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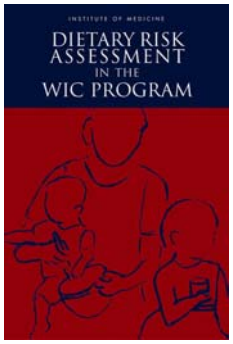
DIETARY RISK ASSESSMENT IN THE WIC PROGRAM



Dietary intake patterns of individuals are complex in nature. However, assessing these complex patterns has been fundamental to the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) since its inception. The WIC program, which provides nutritious supplemental foods, nutrition education, and health referral services to low-income pregnant or postpartum women, infants, and children to age 5 years, is not an entitlement program. Instead, it requires applicants to meet at least one of several nutrition risk categories to be eligible for program services. Of the five nutrition risk categories, *Dietary Risk* is the most commonly reported. In fact, in 1998, 49 percent of applicants (47 percent of women, 13 percent of infants, and 68 percent of children ages 1-5 years) were reported to have met at least one dietary risk criterion. No other single risk category came close. Indeed, because of differences in reporting practices, these estimates of dietary risk are likely to be underestimated.

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In 1999, because of concern about the quality of dietary assessment methods, USDA asked the Institute of Medicine (IOM) for assistance in evaluating the use of various dietary assessment tools and in making recommendations for the assessment of dietary risk with regard to inadequate or inappropriate dietary patterns. The primary focus was the category *failure to meet Dietary Guidelines*, where Dietary Guidelines refers to the 10 guidelines in the *Dietary Guidelines for Americans*. These guidelines emphasize overall dietary and lifestyle patterns that can help to achieve favorable long-term health outcomes. The guidelines are based on current knowledge about how dietary and physical activity patterns may reduce the risk of major chronic diseases and how a healthful diet may promote health. The 10 guidelines serve as a basis for federal policy and are incorporated in nutrition information, education, and interventions for federal, state, and local agencies. Embedded in the guidelines is the Food Guide Pyramid, which covers many of the Dietary Guidelines and gives concrete recommendations that promote moderation, balance, and variety in food intake.

The guidelines are based on current knowledge about how dietary and physical activity patterns may reduce the risk of major chronic diseases and how a healthful diet may promote health.

The IOM committee was asked to recommend specific cut-off points for dietary risk criteria and to consider both food-based and behavior-based approaches to assess whether a person meets these criteria. Since the Dietary Guidelines and Food Guide Pyramid apply only to individuals ages 2 years and older, the focus of this report was on pregnant and postpartum women and children ages 2-5.

REPORT FINDINGS

For at least one food group (fruits and vegetables), nearly all low-income women in the childbearing years and children ages 2-5 years usually consume fewer than the recommended number of servings specified by the Food Guide Pyramid.

- Focusing on the single guideline *Let The Pyramid Guide Your Food Choices* was determined to be the most feasible, comprehensive, and objective approach to using the Dietary Guidelines for establishing dietary risk for persons 2 years of age and older. Based on review of the Dietary Guidelines and the scientific underpinnings of the Food Guide Pyramid, the committee determined that the criterion should use the recommended number of servings based on energy needs as the cut-off point for each of the five basic food groups.
- For at least one food group (fruits and vegetables), nearly all low-income women in the childbearing years and children ages 2-5 years usually consume fewer than the recommended number of servings specified by the Food Guide Pyramid. Therefore, nearly all applicants would be at dietary risk based on the criterion for *failure to meet Dietary Guidelines* that is described above. Thus, the challenge becomes the identification of individuals who are not at dietary risk (rather than who are at dietary risk).
- Day-to-day variation in food and nutrient intake by individuals is so large in the United States that one or two 24-hour diet recalls or food records cannot accurately portray an individuals diet. While food frequency questionnaires (FFQs) are designed to assess usual intake and may be practical to administer to WIC clients, they are subject to many types of errors and their performance characteristics are unsatisfactory for determining an individual's eligibility for WIC. The committee found that even research-quality dietary assessment methods are not sufficiently accurate or precise to distinguish an individual's eligibility status.

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- Physical activity assessment was considered part of dietary risk assessment for several reasons: (1) WIC has a mandate to focus on primary prevention, including the primary prevention of overweight and obesity; (2) increasingly, overweight and obesity are major health concerns among those served by WIC; and (3) proper risk assessment for prevention or treatment of overweight and obesity must consider both diet and physical activity. However, a review of the literature found no physical activity assessment instruments that meet the operational constraints of WIC and that also can accurately and reliably assess whether a woman or child is obtaining at least the specified amount of physical activity. Because of the inherent difficulty of accurately recalling and characterizing the many behaviors that together constitute a person's physical activity level, it is unlikely that there could ever be a practical instrument to establish WIC eligibility accurately based on the physical activity recommendation in the Dietary Guidelines.
- Because certain broader behaviors are correlated with dietary intake and physical activity, interest developed in the use of behavior-based assessment as a method of identifying whether a person usually fails to meet the Dietary Guidelines. For example, frequency of eating meals together as a family might indicate the adequacy of vegetable consumption, and time spent together outdoors could be a surrogate indictor for physical activity. However, there is no strong evidence in the research literature that any particular kinds of behaviors would be sufficiently accurate and reliable for determining WIC eligibility. Behavioral indicators have only weak relationships, in fact, with the dietary and physical activity outcomes of interest.

OVERALL RECOMMENDATION

Based on the above findings, the committee recommended that all women and children ages 2 to 5 years who meet the eligibility requirements of income, categorical, and residency status also should be presumed to meet the requirement of nutrition risk through the category of dietary risk based on *failure to meet Dietary Guidelines.*

Evidence shows that nearly all low-income women in the child-bearing years and their two- to five-year-old children are at dietary risk and may thus benefit

When WIC was originally established in 1972, the categorical groups that WIC serves were selected because of their vulnerability to nutritional insults and WIC's potential for preventing nutrition-related problems. Nutritional status and dietary intake have both short- and long-term effects on the health of the woman and on the growth, development, and health of the fetus, infant, or child.

The groups served by WIC also are at increased risk of morbidity and mortality from virtually every disorder listed among the leading causes of death in the United States (cardiovascular disease, cancer, diabetes, and digestive diseases). The high prevalence of overweight and obesity and of diets that are inconsistent with the Dietary Guidelines (e.g., diets that are low in fruits and vegetables and/or high in saturated fats) may contribute to these increased risks. Current evidence suggests that food supplementation may actually decrease, rather than increase, the risk of overweight among food-insecure mothers in WIC and that it may promote varied aspects of health and well-being among food-insufficient children without adding to the risk of overweight.

Evidence shows that nearly all low-income women in the childbearing years and their two- to five-year-old children are at dietary risk and may thus benefit from WIC's services. Screening for it in order to determine WIC eligibility is largely unnecessary. Further, because of the complex nature of dietary, physical-activity, and behavioral patterns, it is unlikely that a tool can be developed to classify individuals accurately with respect to their true dietary risks; if any tools *were* adopted for this purpose, they would result in misclassification of some, and potentially many, individuals.

On the other hand, by presuming that all who meet the eligibility requirements of income, categorical, and residency status are at dietary risk, WIC retains its potential for preventing and correcting nutrition-related problems. And it meanwhile avoids administrative errors that could lead to denial of services to eligible applicants.

Therefore the committee recommends that all women and two- to five-year-old children who meet the above status requirements will automatically be considered to have also met the criterion for dietary risk—that is, routine failure to consume the recommended number of daily servings specified by the Food Guide Pyramid, in accordance with the *Dietary Guidelines*.

The committee notes, however, that although individual-level reporting errors greatly reduce the validity of data for assessing the diet, physical-activity, or behavioral patterns of individuals, the errors are less serious in group assessments—a variety of statistical procedures can adjust for known sources of error. Thus while identified relationships may not be true for any particular individual, they would be true for the group and could be used to monitor change over time or to evaluate the effects of nutrition-education interventions. When, or if, dietary information is collected in the WIC setting for food package tailoring, nutrition education, and/or health referrals, the method used should be approached with caution given the likelihood of error and misclassification.

For More Information…

Copies of ***Dietary Risk Assessment in the WIC Program*** are available for sale from the National Academy Press; call (800) 624-6242 or (202) 334-3313 (in the Washington metropolitan area), or visit the NAP home page at **www.nap.edu.** The full text of this report is available at **http://www.nap.edu.**

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