CHAPTER 1

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Chapter 1

Introduction

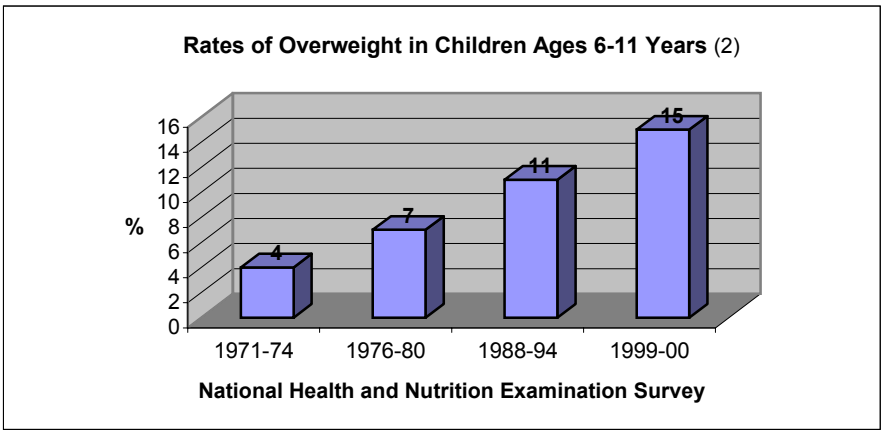
Terminology. *In this manual, the word "overweight" is used (as a noun) rather than "obesity" for the following reasons. For the professional, "overweight" refers to excess body weight, which includes all body tissues; "obesity" refers only to excess body fat. While the terms are often used interchangeably in the general population, "obesity" has a more negative connotation.*[1] *Until more accurate definitions and measures of obesity in children are available, we have chosen to use primarily the more neutral term of "overweight."*

AS A CONCERNED HEALTH PROFESSIONAL, you are aware that overweight is a serious public health problem in the United States. You know that more and more children are becoming overweight at an earlier age. You also know that the current treatment methods for overweight are largely unsuccessful: once an individual becomes overweight, he or she will likely remain overweight and will suffer the associated health problems later on in life.

You know that *prevention of overweight is the best solution*. This manual can guide you in your efforts to help prevent the development of overweight in the children of your WIC community and in your larger community as well.

1.1 Children and the Epidemic of Overweight

Children have become the latest victims in what is now acknowledged as an epidemic of overweight. At no other time in history has overweight been so prevalent among children and it is still on the rise. The prevalence of overweight in children ages 6-11 years in this country has more than tripled in less than 30



years, increasing from 4% in the 1971-74 National Health and Nutrition Examination Survey (NHANES) to 15% in the 1999-2000 NHANES.[2] Between 1992 and 1998, overweight prevalence among children in WIC rose 20%, from 11% to 13.2%.[3]

The prevalence of overweight in children ages 6-11 years in this country has *more than tripled* in less than 30 years.

No racial or ethnic group is immune to the environmental influences responsible for the increases in childhood overweight. That said, low socio-economic status might be a risk factor for overweight in young children. An analysis of data from NHANES III (1988-1994) showed that the prevalence of high

weight for height was higher in low-income children (both WIC and non-WIC participants) (15.4%), than in higher-income children (8.8%).[4] Several studies of low-income preschool children attending Head Start programs have also found a high prevalence of overweight, ranging from 10%[5] up to 32%.[6]

15% of U.S. children
(6-11 years)
are overweight (BMI>=95%);
another 15% are
***at risk* of becoming overweight**
(85%<=BMI<95%)[7]

The relationship between household income and childhood overweight is not simple, however: it may differ by gender, race, ethnicity and age.[8] [9] [10]

Why should we be concerned about overweight in young children? Overweight children are more likely to be overweight as adults than are non-overweight children: an overweight 1- or 2-year old child is 1.2 times more likely to be an overweight adult; an overweight 15-17 year old child is 17.5 times more likely.[11] One review of the literature suggested that 26-41% of overweight preschool children become overweight adults.[12] Another study found that 50 percent of overweight children and teens become overweight adults.[13]

Childhood Overweight:
Physical Health

- **Increased likelihood of overweight in adulthood**
- **Increased risk of chronic diseases:**
  - **diabetes**
  - **heart disease**
  - **hypertension**
  - **some cancers and joint problems**
- **In extreme overweight:**
  - **respiratory problems**
  - **joint problems**
  - **sleep apnea**

But why be concerned about overweight in either adults or children? There are many reasons that overweight is one of the most troubling public health problems facing this country. Overweight is associated with a myriad of health problems: high blood pressure, cardiovascular disease, diabetes, respiratory difficulties, joint and sleep problems, psychological and social problems.[14 15 16 17 18 19 20 21 22] These problems negatively affect the quality of life of the individual and his/her family and place a burden on our public health system. In the WIC setting, overweight children are more likely to have multiple nutrition risks than are non-overweight children: 79.1 % of overweight WIC children have two or three nutrition risks, while only 48.2 % of non-overweight WIC children have the same number of risks.[23]

Consequences of Childhood Overweight:

Social and Psychological Health

- **Discrimination**
- **Low self-esteem**
- **Poor body image**
- **Overweight teen girls are less likely to:**
  - **attend college**
  - **be married**
  - **be economically well off as adults**

Terminology. *The Body Mass Index (BMI) is the most widely accepted clinical measure of weight status and is calculated by dividing a child's weight in kilograms by his/her height in meters squared. A child who has a BMI at or above the 95th percentile of his/her age and gender group (using standards established with national surveys) is considered by health professionals to be overweight; if his/her BMI is at or above the 85th and below the 95th percentiles, the child is considered at risk of overweight.*

1.2 The Solution Is Prevention

Prevention of overweight among children is imperative for stemming the epidemic of overweight in the entire population.[24] Treatment of overweight is difficult, costly and less effective than preventing it in the first place. Early childhood is an especially critical period for overweight intervention because unhealthy behaviors are not yet established.[25] Weight modification is more successful with children than with adults and with younger than with older school-aged children.[26] [27] We know that older children are acquiring potentially unhealthy dietary habits at alarming rates; these include: increased restaurant meals, resulting in a diet high in fat and calories;[28] fewer dinners with family, which translates to a lower consumption of fruits and vegetables and a higher consumption of fat, fried foods and soda;[29] increased breakfast-skipping;[30] and decreased consumption of fruit and nutrient-dense vegetables.[31]

Treatment of overweight is difficult, costly, and less effective than preventing it in the first place!

The best time to intervene for overweight prevention is early childhood-- unhealthy behaviors are not yet established.

It is especially disturbing that children as young as 6 years of age are becoming less physically active.[32] In these young children, sedentary behavior, measured by hours of TV watching, is a risk factor for higher weight.[33]

Most overweight interventions have been designed for adults; the relatively few prevention programs for children have targeted mainly older children and adolescents.[34] New,

innovative strategies to prevent overweight among young children must be developed in order to reach them before poor health habits are established. Research in the daycare setting has pointed program planners in some promising directions: the diet quality and food acceptance of children can be improved by increasing exposure to new foods and by modeling appropriate behavior by parents, teachers and peers.[35]

However, research has also contributed important caveats to be considered when planning overweight prevention programs for young children. Focusing on weight alone introduces the risk of weight-based stigmatization among children -- numerous studies have identified unfortunate consequences of the quest for ideal weight among both children and adults.[36] Moreover, weight loss among young children may actually harm their health: they may experience retardation of linear growth,[37] increased risk of subsequent osteoporosis,[38] eating disorders, poor self-esteem, and even weight gain.[39] It is therefore recommended that children not be asked to lose weight, but instead be allowed to "grow" into their weight by reducing their rate of weight gain as they grow in height.[40]

Promote Healthy Weight!
(NOT weight loss!)

New overweight prevention programs designed for young children could be incorporated into venues that are already institutionalized, in order to reach many children in a cost-effective way. The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) offers an ideal venue for exploring ways to prevent overweight in preschool age children.

1.3 WIC: Perfectly Poised To Help Children Achieve a Healthy Weight

Education in WIC should focus on healthy lifestyle choices for <u>all</u> families, not just those at risk of overweight.

The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) provides supplemental food, nutrition education and referrals to other health, welfare and social services to its low-income participants. Potentially eligible participants include pregnant, postpartum and breastfeeding women and infants and young children up to 5 years of age. To provide these services, WIC uses primarily federal funds; in some states, some very limited state funds are used and some in-kind contributions are made at both the state and local level.[41]

Nationally, one in 3 new mothers participate in WIC.[42] WIC serves over 5.6 million infants and children less than 5 years of age every month.[43] In fact, WIC serves nearly 50% of all infants born in the United States![44] Clearly, WIC is in a unique position to contribute to the effort to promote healthy weight for young children.

Parents tend to believe that overweight in preschoolers is <u>not detrimental</u> to their children's health.

Education that focuses on overweight will <u>not</u> motivate behavioral change.

With this idea in mind, the Food and Nutrition Service (FNS) of the United States Department of Agriculture (USDA) made available $1.8 million in fiscal year 1999 to fund a cooperative agreement between five State WIC agencies and FNS to develop new, innovative strategies to prevent overweight in children, specifically targeting WIC program participants. This project was called the WIC Childhood Obesity Prevention Projects.

1.4 The WIC Childhood Obesity Prevention Projects: The Goals of *Fit WIC*

The overall goals of the WIC Childhood Obesity Prevention Projects funded by the FNS were:

- To identify changes that WIC State agencies and local WIC operations could make to become more responsive to the problem of childhood overweight;
- To produce this manual, based upon the State agencies' experiences in the Project, as a guide to other WIC agencies for incorporating the suggested changes into their own programs. The manual was to be useful to the diverse populations served by WIC and in the wide variety of WIC clinic settings across the United States.

The five WIC State agencies were selected through a competitive granting process. Applications were reviewed, scored, and discussed by a panel consisting of representatives from FNS, Centers for Disease Control and Prevention (CDC) and the National Association of WIC Directors (NAWD).[a] The panel's recommendations were presented to senior managers at FNS who made the final decisions.

The WIC State agencies selected for the Project were:

California (lead)[b]

Inter Tribal Council of Arizona, Inc. (ITCA)

Kentucky

Vermont

Virginia.

The agencies selected were required to collaborate with a social scientist to meet the goals of the WIC Childhood Obesity Prevention Projects, which the

[a] NAWD is now known as the National WIC Association (NWA).
[b] The social scientist from the lead state worked closely with FNS representatives to provide coordination and oversight to the Five-State Project, including the planning of trainings, organization of meetings, and coordination and production of the Final Report and this Implementation Manual (both of which are available on the *Fit WIC* link at the WIC Works website: www.nal.usda.gov/wicworks/index.html.)

Project members, with approval from FNS, decided to name *Fit WIC*. All funded State agencies worked closely with each other, FNS staff and CDC staff throughout the three-year period, holding regular telephone conferences and meetings.

The Project period was divided roughly into 3 one-year phases:

Year 1: Assessment of the current WIC environment and the development of an intervention or action plan;

Year 2: Implementation of the action plan;

Year 3: Evaluation of the action plan[c] and reporting of the results.

During the assessment phase, the funded State agencies looked closely at the resources and environment of each participating local WIC site and surrounding community. Action plans, evolving from the assessment phase, were expected to vary depending on the staff, resources and procedures within each participating local WIC site.

Each State agency developed a unique and innovative approach towards achieving the goals of the Project. You will see five very different programs described in this Implementation Manual, but each was implemented in the context of WIC, with WIC staff and participants and some with collaboration from other community groups.

[c] The evaluation was focused primarily on process (feasibility of implementation, staff and participant satisfaction, etc), with limited outcome data.

1.5 How To Use This Manual

This manual presents, in a step-by-step format, five intervention programs that can be implemented in your WIC agency or in other community agencies. They differ in their approach and require somewhat different resources. They are similar in that they are directed toward the *prevention of overweight* in young children, through preschool age. This manual contains the experiences of the five *Fit WIC* Project Teams, their procedures, requirements, problems experienced, suggested solutions, outcomes, lessons learned and recommendations.

While this manual was designed as a guide for State and local WIC programs across the nation, it can also serve as a valuable resource for any health professional or organization serving preschool-age children[d] and their families.

It is hoped that the size of this manual will not discourage the approaching reader: this manual was not meant to be read from cover to cover. We suggest that the reader begin by reviewing Chapter 2, which describes what the *Fit WIC* Project Teams learned about their WIC participants, staff and communities in the first year's assessment, and what inspired them to develop the approaches they chose. Then review Chapter 3, which contains overviews of all five *Fit WIC* programs. You will then have a better idea of which intervention might fit your immediate goals and resources.

When you think you are ready to get into the nitty-gritty, Chapters 4-8 will give you details on how to make each program work in your community. Each Project Team has provided plans, tools, forms, curricula, guidelines and names of contact people to help ensure the success of your efforts. The tools and guidelines required are listed in each program's "how-to" chapter; most of what you will need is available on the *Fit WIC* link at the WIC Works website: www.nal.usda.gov/wicworks/index.html. References, websites and other valuable

[d] Some of the activities presented in the following chapters are appropriate and/or could be adapted for use with older children.

resources are listed in Chapter 10 to help you follow-up and make your ideas reality.

While similarities exist between the five *Fit WIC* programs, each adopts a unique approach to the goal of encouraging healthy lifestyle choices in WIC participants. Each program is uniquely adapted to the needs of the targeted community and to the interests and expertise of the WIC staff and the researchers. This Implementation Manual provides a rich menu of strategies: read about each program, get ideas, pick and choose. Follow the steps exactly as given, or just use parts. Several of the programs (*Fit WIC California, Fit WIC Virginia* and *Fit WIC ITCA*) have two or more distinct components, which, although most effective if implemented simultaneously, can also be done independently. You may also wish to combine elements from different programs.

In Chapter 9, the *Fit WIC* Project Teams have summarized insights they gained in the process of developing their programs. They had a unique opportunity to experiment with different approaches working within the WIC Program structure--the goal always being to incorporate effective, efficient and caring overweight prevention programs into WIC. Recommendations based on those insights are also offered in Chapter 9.

One final note: Caregivers of WIC preschool children can be mothers, fathers, grandparents or other legal guardians. For ease of presentation in this manual, we have referred to the WIC caregiver as "she," since the vast majority are female, and also sometimes as "parent," since that is the most common relationship of caregiver to WIC child. This is not intended in any way to slight the significant role that adult guardians other than mothers play in the role of the WIC preschooler. It is simply a logistic compromise.

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