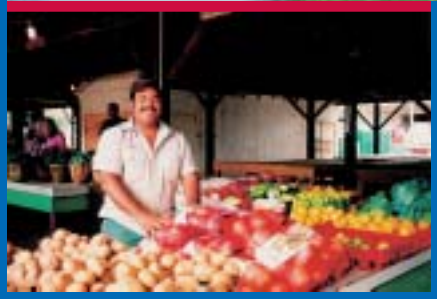


Maryland Nutrition and Physical Activity Plan

2006 - 2016

Working Together Today to Create a Healthier Tomorrow

HEALTHY MARYLAND

Maryland Nutrition and Physical Activity Program

FOR MORE INFORMATION, CONTACT:

Teresa A. Moore, MS, CHES
Nutrition and Physical Activity Program Coordinator
Center for Preventive Health Services
Maryland Department of Health and Mental Hygiene
201 W. Preston St., Baltimore, MD 21201
Phone: 410-767-5781
Fax: 410-333-7411
E-mail: tmoore@dhmh.state.md.us

Maryland Nutrition and Physical Activity Plan

2006 - 2016

Maryland Department of Health and Mental Hygiene
May 2006

This plan was prepared by the Department of Health and Mental Hygiene's Center for Preventive Health Services, with funding provided through a Cooperative Agreement with the Centers for Disease Control and Prevention, Division of Nutrition and Physical Activity (U58/CCU322803).

STATE OF MARYLAND
OFFICE OF THE GOVERNOR

ROBERT L. EHRLICH, JR.
GOVERNOR

STATE HOUSE
100 STATE CIRCLE
ANNAPOLIS, MARYLAND 21401
(410) 974-3901
(TOLL FREE) 1-800-811-8336

TTY USERS CALL VIA MD RELAY

Dear Maryland Citizens:

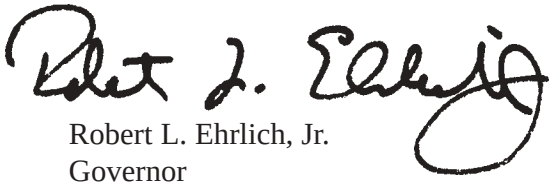
I am pleased to present to you Maryland's Nutrition and Physical Activity State Plan, a ten-year action plan to reduce the burden of obesity and chronic disease. In Maryland, the levels of overweight and obesity are on the rise. In 2003, an estimated 2.3 million (59 percent) Maryland adults were overweight or obese. Furthermore, the prevalence of obesity increased 34 percent between 1995 and 2003.

By collaborating with partners from across the state, the Maryland Department of Health and Mental Hygiene has taken another step towards reversing this trend. I commend the Department's Center for Preventive Services and its Nutrition and Physical Activity Program for working with numerous agencies, organizations and concerned individuals throughout the State to develop this comprehensive Plan.

The goals of the Plan are to encourage and enable the citizens of Maryland to adopt and maintain healthy eating habits and lead physically active lifestyles to prolong the length and quality of life. The intermediate objectives are the action steps for the next ten years. By reaching the plan's intermediate objectives, the State will begin to reverse the levels of overweight and obesity. The strategies laid out in the Plan suggest and encourage ways for us as individuals, as families, as community, to respond to how and what we eat, and ways in which we can be more physically active throughout life. It will shape our thinking and our response not only as individuals and families, but also for the settings we find ourselves in, such as our environment, businesses, healthcare, and schools.

This Plan will provide Maryland with a solid foundation to address the growing trends of overweight and obesity, inadequate food intake, and lack of physical activity. Achieving the Plan's goals requires that the Department continues to bring together concerned partners and citizens from across the state to create long-term solutions to this public health challenge. We need to make healthy lifestyles a priority at home, school and in the community. I am encouraging all Maryland citizens to take action. A healthy Maryland is the key to productive lives.

Very truly yours,



Robert L. Ehrlich, Jr.
Governor

STATE OF MARYLAND
DHMH

Maryland Department of Health and Mental Hygiene
201 W. Preston Street • Baltimore, Maryland 21201
Robert L. Ehrlich, Jr., Governor – Michael S. Steele, Lt. Governor – S. Anthony McCann, Secretary

Dear Maryland Citizens:

The Department of Health and Mental Hygiene is pleased to present the first Maryland Nutrition and Physical Activity State Plan. The Plan is the result of a collaborative effort to identify strategies to promote healthy eating options and physical activity opportunities to prevent overweight and obesity across the lifespan.

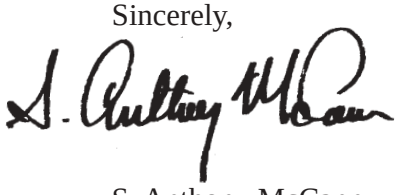
Representatives from numerous organizations and concerned citizens from all areas of the State followed an extensive process to develop the 10-year Plan. Their insights provided substance for the Plan and a consensus on strategies to improve the health status of Maryland citizens. The Department of Health and Mental Hygiene would like to thank the many committed individuals who came together to create this vision for the citizens of Maryland.

Obesity is a major health challenge for Maryland. Overweight and obesity affects all people regardless of gender, age, race or ethnicity. It is a preventable condition that affects the quality and length of life. Overweight and obesity are contributors to many preventable chronic disease health conditions including cardiovascular disease, diabetes, some cancers, asthma, arthritis, and disability.

Strategies must be implemented where Marylanders live, work, and play. A variety of approaches to preventing obesity are reflected within the plan. Some address environmental barriers and policy issues, others encourage families and individuals to make behavior changes. The strategies also include educating the public on the need and benefits of healthier lifestyle choices.

I encourage all Marylanders to review the Plan, discuss the strategies with your family and community partners, and decide what you, as an individual, a family member, a community, can do to implement these changes for healthier Maryland. We look forward to working with you, as individuals and partners, to realize the goal of a healthy Maryland.

Sincerely,



S. Anthony McCann
Secretary

Table of Contents

Acknowledgments

The* Maryland Nutrition and Physical Activity Plan *was prepared by the Maryland Department of Health and Mental Hygiene's Family Health Administration, Center for Preventive Health Services.

THE MARYLAND NUTRITION AND PHYSICAL ACTIVITY PROGRAM STAFF

Teresa A. Moore, MS, CHES, ***Nutrition and Physical Activity Program Coordinator***

Esther O. Dada, MPH, ***Program Epidemiologist***

Kara S. Longo, MS, ***Physical Activity Coordinator***

Carol R. Miller, RD, MEd, LDN, ***Nutrition Coordinator***

The plan was developed through the efforts of numerous citizens and organizations across the state of Maryland. The Maryland Department of Health and Mental Hygiene would like to extend its appreciation to all of the contributors. The tireless efforts of those listed below have contributed to the creation of the first comprehensive nutrition and physical activity plan to prevent obesity and other chronic diseases.

MARYLAND HEALTHY EATING AND ACTIVE LIFESTYLE COALITION

The Maryland Department of Health and Mental Hygiene would like to thank the Maryland Healthy Eating and Active Lifestyle Coalition and the Coalition's Steering Committee for all of their support and hard work during this endeavor. The development of the *Maryland Nutrition and Physical Activity Plan* would not have been possible without their collaboration. The Maryland Healthy Eating and Active Lifestyle Coalition and the Maryland Nutrition and Physical Activity (NPA) Program joined efforts and established the Maryland NPA Workgroup within the Maryland Healthy Eating and Active Lifestyle Coalition.

MARYLAND NPA ADVISORY COMMITTEE AND NPA WORKGROUP

Maryland NPA Advisory Committee

The Maryland Department of Health and Mental Hygiene would like to extend a special thank you to the members of the NPA Advisory Committee. This committee was comprised of a diverse group of individuals with a true passion and commitment to the development of a plan that would have an impact on the issues of overweight and obesity across the State of Maryland. The *Maryland Nutrition and Physical Activity Plan* was developed through their vision and support. The following NPA Advisory Committee members made contributions to the plan.

Zoltan J. Acs, PhD, *University of Baltimore-Merrick School of Business*

Yvonne Bronner, ScD, RD, LD, *Morgan State University*

Robert Chauncey, PhD, *National Center for Bicycling and Walking*

Lawrence J. Cheskin, MD, FACP, Co-chair, *Johns Hopkins Bloomberg School of Public Health and Johns Hopkins School of Medicine*

Karen G. Dixon, *CareFirst BlueCross BlueShield*

Michael Jackson, *Co-chair, Maryland Department of Transportation*

Charles Thomas McMillen, *Coalition for a Healthier and Active America*

David M. Paige, MD, MPH, *Department of Population and Family Health Sciences, Johns Hopkins Bloomberg School of Public Health*

Sarajane V. Quinn, AA, BS, MEd *Maryland Association for Health, Physical Education and Dance (MAHPERD)*

Alice S. Ryan, PhD, *University of Maryland School of Medicine, Baltimore VA Medical Center*

David L. Stewart, MD, MPH, *University of Maryland School of Medicine, Department of Family Medicine*

Margarita S. Treuth, PhD, *Center for Human Nutrition, Johns Hopkins Bloomberg School of Public Health*

Deborah Rohm Young, PhD, *University of Maryland*

Maryland NPA Workgroup

The Maryland NPA Workgroup was divided into six writing committees: Business and Industry, Environmental Change, Family and Communities, Healthcare, School-based and Surveillance and Evaluation. Each committee was comprised of state experts in each topic area. A chair or co-chairs coordinated the efforts of each committee. The Maryland Department of Health and Mental Hygiene would like to recognize the following chairs and co-chairs.

Business and Industry Committee
Mimi Dean, MS, ACSM CES

Environmental Change Committee
Mimi Dean, MS, ACSM CES

Family and Communities Committee
Meredith Pearson, PhD
Lauren Thomas, MS, RD, LD

Healthcare Committee
Jennifer Carman, RD, LDN

School-based Committee
Susan Gross, PhD, MPH, RD

Surveillance and Evaluation Committee
Norma Kanarek, PhD

The Maryland Department of Health and Mental Hygiene would like to thank the following NPA Workgroup member organizations for contributions to the development of the *Maryland Nutrition and Physical Activity Plan*.

Alexis Ryan Agency, Inc.
Allegany County Health Department
American Academy of Pediatrics, Maryland Chapter
American Cancer Society
American Heart Association
Anne Arundel Community College
Anne Arundel County Health Department
Anne Arundel County Public Schools
Anne Arundel Medical Center
Baltimore City Public School System
Baltimore County Health Department
Baltimore County Public Schools
Baltimore Food System Coalition
Baltimore Veterans Administration Medical Center
Beyond Excellence, LLC
Brick Bodies Fitness Services, Inc.
Calvert County Health Department
CareFirst BlueCross BlueShield

Caroline County Health Department
Carroll County Health Department
Carroll County Public Schools
Cecil County Health Department
Center for Poverty Solutions
Chase Brexton Health Services
Dorchester County Health Department
Frederick County Health Department
Good Samaritan Hospital
Harford County Health Department
Howard County Health Department
Howard County Recreation and Parks
Johns Hopkins Bayview Medical Center
Johns Hopkins Bloomberg School of Public Health, Baltimore Healthy Stores Project
Johns Hopkins Bloomberg School of Public Health, Center for a Livable Future
Johns Hopkins Bloomberg School of Public Health, Center for Human Nutrition
Johns Hopkins Bloomberg School of Public Health, Department of Population and Family Health Sciences
Johns Hopkins Bloomberg School of Public Health, General Preventive Medicine
Johns Hopkins University Pro-Health
Johns Hopkins University School of Medicine
Johns Hopkins Weight Management Center
Kent County Health Department
Life Bridge / Northwest Hospital
Maryland Citizens' Health Initiative, Health Care for All! Coalition
Maryland Cooperative Extension, University of Maryland
Maryland Department of Health and Mental Hygiene, Center for Cancer Surveillance and Control
Maryland Department of Health and Mental Hygiene, Center for Health Promotion, Education and Tobacco Use Prevention
Maryland Department of Health and Mental Hygiene, Center for Maternal and Child Health
Maryland Department of Health and Mental Hygiene, Center for Preventive Health Services
Maryland Department of Health and Mental Hygiene, Community Health Administration
Maryland Department of Health and Mental Hygiene, Office of the Maryland WIC Program
Maryland Department of Human Resources, Family Investment Administration
Maryland Department of Juvenile Services
Maryland Department of Planning
Maryland Department of Transportation
Maryland Dietetic Association
Maryland Office on Aging
Maryland Public Health Association
Maryland Recreation and Parks Association
Maryland State Department of Education, School and Community Nutrition Programs Branch
McCormick and Company, Inc.
Montgomery County Department of Health and Human Services
Montgomery County Public Schools

Montgomery County School Health Council
Morgan State University School of Public Health and Policy
Morgan State University, Center for Health Disparities Solutions
Mt. Calvary AME Church
National Center for Bicycling & Walking
National Naval Medical Center
One Less Car, Maryland Campaign for Bicycling and Walking
Oxon Hill Bicycle and Trail Club
Peninsula Regional Medical Center
Prince George's County Health Department
Sodexho Health Care Services
Somerset County Health Department
Talbot County Health Department
United States Department of Agriculture, Mid-Atlantic Regional Office, Food and Nutrition Service
University of Baltimore
University of Maryland College Park
University of Maryland Cooperative Extension, Dorchester County & Frederick County
University of Maryland School of Medicine, Department of Family Medicine
University of Maryland School of Medicine, Department of Public and Community Health
University of Maryland Statewide Health Network
University of Maryland, Food Stamp Nutrition Education Program
Western Maryland Health System
Worcester County Health Department

CENTERS FOR DISEASE CONTROL AND PREVENTION

Funding for this project was provided through a cooperative agreement with the Centers for Disease Control and Prevention (CDC), Division of Nutrition and Physical Activity. Thank you to Claire Heiser, the CDC Project Officer for the State of Maryland. Her continued support and technical assistance enabled the Maryland Department of Health and Mental Hygiene, along with its partners, to develop this plan.

Introduction

"As a society, we can no longer afford to make poor health choices, such as being physically inactive and eating an unhealthy diet; these choices have led to a tremendous obesity epidemic. As policy makers and health professionals, we must embrace small steps toward coordinated policy and environmental changes that will help Americans live longer, better, healthier lives."

—Richard H. Carmona, MD, MPH, FACS, Vice Admiral & U.S. Surgeon General

Overweight and obesity have reached epidemic proportions nationwide and have become one of the most critical health issues of our time. Today, estimates indicate that at least 65% of adults are overweight, while 30% are obese.[1] Moreover, the epidemic is not limited to adults. In the past 20 years, the percentage of overweight children has more than doubled and, for adolescents, tripled.[2] Among children and adolescents ages 6 to 19, 16% are considered overweight.[3] These trends lead many experts to predict that the current generation of children threatens to be the first in modern history to have a shorter life span than their parents' generation.

Studies show that a strong link exists between being overweight or obese and having an increased risk of death or disease. Across all populations, children, adolescents and adults who are obese are at greater risk for various health conditions, such as coronary heart disease, type-2 diabetes, cancer, asthma and arthritis. In addition, these individuals may face social stigmatization, discrimination and poor body image.

It has been estimated that if all physically inactive Americans became active, approximately $77 billion in annual medical costs would be saved.

—Pratt, *The Physician and Sports Medicine*, 2000.

While research indicates that even a modest weight loss can reduce the risks for some chronic health conditions, it is not the only solution to the obesity problem. Many other areas need to be addressed. Factors that contribute to obesity include individual genetic predispositions, activity levels, food intake and behavioral and environmental issues. In fact, over the years, environmental changes have resulted in trends toward inactivity and poor diet which, in turn, have been a major determinant of overweight and obesity.

Physical activity, along with healthy eating habits, also plays an important role in the prevention of overweight and obesity. Despite the proven benefits of physical activity, more than 50% of adults still do not get enough physical activity to provide health benefits, and 24% are not active at all in their leisure time.[4] When it comes to eating healthy foods, less than one-quarter of adults eat the recommended five or more servings of fruits and vegetables each day.[5] In addition, over the last 30 years, adults' caloric intake has increased.

As in the nation as a whole, Maryland also has experienced an increase in the rate of obesity and its risk factors. In 2004, the results from the Behavioral Risk Factor Surveillance System indicated that 58.5% of Maryland adults were overweight or obese.[6] In addition, the survey showed that the rate of obesity for Maryland adults increased by 47% from 1995 to 2004.[7]

The rising trend of overweight and obesity in Maryland poses a major public health challenge. In light of this problem, Centers for Disease Control and Prevention (CDC) has awarded 28 states a nutrition and physical activity grant to address obesity and other chronic diseases. In 2003, the State

of Maryland was awarded one of these grants and, as a result, has developed a strategic plan that addresses the state's obesity problem by focusing on healthy eating and physical activity. The intent of the *Maryland Nutrition and Physical Activity Plan* is to present a framework that will help Marylanders contribute to the effort to make healthy food choices and physical activity opportunities available throughout the state. This plan is the first step toward the achievement of the Maryland Nutrition and Physical Activity Program mission: to prolong the length and improve the quality of life of all Maryland citizens through healthy eating and increased physical activity.

Ending the obesity epidemic will not be easy, but we can gain encouragement from several successful precedents in other public health endeavors, such as the tobacco awareness movement. One thing is certain: solving this problem will require the input, hard work, skills, talents and perseverance of a variety of groups—including medical, nonprofit, business, academia and government organizations. While there certainly is a role for individual behavior change, population-focused prevention efforts are necessary to help decrease environmental barriers and support healthy food choices and physically active lifestyles for all Marylanders.

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[6,7] Maryland Department of Health and Mental Hygiene. (1995-2004). Maryland Behavioral Risk Factor Surveillance System. Available from: www.marylandbrfss.org.

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The Burden of Overweight and Obesity

CHAPTER ONE

The Burden of Overweight and Obesity

MEASURING OVERWEIGHT AND OBESITY

Body Mass Index (BMI) is a widely accepted measure used to assess excess body weight in adults and to screen children and adolescents who are at risk of being overweight. While BMI does not measure body fat and can mistakenly place muscular individuals in overweight or obese categories, it is easy to use and generally accurate in identifying overweight and obese individuals.

Adults

Adult BMI is derived from body weight in relation to height. BMI is calculated by dividing body weight in kilograms by the square of height in meters. To compute BMI using pounds and inches, body weight (pounds) is divided by the square of height (inches^2) and multiplied by 703. BMI also can be estimated using a BMI table (see Appendix A).

The National Heart, Lung and Blood Institute's (NHLBI) *Clinical Guidelines* (1998) defines overweight in adults as a BMI between 25 and 29.9 kg/m^2. Obesity in adults is defined as a BMI equal to or greater than 30 kg/m^2 (Table 1). These definitions are based on research that shows increases in health risk with BMIs that are above 25 kg/m^2 (NHLBI, 1998). Risk of death increases among overweight and obese adults; however, these increases tend to be modest until BMI reaches the obese range (NHLBI, 1998). Obesity is further divided into three categories: Obesity I is defined as a BMI between 30 and 34.9; obesity II as between 35 and 39.9; and obesity III (extreme obesity) as a BMI greater than or equal to 40 kg/m^2 (NHLBI, 1998).

Children

BMI is measured and interpreted differently for children and adolescents. For these populations, health professionals use the terms "at risk of overweight" and "overweight" to describe excess body weight. The BMI measurement takes into account age and gender, in addition to height and body weight. Experts recommend using BMI-for-age growth charts to screen children and adolescents from ages 2 to 20 who are overweight or at risk of overweight.[1] The growth charts are used to determine the BMI percentile (see Appendix B). In children and adolescents, a BMI-for-age between the 85th and 95th percentiles is considered at risk of overweight. A BMI-for-age at or above the 95th percentile is considered overweight (Table 2).

TABLE 1. Classification of Overweight and Obesity by Body Mass Index for Adults

Weight Status		BMI (kg/m^2)
Underweight		< 18.5
Normal		18.5 - 24.9
Overweight		25.0 - 29.9
Obese	I	30.0 - 34.9
	II	35.0 - 39.9
	III	≥ 40

Source: Adapted from NHLBI Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults.

TABLE 2. BMI-for-Age Percentile Cut-off for Children and Adolescents

Nutritional Status Indicator	Percentile
Underweight	< 5th
Normal	5th - 84th
At risk of overweight	85th - 94th
Overweight	≥ 95th

Source: Adapted from NHBLI Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults.

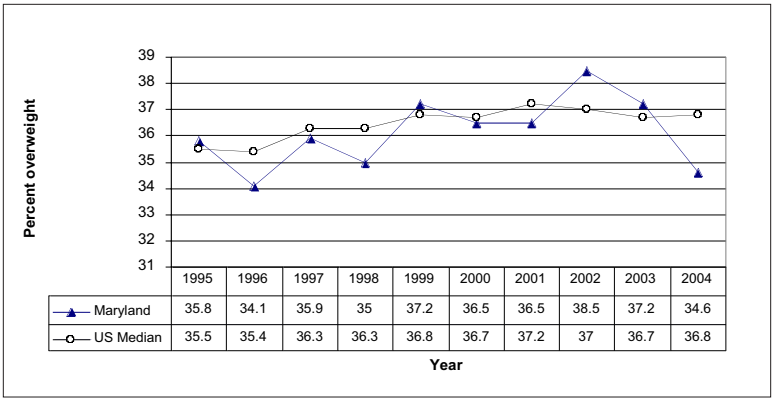
Overweight and Obesity among Maryland Adults

In recent years, overweight and obesity has increased steadily in the United States. To address this alarming trend, the U.S. Department of Health and Human Services developed Healthy People 2010, a national agenda for health promotion and disease prevention that outlines a set of health objectives for the nation to achieve during the first decade of the 21st Century (see Appendix D).

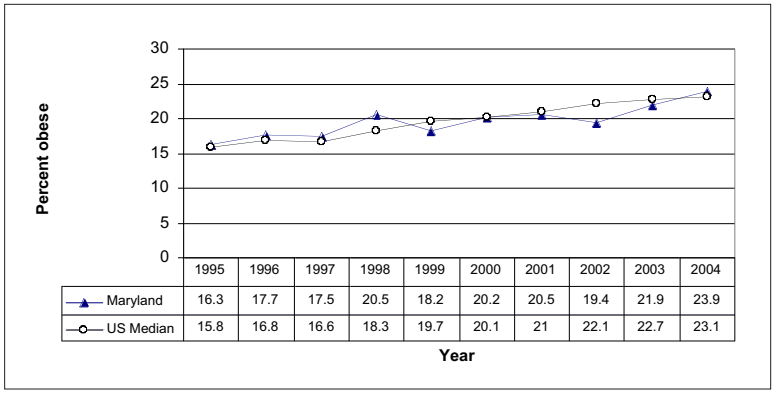
Maryland also has seen an increase in the prevalence of overweight and obesity (Figure 1 and 2). In 2004, an estimated 2.3 million (58.5%) Maryland adults were overweight or obese. Of those, approximately 949,000 (23.9%) were obese. Of particular concern is the dramatic increase in obesity from 16.3% in 1995 to 23.9% in 2004, a relative increase of 47% in just nine years. The obesity trend in Maryland mirrors that of the United States as a whole, with numbers rising in recent years rather than moving closer to the Healthy People 2010 objective of reducing adult obesity rates to 15% or lower by the year 2010 (see Appendix E). In fact, 2004 statistics show that only 41.5% of Maryland adults were in the normal weight range (excluding underweight). This is the same as the U.S. median prevalence and well below the national goal of 60% of adults who are at a healthy weight.

FIGURE 1. Prevalence of Overweight Adults in Maryland and the United States, 1995-2004

Source: Maryland BRFSS



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Maryland	35.8	34.1	35.9	35	37.2	36.5	36.5	38.5	37.2	34.6
US Median	35.5	35.4	36.3	36.3	36.8	36.7	37.2	37	36.7	36.8



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Maryland	16.3	17.7	17.5	20.5	18.2	20.2	20.5	19.4	21.9	23.9
US Median	15.8	16.8	16.6	18.3	19.7	20.1	21	22.1	22.7	23.1

FIGURE 2. Prevalence of Obesity in Adults in Maryland and the United States, 1995-2004

Source: Maryland BRFSS

Variation by Demographic Characteristics

The prevalence of overweight and obesity among Maryland adults varied across demographic groups. This section highlights differences based on race and ethnicity, gender, age, education and income levels.

Race/Ethnicity and Gender

Among racial and ethnic groups, the prevalence of overweight and obesity (BMI $\geq$ 25 kg/m^2) was higher for African-American adults than for White and Hispanic adults. The prevalence of overweight was similar among racial and ethnic groups; however, a higher percentage of African-American adults (29.4%) were obese than White adults (19.7%) and Hispanic adults (17.4%) (Figure 3).

Overall, the prevalence of overweight and obesity was higher among African-American women (34.5% and 32.6%, respectively) compared to White women (28.8% and 17.9%) and Hispanic women (26.8% and 18.3%). Among men, the prevalence of overweight was comparable among racial and ethnic groups; however, obesity rates were higher among African-American men (25.5%) than White men (21.5%) and Hispanic men (19.7%) (Figure 4).

Within racial and ethnic groups, more men were overweight than women, but gender differences in obesity varied. The percentage of African-American women (32.6 %) who were obese was higher than that of African-American men (25.5%). In contrast, the prevalence of obesity was slightly higher among White men (21.5%) than White women (17.9%), as well as Hispanic men (19.7%) and Hispanic women (15.0%).

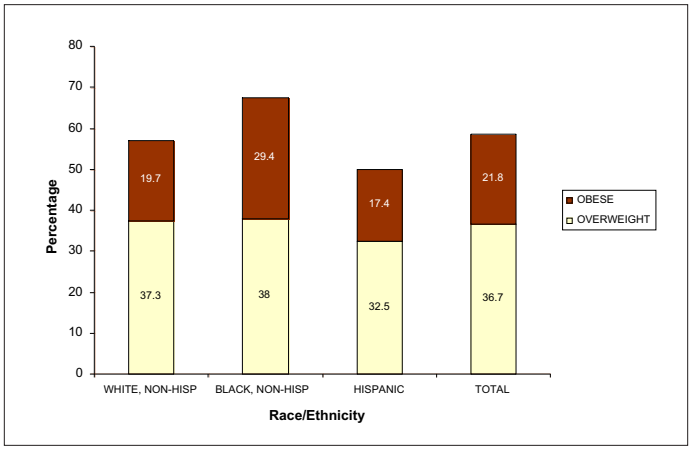


FIGURE 3. Prevalence of Overweight and Obesity in Adults by Race/Ethnicity in Maryland, 2002-2004

Source: Maryland BRFSS

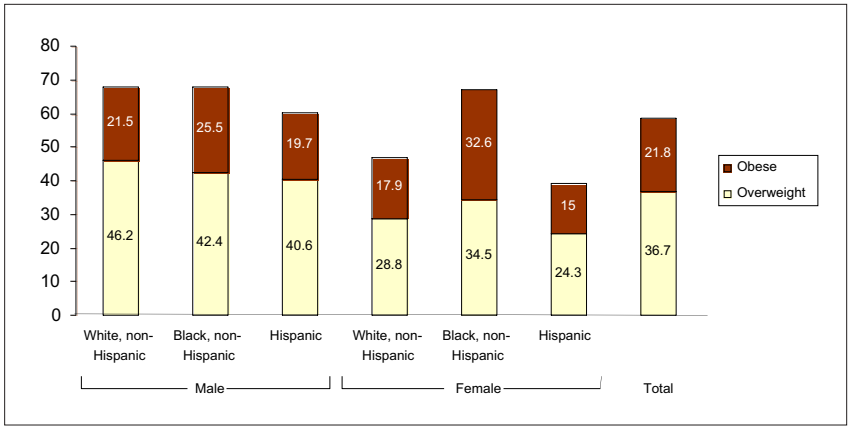
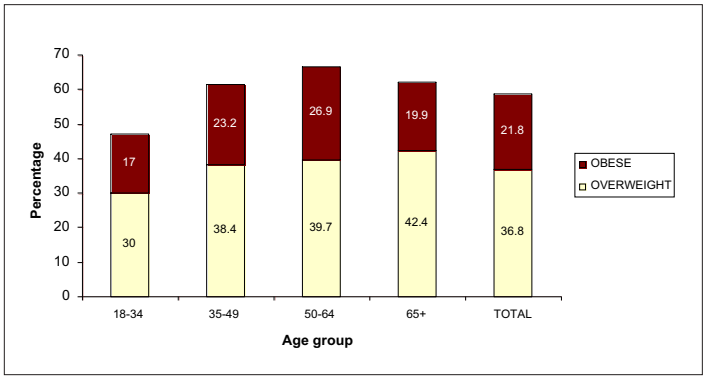


FIGURE 4. Prevalence of Overweight and Obesity in Adults by Race/Ethnicity and Gender in Maryland, 2002-2004

Source: Maryland BRFSS



Age

In general, overweight and obesity rates increased with age. The percentage of obese adults peaked in the 50 to 64 age group, in which 67% of adults were overweight or obese. This age group represented the highest prevalence of overweight and obesity (BMI ≥25 kg/m^2) among adults (Figure 5).

FIGURE 5. Prevalence of Overweight and Obesity in Adults by Age in Maryland, 2002-2004

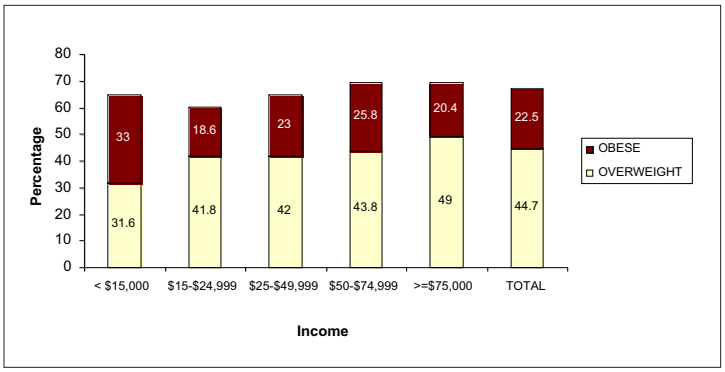
Source: Maryland BRFSS

Income Levels

The prevalence of obesity generally was lower among adults with higher incomes, while the prevalence of overweight was higher (Figure 6).

FIGURE 6. Prevalence of Overweight and Obesity in Adults by Income Level in Maryland, 2001-2003

Source: Maryland BRFSS



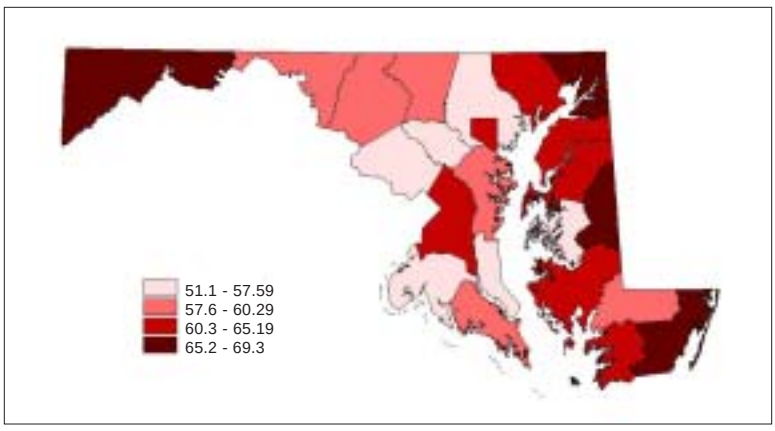


FIGURE 7. Prevalence of Overweight and Obesity in Adults by Maryland Jurisdiction, 2002-2004

Based on aggregate data for the three year period. Source: Maryland BRFSS

Variation by Jurisdiction

The prevalence of overweight and obesity combined across Maryland jurisdictions ranged from 51.1% in Montgomery County to 69.3% in Worcester County (Figure 9). Prevalence was generally higher on the Eastern Shore and in Western Maryland, with Worcester, Allegany, Cecil, Garrett and Caroline Counties having the highest prevalence. Prevalence generally was lower in Central and Southern Maryland and lowest in Montgomery and Howard Counties. Overall, overweight and obesity affected every Maryland jurisdiction. No Maryland jurisdiction currently meets the national health goal of 60% of adults who are at a healthy weight, nor have any jurisdictions achieved the national goal of 15% of adults who are obese.

OVERWEIGHT AND OBESITY AMONG MARYLAND CHILDREN

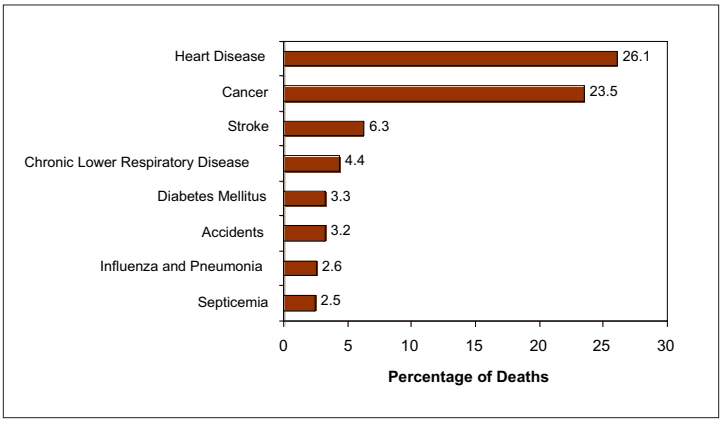
There is a lack of available data on weight status among children in Maryland. However, the Pediatric Nutrition Surveillance System (PedNSS) provides information on low-income children from birth to age 5 in federally funded maternal and child health programs. In the 2002 PedNSS, the prevalence of overweight in children ages 2 to 5 years was 14.0% in Maryland, a substantial increase from 8.2% in 1997. Although the PedNSS population is not representative of all children in Maryland ages 2 to 5 years, the increasing trend of overweight children monitored by PedNSS suggests the epidemic is not limited to adults.

HEALTH COMPLICATIONS

Six out of every 10 Marylander deaths are caused by chronic disease. Obesity-related diseases, such as heart disease, cancer, stroke and diabetes, were among the leading causes of death in Maryland (Figure 8).

FIGURE 8. Leading Causes of Deaths in Maryland, 2004

Source: Maryland Vital Statistics, Annual Report 2004



NUTRITION

Fruit and vegetable intake is an important determinant of health. Current scientific evidence suggests that dietary patterns with higher intake of fruits and vegetables are associated with reduced risk of diseases and conditions, such as heart disease, stroke, diabetes and certain cancers.[2,3] The National 5 A Day for Better Health Program promotes consumption of at least five servings of fruits and vegetables a day for good health.

In 2002-2004, 36.7% of Maryland adults consumed three to four servings of fruits and vegetables a day, and 30.3% consumed one to two servings (Figure 9). Only 29.6% of adults in Maryland met the national recommendation for eating five or more servings of fruits and vegetables a day. The Healthy People 2010 objectives for fruit and vegetable consumption are to increase the proportion of adults who consume at least two daily servings of fruit and three daily servings of vegetables to at least 75 percent and 50 percent, respectively (see Appendix E).

Variation by Race/Ethnicity and Gender

Fruit and vegetable consumption varied across demographic groups in Maryland. This area highlights differences in inadequate fruit and vegetable consumption (less than five servings of fruits and vegetables a day) based on race/ethnicity, gender and age. Within racial and ethnic groups, more men fell short of the 5 A Day recommendation than women (Figure 10).

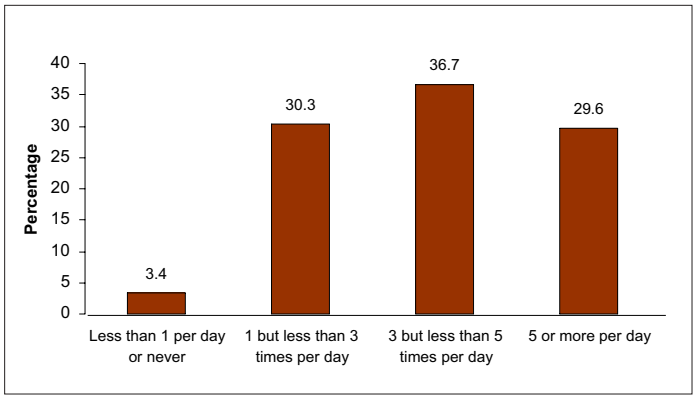
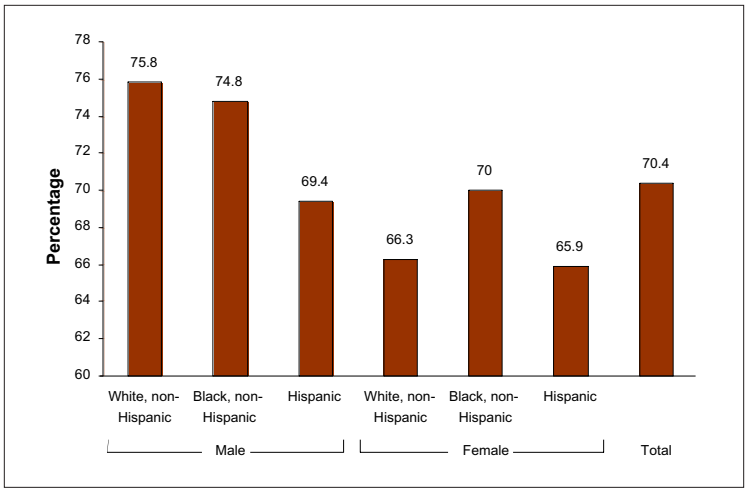


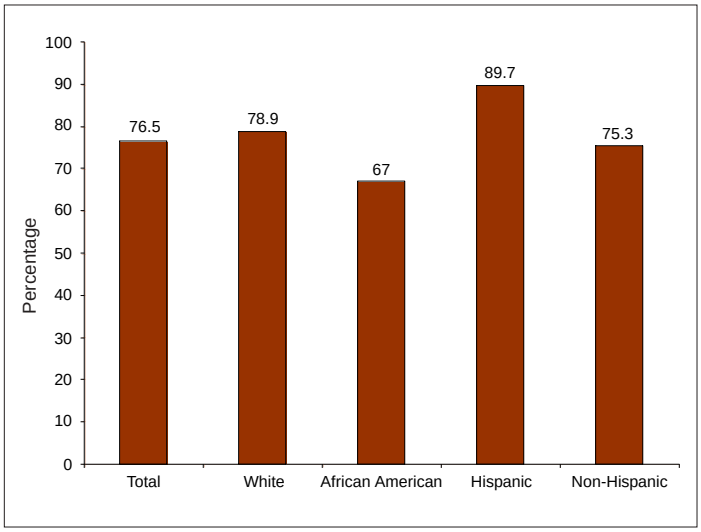
FIGURE 9. Number of Fruits and Vegetables Servings Consumed Daily by Maryland Adults, 2002-2004

Source: Maryland BRFSS

FIGURE 10. Percentage of Maryland Adults Who Reported Consuming Fewer than Five Servings Daily of Fruits and Vegetables by Race/ Ethnicity and Gender, 2002-2004

Source: Maryland BRFSS





BREASTFEEDING

Studies have suggested that breastfeeding protects against overweight in children.[4,5] In 2003, 77.5% of mothers in Maryland breastfed their infants (Figure 11). Overall, Maryland met the Healthy People 2010 objective to increase the proportion of mothers who initiate breastfeeding to 75% (see Appendix E). Among African-American mothers, however, the percentage (67.0%) was well below the target.

FIGURE 11. Percentage of Mothers Who Reported Ever Breastfeeding their Infants by Race and Ethnicity in Maryland, 2003

Persons of Hispanic origin may be any race
Source: Maryland PRAMS

PHYSICAL ACTIVITY

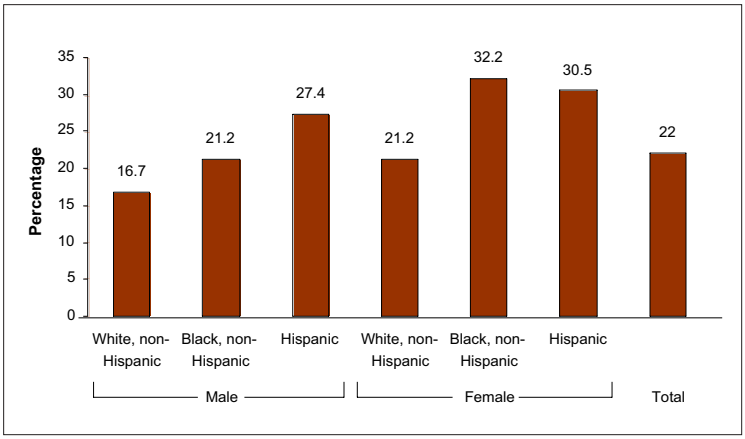
Sedentary lifestyle increases risk of obesity, heart disease, hypertension, diabetes and other chronic diseases and conditions.[6] Experts recommend engaging in moderate physical activity for at least 30 minutes, five or more days per week or vigorous physical activity for at least 20 minutes, three or more days per week for health benefits[7] (see Appendix C for physical activity recommendations from the Maryland State Advisory Council on Physical Fitness). Despite the proven benefits of physical activity, only 49.1% of Maryland adults reported engaging in recommended levels of physical activity in 2004.[8] Maryland met the national health objective to increase the percentage of adults who engage in moderate or vigorous physical activity to at least 30% by 2010. However, 21.8% of Maryland adults are not active at all in their leisure time,[9] a statistic that is slightly worse than the Healthy People objective of at least 20% (see Appendix E).

Variations by Race/Ethnicity and Gender

Physical activity varied across demographic groups in Maryland. This area highlights differences in physical inactivity (reported as no leisure-time physical activity) based on race/ethnicity and gender. Among adult men, more Hispanics (27.4%) were physically inactive than African-Americans (21.2%) or Whites (16.7%) (Figure 12). The proportion of women who were physically inactive was higher among African-American (32.2%) and Hispanic (30.5%) women than White (21.2%) women. Within all racial and ethnic groups, more women were physically inactive than men.

FIGURE 12. Percentage of Maryland Adults Who Reported No Leisure-Time Physical Activity by Race/Ethnicity and Gender, 2002-2004

Source: Maryland BRFSS



ECONOMIC COSTS ASSOCIATED WITH OVERWEIGHT AND OBESITY

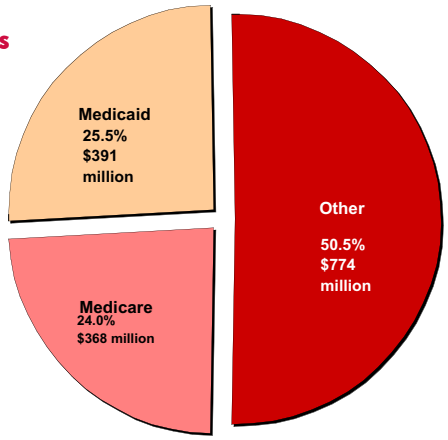
The economic consequences of overweight and obesity and their associated health complications are substantial. Nationwide, in 2003, an estimated $75 billion of adult medical expenditures were attributable to obesity, with $17.7 billion paid for by Medicare and $21.3 billion by Medicaid. In Maryland, an estimated $1.5 billion of adult medical expenditures were attributable to obesity, with $368 million paid for by Medicare and $391 million by Medicaid (Figure 13).

SUMMARY AND IMPLICATIONS

Obesity is an epidemic in Maryland, with prevalence increasing by 47% from 16.3% in 1995 to 23.9% in 2004. Nearly 60% of Maryland adults were overweight or obese in 2004. The public health impact of overweight and obesity is substantial, both in terms of disease burden and cost. Obesity has been linked to many chronic diseases and conditions, including hypertension, high cholesterol, diabetes,

FIGURE 13. Adult Medical Expenditures Attributable to Obesity by Payer in Maryland, 2003

Source: Finkelstein, Fiebelkorn and Wang, 2004



arthritis and asthma. In 2003, an estimated $1.5 billion of adult medical expenditures were attributable to obesity, with nearly half paid for by Medicare and Medicaid in Maryland.

Unhealthy diet and physical inactivity play an important role in overweight and obesity and its associated health conditions. Only 29 percent of Maryland adults eat the recommended five or more servings of fruits and vegetables each day. Despite the proven benefits of physical activity, almost half of Maryland adults do not get enough physical activity to provide health benefits, and one in five adults are physically inactive.

Special Populations

In Maryland, obesity affects certain segments of the population disproportionately based on race / ethnicity, gender, age, education and income.[10]

- Obesity is more prevalent among African Americans than Whites and Hispanics.
- African-American women have the highest prevalence of obesity.
- Obesity is most prevalent in people between the ages of 50 to 64, an age group that also exhbits the highest prevalence of excess weight.
- Obesity is more prevalent among those with less education and lower household income.

Disparities exist among segments of the population in inadequate fruit and vegetable consumption and physical inactivity.

- Within racial and ethnic groups, more men than women consume less than five servings of fruits and vegetables.
- Adults with less education and lower household income are more likely to eat fewer than five servings of fruits and vegetables a day.
- Within racial and ethnic groups, more women are physically inactive than men.
- Racial and ethnic minorities tend to be more physically inactive than Whites.
- Older adults are more likely to be more physically inactive than younger adults.
- Physical inactivity is more prevalent among those with less education and lower household income.

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Setting the Stage

CHAPTER TWO

Setting the Stage

MARYLAND NUTRITION AND PHYSICAL ACTIVITY PROGRAM MISSION, GOALS & OBJECTIVES

The Maryland Department of Health and Mental Hygiene established the Nutrition and Physical Activity (NPA) Program within the Family Health Administration's Center for Preventive Health Services. With guidance from the Centers for Disease Control and Prevention (CDC), the Maryland NPA Program developed the following mission, goals and capacity-building objectives.

Mission

The mission of the Maryland Nutrition and Physical Activity Program is to prolong the length and improve the quality of life of Maryland citizens through healthy eating and increased physical activity.

Program Goals

Based on the guidelines of its CDC grant, the Maryland Nutrition and Physical Activity Program aims to achieve four, long-term program goals. They are:

Goal 1: To decrease the level of obesity and reduce the growth rate of obesity in communities reached through interventions.

Goal 2: To increase the number of community and state policies, environmental support systems and legislative actions that are planned, initiated and modified for the prevention and control of obesity.

Goal 3: To increase caloric expenditure and decrease caloric intake through effective interventions in communities reached.

Goal 4: To increase the number of implemented and evaluated nutrition and physical activity interventions for obesity prevention and control.

Capacity-Building Objectives

The Maryland Nutrition and Physical Activity Program also adopted eight capacity-building objectives that represent the steps currently underway. Based on CDC program guidelines, these objectives are to:

1. Develop a sound program infrastructure for nutrition and physical activity at the state and local levels.
2. Collaborate and coordinate with state and local government and private partners throughout the planning process.
3. Conduct a planning process using the Social-Ecological Model that leads to a comprehensive nutrition and physical activity plan to prevent and control obesity and other chronic diseases.
4. Write a primary prevention state plan for nutrition and physical activity.
5. Identify, assess and maintain existing data sources and surveillance systems to further define and monitor the burden of obesity.
6. Develop and evaluate pilot interventions to prevent obesity and other chronic diseases.
7. Evaluate the progress and impact of the state plan and intervention projects.
8. Identify existing nutrition and physical activity initiatives in the community and look for opportunities to address gaps and enhance existing programs.

MARYLAND NUTRITION AND PHYSICAL ACTIVITY PROGRAM STRATEGY AREAS

To achieve its mission, the Maryland NPA Program will focus on five strategic areas: changing the determinants of caloric balance, increasing breastfeeding, increasing fruit and vegetable intake, increasing physical activity and reducing television viewing (screen time). These areas are the backbone for all of the activities within the Maryland NPA Program. Below is a brief description of each target area.

Changing Determinants of Caloric Balance

Overweight and obesity are end results of an energy imbalance over a long period of time.[1] Energy imbalances can be caused by a combination of factors, including individual behaviors, environmental issues and genetics.[2] Over the past several decades, food options and eating habits in the U.S. have changed dramatically.[3] Individuals have become accustomed to greater food selection in grocery stores, a growing choice of pre-packaged foods and fast-food restaurants and an increase in portion sizes.[4] The 1996 publication *Physical Activity and Health, A Report of the Surgeon General* provides a summary of energy-expenditure determinants related to obesity. Some topics of concern mentioned in the publication include dietary fat, dietary fiber, macronutrients and satiety, energy density, sweetened beverages, fast-food and restaurant use, dietary patterns, portion sizes, calcium and dairy consumption and the importance of family and parental involvement in interventions to reduce obesity.[5]

Increasing Breastfeeding

Breastfeeding has many benefits for both mother and baby. Several studies show that babies who are breastfed have lower rates of overweight, obesity and chronic diseases.[6] Additionally, mothers who breastfeed use up extra calories by nursing, making it easier to lose the weight gained during pregnancy.[7] While more research is required in these areas, the present findings show that breastfeeding can have a positive result on the levels of overweight and obesity for the mother and her child.

Increasing Fruit and Vegetable Consumption

Diets that are rich in fruits and vegetables are recommended by the *Dietary Guidelines for Americans*. Fruits and vegetables provide the essential vitamins, minerals, fiber and other necessary substances that comprise a healthy diet.[8] Typically, fruits and vegetables are low in fat and calories.[9] As a result, there is substantial indirect evidence that shows eating fruits and vegetables may help individuals lose or maintain weight.[10] Additionally, other studies have shown that increased consumption of fruits and vegetables will lower the risk of numerous chronic diseases, including some types of cancer and cardiovascular disease.[11]

Increasing Physical Activity

There is growing evidence every day to support the positive benefits of regular physical activity, which has been shown to reduce the risk of cardiovascular disease, stroke, colon cancer and diabetes.[12] Regular physical activity also helps to control weight and contributes to healthy bones, muscles and joints.[13] Individuals do not have to perform strenuous physical activity to reap these healthy rewards.[14] Moderate-intensity physical activity, such as brisk walking, can benefit individuals of all ages.[15] Still, more than 50% of American adults do not engage in the recommended amount of physical activity to achieve health benefits.[16]

Reducing Television Viewing (Screen Time)

During the past several decades, access to and use of media have increased dramatically. In fact, reports indicate that children spend an average of five-and-a-half hours per day using some type of media.[17] Exposure can come from a number of venues, including television shows, videos, cable networks, videogames, computer activities and Internet Web sites.[18] Moreover, research has shown a significant association between the prevalence of obesity and the amount of time children spent watching television.[19] Further research is needed to strengthen the relationship between media exposure and obesity. Today, however, experts hypothesize that media may contribute to childhood obesity in several ways. For instance, they believe that: time spent using media may displace time spent participating in physical activities; food advertisement exposure on television may influence unhealthy food selections; promotion of food products by popular television and movie characters may encourage the purchase and consumption of high-calorie foods; and the entertainment media's depiction of nutrition and body weight may have a negative affect on the development of healthy diets.[20]

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Development of the Plan

CHAPTER THREE

Development of the Plan

PLAN GOALS

The mission of the Maryland Nutrition and Physical Activity (NPA) Program has guided all aspects of the planning process for development of the plan. The purpose of the plan is to provide a framework to create and support an environment that will make it easier for Maryland citizens to select healthy food options and have opportunities to be physically active.

There are two overarching goals of the *Maryland Nutrition and Physical Activity Plan:*

- **To encourage and enable the citizens of Maryland to adopt and maintain healthy eating habits throughout the lifecycle.**
- **To encourage and enable the citizens of Maryland to lead physically active lifestyles throughout the lifecycle.**

At its capacity-building stage, the *Maryland Nutrition and Physical Activity Plan* will use the social-ecological model to apply an ecological framework to address the following major focus areas: changing determinants of caloric balance, increasing breastfeeding, increasing fruit and vegetable consumption, increasing physical activity and reducing television viewing (screen time).

THE SOCIAL ECOLOGICAL MODEL

The Social Ecological Model, which is widely used to implement health-promotion programs, acknowledges the various factors that influence an individual's ability and opportunity to change. It emphasizes that everyone lives within physical environments and social systems that influence their health. As a result, lasting changes in health behaviors require physical environments and social systems that support positive lifestyle habits.

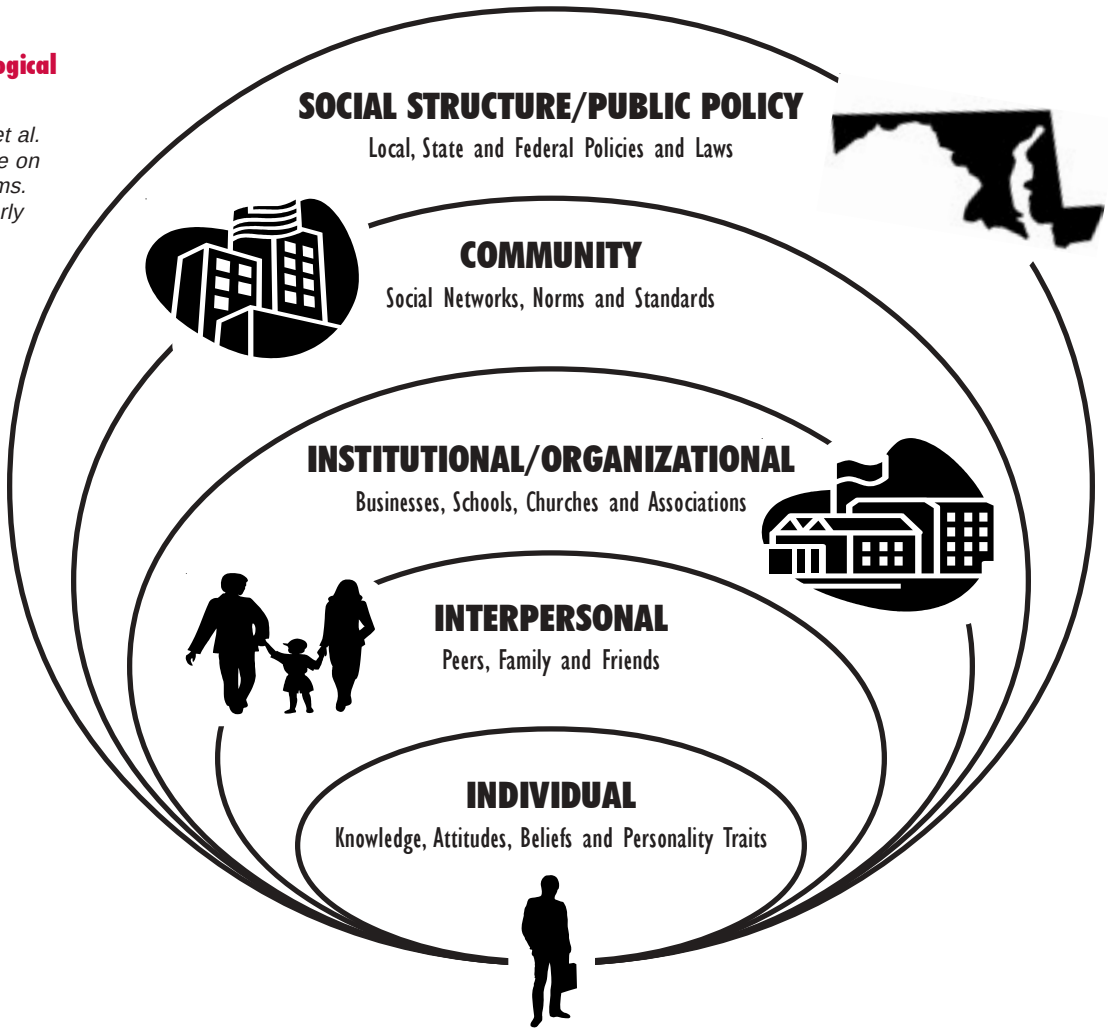
Using the Social Ecological Model, individual behavior can be affected through multiple spheres of influence—individual, interpersonal, institutional, community and social structure or policy. Successful behavior change is difficult to achieve and sustain without changes in the surrounding organizational, community, social and physical environments. Health behaviors are most likely to change when work is done within all spheres of influence at the same time.

This theoretical model is designed to guide researchers and practitioners to comprehensively and systematically assess and intervene on each level as appropriate. The model addresses the need to influence personal behavior within social and environmental contexts. It also recognizes that no one organization or agency can accomplish change. Effective implementation of the strategies necessary for a social ecological approach requires the collaboration of multiple sectors at the local, state and federal levels. Emerging evidence demonstrates that multilevel approaches based on ecologic models may be essential to bring about the positive lifestyle changes that lead to improvements in the public's health.

The strategies outlined in the *Maryland Nutrition and Physical Activity Plan* recognize that, while personal lifestyle changes can be difficult, they can be influenced positively through enabling forces, such as schools, worksites and community settings that promote and support healthy lifestyles.

FIGURE 14: Social Ecological Model

Adapted from McLeroy, et al. An ecological perspective on health promotion programs. Health Education Quarterly 15:351-377, 1988.



The individual is at the center of the Social Ecological Model (Figure 14), surrounded by increasingly larger spheres of influence: interpersonal, institutional / organizational, community and social structure / policy. Interventions that are implemented at the upper three levels of the model help to support those at the individual and interpersonal levels.

Environmental interventions can contribute to behavior change. Implementing measures that make it easier for individuals to engage in desirable behaviors makes it more difficult to engage in less-desirable behaviors. Policies can assist in behavior change by stimulating changes in the physical environment that provide increased opportunities for healthy eating options and physical activity.[1]

Using the Social Ecological Model, the *Maryland Nutrition and Physical Activity Plan* was conceptualized to target the social structure / public-policy sphere, community changes, institutional changes, interpersonal changes and, ultimately, to impact individual behavior change.

THE PLANNING PROCESS

One of the major initiatives of the capacity-building grant was to develop a strategic plan for the prevention of overweight, obesity and other chronic diseases through input from stakeholders who represent a variety of interests throughout the state. To meet this goal, the Maryland Nutrition and Physical Activity Coalition was formed in spring, 2004. Since then, the Coalition has held meetings to recruit members and present information on the goals of the *Maryland Nutrition and Physical Activity Plan*.

Focus Groups

In the summer of 2004, the NPA Program contracted with a consulting firm to conduct focus groups in five regions of the state. The purpose of the focus groups was to gauge the public's perception of the social, behavioral and environmental factors that influence obesity in their communities. More than fifty community leaders and experts participated, including representatives from local health departments, community agencies, professional health associations, business organizations, transportation agencies and other organizations.

The information gathered as a result of the focus groups helped to depict the impact of obesity in Maryland. The responses indicated an increased prevalence of obesity and overweight in Maryland children and adults.

Participants offered many reasons for why people have difficulties managing their weight, but the overwhelming cause was today's busy lifestyles. Specifically, they mentioned that people work long hours and have to deal with long commutes to and from work. Many do not have time during the day to exercise or prepare home-cooked meals. In addition, the physical environment hinders healthy lifestyles because many communities are not walkable.

To address the growing obesity problem, each group expressed the need to take a multi-pronged approach that includes enforcement, legislation, coalition building, treatment options and community involvement. In addition, participants mentioned that the approach should be long-term, sustained and delivered through messages that are clear, concise and consistent. While the groups shared many examples of successful health education programs in their communities, they also concluded that there are no "quick fixes."

Results from the focus group discussions indicated the need for environmental and policy changes to address the burden of overweight and obesity.

Advisory Committee

An Advisory Committee was formed to assist in the coordination of statewide efforts to combat obesity and other chronic diseases associated with obesity. The Advisory Committee has a visionary and strategic planning role within the NPA Program. The responsibilities and expectations for this committee include providing oversight to the planning structure and strategies; serving as a resource and review committee; providing scientific and technological guidance and expertise; and assisting with all phases of the development of the plan.

Workgroup

In December, 2004, the Maryland Nutrition and Physical Activity Coalition joined forces with the already-established Maryland Healthy Eating and Active Lifestyle Coalition. During an all-member Coalition meeting in March, 2005, the structure of the NPA Workgroup was presented (see Figure 15). The Workgroup was divided into committees that were formed to assist in the writing of Maryland's comprehensive plan to reduce chronic disease and obesity through physical activity and nutrition interventions. Coalition members selected workgroup committees that best represented their respective interests. At the March meeting, workgroup members benefited from a presentation on the burden of overweight and obesity in Maryland. This provided the foundation for the Evaluation and Surveillance Committee, which cross-cuts all of the other workgroup committees.

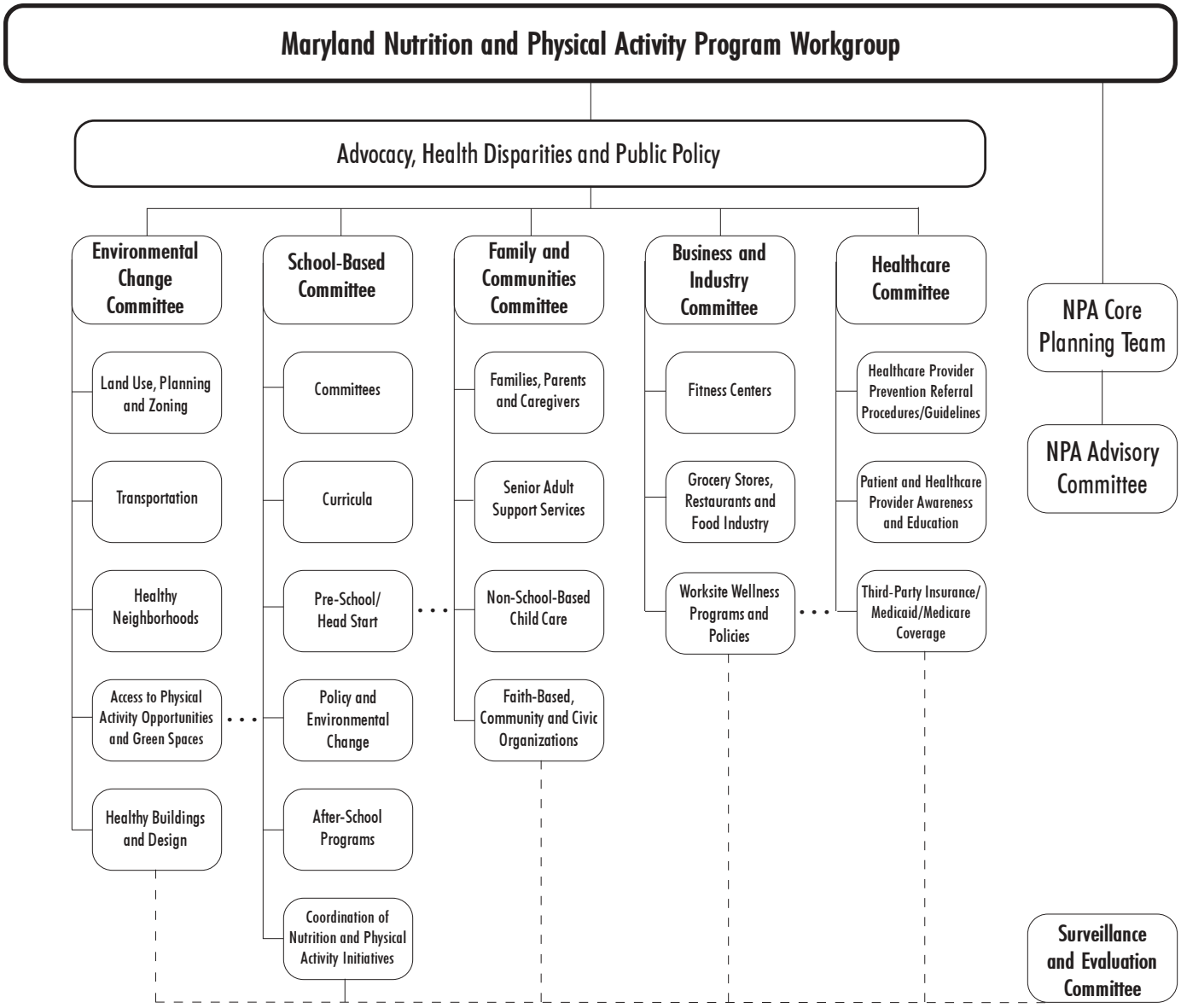
Five committee settings were identified: Business and Industry, Environmental Change, Family and Communities, Healthcare and Schools. Representatives from more than 100 local and state agencies and organizations participated in the workgroup process (see Appendix F). Committees met in face-

to-face meetings and via e-mail for approximately nine months to develop draft objectives, strategies and action steps (see Appendix G).

The target audience for the plan included the entire population of the State of Maryland. During the committee process, discussions were held to determine which interventions and initiatives were feasible, evidence-based or a promising practice, sustainable and culturally sensitive to meet the various demographics represented by the state population.

To develop their objectives, strategies and action steps, the committees considered existing programs and interventions that addressed healthy eating options and physical activity opportunities. State and national data, published professional reports and guidelines, previous Maryland chronic-disease and childhood overweight-prevention plans (i.e. cancer and cardiovascular) and overweight and obesity prevention plans from other states were used to inform the process and the resulting objectives and

FIGURE 15: Workgroup organization structure (revised May 2005)



strategies. The Social Ecological Model provided the framework for workgroup discussions, with efforts focused on prevention rather than treatment across all spheres of influence to prevent and reduce overweight and obesity in Maryland.

Community Inventory

In September, 2005, the NPA Program conducted an online community inventory to gather baseline data on healthy eating and physical activity interventions that were underway across the state (see Appendix H). The community inventory was available to members of the Advisory Committee and NPA Workgroup. In addition, outreach efforts were made to health professionals and agencies, as well as to organizations that sponsored health-promotion efforts throughout the state. Community inventory results were received from 192 respondents representing all 24 political jurisdictions in Maryland. Representatives from state and local agencies, health departments, academic institutions, medical centers and interested citizens participated in the community inventory.

Results of the community inventory showed that many of the respondents' programs and activities related to the major focus areas of the *Maryland Nutrition and Physical Activity Plan*. Specifically, 74% to improve caloric balance, 17% to increase breastfeeding initiation and duration, 77% to increase fruit and vegetable consumption, more than 90% are working to increase the level of physical activity and 28% to reduce television and other screen-time viewing. Another 25% are addressing food-stamp benefits, school food enhancement and school wellness policies, as well as applying the *Dietary Guidelines for Americans* and promoting the Food Guidance System. The majority of program goals (85%) are being achieved through individual behavior change, 42% by population behavior change, 24% through state or local policy, 20% by environmental change and 14% by research, education or newsletter articles.

Additionally, the respondents' results showed that there is almost an equal distribution of programs designed for males and females. These programs are implemented for citizens of all ages. The 40 to 59 age group had the greatest percentage of implemented programs at 72%, while only 17% of the implemented programs targeted babies less than one year of age. The respondents also reported that the implemented programs had a diverse target audience. Of those responding, 97% of the programs reached African-American, Non-Hispanic; 92% reached White, Non-Hispanic; and 76% reached Hispanic.

The majority of nutrition and healthy eating programs were held in the community and schools, while most physical activity components took place in schools, faith-based organizations and senior centers. The primary barriers to meeting goals and objectives included resource limitations, resistance to individual behavior change, lack of recognition of the need for behavior change and lack of community environmental support. Program evaluations included the impact of knowledge, attitudes and behaviors, health indicators, number of units provided and patient satisfaction. Of the respondents, 20% indicated that no formal evaluations were conducted. Those who conducted evaluations most frequently used surveys, direct observation, health and service data, group discussions, interviews and self-reports.

Regional Community Town Hall Meetings

Throughout November, 2005, community town hall meetings were held across the State of Maryland. These meetings were designed to give local communities the opportunity to comment on the nutrition, physical activity and overweight/obesity issues that specifically affected their areas, as well as to review and offer feedback on the draft intermediate objectives of the *Maryland Nutrition and Physical Activity Plan*.

By holding the community town hall meetings, the general public was able to provide a voice for the local perspective. The meetings were held in three different regions of the state, including central

and western Maryland and the Eastern Shore. Great consideration was taken to select meeting site locations. The facilities needed to be able to hold a large number of people and also be located in a well-known community venue. With those considerations in mind, community hospitals and community regional centers were selected as meeting sites.

The community town hall meetings were publicized through several different channels. Partners from the local health departments promoted the meetings through their community programs. The NPA Workgroups forwarded information to their partners. Several list serves and community newsletters announced the meetings. And, the Maryland Healthy Eating and Active Lifestyle Coalition posted information on its website.

Each meeting was led by the same facilitator. The meetings were structured to allow all attendees to freely voice their opinions. Each meeting focused on the specific settings that already were spotlighted by the draft intermediate objectives. Those areas included the active community environments setting, business and industry setting, family and community setting, healthcare setting and school community setting.

The meetings were attended by a diverse mix of individuals whose perspective provided valuable insight to the nutrition, physical activity and obesity / overweight issues on the local level. In general, the common theme that emerged from all of the meetings was that local communities need to incorporate environmental and policy changes that support individual behavior change. The specific comments from these town hall meetings were collected, reviewed and incorporated into the plan.

THE PLAN

The *Maryland Nutrition and Physical Activity Plan* was published in the spring of 2006. The NPA Program will continue to collaborate with agencies and organizations throughout the state to accomplish the objectives and strategies outlined in the plan and actively seek additional collaborators to attain the desired outcomes. Implementing the proposed strategies and action steps will require a sustained commitment from a wide variety of stakeholders across the state.

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Objectives at a Glance

CHAPTER FOUR

Objectives at a Glance

OVERARCHING PLAN GOALS:

- **To encourage and enable the citizens of Maryland to adopt and maintain healthy eating habits throughout the lifecycle.**
- **To encourage and enable the citizens of Maryland to lead physically active lifestyles throughout the lifecycle.**

LONG-TERM (MEASURABLE) OBJECTIVES

Long-term objectives for the plan reflect changes in overweight/obesity prevalence, increased physical activity, decreased television viewing, increased breastfeeding initiation and duration and increased fruit and vegetable consumption. Healthy People 2010 goals are referenced for each objective.

Healthy Weight
By 2016

1. Reduce the proportion of Maryland's children and youth who are overweight (BMI-for-age >95th percentile).† (HP 2010 19-3: 5%)
2. Increase the proportion of Maryland adults who are at a healthy weight (18.0≥ BMI ≤ 25.0) from 37% (BRFSS 2003) to 44%. (HP 2010 19-1: 60%)

Physical Activity
By 2016

3. Increase the proportion of Maryland high-school students who engage in moderate physical activity for at least 30 minutes on five or more of the previous seven days.† (HP 2010 22-6: 35%)
4. Reduce the proportion of Maryland adults who engage in no leisure-time physical activity from 21% (BRFSS 2003) to 19%. (HP 2010 22-1: 20%)
5. Increase the proportion of Maryland youth who view television two or fewer hours on a school day.† (HP 2010 22-11: 75%)
6. At least maintain the proportion of Maryland adults who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes a day at 34% (BRFSS 2003). (HP 2010 22-2: 30%)

Nutrition
By 2016

7. Increase the proportion of Maryland high-school students who consume five or more servings of fruits and vegetables per day.† (HP 2010 19-5 and 19-6)
8. Increase the proportion of Maryland adults who consume five or more servings of fruits and vegetables per day from 29% (BRFSS 2003) to 32%. (HP 2010 19-5 and 19-6)
9. At least maintain the proportion of Maryland women who initiate breastfeeding at 77% (Maryland PRAMS, 2001) (HP 2010 16-19a: 75%) and increase the proportion of Maryland women who continue to breastfeed for at least six months.‡ (HP 2010 16-19b: 50%)

INTERMEDIATE OBJECTIVES

The intermediate objectives listed below will influence all of the long-term objectives.

Active Community Environments

By June 2011:

- Increase the number of built and natural environment policies that address healthy eating and physical activity.
- Increase the number of healthy food options in communities by focusing on the built environment.
- Increase the number of physical activity opportunities in communities by focusing on the built and natural environment.

- Promote non-motorized transportation, public transit, pedestrian and bicycling initiatives in communities to increase physical activity opportunities.
- Promote green spaces for physical activity opportunities within communities.

Business and Industry Setting

By June 2011:

- Promote access and procurement of healthy food options in supermarkets and other businesses that sell food (i.e. grocery stores, farmers' markets, corner stores and produce stands).
- Promote development and marketing of healthy food options by the food industry.
- Increase the availability of healthy food options in restaurants.
- Increase the number of worksites with policies that support healthy eating and opportunities for physical activity.
- Increase employer awareness of the benefits that healthy eating and physical activity have on a workforce.
- Increase the levels of healthy eating among employers and employees of Maryland.
- Increase the levels of physical activity among the employers and employees of Maryland.

Families and Community

By June 2010:

- Increase the percentage of Maryland mothers who exclusively breastfeed their babies six months and beyond from 39.7% (NIS 2003) to 50% (HP 2010 16-19b).
- Increase from 67% (PRAMS 2001) to 75% (HP 2010 16-19a) the number of African-American women who initiate breastfeeding.

By June 2011:

- Increase the number of public policies that address healthy eating and physical activity opportunities, including access to both, in public places.
- Increase awareness and number of healthy eating and physical activity programs that support families in the community.
- Increase and expand the number of programs for healthy eating and physical activity that are implemented and evaluated within faith-based organizations.

- Increase the number of healthy eating and physical activity programs offered at parks and recreation centers, community/civic centers and senior centers.
- Increase access to healthy food choices and physical activity opportunities within communities.
- Increase community awareness and knowledge about the benefits of healthy eating and physical activity.
- Increase the number of healthy eating and physical activity programs in licensed child-care centers and family child-care homes through the Child and Adult Care Food Program.

Healthcare Setting

By June 2010:

- Ensure that healthcare professionals receive the education and tools to provide patients and families with knowledge and skills regarding the relationship between healthy eating, physical activity and the prevention of overweight and obesity.
- Increase the number of healthcare professionals who communicate overweight and obesity prevention messages, including breastfeeding promotion, healthy eating, increased physical activity and decreased sedentary activity in healthcare practices on a regular basis.
- Increase patient knowledge regarding the benefits of healthy eating and physical activity and provide patients and families with necessary skills and community resources to enable them to increase their healthy eating options and physical activity opportunities.
- Provide all Maryland residents access to quality, affordable health insurance.

School Community Setting

By September 2006:

- All Maryland schools will develop, adopt and implement local school wellness policies.

By June 2010:

- Maryland schools will develop, adopt and implement policies to ensure that all pre-K to grade-12 students receive quality, daily physical education that helps to develop the knowledge, attitudes, skills, behaviors and confidence to be physically active for life and meet the Program Standards accepted by the Maryland State Board of Education listed in the Physical Education Study Group Report of 2000.
- Maryland schools will provide students in Pre-K through grade 12 with behavior-focused nutrition education in the curriculum that is interactive and teaches the skills they need to adopt healthy eating habits.
- Maryland schools will develop, adopt and implement policies to ensure that all foods and beverages available on school campuses and at school and school-related events are consistent with the *Dietary Guidelines for Americans*.
- Maryland schools, pre-K to grade 12, will develop, adopt and implement polices and partnerships to ensure that the school environment offers opportunities for physical activity.

By June 2011:

- Improve the Maryland preschool environment, including those that participate in the Child and Adult Food Program (CACFP), by including increased opportunities for healthy eating options and physical activity**.**
- Implement in all Maryland after-school programs, including the At-Risk After-School Snack Program, an environment that provides opportunities for healthy meals, snacks, beverages and physical activity.
- Improve the healthy eating and physical activity environment in Maryland summer food-service programs.
- Maryland schools of higher education (community colleges, four-year colleges and universities) will provide healthy food options and physical activity opportunities on school campuses to assist students, faculty and staff to develop the knowledge, attitudes, skills and behaviors to adopt, maintain and enjoy a healthy lifestyle.

Surveillance and Evaluation

By June 2011:

- Broadly disseminate surveillance findings for overweight and obesity, healthy eating, physical activity and related behaviors so that policies can be developed and nutrition and physical activity programs implemented. This information will be needed to guide future activities in all chapters of the plan.
- Expand access to and understanding of the databases used for analysis of adult/youth overweight and obesity, its related behavior and health-conditions surveillance in Maryland. Such access will better meet the information needs of communities, program planners, policy makers and researchers.
- Develop, maintain or enhance data systems to ensure accurate, timely and complete information needed to monitor NPA outcomes, related behaviors and health conditions.

[†]The CDC's Youth Risk Behavior Surveillance System (YRBSS), which monitors priority health-risk behaviors among youth, was implemented in the State of Maryland in 2005, providing data needed to obtain baseline measures for long-term objectives related to Maryland's youth.

[‡]Data on breastfeeding status at six months is currently not available in Maryland.

Active Community Environments

CHAPTER FIVE

CHAPTER CONTRIBUTORS

Mimi Dean, MS, ACSM CES, *Committee Chair*

Kelly Blake
Carol Binns
Jack Hammond
Janna Howley, MA
Jim Hudnall
Michael Jackson
Maureen McAllister, RN, MS
David T. Whitaker, AICP
Gary W. Wunderlich

Active Community Environments

INTRODUCTION

Healthy eating habits and physical activity are known to produce positive effects in overall health. Traditionally, the public health community has led the charge to promote the benefits of a healthy lifestyle. Today, several other groups, including the transportation and planning communities, are also beginning to spread the word. Despite unique motivations for promoting this message, each group seeks to encourage these healthy behaviors.

DEFINING THE PROBLEM

The Surgeon General's *Call to Action* noted that poor eating habits and physical inactivity contribute to increased levels of overweight and obesity.[1] As of 2004, 65% of the U.S. adult population was overweight or obese.[2] In Maryland, the levels of adult overweight and obesity also are growing. In 2004, 58.5% of Maryland adults were overweight or obese.[3] This trend also has manifested in our nation's youth. Experts have reported that the overweight youth population has more than tripled since 1980.[4] As of 2004, 16% of children and adolescents in the United States were overweight.[5] Data specific to Maryland youth is currently not available, but likely will be in the future.

Many factors—genetic, metabolic, behavioral, cultural, socioeconomic and environmental—contribute to these alarming statistics.[6] According to the Surgeon General's *Call to Action*, environmental factors have a strong influence[7] that stems from both the natural and built environment. The natural environment involves weather, air and water quality, elevation and scenery.[8] Currently, there is limited research in this area. Further studies are needed to strengthen the connection between physical activity levels and the natural environment.[9]

Some of the most recent research available has shown a connection between a person's activity level, the built environment and the rising levels of obesity and other chronic diseases.

By contrast, the built environment involves land-use patterns, transportation systems and design.[10] Some of the most recent research available has shown a connection between a person's activity level, the built environment and the rising levels of obesity and other chronic diseases. Built-environment studies examine the links between physical activity and a variety of issues, some of which include community design, safety, land use and non-motorized transportation.

Recent research has demonstrated that land-use patterns in many communities inhibit walking.[11] Additionally, in sprawling areas, people typically drive more, own more cars, breathe more polluted air, face a greater risk of traffic fatalities and walk and use transit less.[12] Moreover, other research suggests a strong link between sprawl and the development of chronic diseases. It also indicates a possible relationship between sprawl, reduced walking and higher Body Mass Index (BMI).[13]

Other research suggests that crime, or the fear of crime, and traffic safety may influence physical activity levels.[14] While more research is required in these areas, present findings show that communities designed with a focus on active living will promote increased physical activity levels.[15]

The built environment also can influence community-eating habits, since it is difficult to purchase nutritious foods in many areas. For example, in 2002, more than 35 million Americans regularly struggled to gain access to nutritious food.[16] This issue often is magnified in lower socioeconomic-status communities, where access to healthy food options is limited.[17] Other environmental influences that potentially contribute to the rise of obesity include an increase in soda and snack-food availability in schools, the growth in the number of fast-food restaurants, the trend toward restau-

rants that offer extremely large portions and the increase in the number of highly processed, high-calorie and high-fat grocery products.[18]

These environmental influences even have had an impact on children's daily routines. For example, over the past several decades, there has been a dramatic decline in the number of students who walk and ride their bicycles to and from school. In 2003, reports showed that only 10% of school-age children walked or biked to school—a 40% reduction over the past twenty years.[19]

Many of the barriers, whether perceived or real, are similar to those mentioned previously. Specifically, parents report distance to school, traffic danger, adverse weather conditions, fear of crime against children and crime in the neighborhood as factors that can prevent their children from walking and bicycling to school.[20]

As illustrated above, the development of communities that support healthy eating and physical activity is yet another way to combat the growing levels of overweight and obesity. Many communities already are addressing these issues and can serve as a resource for future efforts. By building greater support for environments that encourage these positive behaviors, Maryland positions itself to better address the rising levels of unhealthy eating and physical inactivity.

MOVING FORWARD

To achieve the intermediate objectives and strategies of the active community environments, grassroots community partnerships need to be built and nurtured, and environmental and policy changes implemented. Community partnerships should include representatives from various sectors: planning, health, transportation, education, parks and recreation, developers and the community. These partnerships also should support environments that encourage healthy eating and physical activity and promote policies that increase healthy eating and physical activity opportunities. Finally, evaluation needs to be woven throughout these efforts, as taking the time to critique ongoing efforts will help to measure their sustainability.

Active Community Environments

INTERMEDIATE OBJECTIVES, STRATEGIES & ACTION STEPS

Intermediate Objective 1: By June 2011, increase the number of built and natural environment policies that address healthy eating and physical activity.

Social Ecological Model Level:

Social Structure / Public Policy and Community

Strategies and Action Steps:

a. Identify existing and proposed policies that support access to healthy food options and physical activity opportunities.

b. Identify factors that either encourage or limit the development of policies that support healthy eating and physical activity.

c. Promote policies that increase access to healthy food options and physical activity opportunities.

d. Track policy development and implementation that support healthy eating and physical activity.

e. Identify a "legislative champion" or key leader to promote non-motorized transportation policies.

f. Advocate for transportation policies that support physical activity and non-vehicle transportation.

g. Advocate for planning policies that increase access to healthy food options and physical activity opportunities.

h. Promote policies that require the installation of bike racks in public locations and on public transit.

i. Support the Safe Routes to School initiative.

j. Identify policy opportunities to limit advertising of unhealthy foods in communities.

k. Advocate for policies that promote increased access to green spaces.

l. Advocate for policies that incorporate physical activity opportunities in building design.

m. Advocate for inclusion of mixed-use in local zoning ordinances to promote walking and biking as viable means of transportation.

n. Encourage government to develop land-use policies that address smart-growth principles to promote physical activity and provide opportunities for active transport to worksites, retail stores, food establishments, recreational areas and other activity centers.

o. Advocate for integration of land use and school site planning so that school and residential areas are within walking and biking distances of each other.

Evaluation Indicators:

- Identification of policies that support access to healthy food options and physical activity opportunities
- Number of new and implemented environmental policies

Intermediate Objective 2: By June 2011, increase the number of healthy food options in communities by focusing on the built environment.

Social Ecological Model Level:

Social Structure / Public Policy and Community

Strategies and Action Steps:

a. Identify communities that have limited access to affordable healthy food options, supermarkets and other businesses that sell food (i.e. grocery stores, farmers' markets, corner stores, produce stands).

b. Map food distribution system in Maryland and identify parts of the system that can be positively impacted.

c. Promote strategies that increase access to affordable healthy food options in underserved communities.

d. Track environmental changes in communities that impact the availability of healthy food options.

e. Develop community coalitions that include planning, parks and recreation, transportation, developers and health to build broad support for increasing healthy food options in communities.

f. Advocate for increased access to affordable healthy food options in urban, suburban and rural communities.

g. Provide merchant education and incentives to stock affordable healthy food options.

h. Provide incentives for supermarkets and other businesses that sell food (i.e. grocery stores, farmers' markets, corner stores, produce stands) to provide affordable fruits and vegetables.

i. Encourage further research that focuses on healthy eating options and the environment.

Evaluation Indicators:

- Identification of communities with limited access to affordable healthy food options, supermarkets and other businesses that sell food (i.e. grocery stores, farmers' markets, corner stores, produce stands)
- Number of community coalitions
- Number of implemented environmental changes

Intermediate Objective 3: By June 2011, increase the number of physical activity opportunities in communities by focusing on the built and natural environment.

Social Ecological Model Level:

Social Structure / Public Policy and Community

Strategies and Action Steps:

a. Conduct a sample survey to identify communities that have limited access to physical activity opportunities.

b. Promote strategies that increase access to physical activity opportunities in underserved and limited-access communities.

c. Track environmental changes in communities that impact the availability of physical activity opportunities.

d. Develop community coalitions that include representatives from planning, parks and recreation, transportation, developers and health organizations to build broad support for increasing physical activity opportunities in communities.

e. Encourage communities and community-elected officials to use and fund smart-growth principles in urban, suburban and rural neighborhoods to increase physical activity opportunities.

f. Establish mass-media campaigns that promote physical activity opportunities in communities.

g. Advocate for school sites to support opportunities for physical activity by offering more physically active after-school programs and increasing access to school facilities during before / after-school hours and the summer.

h. Partner with state and local police to identify the personal security issues within communities that limit physical activity and develop action steps to decrease them.

i. Promote traffic-calming techniques that increase physical activity opportunities.

j. Support grassroots advocacy for environments that promote physical activity.

k. Provide an active community tool-kit to enable communities to assess and promote physical activity opportunities (schools, neighborhoods, colleges and retirement communities).

l. Promote to developers the benefits of incorporating physical activity opportunities in building design.

m. Advocate for government to be a leader in promoting physical activity in new development and redevelopment.

n. Encourage further research that focuses on physical activity opportunities and the environment.

Evaluation Indicators:

- Identification of communities with limited access to physical activity opportunities
- Number of coalitions, number of communities involved in the mass-media campaign
- Number of distributed active community tool-kits
- Number of schools that support opportunities for physical activity
- Number of implemented environmental changes

Intermediate Objective 4: By June 2011, promote non-motorized transportation, public transit and pedestrian and bicycling initiatives in communities to increase physical activity opportunities.

Social Ecological Model Level:

Social Structure / Public Policy and Community

Strategies and Action Steps:

a. Identify existing and proposed non-motorized transportation opportunities in communities.

b. Promote non-motorized transportation opportunities in communities, particularly in those that have high potential to foster walking, biking and public transit. (In general, non-motorized transportation in mixed-use or high-density communities would be more cost-effective.)

c. Track environmental changes that impact non-motorized transportation and public transit in communities.

d. Support community bicycle and pedestrian coalitions.

e. Promote the Maryland Transportation Twenty-Year Bicycle and Pedestrian Access Master Plan (released in October 2002).

f. Track funding for Safe Routes to School at the Maryland Department of Transportation and monitor progress.

g. Promote the establishment of Safe Routes to School programs in individual communities and schools.

h. Encourage communities to provide access to safe, non-motorized transportation options.

i. Advocate for further and track current funding of non-motorized transportation, public transit and pedestrian and bicycling initiatives in the state transportation budget.

j. Advocate for inclusion of bike lanes and, where appropriate, multi-use trails in new road construction.

k. Advocate for the inclusion of bicycle infrastructure (bicycle parking, lockers, bus racks, etc.) in communities.

l. Advocate for safe and friendly walk and bike access to transit stops and stations.

m. Provide communities with active-transit assessment tools.

Evaluation Indicators:

- Identification of non-motorized transportation opportunities
- Number of active transit assessments completed
- Number of implemented environmental changes
- Monitoring of implementation and outcomes of Safe Routes to School initiative at the state and local levels

Intermediate Objective 5: By June 2011, promote green spaces and recreational facilities for physical activity opportunities within communities.

Social Ecological Model Level:

Social Structure / Public Policy and Community

Strategies and Action Steps:

a. Identify existing and proposed green spaces and recreational facilities in communities.

b. Develop strategies for green spaces that focus on the configuration, size and location of areas to increase opportunities for physical activity.

c. Track the acquisition and development of green spaces and recreational facilities in communities.

d. Identify underserved communities that have limited access to green spaces and recreational facilities.

e. Identify and promote strategies that increase access to green spaces and recreational facilities in underserved communities.

f. Educate planning officials regarding their role in increasing physical activity opportunities in the community.

g. Advocate for increased funding for the development and maintenance of green spaces and recreational facilities.

Evaluation Indicators:

- Identification of green spaces
- Number of planning officials reached
- Number of newly developed green spaces

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Business and Industry Setting

CHAPTER SIX

CHAPTER CONTRIBUTORS

Mimi Dean, MS, ACSM CES, *Committee Chair*

Holly Goodling Bell, RN-C, CRNP
Rahsaan Bernard, MBA, CPT
Kelly Blake
Lynne Brick, RN, BSN
Lawrence J. Cheskin, MD, FACP
Mary Ann Friis
Janna Howley, MA
Michael Jackson
Maureen McAllister, RN, MS
Reginald Parker
Amy Resnik, MS, RD, CSP, IBCLC
Autumn Romanowski, MA
Laurie Fleishman Walowitz
Gary W. Wunderlich

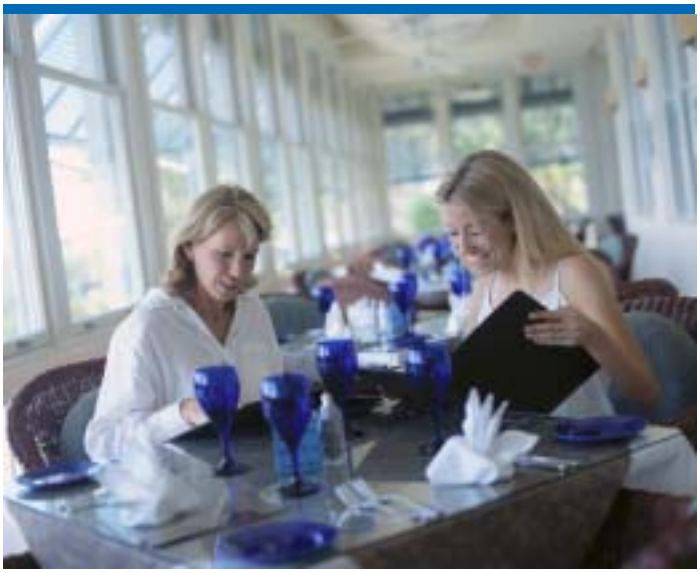
Business and Industry Setting

INTRODUCTION

The business and industry community can play a critical role in the promotion of healthy eating and physical activity. Intermediate objectives in this area focus on grocery stores, the food industry, restaurants and worksites. Each of these settings has a unique opportunity to promote healthy lifestyles to the citizens of Maryland.

DEFINING THE PROBLEM

In 2004, only 29.6% of Maryland adults consumed the recommended five or more servings of fruits and vegetables a day.[1] Additionally, only 49% reported meeting the recommended levels of physical activity.[2] While data is not yet available for youth in Maryland, national data provides insight into the healthy eating habits and physical activity levels of young people. In 2003, experts reported that less than 25% of high school students eat five or more fruits and vegetables per day.[3] Furthermore, greater than 33% of high school students did not participate regularly in vigorous physical activity.[4]



Those who grow, supply and sell food have an extraordinary opportunity to provide consumers with healthy food options that create profit and also meet consumer demands.[5] Today, however, adults and children do not consistently select healthy foods on a regular basis. Instead, experts report that 30% of the calories consumed by the average American each day come from high-calorie, low-nutrient foods.[6] Increased food consumption outside the home is another growing trend in the United States.[7] As a result, restaurants are poised to serve as key partners in the implementation of promising policies, environmental changes and pricing initiatives to increase fruit and vegetable consumption.[8]

Worksites also play a critical part in the effort to increase opportunities for healthy eating and physical activity. In 2004, there were more than two million people employed in Maryland, with the average full-time employee spending 9.2 hours at work per day.[9,10] Because so many residents work long hours, worksites have the potential to reach a large segment of Maryland's adult population. Compelling incentives exist for corporate health promotion, as healthy employees are likely to be more productive and incur lower medical costs.[11]

The Centers for Disease Control and Prevention (CDC) reports that more than 75% of U.S. healthcare costs are attributable to often-preventable chronic diseases.[12] In turn, chronic disease development is largely related to individual behavior.[13] The CDC notes that the top three behaviors that contribute to the development of chronic disease are tobacco use, physical inactivity and unhealthy eating habits.[14] Thus, worksites have a unique opportunity and incentive to support and strengthen employees' healthy lifestyle behaviors.[15]

By building greater support for healthy eating and physical activity in the business and industry community, Maryland will position itself to be better able to reduce the levels of overweight and obesity across the state. Several businesses already are addressing these issues and can serve as resources and models for future efforts. Additionally, as business and industry health-promotion programs continue to grow, the public will develop a greater awareness of the benefits.

MOVING FORWARD

To achieve the business and industry intermediate objectives and strategies, partnerships must be formed, environmental and policy changes implemented and program success tracked and evaluated. Partnerships should include representatives from various sectors, including the food industry, grocery stores, government, restaurants, worksites and the community. In addition, they should promote environments that support and encourage healthy eating and physical activity. Related policies within the business and industry community should be supported by the partnerships.

Business and Industry

INTERMEDIATE OBJECTIVES, STRATEGIES AND ACTION STEPS

Intermediate Objective 1: By June 2011, promote access and procurement of healthy food options in supermarkets and other businesses that sell food (i.e. grocery stores, farmers' markets, corner stores and produce stands).

Social Ecological Model Level:

Social Structure / Public Policy, Community and Institutional / Organizational

Strategies and Action Steps:

a. Identify communities that have minimal access to supermarkets, other businesses that sell food (i.e. grocery stores, farmers' markets, corner stores, produce stands) or vending machines that sell fruits and vegetables.

b. Partner with supermarkets and other businesses that sell food (i.e. grocery stores, farmers' markets, corner stores, produce stands) to develop and promote a healthy-community initiative.

c. Partner with supermarkets and other businesses that sell food (i.e. grocery stores, farmers' markets, corner stores, produce stands) to identify and promote health messages on the packaging of products, in the stores and in advertising.

d. Promote existing food programs, including Women Infant and Children (WIC) and 5 A Day with local farmers' markets.

e. Partner with supermarkets and grocery stores to offer educational store tours that promote healthy lifestyles.

f. Advocate for state tax incentives for supermarkets and grocery stores that provide affordable, healthy food options to build in underserved communities.

g. Advocate for the distribution of fruit and vegetables to be subsidized in low-income communities.

h. Advocate for citizen participation in the placement of supermarkets and other businesses that sell food (i.e. grocery stores, farmers' markets, corner stores, produce stands).

Evaluation Indicators:

- Identification of communities that have limited access to supermarkets and other businesses that sell food (i.e. grocery stores, farmers' markets, corner stores, produce stands)
- Number of supermarkets and other businesses that sell food (i.e. grocery stores, farmers' markets, corner stores, produce stands) participating in healthy-community initiative
- Number of supermarkets and grocery stores developed in underserved communities
- Number of tax incentive policies developed

Intermediate Objective 2: By June 2011, promote development and marketing of healthy food options by the food industry.

Social Ecological Model Level:

Community and Institutional / Organizational

Strategies and Action Steps:

a. Build awareness in local communities about Maryland-grown produce.

b. Encourage community coalitions to support the development of healthy food options by the Maryland food industry.

c. Encourage community coalitions to partner with supermarkets, other businesses that sell food (i.e. grocery stores, farmers' markets, corner stores, produce stands) and the Maryland food industry to identify new and affordable healthy food options and promote in local communities.

d. Encourage community coalitions to partner with supermarkets and other businesses that sell food (i.e. grocery stores, farmers' markets, corner stores, produce stands) and the Maryland food industry to identify and promote health messages on product packaging and in stores.

e. Promote to the Maryland food industry the importance of healthy food options and appropriate serving sizes.

Evaluation Indicators:

- Number of partnerships built
- Number of Maryland food companies that receive the healthy-food message

Intermediate Objective 3: By June 2011, increase the availability of healthy food options in restaurants.

Social Ecological Model Level:

Community and Institutional / Organizational

Strategies and Action Steps:

a. Develop implementation strategies for restaurants to promote healthy food selection.

b. Promote to restaurants the benefits of offering healthy food options and the importance of the availability of healthy food options and appropriate serving sizes.

c. Track changes at restaurants that increase the availability of healthy food options.

d. Encourage restaurants to offer affordable fruits and vegetables as part of "value meals" in place of high calorie, low nutrient food options and as part of children's menu offerings and meals.

e. Advocate for restaurants to receive incentives for offering affordable, healthy food options.

f. Encourage restaurants to provide serving size, calorie and other key nutrition information for all menu items.

g. Promote restaurants in local communities that provide nutritional information for every meal or offer healthy food options on the menus.

h. Partner with the Maryland Restaurant Association and other trade groups to support healthy eating initiatives.

i. Advocate for citizen participation in the placement of restaurants.

Evaluation Indicators:

- Development of implementation strategies for restaurants to promote healthy food selection
- Number of restaurants that are offering affordable, healthy food options

Intermediate Objective 4: By June 2011, increase the number of worksites with policies that support healthy eating and opportunities for physical activity.

Social Ecological Model Level:

Institutional / Organizational

Strategies and Action Steps:

a. Conduct a sample survey to assess the number of healthy eating and physical activity policies implemented by Maryland employers.

b. Track the number of newly developed policies in worksites that impact the availability of healthy foods and physical activity opportunities.

c. Encourage employers to implement healthy eating, breastfeeding and physical activity policies.

d. Provide employers with examples of optimal cafeteria, vending machine and catering policies.

e. Distribute to employers the Maryland State Breastfeeding Task Force's Employer Breastfeeding Program Toolkit.

f. Provide worksites with examples of physical activity policies.

g. Advocate for state government to lead by example by implementing healthy foods (cafeterias, vending machines and catering), breastfeeding and physical activity policies.

Evaluation Indicators:

- Number of newly implemented healthy eating and physical activity policies
- Number of distributed breastfeeding program toolkits

Intermediate Objective 5: By June 2011, increase employer awareness of the benefits that healthy eating and physical activity have on a workforce.

Social Ecological Model Level:

Institutional / Organizational

Strategies and Action Steps:

a. Conduct a sample survey to assess the awareness level of Maryland employers on the benefits of healthy eating and physical activity.

b. Track the level of employer awareness on the benefits of healthy foods and physical activity opportunities.

c. Establish a statewide worksite wellness network to build broad support for healthy eating and physical activity programming.

d. Provide employers with a worksite healthy eating and physical activity toolkit that includes information on the benefits that healthy eating, breastfeeding and physical activity have on a workforce, assessment tool, return on investment and examples of successful best practices.

e. Identify workforce health disparities in regard to access to healthy food options, breastfeeding opportunities and physical activity opportunities.

f. Provide employers with a healthy eating and physical activity message for the employees from the Maryland Department of Health and Mental Hygiene.

g. Increase employer awareness about the Maryland Department of Health and Mental Hygiene's healthy eating and physical activity initiatives.

h. Increase employer awareness about the initiatives of the Maryland Healthy Eating and Active Lifestyle Coalition.

i. Build employer awareness, with the support of insurance providers, about the benefits of including preventive medicine options within employee health insurance plans.

Evaluation Indicators:

- Number of employers that are aware of the benefits of healthy eating and physical activity
- Number of worksite wellness network members
- Number of toolkits distributed

Intermediate Objective 6: By June 2011, increase the levels of healthy eating among employers and employees in Maryland.

Social Ecological Model Level:

Institutional / Organizational

Strategies and Action Steps:

a. Conduct a sample survey to assess the number of employees who participate in healthy eating educational programming at the worksite.

b. Track the number of employers and employees that participate in healthy eating initiatives.

c. Promote healthy eating campaigns that create awareness, motivation, social support and increased availability of healthy food options (i.e. American Cancer Society's *Meeting Well*). [16]

d. Provide employers pricing-strategies that promote healthy food purchases.

e. Provide employers strategies on how to post serving size, calorie and other key nutrition information for foods that are offered in cafeterias and vending machines.

f. Encourage employers to make refrigerators available for employee food storage.

g. Encourage employers to provide water to employees for free or at a reduced cost.

h. Encourage employers to develop employee worksite wellness committees that promote healthy eating.

i. Advocate for state tax incentives for employers that offer healthy eating educational programming for employees.

j. Advocate for standards to be established for all government food contracts.

Evaluation Indicators:

- Number of employees who participate in healthy eating initiatives
- Number of worksite wellness committees that promote healthy eating

Intermediate Objective 7: By June 2011, increase the levels of physical activity among the employers and employees of Maryland.

Social Ecological Model Level:

Institutional / Organizational

Strategies and Action Steps:

a. Conduct a sample survey to assess the number of employees who participate in physical activity programming at the worksite.

b. Track the number of employers and employees that participate in physical activity initiatives.

c. Promote physical activity campaigns that create awareness, motivation, social support and increase availability for physical activity opportunities (i.e. American Cancer Society's Active for Life[sm]).[17]

d. Promote to employers physical activity breaks for employees.

e. Encourage employers to establish flexible work hours to allow for physical activity during the day.

f. Promote the Maryland Department of Health and Mental Hygiene's StairWell Campaign.

g. Encourage employers to promote annual Bike-to-Work day.

h. Encourage employers to provide bike racks, changing rooms, showers, employee fitness incentives and wellness / fitness facilities.

i. Encourage worksites to support employees who bike and walk to work.

j. Encourage worksites to support Bike-to-Work Day as a physical activity opportunity.

k. Encourage employers to subsidize memberships at health clubs.

l. Encourage employers to move employee parking further away from buildings.

m. Promote the physical activity recommendations of the Maryland State Advisory Council on Physical Fitness to employers and employees.

n. Encourage employers and employees to participate in the Physical Activity Excellence Awards recognition program by the Maryland State Advisory Council on Physical Fitness.

o. Encourage employers to develop employee worksite wellness committees that promote physical activity.

p. Advocate for state tax incentives for employers that offer employee physical activity programming.

Evaluation Indicators:

- Number of employees who participate in physical activity initiatives
- Number of worksite wellness committees that promote physical activity

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Family and Communities

CHAPTER SEVEN

Chapter Contributors

Meredith N. Pearson, PhD, *Committee Co-chair*
Lauren Thomas MS, RD, LD, *Committee Co-chair*

Amy Allen-Chabot, PhD, RD
Shaquana Divers, MHA
Jennifer Drzik, MS, RD
Patricia Faught, MS, RD, LDN
Stephanie Garrity, MS
Naomi Goldberger MAE, CHES
Linda Goldsholl, MS, RD
Ruth Kershner RD, LDN, MA
Alan M. Lake, MD
Jade Leung, MS
Kristin Mears
Rick McClendon
Amy Kovar Resnik, MS, RD, CSP, IBCLC
Allison J.M. Robinson, MPH
Amy Sykes, NCC, LGPC
Linda Stewart-Byrd
Elaine Stillwell, RN, MS Ed

Family and Communities

INTRODUCTION

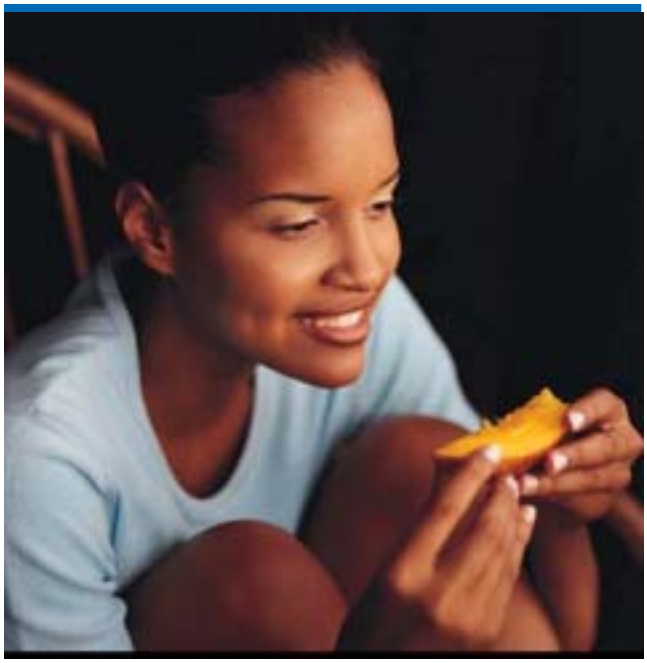
A healthy community is one that embraces the belief that health is more than merely an absence of disease. It promotes healthy eating and physical activity among residents by creating the necessary infrastructure and economic development for those behaviors.

Although no two communities are exactly the same, many share similar characteristics that make them the ideal setting to establish and support healthy habits. All cities consist of several overlapping communities, such as faith-based communities, the elderly community and the family community. Individuals can be a part of one or more community groups.

As there are many communities, there are many ways to define a community. One definition describes "community" as a group of people who share values and institutions.[1] Community also can be defined as a social unit that usually encompasses a geographic region in which residents live and interact socially, such as a political subdivision (i.e. a county, city or town) or a smaller area (i.e. a section of town, housing complex or neighborhood).[2] Very often, a community is a union of subgroups defined by a variety of factors that include age, ethnicity, gender, occupation and socioeconomic status.[3]

DEFINING THE PROBLEM

The look of our communities has drastically changed over the years, leaving many without the support systems to promote healthy eating and physical activity. The family unit also has changed. Many parents now work outside the home and, with increasing demands to balance work, family and social obligations, the pressures are great to maintain healthy habits within the home environment. Another important, lifestyle change is an increase in consumption of foods prepared away from home—whether they are eaten in restaurants or as take-out or home-delivered meals.[4] These conditions can have a negative impact, especially on today's children. Although many societal factors affect children's eating and activity habits, parents (defined broadly to include caregivers) can have a profound influence by serving as a role model and promoting healthy eating and an active lifestyle at an early age.



In addition, communities can and should play an active role by promoting healthy eating and physical activity for all residents. Many facets of community settings can affect health promotion—from how streets and sidewalks are designed; to the availability of markets that offer affordable, fresh produce; to whether the programs offered by community organizations offer children attractive, healthy alternatives to watching television and other sedentary pursuits.[5]

MOVING FORWARD

People tend to think of overweight and obesity as strictly a personal matter, but there is much that communities can and should do to address these problems.[6] Communities have the power to promote healthy lifestyles and should be supportive of efforts to do so. The strategies laid out in this chapter show that communities can enhance environments that support physical activity and healthy eating. In addition, the strategies describe the need to have support systems in place to ensure that healthy options are accessible and affordable.

The geographical differences across Maryland and the state's culturally diverse populations require that resources, activities and programs be tailored to meet the interests and needs of all citizens. Effective community-based interventions will aim to create environments that make healthy choices the easiest choices for eating and physical activity.

Community settings—such as neighborhoods, faith-based organizations, senior centers, recreation facilities and child-care centers—all are potential sites for programs or interventions. Community strategies that promote healthy eating and increased physical activity should aim to increase the number of policies that address healthy eating and physical activity; encourage organizations, such as those that are faith-based, to foster awareness of the benefits of healthy eating and physical activity; and increase opportunities for individuals to engage in physical activity and have access to healthy food options.

All of these goals can be achieved by encouraging public and private entities to adopt policies that help increase physical activity and improve eating habits. Policies might include having access to facilities for physical activity, encouraging the use of best practices and using state and local media advocacy campaigns to inform and educate citizens about these healthy behaviors.

Communities must play a large part in efforts to promote good health and prevent disease. It is a community's responsibility to take corrective action when there are no safe places for children to play or for adults to walk, jog or ride a bike.[7] Forming community partnerships, particularly reaching out to a non-traditional partner, can be among the most effective tools to improve health within a community.[8]

Family and Communities

INTERMEDIATE OBJECTIVES, STRATEGIES AND ACTION STEPS

Intermediate Objective 1: By June 2011, increase the number of public policies that address healthy eating and physical activity opportunities, including access to both, in public places.

Social-Ecological Model Level:

Social Structure / Public Policy, Institutional / Organizational

Strategies and Action Steps:

a. Implement a tax on foods of minimal nutritional value to fund community nutrition and physical activity programs.

b. Promote and expand existing efforts to offer healthy food choices, appropriate portion sizes and nutrition information on menus in restaurants.

c. Enhance the availability, variety, affordability and quality of fruits and vegetables accessible to minority populations by increasing the number of retail outlets, farmers' markets and other sources of healthy foods in their communities.

d. Collaborate with farmers and farmers' markets to increase access to fruits and vegetables in their communities.

e. Advocate for communities to resist placement of unhealthy food establishments, vendors and advertising in their neighborhoods.

f. Identify and investigate feasibility of state tax incentives for communities and employers to increase supports for physical activity (i.e. development and maintenance of exercise facilities and green spaces).

g. Establish minimum competency standards of knowledge regarding nutrition and feeding behaviors among licensed child-care providers within the Child and Adult Care Food Program (CACFP).

h. Mandate policies that support breastfeeding in public.

Evaluation Indicators:

- Number of new policies adopted
- Tax on minimal nutritional value foods,
- Number of new restaurants that expand healthy-food options on their menus and include nutritional information on menus
- Increased access to farmers' markets in communities
- New state tax incentives for communities and employers that support physical activity
- Development of competency standards for child care providers
- Increased number of public buildings that have breastfeeding rooms

Intermediate Objective 2: By June 2011, increase awareness and number of healthy eating and physical activity programs that support families in the community.

Social Ecological Model Level:

Community, Institutional / Organizational, Interpersonal and Individual

Strategies and Action Steps:

a. Establish a baseline of existing nutrition and physical activity programs for families.

b. Develop and implement programs that result in healthy eating behaviors, healthy weight, and physical activity targeted to families.

c. Provide healthy eating and cooking classes for parents and caregivers in after-school or community programs.

d. Offer low-cost or no-cost nutrition and physical activity programs.

e. Establish and promote buddy-walking clubs.

f. Promote physical activity in public places through point-of-decision prompts.[9]

g. Develop media campaigns to promote the importance of family meals and encourage physical activity among family members.

h. Provide regular and consistent media messages that promote physical activity and healthy eating to children and parents.

Evaluation Indicators:

- Number of programs offered
- Number of media campaigns that promote healthy meals and physical activity

Intermediate Objective 3: By June 2011, increase and expand the number of programs for healthy eating and physical activity that are implemented and evaluated within faith-based organizations.

Social Ecological Model Level:

Community, Institutional / Organizational and Interpersonal

Strategies and Action Steps:

a. Establish a baseline of existing programs within faith-based organizations.

b. Identify faith-based, best-practice healthy eating and physical activity programs, such as Body and Soul[10] and WalkWays.[11]

c. Encourage faith-based organizations to develop policy changes that encourage healthy food options at church functions.

d. Increase the role of faith leaders from a variety of ethnic backgrounds in promoting community awareness of the benefits of healthy eating and physical activity.

Evaluation Indicators:

- Number of healthy eating and physical activity programs
- Number of policy changes
- Number of faith-based organizations that promote healthy eating and physical activity

Intermediate Objective 4: By June 2011, increase the number of healthy eating and physical activity programs offered at parks and recreation centers, community/civic centers and senior centers.

Social Ecological Model Level:

Social Structure / Public Policy, Community, Institutional / Organizational, Interpersonal and Individual

Strategies and Action Steps:

a. Develop baseline to assess the current number of programs offered at parks and recreation centers, community / civic centers and senior centers.

b. Provide the needed funding to state and local centers to enhance physical activity opportunities (i.e. recreation leagues).

c. Advocate for low-cost, healthy eating and physical activity programs in community centers, senior centers and other facilities that serve older adults.

d. Set standards of policy to have vendors sell healthy foods on site or near community and civic centers.

e. Increase collaboration and partnership to identify and sustain physical activity changes.

f. Develop a list of criteria / best practices for community programs. [12]

Evaluation Indicators:

- Number of programs in parks and community recreation centers
- Number of programs in senior centers
- Number of programs in community / civic centers
- Increased funding and number of new partnerships formed

Intermediate Objective 5: By June 2011, increase access to healthy food choices and physical activity opportunities within communities.

Social Ecological Model Level:

Community, Institutional / Organizational and Interpersonal

Strategies and Action Steps:

a. Expand community garden programs and start gardens in assisted-living facilities, nursing homes and senior centers.

b. Promote farmers' markets and offer mini farmers' markets at child-care centers.

c. Encourage restaurants to use locally grown produce.

d. Provide and promote availability of water, low-fat milk, 100% fruit juice and healthy snacks in vending machines in community and government buildings.

e. Increase the number of facilities or places for physical activity (i.e. parks, playgrounds, gymnasiums, community centers, schools, etc.) to be used by the community.

f. Encourage public access to school facilities to be used by community for physical activity.

g. Encourage neighborhood walking programs.

h. Implement walking programs in malls, faith-based organizations, senior centers, recreation centers, neighborhoods and other community locations.

Evaluation Indicators:

- Number of community gardens
- Number of community and government buildings that offer healthy options in vending machines
- Number of schools that allow public access to facilities for physical activity programs
- Number of walking programs implemented

Intermediate Objective 6: By June 2011, increase community awareness and knowledge of the benefits of healthy eating and physical activity.

Social Ecological Model Level:

Community

Strategies and Action Steps:

a. Implement a statewide community campaign to promote healthy eating and physical activity.
   - Develop a culturally sensitive, long-term, statewide social-marketing campaign to raise public awareness of the obesity epidemic and its effect on health and quality of life.

b. Implement a sustained community-wide campaign for families to change knowledge and attitudes about the importance of balancing caloric intake with energy expenditure.

c. Implement healthy eating advertising campaign using TV and radio messages.
   - Enlist grocery stores and farmers' markets in promotional campaigns to highlight the nutritional value of locally grown produce.

d. Implement advertising campaigns on TV and radio to increase physical activity.
   - Create a media campaign to promote sustainable, incremental bouts of physical activity during the course of the day.

e. Establish a statewide program to encourage increased physical activity for all age groups, similar to the Colorado On-the-Move[13] program that uses the "10,000 steps-a-day[14]" concept.
   - Include the development of a Web site for Marylanders that would promote and advertise the program to the community.

f. Work with communities to promote the National TV Turn-off[15] campaign or similar campaigns.

Evaluation Indicators:

- Number of community awareness campaigns
- Increased number of participants aware of benefits of healthy eating and physical activity

Intermediate Objective 7: By June 2011, increase the number of nutrition and physical activity programs in licensed child-care centers and family child-care homes through the Child and Adult Care Food Program.

Social Ecological Model Level:

Social Structure / Public Policy, Community, Institutional / Organizational, Interpersonal and Individual

Strategies and Action Steps:

a. Establish a baseline of existing nutrition and physical activity programs in non-school-based child-care centers.

b. Promote fruit and vegetable consumption to preschool-age children.

c. Expand the use of nutrition and physical activity curricula including, but not limited to, Color Me Healthy.[16,17]

d. Encourage child-care facilities to implement TV and media-reduction strategies to reduce the use of television and other recreational screen time.

e. Work with child-care stakeholders to strengthen policies that ensure adequate physical activity and nutrition programs.

f. Work with child-care stakeholders to include policies that ensure quality breastfeeding support.

g. Coordinate with community libraries to promote and disseminate nutrition and physical activity information and activities.

h. Work with child-care providers to enable them to implement national recommendations and strategies for childhood overweight prevention, such as those developed by the American Academy of Pediatrics, American Academy of Family Physicians and United States Department of Agriculture (USDA).

Evaluation Indicators:

- Number of programs offered in child-care facilities
- Number of policies adopted

Intermediate Objective 8: By June 2010, increase the percentage of Maryland mothers who exclusively breastfeed their babies six months and beyond from 39.7% (NIS 2003[18]) to 50% (HP 2010 16-19b[19]).

Social Ecological Model Level:

Community, Institutional / Organizational, Interpersonal and Individual

Strategies and Action Steps:

a. Improve resources for breastfeeding women, such as hotlines, peer counseling, and mother-to-mother support groups.

b. Launch and evaluate a public health marketing campaign that portrays breastfeeding as normal, desirable and achievable.

c. Encourage the media to portray breastfeeding as normal, desirable and achievable for women of all cultures and socioeconomic levels.

d. Encourage fathers and other family members to be actively involved throughout the breastfeeding experience.

e. Develop resources for public education that links the impact of breastfeeding to obesity prevention for both mother and infant.

Evaluation Indicators:

- Number of women who breastfeed exclusively
- Number of social supports offered to breastfeeding mothers
- Existence and success of marketing campaign
- Resources identified and disseminated

Intermediate Objective 9: By June 2010, increase from 67% (PRAMS 2001[20]) to 75% (HP 2010 16-19a[21]) the number of African-American women who initiate breastfeeding.

Social Ecological Model Level:

Institutional / Organizational, Interpersonal and Individual

Strategies and Action Steps:

a. Develop breastfeeding education for women, their partners and other significant family members during the prenatal and postnatal visits.

b. Establish hospital and maternity center practices that promote breastfeeding, such as adopting many or all of the Ten Steps to Successful Breastfeeding[22].

c. Encourage Maryland Hospitals to achieve the WHO Baby Friendly[23] designation.

d. Provide faith-based educational programs to increase the rates of breastfeeding among African-American women.

Evaluation Indicators:

- Number of African-American women who breastfeed their babies
- Number of breastfeeding education programs
- Number of hospitals that promote breastfeeding
- Number of faith-based education programs

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Healthcare Setting

CHAPTER EIGHT

Chapter Contributors

Jennifer J. Carman, RD, LDN, *Committee Chair*

Ann R. Caldwell, RD, LDN
Deborah DiBona, MS Ed
Nancy Forlifer, MA
Alan Mason Lake, MD
Glenn E. Schneider, MPH

Healthcare Setting

INTRODUCTION

The healthcare environment provides an essential community setting to address overweight and obesity prevention measures. Health delivery systems can play an important role in the effort to promote healthy eating and physical activity. They also can help to treat overweight and obesity through a variety of methods, such as counseling, referral, research and the provision of incentives and benefits.[1]

Healthcare professionals encompass a range of providers, including primary care physicians, pediatricians, cardiologists, endocrinologists, dentists, dietitians, nurses, nurse practitioners, pharmacists and physician assistants. They also include those healthcare professionals who provide preventive care for people at risk of chronic disease due to poor nutrition choices or physical inactivity.

Opportunities to encourage patients to engage in healthy lifestyle behaviors are frequently available for healthcare professionals. Physicians play an important role in influencing health behaviors and have the access and authority to influence families' awareness of the risks of obesity and offer guidance to pursue healthy eating habits and physical activity opportunities. Professional organizations, health insurers and quality improvement and accrediting agencies also have the potential to make overweight and obesity prevention part of routine preventive healthcare.[2]

Healthcare professionals often are the most trusted sources of information on healthy lifestyle choices for some population groups. Patients look to their providers for guidance and often view them as role models.

DEFINING THE PROBLEM

Overweight and obesity, and their associated health problems, have a significant economic impact on the nation's healthcare system. For Maryland alone, an estimated $1.5 billion of adult medical expenditures were attributable to obesity, with $368 million paid for by Medicare and $391 million by Medicaid (1998-2003).[3]

MOVING FORWARD

Healthcare settings provide numerous opportunities to provide patients with information on healthy lifestyles. Healthcare professionals must emphasize prevention as the most effective and cost-effective approach to avoid the mortality and morbidity associated with obesity and sedentary lifestyle. Interventions also need to be implemented that engage children, adolescents and adults in the development of lifelong habits that lead to healthy eating, active living and healthy weight.[4]

Healthcare professionals often are the most trusted sources of information on healthy lifestyle choices for some population groups. Patients look to their providers for guidance and often view them as role models.[5]

Many healthcare providers feel they do not have the proper tools to discuss healthy lifestyle behaviors with patients and their families. Training programs for these professionals traditionally provide limited education in nutrition and physical activity, as well as in counseling patients on these topics. To ensure that health professionals are sufficiently prepared to discuss obesity risks and prevention with their patients, training programs that address obesity prevention knowledge and skills should be available.

Despite the availability of standardized Body Mass Index (BMI) charts for children, the majority of caregivers rely on clinical impression and weight-for-age or weight-for-height measures, rather than BMI to assess risk of obesity. Healthcare professionals have a responsibility to carefully communicate the results of weight status of children, provide information that families need to make informed decisions about nutrition and physical activity and explain the risks associated with childhood overweight and obesity.

Overweight and obesity prevention should become a routine part of clinical care; however, preventive services, including nutrition counseling, are costly. Reimbursement for nutrition therapy exists with private health insurance plans on a limited basis. Medicare coverage for preventive nutrition and physical activity counseling does not exist. Inadequate provider reimbursement for these preventive services may limit the referral of patients who would benefit from such programs. As a result, those referred for these services may choose not to use them for financial reasons.[6,7] The strategies outlined in this chapter aim to address these issues and suggest opportunities to promote healthy eating and physical activity in the healthcare setting.

Healthcare Setting

INTERMEDIATE OBJECTIVES, STRATEGIES AND ACTION STEPS

Intermediate Objective 1: By June 2010, ensure that healthcare professionals receive the education and tools to provide patients and families with knowledge and skills regarding the relationship between healthy eating, physical activity and the prevention of overweight and obesity.

Social Ecological Model Level:

Institutional / Organizational and Individual

Strategies and Action Steps:

a. Collaborate with medical, residency, allied health and other health-education programs to adopt competencies in overweight and obesity prevention, including the health and economic implications of overweight, obesity and other chronic diseases, breastfeeding promotion, healthy eating, increased physical activity and decreased sedentary lifestyles, assessment of weight status and weight management and theories of behavior change.

- Assess current education programs for competencies in overweight and obesity prevention to establish a baseline.
- Provide Maryland-specific data on the status of overweight and obesity for inclusion in programs as needed and reassess education program competencies for content inclusion.

b. Increase the number of healthcare professionals who are trained on the health and economic implications of overweight, obesity and other chronic diseases and on overweight and obesity prevention, including breastfeeding promotion, healthy eating, increased physical activity and decreased sedentary lifestyle, assessment of weight status, weight management and theories of behavior change.

- Assess current medical, dietetic and nursing professional development and continuing education training programs for overweight and obesity prevention content to establish a baseline.
- Identify appropriate groups of health professionals to develop training modules that include learning objectives for breastfeeding promotion, healthy eating throughout the lifecycle, increased physical activity, decreased sedentary lifestyle, assessment of weight status, weight management, theories of behavior change, motivational interviewing, assessing readiness to change and Maryland data on overweight and obesity.
- Assess and develop self-study modules, case presentations, web-based learning, lectures and other methods of education to provide training for healthcare professionals.
- Assess the number of medical, dietetic and nursing professionals who receive professional development and continuing education training and evaluate use of overweight and obesity prevention knowledge and skills in healthcare practices, including use of motivational interviewing.

c. Ensure that healthcare professionals use BMI as a screening tool to improve identification of children who are overweight and adults who are overweight or obese.

- Assess the number of healthcare professionals who calculate BMI and communicate results to patients to establish a baseline.
- Educate healthcare professionals on the importance of assessing BMI and provide training opportunities on BMI measurement for children and adults.

- Evaluate the use of BMI as an assessment tool and opportunity for healthcare provider patient counseling.

Evaluation Indicators:

- Medical and nursing school curriculum content
- Number of healthcare professionals trained
- BMI use in healthcare practices

Intermediate Objective 2: By June 2010, increase the number of healthcare professionals who communicate overweight and obesity prevention messages, including breastfeeding promotion, healthy eating, increased physical activity and decreased sedentary lifestyles in healthcare practices on a regular basis.

Social Ecological Model Level:

Interpersonal and Individual

Strategies and Action Steps:

a. Survey pediatric and general medicine practices to establish a baseline of the number of healthcare professionals who communicate overweight and obesity prevention messages.

b. Identify barriers to communicating overweight and obesity prevention messages and provide healthcare professionals with examples of "promising practices" to communicate these messages in healthcare practices.

c. Encourage healthcare professionals to adopt standards of practice that include routine histories of nutrition and physical activity habits and to use anticipatory guidance with patients when communicating overweight and obesity prevention messages.

Evaluation Indicators:

- Survey results
- Continuing education evaluations

Intermediate Objective 3: By June 2010, increase patient knowledge regarding the benefits of healthy eating and physical activity and provide patients and families with necessary skills and community resources to enable them to increase their healthy eating options and physical activity opportunities.

Social Ecological Model Level:

Community, Institutional / Organizational, Interpersonal and Individual

Strategies and Action Steps:

a. Assess pediatric, family medicine and general internal practices to establish a baseline of practices that use evidence-based approaches to promote healthy eating and physical activity to patients and families.

- Encourage professional healthcare associations and organizations to use recommendations, guidelines and standards of practice to prevent, assess and treat overweight and obesity.

b. Increase patient awareness and knowledge about the benefits of healthy eating.
   - Encourage healthcare providers to orally communicate and counsel patients on the benefits of healthy eating and appropriate food use as part of routine healthcare practice.
   - Use social-marketing strategies to increase the awareness and knowledge of the benefits of healthy food choices that are culturally appropriate and tailored to specific populations, particularly those at increased risk for overweight and obesity.
   - Encourage counseling of parents on optimal nutrition and feeding for their children, beginning in infancy.
   - Promote healthy eating options by providing patients and families with information on the Maryland Department of Agriculture Farmers' Market Programs (Senior Nutrition and Women, Infants and Children) and availability of regional farmers' markets to purchase locally grown fruits and vegetables.

c. Increase patient awareness and knowledge about the health benefits of physical activity.
   - Encourage healthcare providers to orally communicate and counsel patients on the benefits of regular physical activity as part of routine healthcare practice.
   - Use social-marketing strategies to increase awareness and knowledge of the benefits of physical activity that are culturally appropriate and tailored to specific populations, particularly those at increased risk for overweight and obesity.
   - Encourage counseling of parents and caregivers on the importance of physical activity and motor development for their children, beginning in infancy.

d. Collaborate with medical, allied health, educational and community partners to raise awareness and improve dissemination of healthy eating and physical activity guidelines and recommendations through community-wide campaigns and events.
   - Promote United States Department of Agriculture (USDA) MyPyramid messages.
   - Promote the Youth, Adult and Older Adult Physical Activity Recommendations of the Maryland State Advisory Council on Physical Fitness.
   - Assess the need for a coordinated, statewide social-marketing campaign to reduce television and recreational viewing through increased physical activity.

e. Encourage positive role modeling in healthcare practices for staff, patients and community, including the adoption of office policies on healthy food options available in the healthcare practice setting and encouragement of physical activity breaks for staff.

f. Provide resources to help healthcare professionals counsel patients regarding healthy eating options and physical activity opportunities, including the development of community-referral systems.
   - Disseminate healthy eating and physical activity messages through professional organizations, professional development and continuing-education opportunities.

Evaluation Indicators:

- Counseling baseline established
- Practice policies developed and implemented
- Social-marketing campaigns developed and evaluated
- Community-referral systems established

Intermediate Objective 4: By June 2010, provide all Maryland residents access to quality, affordable health insurance.

Social Ecological Model Level

Social Structure / Public Policy, Community, Institutional / Organizational, Interpersonal and Individual

Strategies and Action Steps:

a. Collaborate with healthcare consumer coalitions and medical, health, business, labor and community groups across the state to educate their members about the need for quality, affordable health coverage, especially coverage that includes nutrition counseling, obesity prevention services and treatment for diseases related to being overweight or obese.
   - Educate groups on how the lack of health insurance affects a person's ability to receive preventive care and early treatment for obesity-related disease.
   - Provide Maryland-specific data on the current prevalence of overweight and obesity, the prevalence of obesity-related chronic diseases, as well as the economic impact of obesity for inclusion in outreach talks.

b. Educate lawmakers about the need for quality, affordable health coverage, especially coverage that includes nutrition counseling, obesity prevention services and treatment for diseases related to being overweight or obese.

c. Advocate for legislation that provides all Marylanders with access to quality, affordable health coverage.

Evaluation Indicators:

- Number of education sessions conducted
- Number of community collaborations
- Number of legislators reached and policy and state legislation introduced and passed

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School Community Setting

CHAPTER NINE

Chapter Contributors

Susan M. Gross, PhD, MPH, RD, *Committee Chair*

Jan Arnold
Connie Barnett, BS, MS
Patricia Brownlee, MEd, MHs, MS
La Tasha Coleman, BS
Cheryl Duncan De Pinto, MD, MPH
Debra DiGregorio-Celnik, MS, RD
Judy Dzimiera, MEd, RD, LD
Stewart Eidel, MS
Dawn Eldridge, BS
Michaeline R. Fedder, MA
Tracy A. Fox, MPH, RD
John F. Gallagher III
Susan E. Ghelman, RD, LD
Barbara Halden
Shari L. Harris
Robin Henderson, PhD, RD
Julie T. Jones
Alan Mason Lake, MD
Lisa Lachenmayr, MS
Sherry McCammon
Barbara Metzger, CFCS
Arline Murray
Eulalia Muschik, MS, RD, LD
Maria Prince, MD, MPH
Sarajane V. Quinn, AA, BS, MEd
Deborah Rhoades, MA, RD
Brenda Schwaab
Karen Smith, MS, RD, LD
Marylou Stone, MS, RD, LDN
Carolyn Thompson, CFCS
Ta'Monica L. Wright, MS

School Community Setting

INTRODUCTION

The school community setting is one of the primary locations to reach the Maryland population. Schools are where students spend a substantial portion of their time. They also are a major employer. The setting encompasses public and private schools, grades pre-K through 12, school-based pre-school and after-school programs, community colleges and four-year colleges and universities that reach children, youth, young adults, teachers, staff and family and community members who represent a variety of ethnic groups and socio-economic backgrounds.

In 2003, the total Maryland public and non-public fall enrollment for pre-K through grade 12 was more than one million. Public school enrollment as of September 30, 2003, indicated 50.4% of the students were White, 37.9% African American, 6.4% Hispanic, 4.9% Asian / Pacific Islander and 0.4% American Indian / Alaskan Native. There are 380 Title 1 public schools in the state. Maryland public schools employed 56,276 teachers in October, 2003.[1]

More than 310,000 students currently attend 58 accredited colleges and universities in Maryland. In addition, there are 16 community colleges and more than 120 independent two-year colleges and private career schools in the state.[2]

Inside and outside the classroom, the school community setting presents opportunities for students and teachers to learn about healthy eating habits and regular physical activity, as well as engage in physical activity and make healthy eating choices during school meal times and at school-related activities.

The Child Nutrition and Women, Infants and Children (WIC) Reauthorization Act of 2004[3] provides a federal mandate that reinforces the need for increased healthy eating options and physical activity opportunities during the school day for pre-K to grade-12 students. Higher education facilities also have a unique opportunity to influence the health of their students, faculty, administrators and the surrounding community.

DEFINING THE PROBLEM

Nearly 50,000 students in 130 Maryland public schools have the opportunity to eat a free school breakfast each morning, regardless of family income, as part of the Maryland Meals for Achievement classroom breakfast program. In fiscal year 2004, nearly 200,000 students took advantage of a free or reduced-price lunch every day, and nearly 77,000 took advantage of a free or reduced-price breakfast. Among those eligible for free meals, 22% did not take advantage of lunch, and 67% did not take advantage of breakfast.[4]

Pre-K through grade-12 school cafeterias that offer federally subsidized school meals are required to meet defined nutritional standards. However, school nutrition programs are financially self-supporting and must generate sufficient revenues to pay for staff, food and equipment. To generate funds needed to function, school food services often sell competitive foods through a variety of programs, including a la carte cafeteria options, vending and school stores.[5]

It is important for schools to promote physical activity by providing a variety of opportunities for students. Current recommendations for physical activity emphasize the importance of lifestyle activities and taking advantage of the opportunity to move throughout the day. The President's Council on Physical Fitness recommends that communities be made friendly and safe for children to be physically active by providing safe paths to walk or cycle to school, as well as opening school gyms for after-hours physical activities.[6]

Studies show a direct link between nutritional intake and academic performance, as well as between physical activity and academic achievement. Participation in breakfast programs is associated with increased academic test scores, improved daily attendance and better class participation. A significant relationship also has been seen between academic achievement and fitness levels. Physical activity in adolescents has consistently been related to higher levels of self-esteem and lower levels of anxiety and stress.[7]

MOVING FORWARD

The school environment plays a central role in the creation of policy and environmental changes to support healthier choices for the entire school community. Schools can offer and promote consumption of nutritious foods and provide opportunities for students to engage in physical activity during the school day, as well as in before-school, after-school and summer programs. Schools can serve as a resource and referral center for community-based activities for students, staff and families. The school community setting is established as a comprehensive healthy lifestyles environment that supports students, faculty, staff and community members, involving all levels of the Social Ecological Model.

School Community Setting

INTERMEDIATE OBJECTIVES, STRATEGIES & ACTION STEPS

Intermediate Objective 1: By September 2006, all Maryland schools will develop, adopt, and implement local school-wellness policies.

Social Ecological Model Level:

Social Structure / Public Policy, Community, Institutional / Organizational, Interpersonal and Individual

Strategies and Action Steps:

a. Promote the implementation of school policies that will improve nutritional quality of all foods available to children on the school campus. Ensure that all school meals meet U.S. Department of Agriculture (USDA) Guidelines for Child Nutrition Programs.
   - Assess Local Educational Agencies (LEAs) to determine if local wellness policies have been developed as mandated by the Child Nutrition and WIC Reauthorization Act of 2004 (Public Law 108-265).
   - Provide technical assistance, as needed, to local school communities for development of local wellness policies, and provide professional development assistance to schools and community partners for implementation of local wellness policies.

b. Promote the implementation of policies that will increase the amount of time spent in structured physical education classes taught by qualified physical education teachers. Promote policies that increase the number of opportunities for students to be physically active throughout the school day (see Objectives 2 and 5).

c. Promote implementation of school policies that will increase nutrition education throughout the entire school curriculum (see Objective 3).

Evaluation Indicators:

- Number of policies developed, adopted, implemented and evaluated
- Number of schools statewide that implement comprehensive health and physical education classes

Intermediate Objective 2: By June 2010, Maryland schools will develop, adopt and implement policies to ensure that all pre-K to grade-12 students receive quality, daily physical education that helps to develop the knowledge, attitudes, skills, behaviors and confidence to be physically active for life and meet the Program Standards accepted by the Maryland State Board of Education listed in the Physical Education Study Group Report of 2000.

Social Ecological Model Level:

Social Structure / Public Policy, Community, Institutional / Organizational, Interpersonal and Individual

Strategies and Action Steps:

a. Develop and implement an educational campaign regarding the need for quality, daily physical education that targets parents, community, school policy makers and legislators.
   - Assess current status of physical education programs in each of the LEAs.
   - Develop educational tools that include the relationship between physical activity and academic achievement.

b. Develop and organize community support to educate legislators on the federal School Wellness Policy mandate and advocate for legislative adoption of National Association for Sport and Physical Education (NASPE) standards and funding for implementation, including qualified teachers and equipment.

c. Encourage LEA's implementation of NASPE standards.
   - Provide training to LEA administrative staff, teachers and school staff on the implementation of quality physical education programs that help to develop the knowledge, attitudes, skills, behaviors and confidence to be physically active for life.
   - Ensure that the infrastructure to support quality physical education programming is available in Maryland schools.
   - Advocate for and support the inclusion of questions that pertain to physical activity on required Maryland school-assessment exams.

d. Offer and promote evidence-based programs that promote physical activity during and after school.

e. Support the implementation of policies that encourage schools to provide access to physical activity spaces and facilities for members of the school community outside normal school hours, including evenings and weekends.

Evaluation Indicators:

- Maryland Youth Risk Behavior Surveillance Survey
- Number of policies implemented
- Number of community contacts made to support wellness policies and NASPE standards
- Number of schools that provide evidence-based physical activity programs

Intermediate Objective 3: By June 2010, Maryland schools will provide students in pre-K through grade 12 with behavior-focused nutrition education in the curriculum that is interactive and teaches the skills they need to adopt healthy eating habits.

Social Ecological Model Level:

Social Structure / Public Policy, Community, Institutional / Organizational, Interpersonal and Individual

Strategies and Action Steps:

a. Promote school policies that will increase nutrition education throughout the school curriculum, including core components in comprehensive health and physical education classes.
   - Revise current Voluntary State Curriculum Indicators and Objectives for Nutrition Education Grades pre-K to 12 to reflect delivery of nutrition concepts and skills for all grades in the context of a comprehensive health-education curriculum.

- Nutrition education components will be based on the current *Dietary Guidelines for Americans*.

b. Promote the development of partnerships with local, state and national organizations for the support of a balanced, skill-based, nutrition-education program taught in the context of comprehensive school health education.
   - Assess current LEA partnerships to support nutrition-education programs, provide technical assistance to improve partnership development and evaluate partnerships.

c. Encourage the inclusion of media-viewing reduction curricula components in comprehensive health and physical education curricula, as well as school participation in campaigns to decrease screen time, such as National TV Turn-off Week.

Evaluation Indicators:

- Core curriculum established and implemented
- Number of partnerships developed, policies established and implemented
- Number of schools that effectively implement a comprehensive health and physical education program

Intermediate Objective 4: By June 2010, Maryland schools will develop, adopt and implement policies to ensure that all foods and beverages available on school campuses and at school-related events are consistent with the current *Dietary Guidelines for Americans.*

Social Ecological Model Level:

Social Structure / Public Policy, Community, Institutional / Organizational, Interpersonal and Individual

Strategies and Action Steps:

a. Encourage implementation of the nutrition standards set in Maryland State Department of Education (MSDE) Management and Operations Memorandum (MOM) #12.[8]

b. Encourage implementation of school breakfast programs that provide an adequate amount of time for students to eat breakfast in a pleasant, positive eating environment.
   - Assess the number of schools that offer a school breakfast program to establish a baseline and provide training and technical assistance to school personnel to increase the number of schools that offer the school breakfast program.
   - Assess the amount of time scheduled for students to eat breakfast and the school environment in which the breakfast program is offered. Provide recommendations to make revisions as necessary to meet the needs of the students who participate in the school breakfast program.
   - Assess the number or percent of children who participate in the school breakfast program.

c. Encourage schools to develop and adopt policies that will provide opportunities throughout the school day to promote consumption of fruits and vegetables.
   - Encourage school food service operations to offer fruits and vegetables in all areas of operation, including school breakfast, lunch, a la carte and after-school programs.
   - Encourage school to sell fruits and vegetables as snack items at school stores, school events and in vending machines.

- Pursue school partnerships with the Maryland State Department of Agriculture and the U.S.Department of Defense to serve seasonal, locally grown fruits and vegetables and establish farm-to-school and similar initiatives.
- Pursue school partnerships with local businesses and community groups to assist in the establishment of school-based gardens maintained by students and the school community and to develop policies regarding the distribution and consumption of the produce grown.

d. Encourage schools to offer whole-grain food options throughout the school day in all areas of school food service operation, including school breakfast, lunch, a la carte, after-school programs and other venues where food is offered or sold. Encourage posting of nutrition education messages regarding the health benefits of whole grains.

e. Encourage school food services to offer a variety of low-fat and fat-free dairy products in all areas of school food service, including school breakfast, lunch, a la carte, after-school programs and in vending machines located on school property. Encourage posting of nutrition education messages regarding the health benefits of low-fat and fat-free dairy products.

f. Encourage schools to post point-of-purchase nutrition education information where food is sold on school campuses.

g. Schools will encourage their staff to become positive role models for healthy eating and maintenance of lifelong healthy lifestyles.

Evaluation Indicators:

- Number of schools that offer the school breakfast program
- Number or percent of students who participate in the school breakfast program
- Number of opportunities for fruits, vegetables, whole grain and low-fat and fat-free dairy food items to be offered
- Number of activities available and number of school staff who participate in activities to promote lifelong healthy habits

Intermediate Objective 5: By June 2010, Maryland schools, pre-K to grade 12, will develop, adopt and implement polices and partnerships to ensure that the school environment offers opportunities for physical activity.

Social Ecological Model Level:

Social Structure / Public Policy, Community, Institutional / Organizational, Interpersonal and Individual

Strategies and Action Steps:

a. Assess existing school settings for the physical activity opportunities available for students and staff before and after school and in the classroom setting. Use policy and environmental tools, such as the USDA Changing the Scene or Centers for Disease Control and Prevention (CDC) School Health Index, to assess school settings.

- Based on assessment results, develop an action plan that would, at a minimum, include recommendations or policies that promote daily recess before lunch; physical activity opportunities, including intramural and interscholastic sports programs and physical activity clubs; and provision of adequate equipment and facilities for active play.

- Regularly evaluate action plan for progress and re-assess the school environment as necessary.

b. Promote partnerships with the school community to provide increased physical activity facilities and opportunities within the school community.
   - Establish a baseline of current policies that address physical activity opportunities in the school environment.
   - Seek community partnerships to foster opportunities for after-school transportation for students to community sites that provide physical activity opportunities.
   - Provide training for volunteer coaches, parents and others interested in delivery of organized youth sports programs.

c. Provide opportunities to replace sedentary lifestyle behaviors, such as watching television and computer screen time, with physical activity.
   - Provide quality child care that includes physical activity opportunities before and after school.
   - Open school facilities before and after regular school hours to provide opportunities for physical activity for students, staff and school community members that reflect the interests and diversity of the school community.
   - Provide effective, trained supervision to address child-safety issues before and after regular school hours.

d. Partner with the community to make traveling to and from school a safe opportunity to be more active.
   - Establish a baseline of schools that offer safe physical activity opportunities, such as walking or bicycling to school.
   - Encourage and support opportunities for physical activity such as Safe Routes to School, Walk Your Child to School and Walking School Buses programs.
   - Encourage community partners and schools to advocate for improved street, sidewalk and street-crossing safety on routes to school.
   - Support construction of local schools within walking and bicycling distance of the neighborhoods they serve.

e. Promote school renovation and design programs that promote physical activity and, in turn, encourage the school community to participate in physical activity opportunities.
   - Establish a baseline of current school facilities and opportunities for physical activity for the school community.
   - Encourage development of walking trails on school grounds for school community use.
   - Provide bike racks in safe areas.
   - Promote the design of outdoor facilities that are well-equipped and offer adequate lighting for safe use.
   - Provide for routine evaluation of school facilities that offer opportunities for physical activity to the school community.

Evaluation Indicators:

- Number of assessments completed
- Number of policies established and implemented
- Number of community partnerships established

Intermediate Objective 6: By June 2011, improve the Maryland preschool environment, including those that participate in the Child and Adult Food Program (CACFP), by increasing opportunities for healthy eating options and physical activity.

Social Ecological Model Level:

Social Structure / Public Policy, Community, Institutional / Organizational, Interpersonal and Individual

Strategies and Action Steps:

a. Assess existing preschool settings for healthy eating and physical activity policies and interventions using policy and environmental tools such as the CDC School Health Index.
    - Develop an action plan for policy and environmental changes based on assessment results. Regularly evaluate action plan for progress and re-assess preschool environment as necessary.

b. Provide opportunities to implement environmental nutrition and physical activity community strategies for preschools that include regular opportunities for physical activity and play.

c. Adopt nutrition standards for healthy meals, snacks and beverages such as those recommended by the *Dietary Guidelines for Americans*, CACFP or other USDA child nutrition assistance programs.
    - Use mealtimes to introduce a variety of healthy food options.
    - Adopt policies to establish mealtime as part of the preschool curriculum.
    - In addition to healthy meals and snacks, offer water to drink, including clean sources of tap water or working water fountains.

d. Provide training to preschool providers to lead activity sessions, prepare healthy food options, serve appropriately sized food portions and model positive healthy eating and physical activity behaviors.

e. Adopt educational materials (i.e. storybooks, coloring books) that contain positive references to healthy food and avoid educational or play materials that endorse products with high sugar, sodium or fat content.

f. Encourage staff, parents and community members to serve as role models of healthy eating and physical activity for preschool students.

g. Actively engage parents to set limits on their children's television, video, computer and other screen-time activities.

h. Recommend adoption of the Maryland State Advisory Council on Physical Fitness's Youth Physical Activity Recommendations for Preschoolers.

Evaluation Indicators:

- Number of assessments completed and action plans developed and implemented
- Number of policies implemented
- Number of physical activity opportunities provided
- Number of trainings provided

Intermediate Objective 7: By June 2011, implement in all Maryland after-school programs, including the At-Risk After School Snack Program, an environment that provides opportunities for healthy meals, snacks, beverages and physical activity.

Social Ecological Model Level:

Social Structure / Public Policy, Community, Institutional / Organizational, Interpersonal and Individual

Strategies and Action Steps:

a. Assess existing after-school settings for healthy eating and physical activity behaviors using policy and environmental tools, such as USDA Changing the Scene Toolkit or the CDC School Health Index.
   - Based on assessment results, develop an action plan for policy and environmental changes to be included in local wellness policy. Regularly evaluate the plan for progress and re-assess the after-school environment as necessary.

b. Provide opportunities for LEAs to develop local wellness policies that include the At-Risk After School Snack Program and implement healthy snack options in after-school programs.
   - Adopt nutrition standards for healthy meals, snacks and beverages, such as those recommended by the USDA.
   - Use snack and mealtimes to introduce a variety of healthy food options.
   - Review and adopt policies that address on-site marketing by food manufacturers, including through vending machines, posters and other print materials.
   - Offer water, 100% fruit juice and low-fat milk to drink in vending machines and where beverages are sold; have clean sources of tap water or working water fountains.

c. Provide safe after-school programs that include physical activity opportunities.
   - Encourage students to participate in after-school physical activity programs, both non-competitive and competitive, that offer diverse, developmentally appropriate activities for grades pre-K to 12.
   - Provide after-school activity buses to allow children who use bus transportation an opportunity to engage in activities after school hours.
   - Offer an environment that provides children with positive, convenient and attractive physical activity alternatives to sedentary behaviors.

d. Provide training opportunities for after-school staff on the importance of healthy eating and physical activity. Trained staff may lead activities, assist in selection of healthy-food options and appropriate serving sizes and model positive healthy eating and physical activity behaviors.

e. Work cooperatively with local departments of Parks and Recreation and other community partners to provide physical activity opportunities, including joint funding of physical space, equipment and staffing.
   - Encourage the use of school facilities for physical activity programs offered by community-based organizations outside of regular school hours.
   - Provide transportation to recreation and community centers for after-school activities.

Evaluation Indicators:

- Number of after school settings assessed
- Number of policies implemented
- Number of partnerships with Departments of Parks and Recreation

Intermediate Objective 8: By June 2011, improve the healthy eating and physical activity environment in Maryland's summer food service programs.

Social Ecological Model Level:

Social Structure / Public Policy, Community, Institutional / Organizational, Interpersonal and Individual

Strategies and Action Steps:

a. Implement USDA Guidelines in all school-based and university-setting summer food service programs.

b. Require all non-school-based summer food programs located at school facilities to follow mandated local school wellness policies.

c. Provide nutrition education and food safety training to all summer food service program staff on the importance of healthy eating and physical activity and the resulting benefits on academic achievement and overall health. Trained staff may lead activities, assist in selection of healthy food options and appropriate serving sizes and model positive eating and physical activity behaviors.

d. Provide time and opportunities to engage in physical activities at all summer food service programs.

Evaluation Indicators:

- Number of assessments completed and action steps developed
- Number of policies implemented
- Number of trainings conducted and individuals trained

Intermediate Objective 9: By June 2011, Maryland schools of higher education (community colleges, four-year colleges and universities) will provide healthy food options and physical activity opportunities on school campuses to assist students, faculty and staff to develop the knowledge, attitudes, skills and behaviors to adopt, maintain and enjoy a healthy lifestyle.

Social Ecological Model Level:

Social Structure / Public Policy, Community, Institutional / Organizational, Interpersonal and Individual

Strategies and Action Steps:

a. Provide information and opportunities for healthy eating options on Maryland schools-of-higher-education campuses.

   - Assess current information provided to students and staff on the benefits of healthy eating. Based on assessment results, advocate for increased opportunities to provide nutrition education as a curriculum component in personal health and physical education classes.

- Assess current opportunities for healthy food choices in food venues on campus. Based on assessment results, increase healthy food options in all campus dining facilities, including dining halls, vending machines, recreation centers, libraries and other point-of-decision locations on campus.
- Provide point-of-purchase nutrition education information in all dining venues.
- Incorporate nutrition messages, including 5 A Day, in all healthy lifestyle education messages promoted on campus.

b. Provide information and opportunities for physical activity on campus.

- Assess current information provided to students and staff on the benefits of increased physical activity. Based on assessment results, advocate for increased opportunities to provide educational information on the benefits of physical activity to students and faculty.
- Assess current opportunities for physical activity on campus. Based on assessment results, provide increased opportunities for physical activities on campus by increasing the number of physical education classes offered per week or semester, club and intramural teams, walking and bicycle paths and other opportunities.

c. Promote the implementation of policies that encourage healthy eating options and physical activity opportunities on campus.

Evaluation Indicators:

- Number of healthy food options on campus
- Number of educational opportunities to promote healthy eating
- Number of physical activity opportunities on campus
- Number of educational opportunities to promote the benefits of physical activity

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Surveillance and Evaluation

CHAPTER TEN

Chapter Contributors

Norma Kanarek, PhD, *Committee Chair*

Kari Alperovitz-Bichell, MD, MPH
Cheryl Duncan De Pinto, MD, MPH
Marie Diener-West, PhD
Diane Dwyer, MD
Jade Leung, MS
Elizabeth Platz, ScD, MPH
Carolyn Voorhees, PhD

Surveillance and Evaluation

EVALUATION OF THE PLAN

The primary surveillance and evaluation goals are to ensure that population and program-based outcomes relevant to the programs implemented under the Maryland Nutrition and Physical Activity (NPA) Program are monitored and that information is well integrated into the ongoing activities of the *Maryland Nutrition and Physical Activity Plan*. Surveillance and evaluation are two separate activities, with surveillance largely a focus of this chapter, and program evaluation incorporated into the separate chapters of the plan. Surveillance or monitoring of population-based outcomes will be monitored as a measure of statewide and local change in NPA-related behaviors and to identify population-wide needs in an ongoing manner. Surveillance data will help local partners assess their community's progress, accomplishments and weaknesses in relation to the Maryland NPA Program and plan objectives as they influence the health of all Marylanders.

An integrated program evaluation will be established to provide feedback to state and local program staff about the work accomplished by state-funded NPA plan interventions. Methods of evaluation and types of data needed vary across each NPA program or chapter activity. Thus, so that activities stay focused on Maryland NPA Program goals and objectives, process evaluation will be used to assess current and future data collection systems and spur continual improvement. Given the nature of the NPA Program activities, not all can be measured or evaluated; however, efforts will be made to evaluate the impact of activities whenever possible. In addition, pilot interventions will undergo the most extensive examination so that positive effects can be documented and new, larger projects can be launched. The types of activities, staffing requirements and funding needed for evaluation will be weighed against the goals of the NPA Program.

The success of Maryland's NPA Program activities will depend on collaboration among internal and external partners, such as local health departments, university research groups and local health-promotion partnerships.

Interventions will benefit from process evaluation through improved protocols and more effective implementation. Process-evaluation activities will be guided by the following concerns: planned versus actual implementation, changes that may increase collaboration and improve implementation success, improvement of relations between involved partners to address voids in target audience representation and the degree to which the audience is being reached.

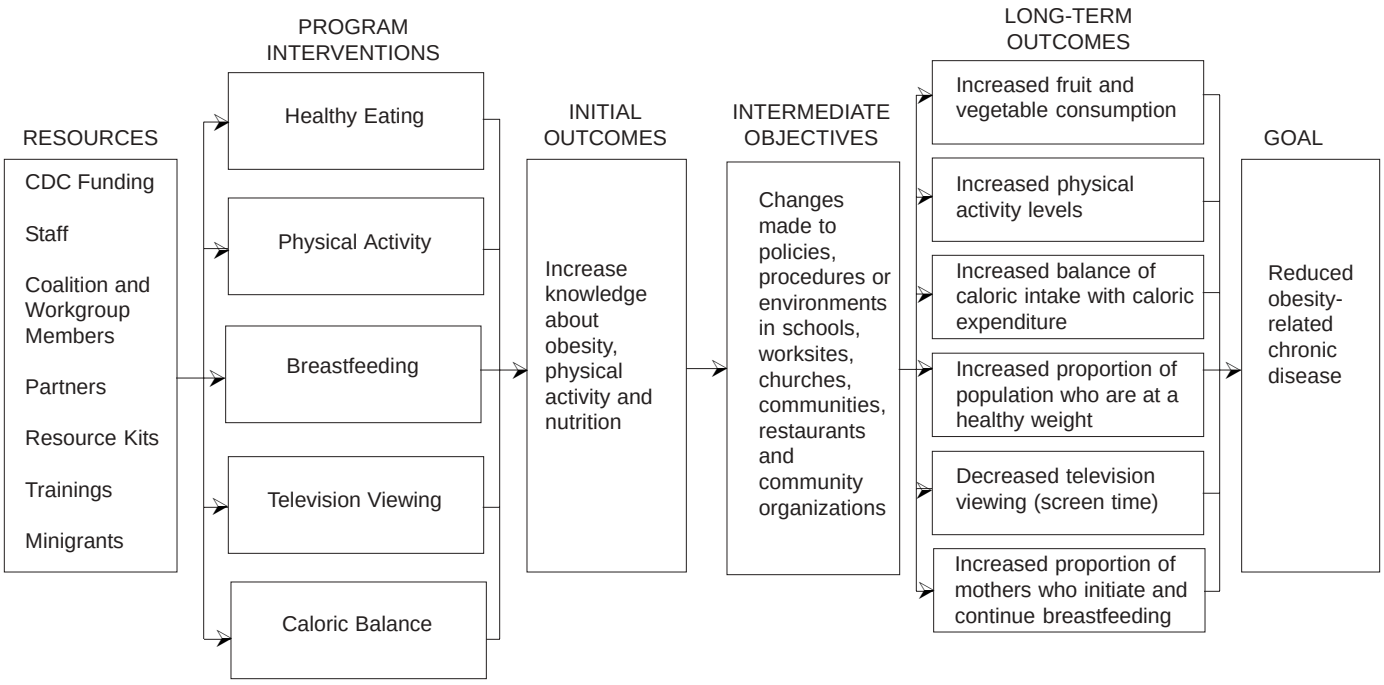
Accordingly, process-evaluation activities will consist of three components: program management, participation and collaboration. Program management will be monitored in a collaborative manner, in which the program evaluator, program staff, field staff (if present) and other contributors will share responsibility for recording and gauging progress. Participation will be gauged through measures of attendance and involvement in programs. This will help to monitor who is being reached by which methods and in what context. The success of the Maryland NPA Program activities will depend on collaboration among internal and external partners, such as local health departments, university research groups and local health-promotion partnerships. Collaborators will include volunteers, advocates and representatives from partner agencies and coalitions. Collaboration will be evaluated by the amount of interaction and level of effort.

Other evaluation activities will include assessment of intermediate and long-term changes that can be attributed to program intervention activities, according to the program's logic model (see Figure 16 on next page).

Outcome evaluation will be guided by the following activities on a chapter-by-chapter basis.

- Creation of policy and environments that support Maryland NPA activities.

FIGURE 16: Nutrition and Physical Activity Program Logic Model (December 2005)



- Implementation of program services by organizations and communities in support of the Maryland NPA Program efforts.
- Degree of change in individual behaviors and health outcomes that result from Maryland NPA Program interventions.

SURVEILLANCE

All available population-based data sources relevant to Maryland NPA Program activities will be used to support the program. For example, changes in individual health behaviors will be measured primarily using the Maryland Behavioral Risk Factor Surveilliance Survey. Statewide and select countywide analyses will be possible. Health behavior outcomes will include physical activity levels, fruit and vegetable consumption, weight management efforts and tracking of body mass index. In addition, data gaps will be identified and recommendations for responding to the monitoring needs of the plan will be made.

Certain surveillance activities will be critical to evaluation efforts. The inclusion of physical activity, nutrition and weight-management questions on the Maryland Behavioral Risk Factor Surveillance System's Survey relate to the Maryland NPA Program's activities and goals. Over time, changes in these measures will show general progress across the state or county population toward the program's objectives and suggest additional areas for intervention. Selection of surveillance system indicators will be based on the feasibility of continual data collection, validity of the measures, relevance to Maryland NPA Program objectives and biological and social plausibility. The Centers for Disease Control and Prevention's Healthy People 2010 objectives have provided leadership to calculate appropriate indicators and national targets.

Following are three evaluation intermediate objectives proposed to focus surveillance of population health in the areas of nutrition, physical activity and obesity. Pertinent strategies, action steps and evaluation indicators are included for monitoring indicators of related healthy behaviors and conditions. Achievement of these objectives over the next decade will indicate that Maryland has made progress in surveillance of nutrition, physical activity and obesity.

Surveillance and Evaluation

INTERMEDIATE OBJECTIVES, STRATEGIES AND ACTION STEPS

Intermediate Objective 1: By June 2011, broadly disseminate surveillance findings for overweight and obesity, healthy eating, physical activity and related behaviors so that policies can be developed and nutrition and physical activity programs implemented. This information will be needed to guide future activities in all chapters of the plan.

Social Ecological Model Level:

Social Structure / Public Policy and Institutional / Organizational

Strategies and Action Steps:

a. Produce a report of NPA Program efforts by geographic regions, age, gender and race / ethnic groups.

b. Create and post the report on a Web site to be used by broad audiences: neighborhoods, schools, healthcare providers, worksites, policy makers and the public. At this site, provide links to prevention, intervention and health-education resources.

c. Develop and maintain a master list for use in distribution of NPA-related reports.

Evaluation Indicators:

- Development of the report
- Number of Web site hits
- Number of requests for reports
- Development of mailing list

Intermediate Objective 2: By June 2011, expand access to and understanding of the databases used for analysis of adult/youth overweight and obesity, its related behavior and health-conditions surveillance in Maryland. Such access will better meet the information needs of communities, program planners, policy makers and researchers.

Social Ecological Model Level:

Social Structure / Public Policy and Institutional / Organizational

Strategies and Action Steps:

a. Pursue the online creation of public-use data files and interactive access to databases for use in NPA surveillance in Maryland (i.e. annual local Behavioral Risk Factor Surveillance System prevalence estimates for downloading or statistical tabulation).

b. Recommend new or additional data for collection in important current, ongoing surveillance databases (i.e. Youth Risk Behavior Survey).

c. Develop a list of existing data sources that indicates strengths and limitations; annotate data sources' Web sites.

Evaluation Indicators:

- Files are available and Web-accesible
- Number of Web hits for sites where data are stored
- Meet with Cancer Surveilliance Committee and other entities with an interest in nutrition, physical activity and obesity to discuss joint data needs

Intermediate Objective 3: By June 2011, develop, maintain or enhance data systems to ensure accurate, timely and complete information needed to monitor NPA outcomes, related behaviors and health conditions.

Social Ecological Model Level:

Social Structure / Public Policy and Institutional / Organizational

Strategies and Action Steps:

a. Establish a statewide NPA Surveillance Advisory Group to meet regularly to guide implementation of the surveilliance intermediate objectives of the *Maryland Nutrition and Physical Activity Plan*, develop an NPA surveillance agenda and further NPA-related surveillance in Maryland.

b. Develop a set of the most important indicators related to NPA objectives (i.e. overweight and obesity prevalence).

d. Define standard measures of race, socioeconomic status and geographic area that can be used to facilitate standardized measurement for surveillance.

e. Develop program monitoring tools for NPA Program participants: primary care physicians, schools, public assistance programs, such as WIC and others, with a goal to monitor and report BMI and related health behaviors, such as physical activity levels and nutrition patterns, in a standardized way to the NPA Program.

Evaluation Indicators:

- Increase knowledge of population level statistics by program planners and managers evidenced by use of background data in annual program plans.
- Program monitoring tool is developed, maintained or implemented in concert with NPA chapter committees
- Number of groups trained in the use of the program monitoring tool and reporting information for NPA programs.

Supporting References

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Current Efforts

CHAPTER ELEVEN

Current Efforts

The following units within the Maryland Department of Health and Mental Hygiene's Family Health Administration Center for Preventive Health Services has existing initiatives in place to promote healthy eating and physical activity and, in turn, prevent chronic disease. These units are working in conjunction with the Nutrition and Physical Activity (NPA) Program to develop strategies and implement action steps in the *Maryland Nutrition and Physical Activity Plan*.

Chronic Disease Prevention Division

Cardiovascular Health Program

Funded through the Public Health and Human Services Preventive Block Grant (PHHS-BG), this program funds and monitors programs that lead to the reduction in cardiovascular disease across Maryland. This is generally applied through risk-reduction activities, such as increased physical activity, weight loss and healthy eating interventions. All 24 jurisdictions are awarded funds each year to allow them to address improvements in Healthy People 2010 Objectives.

Diabetes Control and Prevention

This program, funded by the Centers for Disease Control and Prevention (CDC), enables the state to conduct planning activities that will lead to improvements in the quality of care provided to diabetics in Maryland. This year, the grant mandates the completion of a state plan regarding diabetes. The plan is slated for publication in spring, 2006.

This program also has issued an RFA for mini-grants that were awarded to three Maryland counties for Diabetes Today, a program that encourages communities to work together to develop plans pertinent to their own areas and use data to develop those plans in a logical, efficient manner.

Hypertension

This program functions as a subset of the PHHS-BG and is subject to the same requirements. It operates under the concept that lowering blood pressure will decrease cardiovascular disease, kidney disease and other chronic diseases that may result in or from hypertension.

Osteoporosis

This program functions as a subset of the PHHS-BG and is subject to the same requirements. It operates under the concept that healthy eating and increased physical activity will lower the risk of osteoporosis.

Stroke Prevention

This program functions as a subset of the PHHS-BG and is subject to the same requirements. It aims to make the public aware of the signs and symptoms of stroke and to call 911 when appropriate.

The Division of Injury Prevention and Epidemiology

The Injury Prevention and Epidemiology Division monitors injuries, risk behaviors and chronic diseases and characterizes the demographic health status of Maryland residents by providing technical assistance on injury, risk factor and chronic disease data for Maryland; analyzing data on injuries in Maryland; publishing yearly reports; and coordinating prevention programs targeted toward identified injury hazards. Activities of the Division include a capacity-building injury prevention program, the Maryland Violent Death Reporting System and the Behavioral Risk Factor Surveillance System (BRFSS).

Promotion of the Plan

CHAPTER TWELVE

Promotion of the Plan

USE AND SUSTAINABILITY OF THE PLAN

The *Maryland Nutrition and Physical Activity Plan* was designed as a blueprint to guide individuals, families, communities, schools, businesses and the healthcare system to adopt strategies to reverse the trend toward overweight and obesity and, in turn, chronic diseases. It was intentionally developed as a working document.

Efforts to reverse obesity trends and coordinate action steps with partners already have begun. The efficacy of these efforts will be revealed as interventions are identified, developed, piloted and evaluated. Revisions to the plan will be made when necessary. The Nutrition and Physical Activity (NPA) Workgroup now will move from the planning phase to the implementation phase, opening the door for even broader partner participation in these obesity-prevention efforts.

CRITERIA FOR PRIORITY ACTIVITIES

- **High-risk groups identified through surveillance**
- **Gaps in existing programs**
- **Opportunities to build on successes**
- **Partner resources**
- **Evidence of best practice**
- **Legislative efforts**

The existing NPA Workgroup will use a survey tool to assess the need for additional partners. Survey results will be used to determine additional agencies and organizations that are known within the state as leaders in obesity prevention and control. Each existing and future partner will bring different skills and resources to the table, providing a framework from which to network, collaborate and sustain the efforts of this plan.

IMPLEMENTATION APPROACH

In the implementation phase, meetings will be held to facilitate the selection of annual priorities for each of the committees. Selection of priority activities and target populations will be based on various criteria, as well as the particular needs of the state.

As activities are selected, a specific partner or agency will be identified to lead efforts as the NPA Workgroup begins to take steps toward the implementation of these initiatives. In addition, partners in each of the various settings will be encouraged to use the strategies suggested in the plan to begin or continue their work to improve overall healthy eating and increase physical activity among Marylanders.

A comprehensive inventory of statewide obesity prevention activities and initiatives will be developed and updated on an annual basis. These inventories will:

- assess the strategies and programs currently used to prevent or control obesity and other chronic diseases in the following settings: Active Community Environments, Business and Industry, Family and Communities, Healthcare and Schools;
- outline partner programs and resources to be used for learning and sharing among these partners;
- describe the services that are currently available in selected settings and highlight community resources that address the identified risk factors;

- describe new strategies and community resources needed to address the gap between the population's needs for service and available resources; and
- identify and analyze the potential impact of the proposed strategies on community resources, as well as the population's ability to respond to the strategies or use the community resources that are available.

Within the scope of the Maryland NPA Program, an intervention is defined as a prescribed series of activities grounded within the Social Ecological Model, with a primary purpose to change or influence existing obesity, nutrition and physical activity-related behaviors or practices. As Maryland NPA interventions are selected for implementation, the following criteria should be considered to guide efforts.

At a minimum, an intervention should contain all of the following components:

- be grounded in theory and applied within the Social Ecological model,
- be defined purpose with clearly stated goals and objectives
- include expected outcomes (to include Body Mass Index (BMI) / BMI for age when appropriate),
- have defined intervention methodology (where, when and how);
- include strategy for implementation and collaboration with partners,
- identify target populations and
- have defined evaluation methodology.

As the plan is implemented, evaluation of efforts will be important to monitor the impact and leverage the resources necessary to sustain efforts. To achieve the mission of the plan, it is vital that our partners continue to work together effectively toward these important goals.

Appendices

APPENDIX A:
Body Mass Index for Adults

ADULT BODY MASS INDEX (BMI)

$$BMI = \left(\frac{\text{WEIGHT (pounds)}}{\text{HEIGHT (inches)}^2} \right) \times 703$$

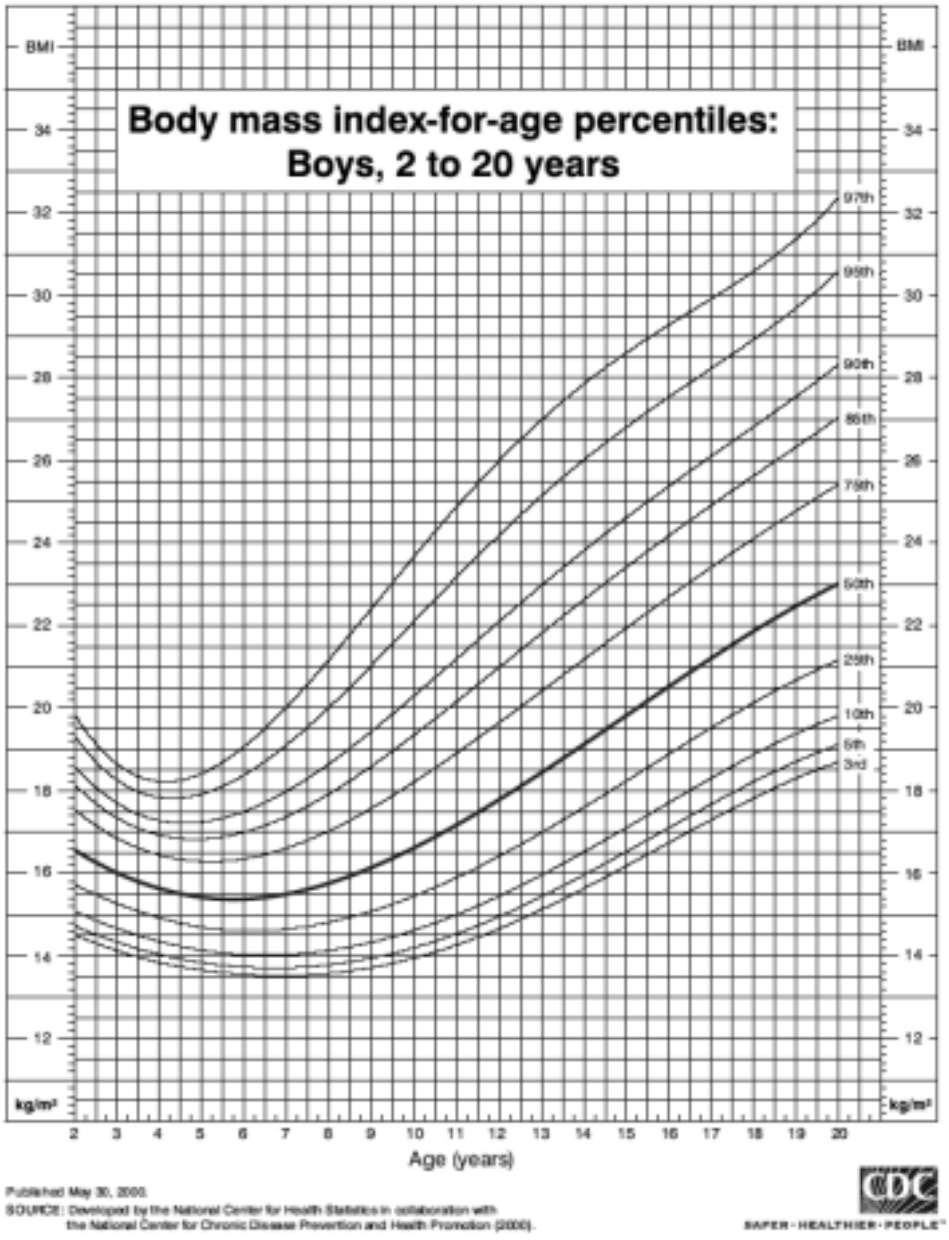
Weight in pounds

Height	120	130	140	150	160	170	180	190	200	210	220	230	240	250
4'6"	29	31	34	36	39	41	43	46	48	51	53	56	58	60
4'8"	27	29	31	34	36	38	40	43	45	47	49	52	54	56
4'10"	25	27	29	31	34	36	38	40	42	44	46	48	50	52
5'0"	23	25	27	29	31	33	35	37	39	41	43	45	47	49
5'2"	22	24	26	27	29	31	33	35	37	38	40	42	44	46
5'4"	21	22	24	26	28	29	31	33	34	36	38	40	41	43
5'6"	19	21	23	24	26	27	29	31	32	34	36	37	39	40
5'8"	18	20	21	23	24	26	27	29	30	32	34	35	37	38
5'10"	17	19	20	22	23	24	26	27	29	30	32	33	35	36
6'0"	16	18	19	20	22	23	24	26	27	28	30	31	33	34
6'2"	15	17	18	19	21	22	23	24	26	27	28	30	31	32
6'4"	15	16	17	18	20	21	22	23	24	26	27	28	29	30
6'6"	14	15	16	17	19	20	21	22	23	24	25	27	28	29
6'8"	13	14	15	17	18	19	20	21	22	23	24	25	26	28

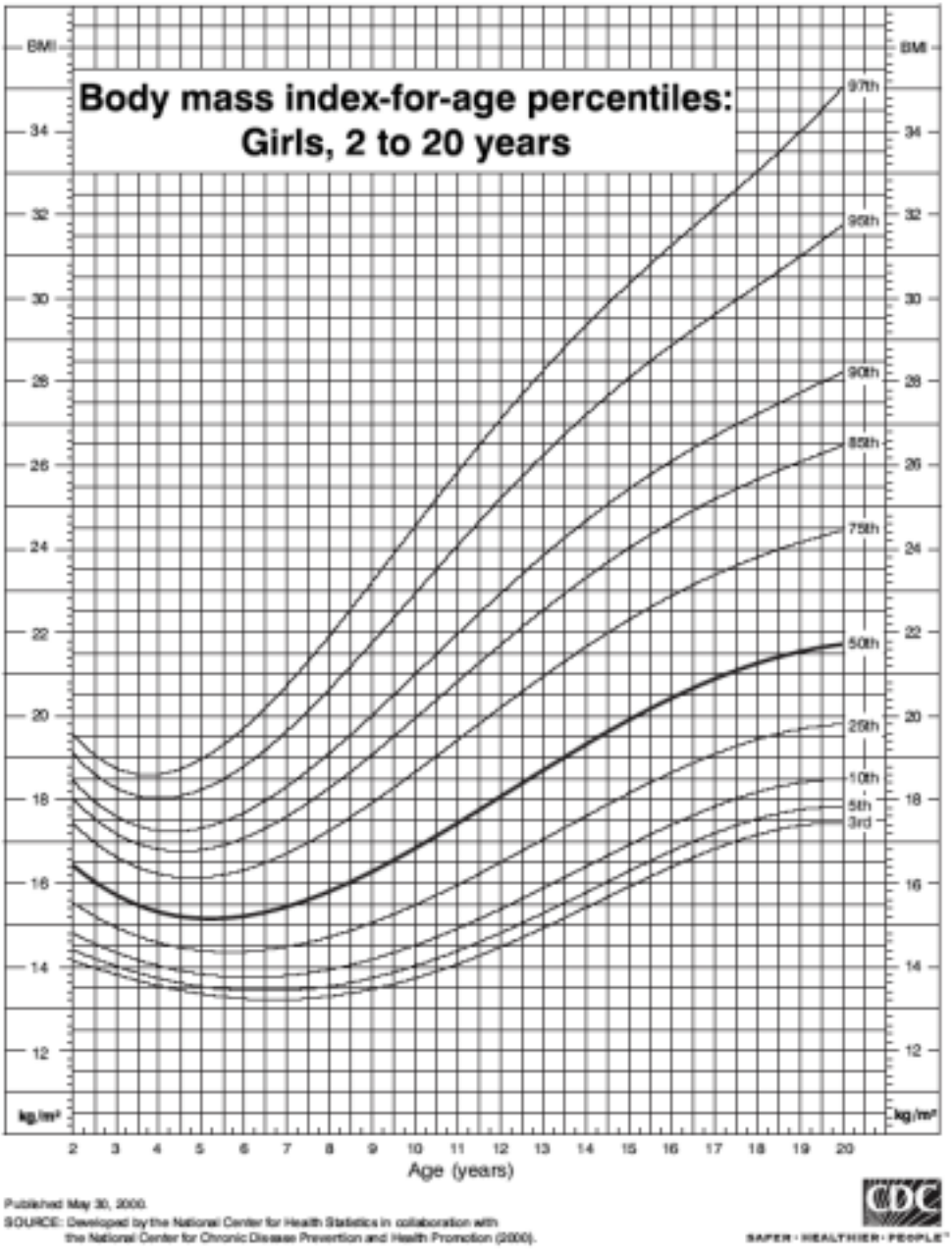
Underweight Normal Overweight Obese

APPENDIX B:
Body Mass Index Charts for Boys & Girls

BODY MASS INDEX (BMI)-FOR-AGE GROWTH CHART FOR BOYS



BODY MASS INDEX (BMI)-FOR-AGE GROWTH CHART FOR GIRLS



APPENDIX C:
Maryland State Advisory Council on Physical Fitness Physical Activity Recommendations

Department of Health and Mental Hygiene
www.MarylandFitness.org

YOUTH PHYSICAL ACTIVITY RECOMMENDATIONS

The Maryland State Advisory Council on Physical Fitness recommends that all youths from **infancy to age 17,** regardless of ability, engage in daily physical activity. Youths who do not participate in adequate physical activity are much more likely to become sedentary adults than those who are active. The benefits of regular physical activity for youths include:

- Healthier bones and muscles
- Improved endurance, strength, flexibility and body composition (increased muscle and decreased fat)
- Decreased development of risk factors for numerous chronic conditions, including heart disease, high blood pressure and diabetes
- Improved mood and feelings of well-being; reduced symptoms of anxiety and depression
- Possible enhanced cognitive function

The Council believes that all youths should not have extended periods of inactivity, but that they should engage in daily physical activity that is appropriate for their age group.

- **Infants** should be provided with opportunities for physical activity that involve the safe exploration of their environment and that promote the development of motor skills.
- **Toddlers** should accumulate at least 30 minutes and **preschoolers** should accumulate at least 60 minutes of daily, *structured* physical activity that enhance movement skills.
- **Toddlers and preschoolers** should engage in at least 60 minutes and up to several hours of daily, unstructured physical activity in safe environments and should not be sedentary for more than 60 minutes at a time except when sleeping.
- **Elementary school-aged children** should accumulate at least 30 to 60 minutes of age and developmentally appropriate physical activity chosen from a variety of activities each day.
- **Elementary school-aged children** are encouraged to accumulate more than 60 minutes and up to several hours of age and developmentally appropriate physical activity each day.
- Some of the **elementary school-aged child's** daily physical activity should be in periods lasting 10 to 15 minutes or more and include moderate to vigorous activity with brief periods of rest and recovery.
- **Middle and high school-aged children** should be physically active every day as part of play, games, sports, work, transportation, recreation, physical education or planned activity in the context of family, school and community activities.
- **Middle and high school-aged children** need three or more sessions a week of moderate to vigorous physical activity that lasts 20 minutes or more in addition to accumulating the 30 minutes of daily, moderate lifestyle physical activity (i.e. brisk walking) recommended for people of all ages. Daily moderate to vigorous physical activity of longer duration, within limits, can result in additional health gains. Skills that develop flexibility, muscular strength and endurance should be included in a well-rounded activity program.

Department of Health and Mental Hygiene
www.MarylandFitness.org

ADULT PHYSICAL ACTIVITY RECOMMENDATIONS

The Maryland State Advisory Council on Physical Fitness recommends that all adults **ages 18 to 49,** regardless of ability, participate in daily, moderate physical activity. According to the Centers for Disease Control and Prevention, the benefits of moderate activity include:

- Decreased risk of dying from coronary heart disease and of developing high blood pressure, diabetes and colon cancer
- Decrease in blood pressure in some people with hypertension
- Healthier bones, muscles and joints
- Reduced symptoms of anxiety and depression and improvements in mood and feelings of well-being

The Council recommends that all adults ages 18 to 49 set a long-term goal to accumulate at least 30 minutes or more of moderate physical activity every day of the week. It should be noted that shorter bouts of moderate activity (at least 10 minutes) also have similar health benefits if the accumulated duration is at least 30 minutes per day. The following are examples of moderate physical activity.

- Walking briskly
- Walking downstairs
- Dancing
- Biking
- Swimming
- Gardening and active housework (i.e. washing floors or windows)

People who currently meet these recommended minimal standards may derive additional health and fitness benefits from becoming physically active for longer periods of time or including more vigorous activity.

For a complete fitness program, all adults should also include resistance training of all the muscle groups, 2 to 3 days per week to enhance muscular strength and endurance. In addition, it is recommended that stretching exercises be performed a minimum of 2 to 3 days per week to maintain or improve flexibility. Balance and coordination can be maintained or improved by performing daily activities that challenge those systems.

Department of Health and Mental Hygiene
www.MarylandFitness.org

OLDER ADULT PHYSICAL ACTIVITY RECOMMENDATIONS

The Maryland State Advisory Council on Physical Fitness recommends that all adults **ages 50 and older,** regardless of ability, participate in moderate physical activity every day. The benefits of moderate physical activity for midlife and older persons include:

- Decreased risk and severity of chronic conditions, such as cardiovascular disease, high blood pressure, diabetes and certain forms of cancer
- Lowered blood pressure and cholesterol levels in some people
- Improved body composition (increased muscle and decreased fat)
- Healthier bones, joints and muscles
- Improved mood and feelings of well-being; reduced symptoms of anxiety and depression
- Enhanced overall physical functioning that extend years of active independent life
- Greater attention span and cognition
- Reduced risk of falls

The Council recommends that all adults ages 50 and older set a long-term goal to accumulate at least 30 minutes or more of moderate physical activity every day of the week. Previously sedentary older adults should start with short intervals of moderate physical activity (5 to 10 minutes) and gradually build up to 30 minutes or more of activity. Moderate endurance-related activities include:

- Walking briskly (i.e. parking farther away from your destination, mall walking, using stairs)
- Dancing (i.e. ballroom, cha cha, swing)
- Biking (i.e. biking the trails in your local county or state parks)
- Swimming (i.e. using pools at the YMCA, local college, fitness or community centers)
- Gardening and active housework (e.g. washing floors or windows)

People who currently meet these recommended minimal standards may derive additional health and fitness benefits from becoming physically active for longer periods of time or including more vigorous activity.

For a complete fitness program, all older adults also should include resistance training of the major muscle groups, 2 to 3 days per week to enhance muscular strength and endurance and improve the ability to perform the routine tasks of daily life. Older adults should complete 2 to 3 sets of 8 to 12 repetitions of each resistance training exercise. In addition, stretching exercises should be per-

APPENDIX D:
Healthy People 2010 Objectives

Developed by the U.S. Department of Health and Humans Services, Healthy People 2010 is a measurement tool designed to evaluate the nation's progress toward improved health. It contains health objectives to achieve during the first decade of the 21st century. Specific areas that apply to obesity and related chronic diseases are overweight, obesity, nutrition and physical activity.

NUTRITION AND OVERWEIGHT

The following Healthy People 2010 objectives were established to increase the prevalence of healthy weight among adults, adolescents and children.

Weight Status and Growth

19-1. Increase the proportion of adults who are at a healthy weight.

19-2. Reduce the proportion of adults who are obese.

19-3. Reduce the proportion of children and adolescents who are overweight or obese.

Food and Nutrient Consumption

19-5. Increase the proportion of persons ages 2 and older who consume at least two daily servings of fruit.

19-6. Increase the proportion of persons ages 2 and older who consume at least three daily servings of vegetables, with at least one-third being dark green or orange vegetables.

19-7. Increase the proportion of persons ages 2 and older who consume at least six daily servings of grain products, with at least three being whole grains.

19-8. Increase the proportion of persons ages 2 and older who consume less than 10 percent of calories from saturated fat.

19-9. Increase the proportion of persons ages 2 and older who consume no more than 30 percent of calories from total fat.

19-10. Increase the proportion of persons ages 2 and older who consume 2,400 mg or less of sodium daily.

19-11. Increase the proportion of persons ages 2 and older who meet dietary recommendations for calcium.

Iron Deficiency and Anemia

19-12. Reduce iron deficiency among young children and females of childbearing age.

19-13. Reduce anemia among low-income, pregnant females in their third trimester.

19-14. Reduce iron deficiency among pregnant females.

Schools, Worksites and Nutrition Counseling

19-15. Increase the proportion of children and adolescents ages 6 to 19 whose intake of meals and snacks at school contributes to good overall dietary quality.

19-16. Increase the proportion of worksites that offer nutrition or weight-management classes or counseling.

19-17. Increase the proportion of physician office visits made by patients with a diagnosis of cardiovascular disease, diabetes or hyperlipidemia that include counseling or education related to diet and nutrition.

PHYSICAL ACTIVITY AND FITNESS

The following Healthy People 2010 objectives were established to increase the duration and intensity of physical activities undertaken by adults, adolescents and children.

Physical Activity in Adults

22-1. Reduce the proportion of adults who engage in no leisure-time physical activity.

22-2. Increase the proportion of adults who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes per day.

22-3. Increase the proportion of adults who engage in vigorous physical activity that promotes the development and maintenance of cardiorespiratory fitness 3 or more days per week for 20 or more minutes per occasion.

Muscular Strength/Endurance and Flexibility

22-4. Increase the proportion of adults who perform physical activities that enhance and maintain muscular strength and endurance.

22-5. Increase the proportion of adults who perform physical activities that enhance and maintain flexibility.

Physical Activity in Children and Adolescents

22-6. Increase the proportion of adolescents who engage in moderate physical activity for at least 30 minutes on 5 or more of the previous 7 days.

22-7. Increase the proportion of adolescents who engage in vigorous physical activity that promotes cardiorespiratory fitness 3 or more days per week for 20 or more minutes per occasion.

22-8. Increase the proportion of the nation's public and private schools that require daily physical education for all students.

22-9. Increase the proportion of adolescents who participate in daily school physical education.

22-10. Increase the proportion of adolescents who spend at least 50 percent of school physical education class time being physically active.

22-11. Increase the proportion of adolescents who view television 2 or fewer hours on a school day.

Access

22-12. Increase the proportion of the nation's public and private schools that provide access to their physical activity spaces and facilities for all persons outside of normal school hours (that is, before and after the school day, on weekends and during summer and other vacations).

22-13. Increase the proportion of worksites that offer employer-sponsored, physical activity and fitness programs.

22-14. Increase the proportion of trips made by walking.

22-15. Increase the proportion of trips made by bicycling.

BREASTFEEDING

16-9. Increase the proportion of mothers who breastfeed their babies.

APPENDIX E:
Healthy Maryland

Developed by the U.S. Department of Health and Human Services, Healthy People 2010 is the nation's agenda for health promotion and disease prevention. It outlines a set of health objectives for the nation to achieve during the first decade of the 21st Century. Overweight and obesity have been identified as major health issues for the nation. This table describes how Maryland compares to the national Healthy People 2010 objectives related to overweight and obesity.

WEIGHT STATUS		
Healthy People 2010 Objective	**Healthy People 2010 Target**	**Maryland BRFSS 2004**
Objective 19.1. Increase the proportion of adults who are at a healthy weight (BMI of 18.5-24.9).	60%	41.5%
Objective 19.2. Reduce the proportion of adults who meet the criteria for obese (BMI of 30+).	15%	23.9%
NUTRITION		
Healthy People 2010 Objective	**Healthy People 2010 Target**	**Maryland BRFSS 2004**
Objective 19-5. Increase the proportion of adults who consume at least two daily servings of fruit.	75%	30.1%* *consumed five or more daily servings of fruits and vegetables
Objective 19-6. Increase the proportion of adults who consume at least three daily servings of vegetables, with at least one-third being dark green or orange vegetables.	50%	
PHYSICAL ACTIVITY		
Healthy People 2010 Objective	**Healthy People 2010 Target**	**Maryland BRFSS 2004**
Objective 22-1. Reduce the proportion of adults who engage in no leisure-time physical activity.	20%	21.8%
Objective 22-2. Increase the proportion of adults who regularly, preferably daily, engage in moderate physical activity.	30%	49.1%
Objective 22-3. Increase the proportion of adults who engage in vigorous physical activity for at least 20 minutes three days a week.	30%	30.8%
BREASTFEEDING		
Healthy People 2010 Objective	**Healthy People 2010 Target**	**Maryland PRAMS 2003**
Objective 16-19. Increase the proportion of mothers who breastfeed their babies.	Early postpartum - 75%	77.5%
	At 6 months - 50%	No data
	At one year - 25%	No data

Source: U.S. Department of Health and Human Services. Healthy People 2010: 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 vols. Washington, DC: U.S. Government Printing Office; 2000. Available from: URL www.health.gov/healthypeople.

APPENDIX F:
Maryland Nutrition and Physical Activity Program Workgroup Operating Guidelines

These guidelines were established in March 2005.

GUIDING PRINCIPLES FOR THE WORKGROUP

- Collaborate with community partners to share resources.
- Focus on the primary prevention of obesity and related chronic diseases.
- Focus on the importance of health, not weight or weight loss alone, especially with children and adolescents. Weight management is seen as a health issue, not as a cosmetic or esthetic issue.
- Ensure that healthy eating and physical activity recommendations are aligned with national guidelines and documents, such as the Dietary Guidelines for Americans, Healthy People 2010 and National Association for Sports and Physical Education.
- Plan initiatives that embrace one or more of the key focus areas (healthy eating, increased physical activity, increased breastfeeding and decreased TV viewing) and use strategies from programs that are evidence-based.
- Promote healthy lifestyles using the Social Ecological Model as a framework, as well as a variety of approaches, including awareness, skill-building, creation of supportive environments and policy development.
- Promote health throughout the life cycle by supporting healthy behaviors, healthy social and physical environments and healthy public policy.

GROUND RULES FOR THE WORKGROUP

- Everyone's voice is important. Seek to include or involve as many diverse voices as possible before decisions are made or actions taken. Remember that the health of the public is a shared responsibility.
- Every organizational partner and its contribution are equally valued. Actively contribute to the dialogue and decision-making.
- Seek maximum benefit for all. Work for the common good, not from an independent organizational, legislative / policy or funding perspective.
- Seek consensus and diversity in perspectives. Help bring organizations and individuals together rather than polarize or blame for past actions.
- Fully and openly communicate with all. Leave personal agendas at home.
- Bring your time and your talents to the table. Look for opportunities to engage others in the work of the partnership.
- Collectively share accountability and responsibility for decisions and actions.

WORKGROUP GOAL

To assist with the writing the *Maryland Nutrition and Physical Activity Plan* to reduce chronic disease and obesity through physical activity and nutrition interventions.

WORKGROUP OBJECTIVES

- Develop a planning process that leads to a comprehensive nutrition and physical activity plan.
- Apply the planning process to write the plan.

WORKGROUP STRUCTURE

Roles and Expectations of the Chairperson of the Nutrition and Physical Activity Workgroup

- Guides workgroup.
- Facilitates Nutrition and Physical Activity (NPA) Workgroup meetings and leads group discussions.
- Closely communicates with NPA Core Planning Team.
- Closely communicates with NPA Advisory Committee.

Purpose of the Nutrition and Physical Activity Advisory Committee

To assist in the coordination of statewide efforts to combat obesity and other chronic diseases associated with obesity. The advisory committee will have a visionary and strategic-planning role within the NPA Program.

Roles and Expectations of the Advisory Committee

- Collectively represents the breadth of types of stakeholders (state agencies, universities and colleges, professional associations, community organizations and private sector).
- Closely communicates with NPA Core Planning Team.
- Provides oversight to the planning structure and strategies to be a cooperative and productive NPA working group.
- Reviews and gives timely feedback on draft reports and communications from the committees.
- Serves as a resource to the committees by providing current literature reviews and expertise on topic areas.
- Provides scientific and technological guidance and expertise to develop best-practice guidelines and surveillance mechanisms and to help program adhere to an evidence-based approach.
- Assists with the editing of the State Plan, including plan outline, chapter development and final version.
- Meets twice a year and will communicate via email, fax or phone as needed.

Purpose of the Committees within the Nutrition and Physical Activity Workgroup

To develop goals, objectives and strategies in their focus areas to be included in the State Plan for nutrition and physical activity.

Committees

Committees will be formed according to the focus areas of the State Plan: Business and Industry, Environmental Change, Family and Communities, Healthcare and School-Based.

Time Commitment for Committee Participation

- Time commitment of the committee's participants will vary by committee.
- Time commitment of chair(s) will be slightly higher due to organizational and administrative responsibilities to the committee.
- Committee members will determine the meeting schedule necessary to conduct committee business.

Roles and Expectations of Committee Members

- Attend workgroup meetings as scheduled.
- Provide updates on the initiatives to their respective organizations.

- Assist the committee chairperson(s) in making the committee successful.
- Help identify and invite collaboration of organizations or groups that already have projects in progress related to the respective goal.
- Communicate via e-mail, fax or phone as needed with committee chairperson(s).
- Review and give timely feedback on draft reports and communications from the committee.

Roles and Expectations of Committee Chair(s)

- Works closely with NPA Core Planning Team and NPA Liaison.
- Convenes andorganizes meetings.
- Follows established timelines and deadlines.
- Facilitates group discussions.
- With assistance from NPA Core Planning Team and NPA Liaison, maintains an active committee membership that represents a broad spectrum of organizations (state agencies, universities and colleges, professional associations, community organizations and private sector) and geographic regions of Maryland.
- Identifies and invites collaboration of organizations or groups that already have projects in progress related to focus areas.
- With assistance from NPA Core Planning Team and NPA Liaison, communicates regularly with and provides administrative support to committee members through development of agendas, scheduling of conference calls or meetings, drafting notes of meetings and development of other committee products.
- Reviews and gives timely feedback on draft reports and communications from the committee, including regular progress updates to the NPA Liaison.
- Helps to provide answers to questions from the group.

Responsibilities of NPA Core Planning Team (team consists of staff from the Center for Preventive Health Services):

- Recruits potential NPA Workgroup members.
- Provides administrative support.
- Provides support to the Advisory Committee.
- Works directly with chair(s) to ensure that process questions are addressed and serve as conduits between chair(s) and the Advisory Committee.
- Serves as a liaison to the committees to offer technical expertise, providing information from literature reviews, reviews of other state plans, best practices, theoretical models and practices in public health, as well as information on evidence-based interventions and evaluations.

Liaisons for Committees:

Family and Communities, Evaluation/Surveillance & Advisory
Teresa A. Moore, MS, CHES, Nutrition and Physical Activity Program Coordinator
410-767-5781 / tmoore@dhmh.state.md.us

Environmental Change & Business and Industry
Kara S. Longo, MS, Physical Activity Coordinator
410-767-5283 / klongo@dhmh.state.md.us

School Based & Healthcare
Carol R. Miller, RD, MEd, LD, Nutrition Coordinator
410-767-6782 / cmiller@dhmh.state.md.us

APPENDIX G:
Criteria for Selection of Nutrition and Physical Activity Objectives and Strategies

During the developmental stages of the *Maryland Nutrition and Physical Activity Plan*, workgroup members were asked to keep in mind specific criteria as guiding principles to provide direction. Namely, they were instructed that objectives and strategies should be:

- Related to obesity
- Outcome-driven
- Population-based
- Evidence-based and effective, representing best practices
- Replicable and relatively easy to implement
- Affect multiple spheres of influence, as described in the Social Ecological Model
- Address the following focus areas: caloric intake and expenditure, improved nutrition (including increased consumption of fruits and vegetables), increased breastfeeding, increased physical activity and reduction of screen time (television, videos, computers).

APPENDIX H:
Maryland Nutrition and Physical Activity Program Community Inventory

NUTRITION AND PHYSICAL ACTIVITY PROGRAM INVENTORY OBJECTIVES:

1. To create an inventory of current nutrition and physical activity programs and activities that are taking place in Maryland to be used in the development of the *Maryland Nutrition and Physical Activity Plan* to reduce obesity and other chronic diseases.
2. To identify nutrition and physical activity programs and activities, target populations currently reached and identify that gaps and limitations that currently exist.

How to report your organization's programs and activities:

When completing the inventory, report all of the programs and activities that your organization is currently promoting. The programs or activities may be conducted by your organization or by another organization that you partner with, fund or support.

1. In what type of organization do you work?

- ❑ State / local health department
- ❑ Other state / local government agency
- ❑ Voluntary health organization
- ❑ Faith based organizations
- ❑ Academic institution
- ❑ Hospital / medical center
- ❑ Health insurer / managed care organization
- ❑ State / community coalition
- ❑ Professional society
- ❑ Not-for-profit organization
- ❑ Other (Please describe.) _____

2. In which city / county of the state is your organization located?

- ❑ Allegany
- ❑ Anne Arundel
- ❑ Baltimore City
- ❑ Baltimore County
- ❑ Calvert
- ❑ Caroline
- ❑ Carroll
- ❑ Cecil
- ❑ Charles
- ❑ Dorchester
- ❑ Frederick
- ❑ Garrett
- ❑ Harford
- ❑ Howard
- ❑ Kent
- ❑ Montgomery
- ❑ Prince George's
- ❑ Queen Anne's
- ❑ Saint Mary's
- ❑ Somerset
- ❑ Talbot
- ❑ Washington
- ❑ Wicomico
- ❑ Worcester

3. What nutrition and physical activity goals or objectives does your program or activity address? (Check all that apply.)

- ❑ Increase breastfeeding initiation / duration
- ❑ Increase fruit and vegetable consumption
- ❑ Improve caloric balance by addressing calorie consumption and physical activity expenditure q
- ❑ Increase the level of physical activity
- ❑ Reduce television viewing and other screen time
- ❑ Other (Please specify.) _____

4. How does the program or activity achieve these goals and objectives? (Check all that apply.)

- ❑ Individual behavior-change activities
- ❑ Population behavior-change activities
- ❑ State or local policy
- ❑ Environmental change
- ❑ Other (Please specify.) _____

5. How do you assess the needs of your target audience? (Check all that apply.)

- ❑ Focus groups
- ❑ Survey/questionnaire
- ❑ Site visits
- ❑ Networking meetings
- ❑ Observation
- ❑ Other (Please specify.) _____
- ❑ No formal assessment is completed.

6. Who is your target audience? (Check all that apply.)

Age:	❑ Under 1 year	❑ 20-39 years
	❑ 1-4 years	❑ 40-59 years
	❑ 5-11 years	❑ 60-74 years
	❑ 12-19 years	❑ 75 years and older
Gender:	❑ Female	❑ Male
Racial/Ethnic Groups:	❑ African American, Non-Hispanic	❑ White, Non-Hispanic
	❑ Hispanic	❑ Other
Socioeconomic Status:	❑ Low (household income <$15,000)	
	❑ Low-Moderate (household income $15,000-$24,999)	
	❑ Moderate (household income $25,000-$49,999)	
	❑ Moderate-High (household income $50,000-$74,999)	
	❑ High (household income ≥$75,000)	

7. Where does the program or activity take place that has a nutrition or healthy eating component? (Check all that apply.)

- ❑ Community (civic centers, senior sites, child-care centers, grocery stores, restaurants, etc.)
- ❑ Schools (cafeterias, classrooms, parents, etc.)
- ❑ Worksite (cafeterias, vending, etc.)
- ❑ Healthcare facilities
- ❑ Local health departments
- ❑ Fitness centers (YMCA, etc.)
- ❑ Other (Please specify.) _____

8. Where does the program or activity take place that has a physical activity component? (Check all that apply.)

- ❑ Local recreation facilities (parks, pools, playgrounds, etc.)
- ❑ Fitness centers (YMCA, etc.)
- ❑ Shopping malls
- ❑ Local health departments
- ❑ Healthcare facilities
- ❑ Schools/school-affiliated recreation center
- ❑ Other (Please specify.) _____

9. What are the barriers that your organization has experienced in meeting the goals and objectives of the program or activity? (Check all that apply.)

- ❑ Resource limitations
- ❑ Political resistance
- ❑ People don't want to change their behaviors.
- ❑ Peer pressure or family pressure
- ❑ Community environmental supports, like sidewalks, walking trails or easy access to health foods, are not available.
- ❑ People don't recognize the need to change their behaviors.
- ❑ Change takes too much time.
- ❑ Program staff/service providers/organization and agency members too busy with routine work that they cannot give this program or activity the time it needs.
- ❑ Other (Please specify.) _____

10. Describe how the program or activity is evaluated. (Check all that apply.)

What is evaluated?	❑ No formal evaluation ❑ Health indicators ❑ Service provision ❑ Number of units provided	❑ Impact of knowledge, attitudes & behaviors ❑ Other (Please specify.) _____
Tools used to evaluate:	❑ Service data ❑ Surveys ❑ Health data	❑ Direct observation ❑ Other (Please specify.) _____
Frequency of evaluation:	❑ Monthly ❑ Quarterly ❑ Semi-annually	❑ Annually ❑ Other (Please specify.) _____

Web Resources

GENERAL

- Action for Healthy Kids: www.actionforhealthykids.org
- American Cancer Society: www.cancer.org
- American Heart Association: www.americanheart.org
- Centers for Disease Control and Prevention, Healthy Schools Healthy Youth: www.cdc.gov/HealthyYouth
- Center for Science in the Public Interest: www.cspinet.org
- Community Toolbox: ctb.ku.edu/about/en/index.jsp
- Eat Smart Move More: North Carolina: www.eatsmartmovemorenc.com
- Institute of Medicine: www.iom.edu
- Maryland Department of Health and Mental Hygiene, Family Health Administration, Center for Preventive Health Services, Nutrition and Physical Activity Program: www.fha.state.md.us/cphs/npa
- Maryland Healthy Eating and Active Lifestyles Coalition: www.healthyactivemaryland.org
- National Institutes of Health: www.nih.gov
- Prevention Institute: www.preventioninstitue.org
- The Community Guide: www.thecommunityguide.org

OBESITY/OVERWEIGHT

- American Obesity Association: www.obesity.org
- American Public Health Association: www.apha.org/ppp/obesity
- Center for Weight and Health: www.cnr.berkeley,edu/cwh/index.html
- Centers for Disease Control and Prevention, Nutrition, Physical Activity and Obesity Program: www.cdc.gov/nccdphp/dnpa/
- National Heart, Lung and Blood Institute, Aim for a Healthy Weight: www.nhlbinih.gov/health/public/heart/obesity/lose
- National Institutes of Health, We Can! Toolkit: www.nhlbi.nih.gov/health/public/heart/obesity/wecan/index.htm
- North American Association for the Study of Obesity: www.obesityresearch.nih.gov
- The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity: www.surgeongenral.gov/topics/obesity
- Weight Control Information Network: www.niddk.nih.gov/health/nutrit/win.htm

NUTRITION

- American School Health Association: www.ashaweb.org
- Centers for Disease Control & Prevention (CDC), 5 A Day: www.cdc.gov/nccdphp/dnpa/5aday/
- Community Supported Agriculture (CSA) and the Robyn Van En Center: www.csacenter.org
- Dole 5 A Day: www.dole5aday.com
- Federal Trade Commission, Consumer Information: www.ftc.gov/ftc.consumer.htm
- Food Marketing Institute: www.fmi.org

- International Food Information Council: www.ific.org
- My Pyramid Plan: www.mypyramid.gov
- Produce for Better Health Foundation: www.5aday.com
- National Cancer Institute 5 A Day: www.5aday.gov
- Nutrition.gov, Providing Nutrition Information for a Healthier Life: www.nutrition.gov
- U.S. Department of Agriculture, Food and Nutrition Service, Team Nutrition: www.fns.usda.gov/tn

PHYSICAL ACTIVITY

- Active Living by Design, Active Transportation: www.activetransportation.org
- Active Living Research: www.activelivingresearch.org
- America on the Move: www.americaonthemove.org
- America Walks: www.americawalks.org
- American Alliance for Health, Physical Education, Recreation and Dance: www.aahperd.org
- American College of Sports Medicine: www.acsm.org
- American Council on Exercise: www.acefitness.org
- American Planning Association: www.planning.org
- Complete the Streets: www.completestreets.org
- International Health Racquet & Sportsclub Association: www.ihrsa.org
- Maryland State Advisory Council on Physical Fitness: www.marylandfitness.org
- National Association for Health and Fitness: www.physicalfitness.org
- National Blueprint: Pedestrian and Bicycling Information: www.walkinginfo.org
- National Center for Bicycling and Walking: www.bikewalk.org
- National Center for Smart Growth and Education: www.smartgrowth.umd.edu
- National Coalition for Promoting Physical Activity: www.ncppa.org
- National Recreation and Park Association: www.nrpa.org
- President's Council on Physical Fitness and Sports: www.fitness.gov
- Shape Up America: www.shapeup.org
- The Cooper Institute: www.cooperinst.org
- The President's Challenge: www.presidentschallenge.org
- Wellness Councils of America: www.welcoa.org

BREASTFEEDING

- Baby-Friendly USA: www.babyfriendlyusa.org
- LaLeche League International: www.lalecheleague.org
- Maryland Department of Health and Mental Hygiene, Family Health Administrations, Center for Maternal and Child Health, Breastfeeding: www.marylandbreastfeeding.org

Glossary of Terms

Active Community Environments (ACEs): An initiative sponsored by the Centers for Disease Control and Prevention to promote walking, bicycling and the development of accessible recreation facilities. ACEs was created in response to data from a variety of disciplines, including public health, urban design and transportation planning, suggesting that characteristics of our communities play a significant role in promoting or discouraging physical activity.[1]

Active Living: A way of life that integrates physical activity into daily routines.

Advocacy Efforts: Efforts used to create a shift in public opinion and mobilize the necessary resources and forces to support an issue, policy or constituency.

At Risk of Overweight: Children and adolescents ages 2 to 20 classified with a BMI-for-age between the 85th and 95th percentiles.

Behavioral Risk Factor Surveillance System (BRFSS): An ongoing telephone surveillance system designed to collect data on the behaviors and conditions that place Maryland adults at risk for chronic diseases, injuries and preventable infectious diseases. The categories included in the BRFSS survey are alcohol consumption, hypertension awareness, cholesterol awareness, diabetes, tobacco use, physical activity, nutrition, women's health, colorectal cancer screening, men's health and immunizations.

Body Fat: The total amount of fat deposited in the body as "storage fat" (which accumulates in adipose tissue) and "essential fat" (which is required for normal physiologic functioning and is stored in bone marrow, as well as in major organs and tissues). Essential fat is approximately four times higher in women than in men.[2]

Body Mass Index (BMI): An anthropomorphic measurement of weight and height that is defined as body weight in kilograms divided by height in meters squared. BMI is the commonly accepted index for the classification of overweight and obesity in adults and is recommended to identify children and adolescents who are underweight, overweight or at-risk for overweight.

BMI-for-age: A measure used to screen children and adolescents ages 2 to 20 for underweight, at risk of overweight and overweight that accounts for variations of Body Mass Index values specific to age.

Built Environment: Consists of three main components: land use patterns, transportation system and design.[3]

Campaign: A planned, organized and integrated set of activities with a clearly defined purpose that uses multiple strategies and channels. Campaigns are waged during a defined time and usually are long and sustained (i.e. six weeks to a year or more). In addition to mass-communication activities, a campaign may consist of programming, community organization and legislative advocacy.

Centers for Disease Control and Prevention (CDC): The CDC is a branch of the United States Department of Health and Human Services recognized as the lead federal agency for protecting the health and safety of people at home and abroad. It provides credible information to enhance health decisions and promotes health through strong partnerships.

Chronic Disease: An illness, such as heart disease, hypertension, diabetes, cancer or asthma that is ongoing or recurring, but not caused by infection or spread by contact.

Coalition: A union of people or organizations involved in a similar mission working together to achieve goals.

Collaboration: Working in partnership with other individuals, groups or organizations, or through coalitions with inter-organizational representation, toward a common goal.

Community: A social unit that usually encompasses a geographic region in which residents live and interact socially, such as political subdivision (i.e. a county, city or town) or a smaller area (i.e. a section of town, housing complex or neighborhood). Often, a community is a union of subgroups defined by a variety of factors, including age, ethnicity, gender, occupation and socioeconomic status.

Competitive Foods: Food offered at schools (i.e. a la carte, vending or school store) other than meals served through USDA's school meal programs for school breakfast, school lunch or after-school snack programs. These foods and beverages often are, but need not be, high in fat, high in calories and high in sugar (i.e. soda, sport and fruit drinks, ice cream products, salty snack foods).

Consumer-based Research: The research (i.e. interviews, surveys, focus groups and mall intercept studies) conducted to assess the social norms, values, beliefs, attitudes, priorities, motivations and other factors—health and non-health related—that influence the consumer's behavior. Such research is fundamental when taking a social marketing approach to program planning.

Dietary Guidelines for Americans: Science-based advice for people ages 2 and older about how good food and physical activity choices can promote health and reduce risk for major chronic diseases.

Determinants of Health: The range of personal, social, economic and environmental factors that determine the health status of individuals or populations.

Effectiveness: The impact that an intervention program delivered in the field has on health outcomes.

Environment: The entirety of the physical, biological, social, cultural and political circumstances that surround and influence a specified behavior.

Epidemic: Attacking or affecting many individuals in a community or population simultaneously.

Evidence-based: Justification for an intervention based on the best evidence available, as distinct from the best evidence possible. Types of evidence may include observational, experimental, extrapolated and experience.[4]

Exercise: Physical activity that is planned or structured. It involves repetitive bodily movement.

Focus Groups: A small group of people (approximately 8-10) whom together respond to a set of questions and undertake a discussion on a selected topic. All participants represent a targeted audience and are encouraged to express their views related to the topic.

Foods of Minimal Nutritional Value: Foods prohibited by federal regulation for sale in school food services areas during meal periods. The four categories of foods specified in the regulation are soda water, water ices, chewing gum and certain candies (i.e. hard candy).

Green Spaces: Places in urban and suburban areas that often are literally green: greenways, parks, gardens, median strips and greenbelts.[5]
Grocery Store: Any retail store that sells a line of dry grocery, canned good or non-food items, plus some perishable items.[6]

Healthy People 2010: A report developed by the U.S. Department of Health and Human Services that describes the nation's agenda for health promotion and disease prevention. It outlines a set of health objectives for the nation to achieve during the first decade of the 21st century.

Implementation: The act of putting an intervention into practice at the level of the organization, community or policy.[7]

Inactivity: Not engaging in any regular pattern of physical activity beyond daily functioning.

Indicator: A measure that, when compared to either a standard or the desired level of achievement, provides information regarding a health outcome. Indicators are measurements that can be repeated over time to track progress toward achievement of objectives.

Intervention: An activity or group of activities intended to prevent disease or promote health in a group of people.[8] Also referred to by the terms "strategies" and "approaches." Also defined as a deliberate process by which desired changes are produced in the health and behaviors of targeted populations; specific interventions are defined by program goals and expected outcomes.

Leisure-time Physical Activity: Activity that is performed during exercise, recreation or any additional time other than that associated with one's regular job duties, occupation or transportation.

Logic Model: A graphic depiction that illustrates the relationship between a program's activities and its intended outcomes.

Mass Media: Medium of communication (such as newspapers, radio or television) that is designed to reach a vast number of people.

Media Advocacy: The strategic use of media to engage the public in changes in public policy. The primary purpose of media advocacy is to increase community capacity to develop their voices to be heard and seen.

Metabolic Equivalent (MET): A unit used to estimate the metabolic cost (oxygen consumption) of physical activity. One MET equals the resting metabolic rate (the energy expended as someone sits quietly or rests while awake), approximately 3.5 O_2 x kg^{-1} x min^{-1}. To expend more than 1 MET requires physical activity. As the intensity of the activity increases, so does the MET numeric score.[9]

Mix Use: Different, compatible land uses located within a single structure or in close proximity to each other.[10]

Moderate-intensity Physical Activity: Any activity that requires 3 to 6 METs of energy expenditure or performed at 50 to 69% of maximum heart rate. It is equivalent to sustained walking, is well within most individuals' current physical capacity and can be sustained comfortably for a prolonged period of time (at least 60 minutes). A person should feel some exertion, but also should be able to carry on a conversation comfortably during the activity.[11]

MyPyramid: USDA food-guidance system that provides options to help Americans make healthy food choices and be active everyday.

National Immunization Survey (NIS): Sponsored by the Centers for Disease Control and Prevention for children between the ages of 19 and 35 months who live in the United States at the time of the interview.

Natural Environment: Includes elements such as weather conditions, air and water quality, elevation and scenery.[12]

Obesity: An excessively high amount of body fat or adipose tissue in relation to lean body mass in an individual. The amount of body fat includes concern for the distribution of fat throughout the body and the size of the body-fat tissue deposits. In Body Mass Index measurement, obesity is defined as a BMI equal to or greater than 30 in adults.

Outcomes: Specific intended or unintended results (short or long-term) of our activities, strategies or processes.

Outcome Evaluation: The systematic collection of information to assess the impact of a program, present conclusions about the merit or worth of a program and make recommendations about future program direction or improvement.

Overweight: An increase body weight in relation to height, when compared to some standard of acceptable or desirable weight. In Body Mass Index standards, overweight is defined between 25 and 29.9 in adults. In children and youth ages 2 to 20, a gender- and age-specific BMI measure that places the individual at or above the 95th percentile.

Partnership: A group of individuals or groups that works together on a common mission or goal.

Pediatric Nutrition Surveillance System (PedNSS): A system developed by the CDC to continuously monitor the nutritional status of specific high-risk population groups. Data on birth weight, anemia, short stature, breastfeeding, underweight and overweight are collected for low-income children who attend federally funded programs on nutrition and maternal and child health.

Physical Activity: Any bodily movement produced by skeletal muscles that result in an expenditure of energy.[13]

Physical Inactivity: Not meeting the type, duration and frequency of recommended leisure-time and occupational physical activities.

Policies: Laws, regulations and rules (formal and informal) within a setting.

Policy Change: Modifications to laws, regulations, formal and informal rules, as well as standards of practice. Policy change may occur at the organizational, community or societal levels.

Pregnancy Risk Assessment Monitoring System (PRAMS): A program-based surveillance system that monitors state-specific, population-based data on maternal attitudes and experiences before, during and shortly after pregnancy.

Prevalence: The number of occurrences of a given condition or health indicator during a specific time period in relation to the size of the population in which the health indicator occurs. The result usually is expressed as a percentage.

Process Evaluation: The systematic collection of information to document and assess how a program was implemented and operated.

Program Evaluation: The systematic collection of information about the activities, characteristics and outcomes of programs to make judgments about the program, improve program effectiveness or inform decisions about future program development.

Promising Practice: A commitment to use the best evidence available to guide initial recommendations and, at the same time, develop a structure that is sufficiently flexible to incorporate new information.

Regular Physical Activity: A level of physical activity performed frequently enough to reap some health benefit (i.e. an accumulated 30 minutes or more of moderate-intensity activity 5 or more days of the week or an accumulated 20 minutes or more of vigorous-intensity activity on 3 or more days of the week).[14]

Restaurants: A place where meals are served to the public (i.e. sit down, carry out, fast food, worksite cafeteria).

Risk Factor: Social, economic or biological status, behaviors or environments that are associated with or cause increased susceptibility to a specific disease, disorder, problem, ill health or injury.

Screen Time: The number of hours a child or adolescent spends watching various types of electronic media (i.e. broadcast and cable television, video or digital video disc, movie, computer) per day, week, month or year.

Sedentary: A lifestyle characterized by little or no physical activity.

Self-efficacy: Believing in one's own ability to make a lifestyle change and committing to those beliefs.

Settings: The context in which a program or intervention to reduce or prevent overweight and obesity can occur (i.e. families, communities, worksite, healthcare, schools).

Smart Growth: Growing a community in a way that protects farmland and open spaces, revitalizes neighborhoods, keeps housing affordable and provides more transportation choices.[15]

Social Marketing: The application of commercial advertising and marketing concepts to the planning and implementation of programs intended to influence the voluntary behavior change of a target audience to improve personal welfare and that of society.

Social-Ecological Model: Suggests that behavior change requires not only educational activities, but also advocacy, organizational change efforts, policy development, economic support and environmental change, and that these "spheres of influence" can have an impact on individual health behavior. Rather than focusing on personal behavior change intervention with groups or individuals, public-health problems must be approached at multiple levels, stressing interaction and integration of factors within and across levels.

Sprawl: The process in which the spread of development across the landscape far outpaces population growth.[16]

Stakeholder: An individual or organization that has an appreciation of the issues or problems involved in a health-promotion program and has something to gain or lose as a result of participation. This person or group has a stake in the outcome of the health-promotion program.

Supermarket: Any full-line, self-service grocery store that generates a sales volume of $2 million or more annually.[17]

Surveillance System: A continuous, integrated and systematic collection of health-related data.

Sustainability: The durability of the intervention program, considering such factors as the degree of environmental structural change; the level of policy support; the likelihood of behaviors; practices, and attitudes becoming normalized; and the level of ongoing funding support needed.[18]

Target Audience: A group of individuals or an organization, sub-population or community that is the focus of a specific health-promotion program or intervention.

Vigorous-intensity Physical Activity: Hard or very hard physical activity requiring sustained, rhythmic movements and greater than 6 METs of energy expenditure (performed at 70% or more of maximum heart rate according to age). Vigorous activity is intense enough to represent a substantial physical challenge to an individual and results in significant increases in heart and respiration rate.[19]

Youth Behavioral Risk Factor Surveillance System (YRBSS): A system developed by the CDC to monitor priority health-risk behaviors that contribute to the leading causes of morbidity, mortality and social problems among youth in the United States.

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Cover

Tim Tadder, *biking & produce market*
Maryland Office of Tourism, *hiking & skiing*

Page 31

Digital Vision Ltd., *family walking*

Page 32

Ken Hammond, USDA, *school lunch*

Page 44

Digital Vision Ltd., *businesspeople*

Page 55

Digital Vision Ltd., *woman eating peach*

Inside Back Cover

Digital Vision Ltd., *family walking & children in leaves*

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