



Ohio Department of Health Center for  
Public Health Statistics and Informatics



preconception health  
& women in Ohio



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introduction

## Introduction



Preconception care involves identifying and altering risks that affect a woman's health, as well as her future pregnancies. Enhancing and increasing preconception care is vital to improving birth outcomes in the United States. Many birth defects occur in the first weeks after conception, often before the woman is aware that she is pregnant<sup>1</sup>. Almost half of live births nationally are the result of an unintended pregnancy, which means improving the health of all women in their childbearing years is a crucial part of improving birth outcomes and infant health. Additionally, women who are obese, use tobacco or alcohol, or have been diagnosed with certain medical conditions before they become pregnant are at increased risk of negative birth outcomes such as preterm delivery and low birth weight<sup>1</sup>. Implementing interventions and providing assistance for women with risk factors such as these before pregnancy are important to improve the health of both mother and child<sup>1</sup>.

In 2007, the Public Health Work Group (part of the Centers for Disease Control and Prevention) assembled a committee of data managers, epidemiologists, and maternal and child health professionals from seven states to develop preconception health domains that could be measured at the state level. The 45 resulting indicators were chosen to allow for clear, consistent data on the health of women between 18 and 44 years of age<sup>2</sup>. This data book presents information specific to Ohio on 37 of these preconception health indicators. Several indicators could not be included for Ohio due to variations in the data that are collected in the state. For a complete list of the domains and indicators included in this data book, refer to the index beginning on page four. Healthy People provides ten year national objectives for improving the health of all Americans. *Healthy People* 2010 objectives are listed for relevant preconception health indicators to understand how Ohio compares with these national goals. The data book is intended to provide information about maternal and child health in Ohio and guide policy and decision making with the goal of improving health outcomes for women of reproductive age and their children.



<sup>1</sup> Centers for Disease Control and Prevention. National Center on Birth Defects and Developmental Disabilities. September 23, 2010.

<http://www.cdc.gov/ncbddd/preconception/whatispreconception.htm>.

<sup>2</sup> Broussard DL, Sappenfield WB, Fussman C, Kroelinger CD, Grigorescu V. Core State Preconception Health Indicators: A Voluntary, Multi-state Selection Process. *Matern Child Health J.* 2010. DOI: 10.1007/s10995-010-0575-x.



executive  
summary 

## Executive Summary

From this comprehensive look at women of reproductive age in Ohio, several groups were identified as being at high risk for poor preconception health behaviors, experiences and outcomes. Young women ages 18 to 24 were disproportionately affected in many areas of health covered by the preconception health indicators. In general, as education increased overall health and well-being became more favorable. Black women frequently reported poorer preconception behaviors and experiences than white women. Although health behaviors and outcomes varied among the different county types in Ohio, women in Appalachian and metropolitan counties had significant disparities with regard to many of the preconception health indicators. Marital status was also indicative of overall health, with married women reporting more positive preconception health than unmarried women in most indicators. When looking at health care coverage, women receiving Medicaid and women without a health plan were less likely to report positive preconception health behaviors and experiences. The disparities found within each group are detailed below. Policies and interventions designed to target these groups should improve maternal and child health in Ohio.

### Age

- ✿ Mothers between the ages of 18 and 24 were more than twice as likely to report having an unintended pregnancy as mothers who were 35-44 years of age.
- ✿ Approximately 33 percent of women between 25 and 34 years of age and 35 percent of women 35-44 years of age reported speaking with a medical provider about how to have a healthy pregnancy before they became pregnant. Only 16 percent of mothers between 18 and 24 years of age reported receiving any preconception health counseling.
- ✿ Mothers between 25 and 44 years of age more often reported drinking alcohol in the three months before pregnancy than those 18-24 years of age. However, those aged 18-24 years old who did consume alcohol during this time period were more likely to report binge drinking.
- ✿ Women who were 35-44 years of age were more likely to be overweight or obese (based on BMI) before pregnancy than young women 18-24 years of age.
- ✿ In 2008, the rate of chlamydia diagnosis was approximately 36 times higher among women aged 18-24 than that of women aged 35 and 44 years. The rate of gonorrhea diagnosis for young women was 18 times higher than for women between the ages of 35 and 44.



## Education

- ❁ As education increased, postpartum depression, smoking and physical abuse all decreased. Also, self reported health and mental health improved as education increased.
- ❁ The percentage of women who reported having health insurance before pregnancy increased as education increased.
- ❁ Mothers with more than 12 years of education were more likely to report having had a postpartum checkup and were less likely to report having had a previous preterm birth than those with 12 or less years of education.
- ❁ Women with more than 12 years of education were less likely to report having an unintended pregnancy and more likely to use some method of contraception than those with less education.
- ❁ Consuming alcohol before pregnancy was more common among women with greater than 12 years of education when compared to women with 12 or less years of education. Conversely, a higher percentage of women with 12 or less years of education reported binge drinking than women with more than 12 years of education.
- ❁ Infant exposure to secondhand smoke was 2.5 times greater among mothers with less than 12 years of education when compared with mothers with more than 12 years of education. Those with 12 years of education or less were almost twice as likely to report that smoking was allowed in their home as those with more than 12 years of education.

## Race

- ❁ Sixty-nine percent of black mothers and 54 percent of Hispanic mothers reported that their pregnancy was unintended. Among white mothers, 40 percent of pregnancies were unintended.
- ❁ White women were more likely than women of other races to report getting the recommended amount of physical activity each week.
- ❁ Black women more frequently reported being overweight or obese before pregnancy than women who were Hispanic or white. Obesity varied significantly between black and white women. Approximately 40 percent of black women were obese based on Body Mass Index. In contrast, 22 percent of white women were obese.





## Race

- ✿ More white women reported smoking and drinking during the three months before pregnancy than black women.
- ✿ Black women were more likely to report ever being told that they had diabetes, including gestational diabetes, than white or Hispanic women.
- ✿ In 2008, the rate of gonorrhea diagnosis among black women was about 12 times higher than for white women. In the same year, the rate of syphilis diagnosis was approximately 10 times higher for black women than white women. Syphilis diagnosis rates were five times higher for Hispanic women than white women.

## County type

- ✿ Mothers living in Appalachian counties were less likely to report having health insurance before pregnancy and more likely to report having a previous preterm birth.
- ✿ Almost half of mothers in metropolitan counties reported that their pregnancy was unintended. This was higher than any other county type. However, mothers in metropolitan counties were more likely to report speaking with a medical provider about how to have a healthy pregnancy before becoming pregnant.
- ✿ Women living in Appalachian and rural counties were more likely to report that smoking is allowed in their home.
- ✿ Women living in Appalachian counties were more likely to be obese than women living in other county types. However, more than half of Appalachian women reported getting the recommended amount of physical activity each week.
- ✿ Women living in rural and Appalachian counties were less likely to report being in good mental health than those residing in the other county types.

- ❁ Diagnoses of sexually transmitted diseases (STDs) were higher in metropolitan counties than in other county types.
  - ❁ Gonorrhea diagnoses were about 10 times higher in metropolitan counties than in Appalachian counties
  - ❁ Chlamydia diagnoses were approximately five times higher in metropolitan than rural counties
  - ❁ Syphilis diagnoses were almost 15 times higher in metropolitan counties than in Appalachian counties.

## Marital status

- ❁ Among Ohio mothers, unmarried women were about two times more likely to report that their pregnancy was unintended than married women.
- ❁ Approximately 86 percent of married women reported having health care coverage before pregnancy, while only about 59 percent of unmarried women reported having some type of health coverage before pregnancy.
- ❁ Married women less often reported being abused by their partner before pregnancy and more frequently reported good or excellent overall health when compared to unmarried women.
- ❁ The percentage of unmarried women who reported being in poor mental health was almost twice as high as that of married women.
- ❁ Unmarried women were more likely to smoke and consume alcohol heavily or binge drink than married women.
- ❁ The likelihood of having had a previous preterm birth was higher among unmarried mothers.



## Health Plan / Medicaid Status

- ❁ Mothers who have not received Medicaid were more likely to have had a postpartum checkup than mothers who have received Medicaid.
- ❁ Mothers who have not received Medicaid are also more likely to have had a professional teeth cleaning before pregnancy than those on Medicaid.
- ❁ Women who have received Medicaid were more than twice as likely to report that their pregnancy was unintended and were significantly less likely to report speaking with a medical provider about how to have a healthy pregnancy before becoming pregnant. Women on Medicaid who were not trying to get pregnant were also less likely to use contraception.
- ❁ Mothers on Medicaid were more than twice as likely to smoke in the three months before pregnancy as mothers who have not received Medicaid.
- ❁ Women who have not used Medicaid were more likely to report consuming alcohol in the three months before pregnancy. But among mothers who reported drinking, women who have received Medicaid were more likely to report binge drinking.
- ❁ About six percent of mothers on Medicaid reported being physically abused by their partner before pregnancy. For women not on Medicaid, about one percent reported physical abuse by their partner in this time period.
- ❁ Women of reproductive age who did not have a health plan were more likely to report being in poor mental health and had a higher percentage of obesity when compared to women with a health plan.
- ❁ Women who reported having a health plan were more likely to have a high school diploma or GED and were significantly less likely to report being current smokers.





## Data Sources and Limitations

Ohio-specific data sources used for this report included the Pregnancy Risk Assessment Monitoring System (PRAMS), the Behavioral Risk Factor Surveillance System (BRFSS), Vital Statistics records, and the STD Surveillance System.

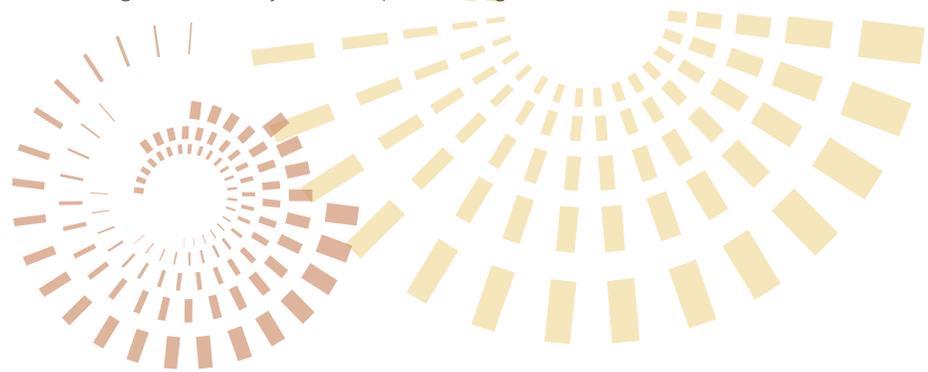
PRAMS was initiated by the Centers for Disease Control and Prevention (CDC) in 1987 to reduce infant mortality and low birth weights. Ohio has participated in this survey since April of 1999. PRAMS is a randomly sampled ongoing mail survey with telephone follow-up that assesses the behaviors and experiences of the mother before, during and shortly after pregnancy. The goal of PRAMS in Ohio is to gain a better understanding of maternal risk factors to improve the health of women and infants. Because it is a survey, PRAMS results are susceptible to several biases. The first is non-response, or refusal to participate. Second is measurement, which includes social desirability (answering a question the way the individual believes will be viewed favorably) and recall bias (inability to remember correctly). Third is non-coverage bias, or the inability to reach certain high risk populations. Additionally, the data are self-reported and not verified by a physician or through medical records. PRAMS data are also limited to women who have recently had

a live birth and therefore cannot be extrapolated to all women who become pregnant in Ohio. However, PRAMS is a useful data source when looking at preconception health indicators because it was developed specifically to assess the health outcomes and behaviors of women of reproductive age.

The Ohio BRFSS is a random-digit dial telephone survey that tracks health practices, health conditions and risk behaviors of adults aged 18 years and older. Nationally, data are collected each month in all 50 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands and Guam. Since 1984, the Ohio Department of Health (ODH) has implemented the BRFSS survey in Ohio with support from the CDC. The purpose of the Ohio BRFSS is to monitor the behaviors associated with the major causes of preventable morbidity and mortality in the adult population of Ohio. Like PRAMS, BRFSS is subject to non-response, measurement, and non-coverage biases. BRFSS was not developed specifically to monitor women of reproductive age, so limiting the sample to women between 18 and 44 years of age yields a smaller sample size, making some estimates potentially unstable.

The legal records collected in the ODH, Office of Vital Statistics are the data sources for many important statistical measures used in public health. This office manages Ohio's birth, death, marriage and divorce records. These indicators are frequently used to track the health of Ohio's population and are used locally for planning and community analysis. Limitations with birth certificate data include variables that are more likely to be incomplete or inaccurate due to variations in how the form is completed.

STD surveillance tracks syphilis, gonorrhea and chlamydia in Ohio. It provides information used for preventing the spread of these and other sexually transmitted diseases. The surveillance system includes information on the number of new cases diagnosed, the types of facilities providing diagnostic services, the treatments patients receive, and whether sexual or needle-sharing partners were notified of their potential exposure and need to be tested. These infections are reportable conditions, but they may be significantly under reported. Large public facilities tend to report cases more reliably than smaller private practices. In addition, new information about cases (and their partners) is continually updated, making the data subject to frequent changes.



## Index of Preconception Health Indicators by Domain and Sub-Domain for Ohio Women Aged 18-44 Years

Domain	Sub-Domain	#	Indicator	Data Source	Page
<b>General Health Status and Life Satisfaction</b>	<b>Self-rated Health</b>	A1	Percentage of women who report good, very good or excellent health	BRFSS	16
<b>Social Determinants of Health</b>	<b>Education</b>	B1	Percentage of women with a high school education/GED or greater	BRFSS	18
<b>Health Care</b>	<b>Access to and Utilization of Health Care</b>	C1	Percentage of women who currently have some type of health care coverage	BRFSS	20
		C2	Percentage of women having a live birth who had health care coverage during the month prior to pregnancy	PRAMS	22
		C3	Percentage of women who had a routine checkup in the past year	BRFSS	24
		C4	Percentage of women having a live birth who had a postpartum checkup	PRAMS <sup>a</sup>	26
	<b>Access to Dental Care</b>	C5	Percentage of women having a live birth who had their teeth cleaned during the 12 months prior to pregnancy	PRAMS	28
	<b>Reproductive Health Care</b>	C6	Percentage of women who had a pap test within the past three years	BRFSS <sup>b,c</sup>	30
	<b>Content and Quality of Care</b>	C7	Percentage of women having a live birth who received preconception counseling about healthy lifestyle behaviors and prevention strategies from a health care provider prior to pregnancy	PRAMS <sup>a</sup>	32
<b>Reproductive Health and Family Planning</b>	<b>Previous Preterm Birth</b>	D2	Percentage of women having a live birth who had their previous live birth more than three weeks before the due date	PRAMS	34
	<b>Inter-pregnancy Interval/Birth Spacing</b>	D4	Percentage of women having a live birth who had less than 18 months between their previous live birth and the start of the most recent pregnancy	Vital Statistics	36
	<b>Pregnancy Intention/Wantedness</b>	D5	Percentage of women having a live birth who reported having an unintended or unwanted pregnancy	PRAMS	38
			<i>Unintended pregnancy:</i> percentage of women who said that just before their most recent pregnancy, they wanted to be pregnant later or didn't want to be pregnant then <b>or</b> at any time in the future <i>Unwanted pregnancy:</i> percentage of women who said that just before their most recent pregnancy they didn't want to be pregnant then or at any time in the future		
	<b>Contraception (Access, Availability, and Use)</b>	D6	Percentage of women having a live birth who were not trying to get pregnant at the time of conception and neither they nor their husbands or partners were doing anything to keep from getting pregnant	PRAMS	40
			Percentage of women having a live birth who reported that they or their husbands or partners were currently doing something to keep from getting pregnant		
	<b>Use of Assisted Reproductive Technology</b>	D8	Percentage of women having a live birth who used fertility drugs or received any medical procedures from a doctor, nurse, or other health care worker to help them get pregnant	Vital Statistics	44
	<b>Tobacco, Alcohol and Substance Use</b>	<b>Smoking</b>	E1	Percentage of women who currently smoke everyday or some days	BRFSS
E2			Percentage of women having a live birth who smoked cigarettes during the three months prior to pregnancy	PRAMS	48
<b>Alcohol Consumption</b>		E3	Percentage of women who participated in heavy drinking on at least one occasion within the past month	BRFSS	50
		E4	Percentage of women who participated in binge drinking on at least one occasion in the past month	BRFSS	52



Domain	Sub-Domain	#	Indicator	Data Source	Page
<b>Tobacco, Alcohol and Substance Use</b>	<b>Alcohol Consumption</b>	E5	Percentage of women having a live birth who drank any amount of alcohol during the three months prior to pregnancy	PRAMS	54
		E6	Percentage of women years having a live birth who participated in binge drinking during the three months prior to pregnancy	PRAMS	56
	<b>Secondhand Smoke Exposure</b>	E7	Percentage of women having a live birth who reported that smoking is currently allowed in their home	PRAMS	58
<b>Nutrition and Physical Activity</b>	<b>Fruit and Vegetable Consumption</b>	F1	Percentage of women who consume fruits and vegetables at least five times per day	BRFSS <sup>d</sup>	60
	<b>Obesity and Overweight</b>	F2	Percentage of women who are overweight or obese based on body mass index (BMI) <i>Overweight:</i> women with a BMI $\geq 25$ kg/m <sup>2</sup> but $< 30$ kg/m <sup>2</sup> <i>Obesity:</i> women with a BMI $\geq 30$ kg/m <sup>2</sup>	BRFSS	62
		F3	Percentage of women having a live birth who were overweight or obese based on BMI at the time they became pregnant <i>Overweight:</i> women with a BMI $\geq 25$ kg/m <sup>2</sup> but $< 30$ kg/m <sup>2</sup> <i>Obesity:</i> women with a BMI $\geq 30$ kg/m <sup>2</sup>	PRAMS	64
	<b>Folic Acid Supplementation</b>	F4	Percentage of women having a live birth who took a multivitamin, prenatal vitamin, or a folic acid supplement everyday of the month prior to pregnancy	PRAMS <sup>a</sup>	66
	<b>Exercise/Physical Activity</b>	F5	Percentage of women who participate in enough moderate and/or vigorous physical activity in a usual week to meet the recommended levels of physical activity	BRFSS <sup>d</sup>	68
<b>Mental Health</b>	<b>General Mental Distress</b>	G1	Percentage of women who report that their mental health was not good for at least 14 out of the past 30 days	BRFSS	70
	<b>Postpartum Depression</b>	G3	Percentage of women having a live birth who experienced depressive symptoms after pregnancy	PRAMS	72
<b>Emotional and Social Support</b>	<b>Domestic Abuse (Physical and Mental)</b>	H1	Percentage of women having a live birth who were physically abused by their partner during the 12 months prior to pregnancy	PRAMS	74
	<b>Adequacy of Support</b>	H3	Percentage of women who always or usually get the social and emotional support they need	BRFSS	76
<b>Chronic Conditions</b>	<b>Diabetes</b>	I1	Percentage of women who have ever been told by a health care provider that they had diabetes including gestational diabetes	BRFSS	78
		I2	Percentage of women having a live birth who before their most recent pregnancy had ever been told by a health care provider that they had Type I or Type II diabetes	PRAMS	80
	<b>Hypertension</b>	I3	Percentage of women who have ever been told by a health care provider that they had hypertension including hypertension during pregnancy	BRFSS <sup>d</sup>	82
	<b>Asthma</b>	I5	Percentage of women who currently have asthma	BRFSS	84
<b>Infections</b>	<b>Sexually Transmitted Infections</b>	J2	Rates of Chlamydia, gonorrhea, and syphilis (cases per 100,000 women aged 18–44 years)	STD	86
	<b>Immunizations</b>	J3	Percentage of women who received an influenza vaccination within the past year	BRFSS	88

<sup>a</sup> Indicator measure is a PRAMS Standard Item, which is not available in all PRAMS states.

<sup>b</sup> Indicator measure is a BRFSS Rotating Core Item, which is available in all states only in even years.

<sup>c</sup> Indicator measure is also available as an Optional Module in BRFSS, which can be added in odd years.

<sup>d</sup> Indicator measure is a BRFSS Rotating Core Item, which is available in all states only in odd years.

