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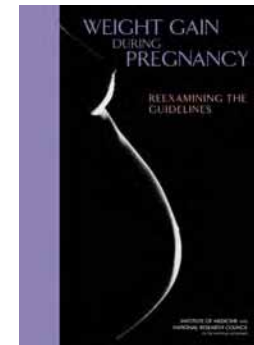
WEIGHT GAIN DURING PREGNANCY: REEXAMINING THE GUIDELINES

It has been nearly two decades since guidelines for how much weight a woman should gain during pregnancy were issued by the Institute of Medicine (IOM). In that time, more research has been conducted on the effects of weight gain in pregnancy on the health of both mother and baby. There have also been dramatic changes in the population of women having babies. American women are now a more diverse group; they are having more twin and triplet pregnancies, and they tend to be older when they become pregnant. Women today are also heavier; a greater percentage of them are entering pregnancy overweight or obese, and many are gaining too much weight during pregnancy. Many of these changes carry the added burden of chronic disease, which can put the mother and her baby's health at risk.

Clearly, the time had come to reexamine the guidelines for weight gain during pregnancy issued in 1990 and to determine whether revision was needed to meet the needs of American women today. The Committee to Reexamine IOM Pregnancy Weight Guidelines undertook this challenge from the perspective that factors that affect pregnancy begin before conception and continue through the first year after delivery.

One of the most important modifiers of pregnancy weight gain and its impact on a mother's and her baby's health is a woman's weight at the start of pregnancy. The best available measure of prepregnancy weight, body mass index (BMI, a measure of body fat based on weight and height), has been updated in the new guidelines to the categories developed by the World Health Organization (WHO) and adopted by the National Heart, Lung, and Blood Institute (NHLBI).

In developing the new guidelines, the committee considered not only the welfare of the infant, as was done in 1990, but also the health of the mother. Thus, the new guidelines, shown in Table 1, differ from the previous ones in two important ways. First, they are based on the WHO BMI categories rather than the previous categories from the Metropolitan Life Insurance tables. Second, the new guidelines include a specific and relatively narrow range of recommended gain for obese women. Because positive outcomes are achieved within a range of weight gains, the new guidelines are formulated as a range of weight gain for each category of prepregnancy BMI. A single number cannot accommodate differences such as age, race/ethnicity, or other factors that may affect pregnancy outcomes. Therefore, a range of weight gain is necessary.



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The guidelines and supporting recommendations are intended to be used in concert with good clinical judgment and should include a discussion between the woman and her care provider about diet and exercise.

TABLE 1 NEW RECOMMENDATIONS FOR TOTAL AND RATE OF WEIGHT GAIN DURING PREGNANCY, BY PREPREGNANCY BMI

Prepregnancy BMI	BMI ⁺ (kg/m ²) (WHO)	Total Weight Gain Range (lbs)	Rates of Weight Gain* 2nd and 3rd Trimester (Mean Range in lbs/wk)
Underweight	<18.5	28–40	1 (1–1.3)
Normal weight	18.5–24.9	25–35	1 (0.8–1)
Overweight	25.0–29.9	15–25	0.6 (0.5–0.7)
Obese (includes all classes)	≥30.0	11–20	0.5 (0.4–0.6)

+ To calculate BMI go to www.nhlbisupport.com/bmi/

* Calculations assume a 0.5–2 kg (1.1–4.4 lbs) weight gain in the first trimester (based on Siega-Riz et al., 1994; Abrams et al., 1995; Carmichael et al., 1997)

The recommended weight gain ranges for short women and for racial or ethnic groups are the same as those for the whole population. In addition, teenagers who are pregnant should use the adult BMI categories to determine their weight gain range until more research is done to determine whether special categories are needed for them. Women who are pregnant with twins are given provisional guidelines. Those in the normal BMI category should aim to gain 37–54 pounds; overweight women, 31–50 pounds; and obese women, 25–42 pounds.

The guidelines and supporting recommendations are intended to be used in concert with good clinical judgment and should include a discussion between the woman and her care provider about diet and exercise.

To improve maternal and child health outcomes, women not only should be within a normal BMI range when they conceive but also should gain within the ranges recommended in the new guidelines. Meeting these challenges means that women will need preconception counseling, which may include plans for weight loss; and both women and their care providers need to know and understand the new guidelines. For many women, this will mean gaining less weight, which may be particularly challenging for women who are overweight or obese at conception.

RECOMMENDATIONS FOR ACTION

In order to provide guidance to the many partners responsible for moving women toward healthier pregnancies, the committee offers the following recommendations:

- The Department of Health and Human Services should conduct routine surveillance of weight gain during pregnancy and postpartum weight retention on a nationally representative sample of women and report the results by prepregnancy BMI (including all classes of obesity), age, racial/ethnic group, and socioeconomic status.
- All states should adopt the revised version of the birth certificate, which in-

cludes fields for maternal prepregnancy weight, height, weight at delivery, and age at the last measured weight. In addition, all states should strive for 100 percent completion of these fields on birth certificates and collaborate to share data, thereby allowing a complete national picture as well as regional snapshots.

- Federal, state, and local agencies, as well as health care providers, should inform women of the importance of conceiving at a normal BMI, and those who provide health care or related services to women of childbearing age should include preconceptional counseling in their care. A higher proportion of American women should limit their weight gain during pregnancy to the range specified in these guidelines for their prepregnant BMI. The first step in assisting women to gain within these guidelines is letting them know the guidelines exist, which will require educating health care providers as well as the women themselves.
- Federal agencies, private voluntary organizations, and medical and public health organizations should adopt these new guidelines for weight gain during pregnancy and publicize them to their members and also to women of childbearing age.
- Those who provide prenatal care to women should offer them counseling, such as guidance on dietary intake and physical activity, that is tailored to their life circumstances.

The committee also identified specific areas on which the National Institutes of Health and other relevant agencies should focus to fill major gaps in research. Studies should be conducted on how dietary intake, physical activity, and other factors affect weight gain during pregnancy in diverse populations; the impact of weight gain during pregnancy on maternal and child health outcomes; and eating behaviors for women who gain little or lose weight during pregnancy. In addition, the committee recommends that HHS support research to aid care providers and communities in assisting women—especially low-income and minority women—to meet the new guidelines. Finally, the committee calls for research to examine the cost-effectiveness of interventions designed to assist women in meeting the guidelines.

An important component of implementation of the new guidelines is the need for individualized attention. The types of services needed to meet women’s needs include recording prepregnancy height and weight, charting women’s weight gain throughout pregnancy, and sharing the results with them so they are aware of their progress toward their weight gain goal.

A new set of charts (see insert) was designed to be developed for use as the basis for a weight gain discussion between women and their care providers. In addition to these charts, women need advice about dietary intake and exercise. Such advice should come from qualified professionals including dietitians and physical activity specialists. These providers should continue to provide assistance through the postpartum period to help women return to their prepregnancy weight within the first year following delivery. Special attention should be given to low-income and minority women who are more likely to be in higher BMI categories, consume diets of poor nutritional quality, and get less exercise before pregnancy.

In summary, although the new guidelines are not dramatically different from those published in 1990, fully implementing them would represent an important change in the care provided to women of childbearing age.

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FOR MORE INFORMATION . . .

Copies of *Weight Gain During Pregnancy: Reexamining the Guidelines* are available from the National Academies Press, 500 Fifth Street, N.W., Lockbox 285, Washington, DC 20055; (800) 624-6242 or (202) 334-3313 (in the Washington metropolitan area); Internet, www.nap.edu. The full text of this report is available at www.nap.edu.

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