

# MATERNAL AND CHILD HEALTH BRIEF #1:

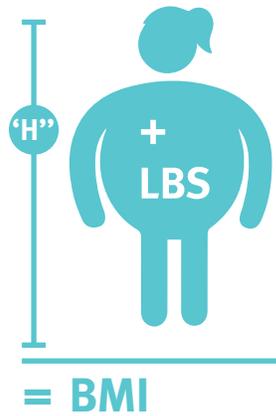
OBESITY AMONG WOMEN AND OBESITY DURING PREGNANCY  
SEPTEMBER 2012

## OBESITY DEFINED

Obesity and overweight are typically measured in terms of Body Mass Index or BMI. BMI is a proxy

measure. That is, BMI is not a direct measure of body fat, but is correlated with the percent of body fat. BMI is calculated using an individual's height and weight and the resulting

number is often classified into four ranges for adults: underweight (a BMI below 18.5); normal (a BMI between 18.5 and 24.9); overweight (a BMI between 25.0 and 25.9); and obese (a BMI of 30.0 and above).<sup>i</sup>



## THE PERCENTAGE OF ADULTS CLASSIFIED AS OBESE IS INCREASING

In the United States the percentage of adults who are obese has been increasing in recent years. Based on data from the Behavioral Risk Factor Surveillance System, in 2010, **27.5% of adults in the United States could be classified as obese.**

*(continued on page 2)*

## OVERVIEW



This Maternal and Child Health (MCH) Brief summarizes the increasing prevalence of obesity among women in general and, more specifically, among pregnant women. The brief also identifies several strategies in terms of promotion and prevention that are thought to be effective in raising awareness and educating women and families about the problems related to obesity and behavioral changes that can lead to a healthy lifestyle. Finally, the brief discusses the public health role from the perspective of Maternal and Child Health programs in promoting health across the lifespan and preventing obesity and obesity-related complications during pregnancy.



## OBESITY AMONG WOMEN

In 2010, Delaware was similar to the nation as a whole in terms of the distribution of women classified as obese. Furthermore, if the percentage of women in the overweight category of the BMI range are included, the percentage of women with a BMI above the normal range is over 50 percent (see Figure 2).<sup>iii</sup>

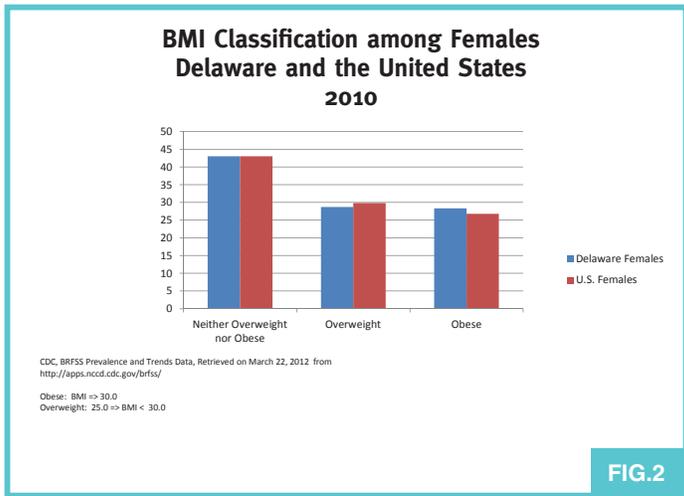


FIG.2

## OBESITY AMONG PREGNANT WOMEN IN DELAWARE

Based on data from the 2008 Delaware Pregnancy Risk Assessment and Monitoring Survey (PRAMS), over one-quarter of pregnant women were classified as obese (see Figure 3).

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## ADULTS CLASSIFIED AS OBESE IS INCREASING (CONTINUED)

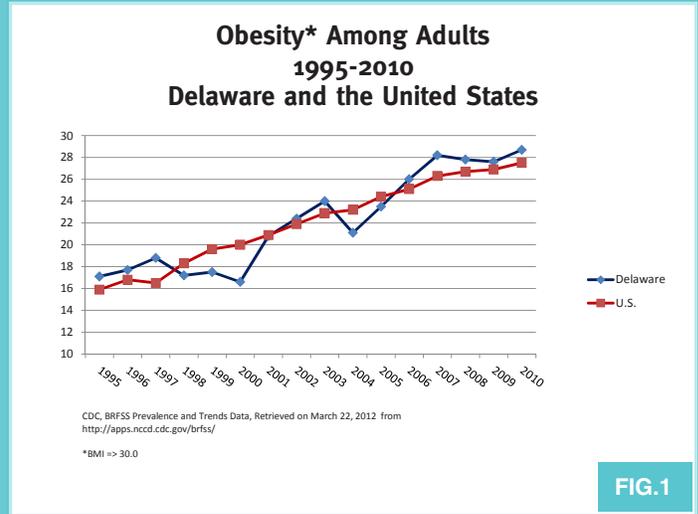


FIG.1

This represents a 72% increase in the percentage in obesity among adults in the United States since 1995 when obesity was reported to be 15.9 percent.

In Delaware over the same time period, the percentage of adults classified as obese increased from 17.1% to 28.7 percent (see Figure 1).<sup>ii</sup>

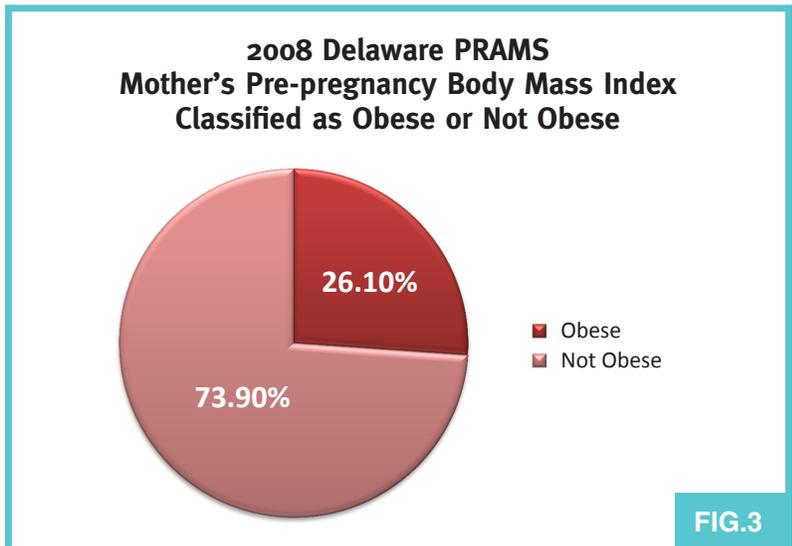
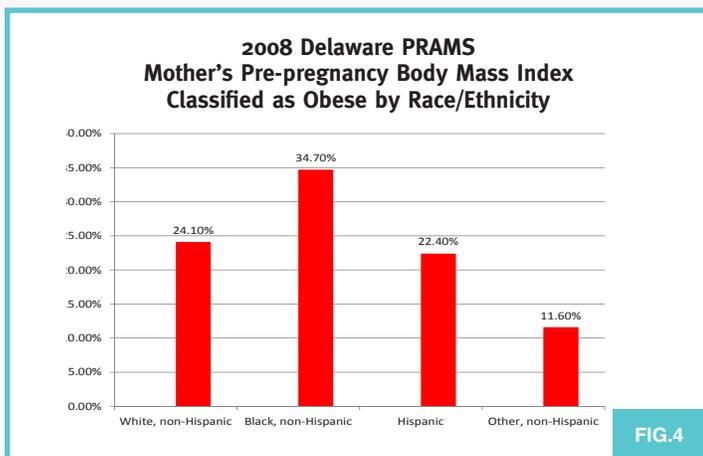


FIG.3

## OBESITY AMONG PREGNANT WOMEN (CONTINUED)

Among pregnant women in Delaware, the percentage of those classified as obese was highest among Black, non-Hispanics (34.7%). White, non-Hispanics (24.1%), Hispanics (22.4%) and those women of other races/ethnicities (11.6%) followed respectively in terms of those in the obese BMI range (see Figure 4).



In 2008, pregnant women in Delaware were classified as obese at a higher percentage (26.1%) than pregnant women in the surrounding states of Maryland (22.6%), New Jersey (21.7%), and Pennsylvania (20.9%).<sup>iv</sup>

## PREDISPOSING (RISK) FACTORS RELATED TO OBESITY

Parous women (compared to nulliparous women) and African-American and Hispanic women (compared to Caucasian women) are at a higher risk for obesity.<sup>v</sup> Behavioral risk factors related to obesity include smoking, inactivity, and unhealthy

diet. Obesity may also be associated with certain predisposing medical problems such as arthritis and low-metabolism, problems with sleeping, certain medications and family history.<sup>vi</sup>

## OBESITY-RELATED HEALTH CONDITIONS AND PREGNANCY

Obesity is related to numerous conditions resulting in poor outcomes in pregnancy.

Among the conditions impacting pregnancy and infant health related to maternal obesity are:

- Infertility
- Miscarriage
- Still Birth
- Infant Death
- Low Birth Weight / Prematurity
- High Blood Pressure / Preeclampsia
- Gestational Diabetes
- Complications during labor resulting in a cesarean section
- Certain Birth Defects, including neural tube defects
- Birth injuries to the baby if the baby is large
- Childhood obesity<sup>vii, viii, ix</sup>

Additionally, obesity may inhibit breastfeeding initiation and duration.<sup>x</sup>

In 2010, the Delaware Fetal and Infant Mortality Review (FIMR) found that maternal obesity was a contributing factor in 40% of cases reviewed for infant death.<sup>xi</sup>



## STRATEGIES FOR REDUCING OBESITY-RELATED COMPLICATIONS DURING PREGNANCY

There are a number of steps that can be taken to reduce problems related to obesity during pregnancy. For women of reproductive age, preconception care, including regular medical check-ups prior to pregnancy are important. During medical check-ups, providers should discuss nutrition and physical activity. For women who may already be pregnant, early and regular prenatal care offers the opportunity for necessary monitoring. Providers should educate patients on weight gain during pregnancy as well as nutrition and physical activity.<sup>xii, xiii</sup>



**“ THE [DHMIC] HAS DEVELOPED REPRODUCTIVE LIFE PLANS AND A WEBSITE THAT COVERS NUTRITION, EXERCISE AND THE IMPORTANCE OF MAINTAINING A HEALTHY WEIGHT...”**



## OBESITY AND MATERNAL CHILD HEALTH PROGRAMS

Two main goals of Healthy People 2020 are directly related to obesity prevention:

- Improve the health and well-being of women, infants, children, and families.
- Promote health and reduce chronic disease risk through the consumption of healthful diets and achievement and maintenance of healthy body weights.<sup>xiv</sup>

Obesity prevention is a public health function and in Delaware multiple program areas are involved with planning and implementing interventions, evaluating these initiatives, and providing surveillance for the growing burden of obesity and associated health conditions.

A priority of Delaware’s Maternal and Child Health Programs is the reduction of obesity among women of childbearing age.<sup>xv</sup> Four of the main initiatives addressing the Maternal and Child Health needs concerning obesity prevention are the Healthy Women, Healthy Babies Program; the Delaware Home Visiting Program; the Special Supplemental Nutrition Program for Women, Infants and Children (WIC); and the Physical Activity, Nutrition and Obesity Prevention (PANO) Program.

Healthy Women, Healthy Babies provides preconception and prenatal care for women who are at risk for poor birth outcomes. The program targets African-American women as well as women whose most recent pregnancy resulted in a poor birth outcome. Women are also eligible based on a number of other risk factors, including having a BMI of 30.0 or above. In addition to preconception care, psychosocial care and prenatal care, the program offers nutritional care as well.



As one of its aims, the Delaware Home Visiting Program strives to prevent and mitigate the effects of obesity during pregnancy and provides a continuum of services to prevent health and social problems that negatively impact infants, children, pregnant women and families. The program utilizes a multi-disciplinary approach that includes nurses, nutritionists and social workers to make home visits

to provide assessment, education, social support and nutrition services, as well as referrals to other services. Mothers are enrolled into one of three available tiers of the program during the prenatal period or after the birth of their infant and engaged with the program for up to three years.



WIC provides: nutritious foods to supplement diets; information on healthy eating; breastfeeding support; and referrals to other healthcare, welfare and social services to low-income women, infants & children up to age 5 who are at nutritional risk.

PANO uses a public health approach to addressing the role of physical activity and nutrition in improving health and preventing chronic diseases for all Delawareans. Recognizing that a variety of behavioral, social, economic, and environmental factors influence our health, the PANO program promotes policy and systems change, and implements programs and strategies to promote a reduction in obesity.

Additionally, the Delaware Healthy Mother and Infant Consortium has developed Reproductive Life Plans and a website that covers nutrition, exercise and the importance of maintaining a healthy weight across the lifespan (<http://dhmic.healthywomende.com/>).

## MCH SURVEILLANCE OF PROGRESS IN REDUCING OBESITY AMONG WOMEN

In addition to national surveys, the Delaware Division of Public Health monitors obesity among women through its Performance Objectives and related program data sources.

### *Maternal and Child Health Block Grant.*

Annually, the State of Delaware submits the Title V Maternal and Child Health Block Grant application that specifies priority areas for resource allocation. State Performance Measure #5 tracks the percent of women of childbearing age who are obese (BMI 30 or higher). In 2010, according to the Behavioral Risk Factor Surveillance Survey in Delaware, 14.7% of women aged 18-64 were estimated to be obese.<sup>iii</sup> Delaware has set a 20% reduction in this measure as a performance target over the next 10 years (2011-2021).



## FRAMEWORKS AND STRATEGIES FOR REDUCING OBESITY IN THE COMMUNITY

According to the Institute of Medicine, state and local governments are in the best position to focus on the unique needs of their states, cities and neighborhoods and should provide coordinated leadership and support, particularly for high-risk populations.<sup>xvi</sup> An important part of designing adequate interventions to prevent obesity is surveillance and monitoring trends and evaluating prevention efforts through public health.

The Centers for Disease Control supports states in five specific strategies aimed at reducing obesity:

- Increasing consumption of fruits and vegetables
- Increasing physical activity
- Increasing breastfeeding initiation, duration and exclusivity
- Decreasing consumption of sugary drinks
- Decreasing consumption of high-energy-dense foods, which are high in calories.<sup>xvii</sup>

The Bright Futures for Women's Health and Wellness also provides a toolkit for communities to improve women's health and focus physical activity and healthy eating. This toolkit addresses forming partnerships and what can be done in neighborhoods, schools, the workplace and community and faith-based organizations.<sup>xviii</sup>

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*DELAWARE HEALTH AND SOCIAL SERVICES*

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