# **PERINATAL HEALTH**

Perinatal health is the health and wellbeing of mothers and babies before, during, and after child birth. As described by Healthy People 2020, "Pregnancy can provide an opportunity to identify existing health risks in women and to prevent future health problems for women and their children." The well being of a mother and her infant from conception to one year is the best foundation for lifelong health. Mother and child well being "determines the health of the next generation and can help predict future public health challenges for families, communities, and the health care system."1

# **HIP Year 2020 Health Objectives related to Perinatal Health:**

# **Healthy Kids:**

- Increase proportion of low-income females 18-49 years who initiate breastfeeding from 47% to 75%.
- Decrease the mortality rate in black or African-American infants from 16 per 1,000 to five per 1,000 total births.
- Decrease low birth weight rates in black or African-American infants from 11% to 3% of live births.

# **Healthy Adults:**

- Decrease the proportion of Ypsilanti females 18-49 who are current smokers from 37% to 12%.
- Decrease the proportion of black or African-American females 18-49 who are overweight from 62% to
- Decrease the proportion of females 18-49 who have ten or more poor mental health days per month from 14% to 7%.

# What is PRAMS?

The Pregnancy Risk Assessment Monitoring System (PRAMS) is a US Centers for Disease Control and Prevention survey of mothers who delivered a live infant in that year; mothers are selected at random to participate in the survey. The survey topics are related to maternal and infant health and wellness. The PRAMS survey is done statewide each year; however, county level estimates are not available. In 2007, Washtenaw County did a one-time, local PRAMS survey.

# **Health Outcomes: Morbidity and Mortality**

## **Low Birth Weight**

Low birth weight infants are at high risk for health problems. Low birth weight is the percentage of total births that were under 2500g. The rate of low birth weight in Washtenaw County is 8%, which is the same as the state and the nation (both 8%).2

Black or African American mothers in Washtenaw County are two times more likely than white and Hispanic mothers to have a baby that is low birth weight (13% vs. 6%).3

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## **Infant Mortality**

In 2011, there were 3,813 live births in Washtenaw County. 4 Infant mortality is defined as deaths to infants less than one year of age and is usually stated as a number per 1,000 births.

Over the last decade, the overall Washtenaw County infant mortality three-year average rate has decreased from 8 to 5 per 1,000 live births. While infant mortality rates have improved among both black or African Americans and whites, black or African-American babies still die at almost three times the rate of white babies. The infant mortality rate among whites is 4 deaths per 1,000 live births, compared to 11 per 1,000 for blacks or African Americans.5

Three-Year Moving Average Infant Death Rates by County Michigan Residents, 1999-2010<sup>6</sup>

	1999- 01	2000- 02	2001- 03	2002- 04	2003- 05	2004- 06	2005- 07	2006- 08	2007- 09	2008- 10
Michigan	<b>8.1</b> ±0.3	<b>8.1</b> ±0.3	<b>8.2</b> ±0.3	<b>8.1</b> ±0.3	<b>8.0</b> ±0.3	<b>7.6</b> ±0.3	<b>7.8</b> ±0.3	<b>7.6</b> ±0.3	<b>7.6</b> ±0.3	<b>7.3</b> ±0.3
Washtenaw	<b>7.8</b> ±1.6	<b>7.3</b> ±1.5	<b>6.8</b> ±1.4	<b>6.4</b> ±1.4	<b>6.4</b> ±1.4	<b>6.0</b> ±1.3	<b>5.7</b> ±1.3	<b>5.2</b> ±1.3	<b>5.3</b> ±1.3	<b>5.1</b> ±1.3
Black	<b>15.5</b> ±5.	<b>15.3</b> ±5.	<b>16.8</b> ±5.	<b>14.3</b> ±5.	<b>16.1</b> ±5.	<b>12.1</b> ±4.	<b>13.3</b> ±4.	<b>13.1</b> ±4.	<b>11.5</b> ±4.	<b>10.5</b> ±4.
White	<b>6.3</b> ±1.7	<b>5.9</b> ±1.6	<b>5.0</b> ±1.5	<b>5.2</b> ±1.5	<b>4.3</b> ±1.4	<b>4.5</b> ±1.4	<b>3.5</b> ±1.2	<b>3.6</b> ±1.3	<b>4.3</b> ±1.4	<b>4.4</b> ±1.5

Source: Michigan Department of Community Health infant mortality statistics

## **Preconceptual Health**

The mother's health prior to pregnancy (her "preconceptual health") includes both her physical and mental health. Many factors contribute to a healthy pregnancy, delivery, and first year of life. Women are encouraged to maintain a relationship with a primary care clinician throughout their childbearing years, and seek treatment for any psychiatric diagnoses which might be exacerbated by the hormonal changes during and after pregnancy.

Women enrolled in Medicaid while pregnant are cut off from this coverage approximately two months after delivery. Because of this, these women do not have ongoing access to primary care before, after, or between pregnancies. Medicaid expansion would fill this gap in coverage.

### Health of Women of Childbearing Age (18-49 years) in Washtenaw County

	Females 18-49 years	Males 18-49 years
General health status (fair, poor)	40%	28%
Days in month physical health <i>not</i> good (10 or more)	18%	4%
Days in month mental health <i>not</i> good (10 or more)	18%	9%
Overweight or obese (yes)	49%	64%

Source: HIP Survey, 2010.

## Overweight and Obesity

In Washtenaw County, the proportion of women ages 18-49 years who are overweight or obese is 49%, lower than that of men (64%) or than that of county as a whole (59%). Black or African-American women ages 18-49 years are somewhat more likely to report being overweight or obese (52%).

#### **Mental Health**

In Washtenaw County, 18% of women ages 18-49 report having ten or more poor mental health days per month, a percentage twice as high as men (9%). Suicidal thoughts are also more common for women in this age range; 9% of women 18-49 years report having seriously thought about committing suicide in the past 12 months compared to just 3% of men. This proportion is higher despite the finding that more women than men ages 18-49 years report that they "usually" or "always" get the social and emotional support they need (89% for women; 82% for men).8

## **Health Factors**

#### **Health Behavior**

# Fruit and Vegetable Consumption

Fewer women than men ages 18-49 years in Washtenaw County report eating five or more servings of fruit and vegetables per day (15% for women; 22% for men).9

#### **Physical Activity**

Only 54% of women ages 18-49 years in Washtenaw County report getting adequate physical activity, compared to 79% of men ages 18-49. Adequate physical activity is defined as five or more days per week of moderate activity or three or more days per week of vigorous activity. 10

#### **Contraception Use**

Planned pregnancies often have better outcomes than unplanned pregnancies. Free family planning is available for low-income women age 15-44 through the state's Plan First program. While only 12% of surveyed Washtenaw County women aged 18-44 reported considering becoming pregnant within the year, 27% said they were not doing anything to prevent pregnancy. 11

Washtenaw County's 2007 PRAMS survey found the following:

- When they conceived their new babies, 42% of women said they were not trying to become pregnant.
- Among those women who had an unintended pregnancy, 58% indicated that they were using some method of contraception at the time;
- After giving birth, 85% of all respondents were using some form of contraception to keep from getting pregnant.
- Women who had an income of \$50,000 or more were significantly less likely to have an unplanned pregnancy compared to those who earned under \$20,000 annually.

## **Breastfeeding**

The American Academy of Pediatrics recommends that breastfeeding continue for at least 12 months, and thereafter for as long as mother and baby desire. The World Health Organization recommends continued breastfeeding up to two years of age or beyond.

The many health benefits of breastfeeding include:

- Breastfeeding protects babies from infections and illnesses that include diarrhea, ear infections, and pneumonia.
- Breastfed babies are less likely to develop asthma.
- Children who are breastfed for six months are less likely to become obese.
- Breastfeeding reduces the risk of sudden infant death syndrome (SIDS).
- Mothers who breastfeed have a decreased risk of breast and ovarian cancers.

In 2007, 86% of mothers in Washtenaw County ever breastfed their baby, compared to 73% of women throughout Michigan. 12 Washtenaw County PRAMS respondents who smoked cigarettes during their last trimester and mothers who used Medicaid for prenatal care were significantly less likely to report breastfeeding than their peers. Women who graduated college were significantly more likely to report breastfeeding than women with only a high school or partial college education. 13

In Washtenaw County, the proportion of WIC (low-income) moms reporting they ever breastfed is 75% and lower than the WIC state average (79%). The proportion of WIC moms in Washtenaw County breastfeeding exclusively up to six months is 17%, slightly lower than the WIC state average of 18%. 14

## Rates of Breastfeeding by WIC Moms

	Ever Breastfed	Exclusively breastfeeding at six months
Washtenaw County, Michigan	75%	17%
Michigan	79%	18%
Healthy People 2020 Objective	82%	26%

Source: WIC data, Washtenaw and Michigan.

### **Smoking**

The smoking rate for women ages 18-49 years is 9%, lower than men (13%) or the county as a whole (12%). The smoking rate among women ages 18-49 years who live in Ypsilanti is higher at 14%. 15

Smoking or drinking during pregnancy can significantly increase the likelihood of having a low birth weight baby. In Washtenaw County, nearly 8% of total births were to mothers who smoked during pregnancy. 16 Women who smoked one or more cigarettes per day during the final trimester of pregnancy were nearly 16 times more likely to have a low birth weight baby compared to women who did not smoke during that period. 17

#### Alcohol

For women, heavy drinking is defined as having an average of more than one drink per day; for men, it is defined as having more than two drinks per day, on average. In Washtenaw County, 7% of women ages 18-49 years report heavy drinking. This is higher than men ages 18-49 years who have a rate of heavy drinking of 3%. 18

## Teen Pregnancy and Births

The rate of teen pregnancy in the county is 27 per 1,000 females aged 15-19 and is lower than the state rate (48 per 1,000). 19

Teen parents have unique social, economic, and health support service needs. The rate of births to teenage mothers in the county (13 per 1,000 births) is lower than that of Michigan (34 per 1,000) or the nation (41 per 1,000). Disparities exist in birth rates by race<sup>20</sup>:

• white teens: 7 per 1,000 births

black or African-American teens: 37 per 1,000 births

Hispanic or Latina teens: 45 per 1,000 births

## **Clinical Care**

#### Access to Prenatal Care

Early identification of pregnancy allows for longer and better prenatal care. In Washtenaw County, the following prenatal care payment methods were used in 2007<sup>21</sup>:

## **Prenatal Care Payment Method Reported by Mothers in 2007**

Type of health coverage	Percentage*		
Health insurance or HMO	78%		
Medicaid or Medical Health Plan	22%		
Personal Income	13%		
Other	4%		

<sup>\*</sup>A total of over 100% is possible because survey respondents could indicate more than one payment method. Source: Washtenaw PRAMS, 2007.

Of all births in Washtenaw County in 2007, there were 1,067 births (26% of 4,104 total births) to women who had received less than adequate prenatal care.<sup>22</sup> Less than adequate prenatal care is defined as prenatal care that began after the fourth month of pregnancy or fewer than half of recommended visits received. In Michigan, nearly one out of four women report entering prenatal care after the first trimester or not at all; the most common barriers to first trimester prenatal care entry include "did not have Medicaid card," 'kept pregnancy secret,' and 'doctor/HMO would not start care earlier." 23

#### Have a Personal Doctor

The majority of women age 18-49 in the county (78%) report having a personal doctor or health care provider. This is higher than that of males ages 18-49 (63%). Similarly, 64% of women age 18-49 report having had a routine checkup within the past year compared to only 49% of men in same age range.<sup>24</sup>

#### **Social and Economic Factors**

#### Race

Black or African-American mothers experience higher rates of infant mortality and low birth weight than whites or Asians in Washtenaw County. This disparity has been consistent over the last decade. It may be partly due to differences in prenatal care, access to nutritious foods, and educational levels, but there is likely a separate stress factor unique to blacks or African Americans in our society. Glynn et al. published research in 2007 showing significant differences between the stress hormone levels of pregnant African and European Americans. She suggests there is a relationship between altered cortisol and corticotropin-releasing hormone levels and premature labor.<sup>25</sup>

#### Income

Approximately 11% of families with related children under 18 in Washtenaw County live in poverty. The percent in poverty jumps to 34% when these families are headed by women (no husband present).<sup>26</sup>

For female-headed households (with or without children under 18), there are large disparities in poverty by race.<sup>27</sup> Of the families in Washtenaw County headed by women, the following live in poverty:

Hispanic or Latino: 55%

Black or African-American: 38%

White: 15%

In Washtenaw County, 13% of women 18-49 years report that there have been times in the past year when they did not have enough money for housing and/or utilities. This is higher than that of men ages 18-49 years (8%).<sup>28</sup>

## Stress

Stress is a risk factor shown to impact a mother's health. Top stressors as reported by mothers in 2007 in the 12 months before childbirth included moving (33%), more arguments with husband/partner (21%), family member ill (20%) and couldn't pay bills (17%).<sup>29</sup>

There are large disparities in poverty by race for female-headed households.<sup>27</sup>

### **Physical Environment**

#### Park Access

Going to a nearby park is a great way to help maintain physical and mental health for all members of a family. In Washtenaw County, 51% of the population lives within ½ mile of a park. This is higher than the state (37%) or the nation (39%).<sup>30</sup>

#### **Recreational Facilities Access**

Washtenaw County has a rate of 12 recreational facilities per 100,000 population, a rate that is higher that the Michigan average (9 per 100,000) but lower than the national benchmark (16 per 100,000). Census tracts in Chelsea, Dexter, and Ann Arbor have the highest rates of recreation and fitness facilities. Portions of the county with the fewest or no facilities are Augusta Township, Ypsilanti City and Township, and Northfield Township.<sup>31</sup>

Even prior to the statewide smoking ban in restaurants and bars, Washtenaw County Public Health actively promoted and supported smoke-free policies in a variety of settings. Most recently, Public Health worked with the Village of Dexter Manager to consider adopting a smoke-free parks policy. Model parks policy language was drafted and reviewed by the Village Council and also made available to Village of Dexter residents for review and comment. The policy passed on September 12, 2012 and covers all recreational areas both public and private that are open to the public. Smoke-free environments help promote health for all residents, employees, and families.

## Access to Grocery Stores

Washtenaw County has a rate of 17 grocery stores per 100,000 residents. This rate is lower than the state rate of 21 per 100,000 or the nation (21 per 100,000). <sup>32</sup> The county also has lower rates compared to the state or nation of stores that accept SNAP (food stamps)<sup>33</sup> and WIC<sup>34</sup>. These benefits are an important source of food for low-income families.

## **Breastfeeding in Public Spaces**

Mothers who are breastfeeding anywhere Ann Arbor city limits or public Washtenaw County buildings are covered by policies that prohibit discrimination of breastfeeding mothers. The State of Michigan currently has no such policy; however, laws that would prohibit discrimination of breastfeeding mothers have been proposed during the previous and current legislative sessions.

#### **Data Sources:**

<sup>&</sup>lt;sup>1</sup> Healthy People 2020.

<sup>&</sup>lt;sup>2</sup> 2011 Michigan Geocoded Birth File, Division for Vital Records & Health Statistics, Michigan Department of Community Health; Michigan and US data source: Centers for Disease Control and Prevention, National Vital Statistics Systems, 2003-2009.

<sup>&</sup>lt;sup>3</sup> 2011 Michigan Geocoded Birth File, Division for Vital Records & Health Statistics, Michigan Department of Community Health; Michigan and US data source: Centers for Disease Control and Prevention, National Vital Statistics Systems, 2003-

<sup>&</sup>lt;sup>4</sup> Michigan Geocoded Birth and Reported Induced Abortion Files, Division for Vital Records & Health Statistics, Michigan Department of Community Health, 2011.

<sup>&</sup>lt;sup>5</sup> Michigan Department of Community Health infant mortality statistics

<sup>&</sup>lt;sup>6</sup> Michigan Department of Community Health infant mortality statistics

<sup>&</sup>lt;sup>7</sup> HIP Survey, 2010.

<sup>&</sup>lt;sup>8</sup> HIP Survey, 2010.

<sup>&</sup>lt;sup>9</sup> HIP Survey, 2010.

<sup>&</sup>lt;sup>10</sup> HIP Survey, 2010.

<sup>&</sup>lt;sup>11</sup> HIP Survey, 2010.

<sup>&</sup>lt;sup>12</sup> Washtenaw County and Michigan PRAMS.

<sup>&</sup>lt;sup>13</sup> Washtenaw County and Michigan PRAMS.

<sup>&</sup>lt;sup>14</sup> WIC data, Washtenaw County, and Michigan 2012.

<sup>&</sup>lt;sup>15</sup> HIP Survey, 2010.

<sup>&</sup>lt;sup>16</sup> Michigan Department of Community Health, Vital Records and Health Data Development Section 2007.

<sup>&</sup>lt;sup>17</sup> Washtenaw County PRAMS, 2007.

<sup>&</sup>lt;sup>18</sup> HIP Survey, 2010.

<sup>&</sup>lt;sup>19</sup> Division for Vital Records & Health Statistics, Michigan Department of Community Health 2011.

<sup>&</sup>lt;sup>20</sup> Centers for Disease Control and Prevention, National Vital Statistics Systems 2003-2009. Accessed from www.chna.org.

<sup>&</sup>lt;sup>21</sup> Washtenaw County PRAMS, 2007.

<sup>&</sup>lt;sup>22</sup> Michigan Department of Community Health, Vital Records and Health Data Development Section.

<sup>&</sup>lt;sup>23</sup> Michigan PRAMS, 2008.

<sup>&</sup>lt;sup>24</sup> HIP Survey, 2010.

<sup>&</sup>lt;sup>25</sup> "Ethnic differences in adrenocorticotropic hormone, cortisol and corticotropin-releasing hormone during pregnancy," Laura M. Glynn et al. Peptides 28 (2007) 1155-1161.

<sup>&</sup>lt;sup>26</sup> US Census Bureau, American Community Survey 2011.

<sup>&</sup>lt;sup>27</sup> US Census Bureau, American Community Survey 2011.

<sup>&</sup>lt;sup>28</sup> HIP Survey, 2010.

<sup>&</sup>lt;sup>29</sup> Washtenaw County PRAMS, 2007.

<sup>&</sup>lt;sup>30</sup> National Environmental Public Health Tracking Network, US Department of Health & Human Services, Centers for Disease Control and Prevention 2010.

<sup>&</sup>lt;sup>31</sup> US Census Bureau, County Business Patterns, 2011 Additional data analysis by CARES. Accessed from www.chna.org.

<sup>&</sup>lt;sup>32</sup> US Census Bureau, County Business Patterns: 2011. Additional data analysis by CARES. Accessed from www.chna.org.

<sup>&</sup>lt;sup>33</sup> US Department of Agriculture, Food and Nutrition Service, SNAP Retailer Locator: 2013. Additional data analysis by CARES. Accessed from www.chna.org

<sup>&</sup>lt;sup>34</sup> US Department of Agriculture, Economic Research Service, Food Environment Atlas: 2011. Accessed from www.chna.org