

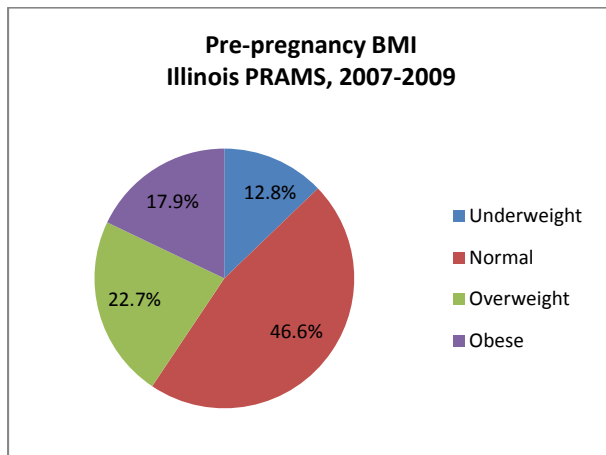
# Pre-pregnancy Body Mass Index (BMI) and Associated Pregnancy Outcomes in Overweight and Obese Mothers in Illinois, 2007-2009

## Illinois Pregnancy Risk Assessment Monitoring System

### Background

One in five women nationwide is obese at the time of conceiving a baby.<sup>1</sup> Mothers who are obese are less likely to breastfeed<sup>2</sup> and are at an increased risk of adverse pregnancy outcomes when compared with mothers of normal weight. Obesity is associated with increased risk for gestational diabetes, preeclampsia, cesarean delivery, macrosomia, preterm delivery, and stillbirth.<sup>1</sup> Mothers who are obese are at increased risk of maternal death and near-miss morbidity.<sup>1</sup> Their babies are at risk of certain fetal anomalies and childhood obesity.<sup>3</sup>

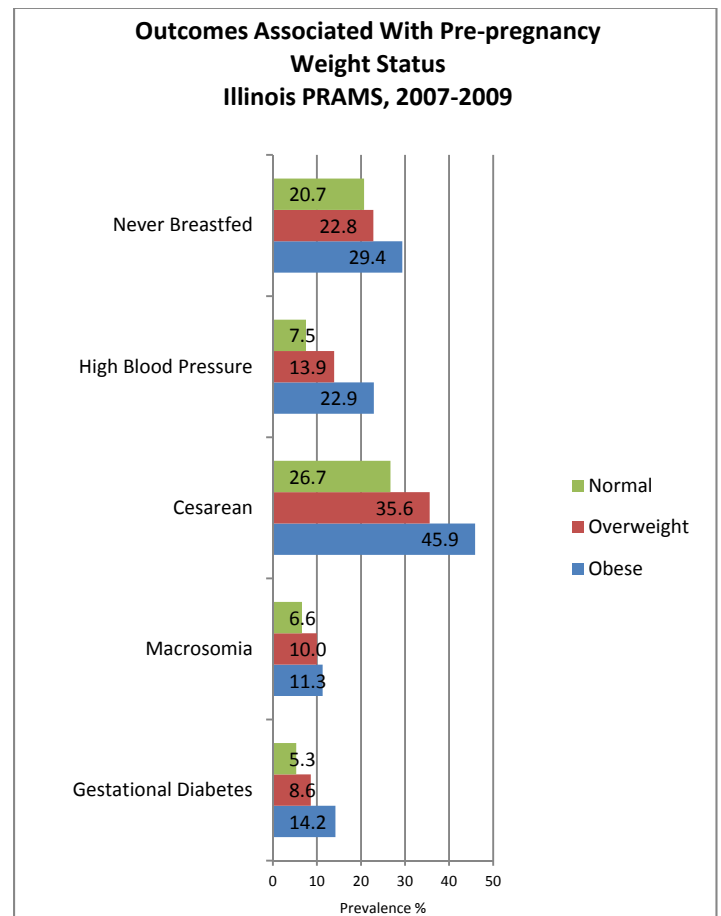
### Pre-Pregnancy BMI in Illinois



PRAMS found that about 47 percent of Illinois women who had given birth fell into the normal range (18.5-24.9) for pre-pregnancy BMI. Nearly 41 percent were overweight (BMI 25.0-29.9) or obese (BMI  $\geq$ 30) and about 13 percent were underweight (BMI <18.5).

### Outcomes Associated With Obesity and Overweight in Illinois

PRAMS data show that mothers who were overweight and obese during the preconception period were more likely to have gestational diabetes, macrosomia (baby that weighs more than 4,000 grams/8 pounds 13 ounces), cesarean deliveries and high blood pressure when compared with normal weight mothers. Obese mothers also were less likely to attempt breastfeeding than other mothers.



Prevalence of Pre-pregnancy Overweight and Obese by Maternal Characteristics				
Illinois PRAMS, 2007-2009				
	Overweight (BMI 25.0-29.9)		Obese (BMI ≥30.0)	
	Percent	95% CI	Percent	95% CI
<b>All</b>	<b>22.7</b>	<b>21.5-24.0</b>	<b>17.9</b>	<b>16.8-19.1</b>
<b>Maternal Age</b>				
<20 years	20.3	16.7-24.5	8.8	6.4-11.9
20-24 years	24.0	21.2-27.0	18.7	16.2-21.5
25-34 years	22.6	20.9-24.3	19.1	17.6-20.8
35+ years	23.1	20.1-26.5	19.0	16.2-22.2
<b>Race Category</b>				
Black	26.7	23.2-30.4	27.7	24.2-31.4
White	22.0	20.6-23.4	16.6	15.4-17.9
Other	19.6	14.4-26.1	6.8	4.0-11.6
<b>Hispanic Ethnicity</b>				
Hispanic	20.9	18.6-23.4	16.8	14.7-19.1
Non-Hispanic	23.3	21.9-24.8	18.3	17.0-19.7
<b>Education</b>				
< High school	18.4	15.8-21.3	15.4	13.0-18.1
High school graduate	24.3	21.8-27.1	20.7	18.3-23.2
Some college	24.9	22.1-27.9	24.4	21.6-27.4
College graduate	22.9	20.9-25.1	13.6	11.9-15.4
<b>Marital Status</b>				
Married	22.3	20.7-23.9	17.2	15.8-18.7
Other	23.3	21.3-25.5	19.0	17.1-21.0
<b>Payment for Delivery</b>				
Medicaid	22.2	20.5-24.1	20.6	18.9-22.4
Other	23.3	21.6-25.2	15.1	13.6-16.7

## Maternal Characteristics

Across nearly every demographic characteristic studied, more than one in five Illinois mothers was overweight prior to conception. Of all mothers, another 18 percent were obese. Black mothers had the highest percent of overweight (26.7%) and obese (27.7%) characteristics among any demographic group studied, with more than half of black mothers categorized as overweight or obese prior to pregnancy. Mothers whose deliveries were paid for by Medicaid were significantly more likely to be obese (20.6%) when compared with women whose deliveries were not paid for by Medicaid (15.1%). Teens were less likely to be obese compared to older mothers.

## Discussion

A significant number of Illinois mothers are overweight or obese prior to conception, and certain groups of women exhibit particularly higher rates of obesity when compared with others. Because being overweight or obese contributes to poor birth outcomes, it is critical that all women of reproductive age have an awareness of the importance of a healthy pre-pregnancy weight. Efforts that encourage a healthy lifestyle, including proper nutrition and exercise, should be supported as they are critical in the battle to combat obesity. Specific targeted measures may be necessary for populations with the highest rates of obesity. The American Dietetic Association and the American Society of Nutrition support screening women of reproductive age, along with counseling and appropriate follow-up for those that are overweight or obese.<sup>1</sup> Health care providers should be aware of nutrition resources and referral options for their patients.

Illinois PRAMS is an ongoing project of the Illinois Department of Public Health and the U.S. Centers for Disease Control and Prevention (CDC). PRAMS collects information from women about their behaviors and experiences before, during and immediately following the birth of the baby. PRAMS information is used to guide policies and programs to improve the health of women and children in Illinois. The PRAMS data reported here are representative of live births to Illinois resident women from 2007 to 2009. A total of 6,995 women were selected for the study and 4,986 chose to participate for a response rate of 71.3 percent. Statistics are based on weighted data. BMI = (weight in kilograms) divided by ((height in meters) squared).

For more information contact:  
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 866-643-7194 or 217-785-1064

## References

- <sup>1</sup> Zera, C.; McGirr, S. and Oken E. Screening for obesity in reproductive-aged women. *Prev Chronic Dis* 2011; 8(6):A125. [http://www.cdc.gov/pcd/issues/2011/nov/11\\_0032.htm](http://www.cdc.gov/pcd/issues/2011/nov/11_0032.htm). Accessed September 19, 2012.
- <sup>2</sup> Amir, L. H. and Donath, S. A systematic review of maternal obesity and breastfeeding intention, initiation and duration. *BMC Pregnancy and Childbirth* 2007; 7:9 (4 July 2007)doi:10.1186/1471-2393-7-9. <http://www.biomedcentral.com/1471-2393/7/9>. Accessed September 26, 2012.
- <sup>3</sup> [http://www.marchofdimes.com/pregnancy/complications\\_obesity.html](http://www.marchofdimes.com/pregnancy/complications_obesity.html). Accessed September 26, 2012.