care as soon as possible depends upon the accessibility of prenatal care for all pregnant women, which in turn depends on factors ranging from clinics' business hours, to availability of public transit options, to having paid time off of work to go to prenatal visits. And some recommendations must be championed by sectors acting outside of their traditional "swim lanes;" for example, healthcare providers and healthcare systems must to start to address lifecourse stressors and socioeconomic factors.

Some programs can address many of these objectives simultaneously, for example the Empowering Families of Milwaukee and Nurse Family Partnership intensive home visiting programs. Such programs, and others like them, should be expanded in Milwaukee.