

# Hawaii Physical Activity and Nutrition Plan

2007–2012



# Message from the Director

Aloha kakou,

I am pleased to present the first Hawaii Physical Activity and Nutrition Plan (the Plan), which offers a wide range of recommendations to increase opportunities for healthy living. The Plan is the work of a diverse group of stakeholders who represent public health and school educators and administrators, community organizations, healthcare professionals and providers, employers, city planners, and the building industry. Together, we devised strategic recommendations to integrate physical activity and healthy eating into the daily lives of the residents of Hawaii. The Plan has been created as a guide for leaders in government, non-profit organizations, private industry, and physical activity and nutrition coalitions who will work together to create policy and sustainable changes to impact the lives of Hawaii residents.

The benefits of regular physical activity and healthy eating include a reduction in obesity and chronic diseases, such as diabetes, cardiovascular disease, asthma, and some cancers. Like most of the nation, we have engineered physical activity out of our daily routines. Most people drive to work and walk fewer than five minutes from their cars to the workplace. Once on the job, half of Hawaii's employees sit or stand. Today, we consume larger portions of food and too often, the food is high in calories and low in nutritional value. While many residents of Hawaii report they are prepared to eat healthier, only 25 percent eat five or more servings of vegetables and fruits a day. The Hawaii Physical Activity and Nutrition Plan contains ideas to introduce positive change, so that we can increase our years of healthy living.

Change requires collaboration, commitment, and creativity. I thank our partners for their efforts in bringing forth this first state plan, and stand with you to improve the health of the residents of Hawaii.

Pupukahi I Holomua,



Chiyome Leinaala Fukino, M.D.  
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# Acknowledgements

The Hawaii Physical Activity and Nutrition Plan (the Plan) represents the collaboration of numerous individuals who devoted their time and effort to the creation of this plan. This endeavor could not have happened without the hard work and commitment of community and state partners representing the diverse perspectives of agencies that impact physical activity and nutrition. The collective development of the Plan demonstrates that improving and maintaining the health of Hawaii's children and adults is of great interest to individuals, employers, healthcare, educators, policy makers and trade associations. Those involved in this first effort to develop a state physical activity and nutrition plan acknowledge that realizing our vision requires both a multi-faceted approach and broadening the partnership of stakeholders. The Department of Health (DOH) appreciates both the steadfast commitment of those who have been calling for a statewide plan and the contributions of those newly recruited to the planning process. The DOH would like to thank everyone who participated in the development of the Hawaii Physical Activity and Nutrition Plan.

**Thank you to the individuals who made significant contributions in the analysis, writing, and editing of this plan:**

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**Thank you to the individuals who offered valuable input, advice, and expertise:**

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# Executive Summary

In the United States and Hawaii, there is a severe lack of physical activity among adults and adolescents, and an epidemic of unhealthy eating practices. In 2005, almost 48 percent of adults in Hawaii did not meet the recommended guidelines for physical activity (moderate intensity physical activity for at least 30 minutes on five or more days of the week or vigorous intensity physical activity for 20 or more minutes on three or more days per week). Also, almost 75 percent of adults in Hawaii did not meet the recommended daily consumption of fruit and vegetable consumption (five or more servings daily). A lack of physical activity, combined with unhealthy eating practices, can result in significant health complications, such as obesity, high blood pressure, coronary heart disease, diabetes, cancer, and arthritis. In 2005, almost 20 percent of adults in Hawaii were considered obese. Native Hawaiians had the highest rate of obesity among adults in Hawaii, at 43 percent. In Hawaii, adult obesity-attributable medical expenditures for 2003 were calculated to be \$290 million.



Hawaii can significantly increase physical activity and improve nutrition through a coordinated effort of organizations working together in a comprehensive, statewide approach. Developing and implementing Hawaii's first physical activity and nutrition plan requires collaboration, commitment, and creativity. Stakeholders representing a cross-section of community agencies, government agencies, and nonprofit organizations across Hawaii met multiple times from October 2005 through April 2006. The stakeholders were separated into the following four workgroups: (1) Built Environment, (2) Worksite, (3) Schools and Childcare Facilities, and (4) Healthcare Systems and Providers. Using the Social-Ecological Model as a framework and guiding principles, such as health parity and cultural competency, the stakeholders developed a plan which reflects the diversity of Hawaii's residents.

## Vision

We envision a future for Hawaii in which all residents are physically active, eat healthy foods, and live in healthy communities.

## Goals

Through healthful eating and regular physical activity, Hawaii residents will:

1. Reduce their burden of disease;
2. Increase years of healthy life; and
3. Reduce health disparities.



# Objectives and Strategies

We will achieve our goals through the following objectives and strategies:

*Objective 1: Establish state and county coalitions to take the lead in advocating for systemic changes in physical activity and nutrition.*

**Strategy:** Advocate for initiatives and policies that support good nutrition and regular physical activity

*Objective 2: Increase support for physical activity and healthful nutrition in communities.*

**Strategy 1:** Increase the number of community-based recreational facilities available for physical activity

**Strategy 2:** Increase the number of educational opportunities to learn about making changes in physical activity and eating

**Strategy 3:** Increase the availability of healthy foods in the community

**Strategy 4:** Increase public and professional awareness of the importance of healthy eating and daily physical activity and the need for supportive policies

**Strategy 5:** Create a healthy environment development guide for communities that includes changes communities can make to increase physical activity and improve nutrition

*Objective 3: Increase opportunities for physical activity and healthful nutrition in workplaces.*

**Strategy 1:** Educate employers on the advantages of healthy worksites

**Strategy 2:** Use rewards and incentives to create healthy work cultures

**Strategy 3:** Increase opportunities for employees to advocate for their own health

*Objective 4: Strengthen systems to provide daily physical activity and healthful nutrition in pre K-12 and childcare facilities.*

**Strategy 1:** Increase the number of schools implementing age-appropriate pre-K-12 curricula and opportunities designed to promote lifelong healthful nutrition and daily physical activity among students

**Strategy 2:** Increase the number of school policies that promote healthy food choices for lunch programs, fundraisers, and vending machines

**Strategy 3:** Improve physical activity and nutrition in preschool and childcare facilities

**Strategy 4:** Establish a comprehensive healthy school environment with support of staff, students, parents, and community members in all Hawaii school districts



**Strategy 5:** Increase percentage of school-age youth that participate in quality, daily physical education

**Strategy 6:** Create environments that are safe and more supportive for Hawaii students to walk and bike to school

*Objective 5: Increase the engagement of healthcare providers in health promotion.*

**Strategy 1:** Increase the number of healthcare systems and providers that support and promote healthy eating and regular physical activity

**Strategy 2:** Redesign the healthcare financing system to promote healthy lifestyles

Since Objectives 6, 7 and 8 are outcomes of the previously mentioned objectives, the strategies and recommended activities for these objectives are listed above.

*Objective 6: Increase the percentage of people living in Hawaii that follow the recommendations for physical activity and nutrition.*

*Objective 7: Increase the percentage of Hawaii residents at a healthy body weight.*

*Objective 8: Reduce mortality from coronary heart disease, stroke, cancer, and diabetes.*



# 1.0 Introduction

## 1.1 Purpose of the Plan

The Hawaii Physical Activity and Nutrition Plan (the Plan) describes strategies to increase physical activity and healthy eating, with long-term goals of reducing overweight, obesity, and chronic disease among all Hawaii residents. Its purpose is to provide a framework for policy makers and public and private organizations to work together to educate, advocate for policies, and build environments that allow our residents to embrace a physically active and nutritionally sound lifestyle. The Plan was created for community-based organizations, public health professionals, and decision-makers to address physical activity and nutrition in the following ways:

- Increase awareness among key decision-makers at the state and local levels of the current assessment of physical activity and nutrition behaviors
- Provide information to reinforce evidence-based decision-making for physical activity and healthy nutrition issues
- Provide direction for work on sustainable changes, so that daily physical activity and healthy eating become the expectation of every Hawaii resident
- Provide baseline measures for health-related objectives to measure and evaluate progress towards stated goals
- Serve as a resource for developing action plans to address physical activity and nutrition at the state, county, and local levels
- Strengthen grant funding at the state, county, and local levels

The following sections of this Plan provide suggested strategies for agencies to utilize in their efforts toward supporting healthy lifestyles and encouraging healthy behaviors. Organizations interested in working towards the goals outlined in the Plan are encouraged to identify strategies which coincide with their mission, purpose, and activities, and to strive towards collaboration and resource-sharing in their efforts. The Plan also outlines benchmarks to monitor the effectiveness of each strategy. Stakeholders can use these benchmarks as a guide for implementation and evaluation.

This Plan represents the work of experts, public health officials, nonprofit agencies, educators, and community representatives. Fulfilling the mission of the Plan requires a shared common vision for a healthy future, which can be accomplished through innovative collaboration, broad partnerships, and resource-sharing. Ultimately, this approach will contribute to the prevention of obesity, chronic disease, and premature deaths from conditions, such as cardiovascular disease, diabetes, and cancer.

## 1.2 About the Data

The information in this report is based on data from (1) the Behavioral Risk Factor Surveillance System (BRFSS), and (2) the Youth Risk Behavior Survey (YRBS).

### **Behavioral Risk Factor Surveillance System**

The BRFSS is the largest telephone health survey in the world that is conducted on a continuous basis. Hawaii has been an active participant in the BRFSS since the early 1990s. The BRFSS enables the Centers for Disease Control and Prevention (CDC), state health departments, and other health and education agencies to monitor risk behaviors related to chronic diseases, injuries, and death. State health departments use BRFSS data to create annual and periodic reports, fact sheets, press releases, or other publications, which are used to educate the public, the professional health community, and policymakers about behavioral risk factors and preventive health screening practices. Data collected through the BRFSS are routinely used to capture health information on demographically defined subgroups (e.g. ethnicity, gender, age, educational level, income level, geographic location).

### **Youth Risk Behavior Survey**

The Youth Risk Behavior Survey (YRBS) was developed by the Division of Adolescent and School Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, in collaboration with over 800 representatives from state and local health and education departments and other federal agencies, to monitor priority health-risk behaviors that contribute to the leading causes of mortality, morbidity, and social problems among youth and adults in the United States. State and local agencies that conduct a YRBS can add or delete questions to meet their policy or programmatic needs. Specific guidance on the parameters that must be followed during questionnaire modification is provided to those agencies funded by CDC to conduct a YRBS.

## 1.3 The Planning Process

The planning process began at the Hawaii State Department of Health (DOH) with the creation of a physical activity and nutrition plan workgroup. In addition to DOH staff, the Plan workgroup included public health professionals from the University of Hawaii at Manoa. The planning process was guided by elements from the Social-Ecological Model. The Healthy Hawaii Initiative (HHI) has used the Social-Ecological Model in its programs to address tobacco, physical activity, and nutrition issues among Hawaii residents.





### 1.3.1 Healthy Hawaii Initiative

In 1999, Act 304 mandated the Department of Health expend 25 percent of the tobacco settlement funds for health promotion and disease prevention programs, promotion of healthy lifestyles, and prevention-oriented public health programs. In collaboration with its Health and Wellness Advisory group and the CDC, DOH created the Healthy Hawaii Initiative. Launched in 2000, HHI has been a statewide effort to encourage healthy lifestyles and the environments that support them in relation to three critical risk factors – unhealthy eating, lack of physical activity, and tobacco use, all of which contribute significantly to the economic and health burdens of chronic disease. HHI takes a multifaceted approach to improving health in the state of Hawaii by focusing on eight of the ten essential services of public health:

1. Monitor and report on population health status
2. Inform, educate, and empower people about health programs
3. Mobilize partnerships
4. Develop plans and policies
5. Revise and enforce laws
6. Ensure a competent workforce
7. Evaluate to ensure effectiveness, accessibility, and quality
8. Research

### 1.3.2 Plan Framework: Social-Ecological Model

The Plan uses the Social-Ecological Model as its framework. The Social-Ecological Model (Figure 1) is a theoretical model that takes a broad view of behaviors and works from the premise that “understanding health promotion includes not only educational activities, but also advocacy, organizational change efforts, policy development, economic supports, environmental change, and multi-method strategies.”<sup>1</sup> This ecological perspective highlights the need to approach public health challenges on multiple levels and stresses interaction and integration of factors within and across all levels. The levels of influence within the Social-Ecological Model include the individual, interpersonal, organizational, community, and society. Research has shown that behavior change is more likely to endure when we address both the individual and the environment in which the individual lives.<sup>2</sup> This approach creates synergy and has a far greater influence on individuals, organizations, communities, and society as a whole, than either individual or environmental strategies alone.

This model was presented to stakeholders at the planning meetings and was used to guide stakeholder discussions. Participants were asked to develop objectives and strategies to improve physical activity and nutrition that addressed each level outlined in the Social-Ecological Model.

**Figure 1 Social-Ecological Model**

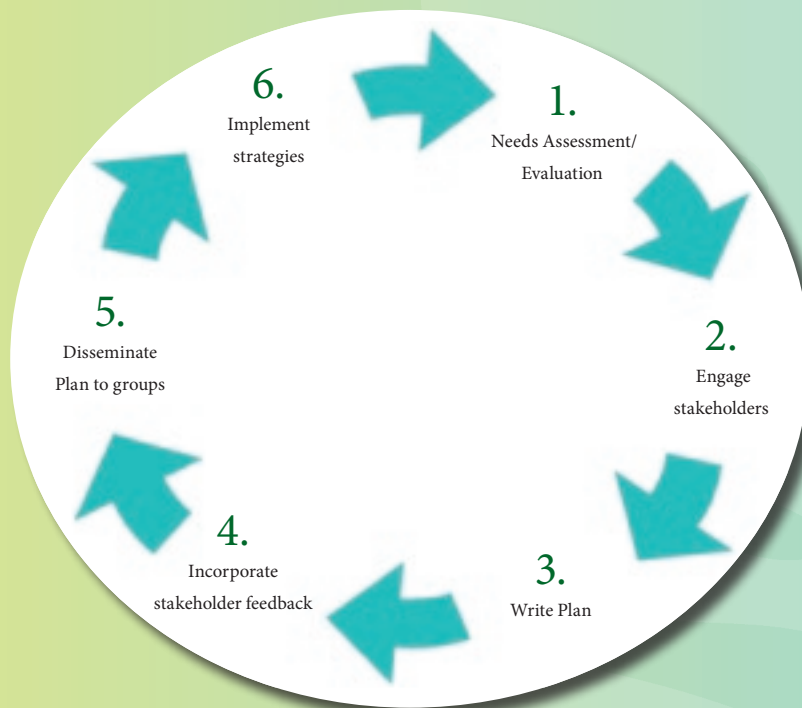


| Level          | Examples   | Public Health Interventions  |
|----------------|--|--|
| Individual     | Individual   | Public health education that involves changing people's awareness, knowledge, values, beliefs, attitudes, and preferences (e.g., media campaigns)  |
| Interpersonal  | Small groups, such as families, friends, jogging groups, etc.                          | Public health education that involves changing people's awareness, knowledge, values, beliefs, attitudes, and preferences; health education that emphasizes behavior change through social support (e.g., walking with a friend) |
| Organizational | Schools, places of employment, places of worship, sports teams, volunteer groups, etc. | Public health education; creation of organizational policies and environmental change that encourage physical activity and healthy eating (e.g., healthy school lunch policy, stairwell campaign at work)                        |
| Community      | Neighborhoods, counties, cities  | Advocacy, policy and legislation that create sidewalks, bike lanes, farmers' markets and improvements to parks   |
| Society        | All levels working together for large-scale change                                     | Advocacy, policy and legislation that create statewide school policies, statewide building codes, changes to regulations, etc.   |



The planning group envisioned the planning process as one component of the larger continuous cycle below (Figure 2). By following this cycle, stakeholders are able to determine whether or not the physical activity and nutrition plan they are implementing is achieving the desired outcome. The first stage begins with a needs assessment for physical activity and nutrition in the community. This needs assessment entails gathering current data on physical activity, nutrition and related conditions and chronic diseases (e.g., obesity, high blood pressure and diabetes) in the community. The second stage, engaging stakeholders, involves convening stakeholders, presenting data from the needs assessment, and gathering input and ideas for a plan to address current health problems. The third stage, writing the plan, involves using the initial stakeholder input to create a plan draft. In step four, the draft is then sent to stakeholders to receive feedback. The stakeholder feedback is then incorporated into the final draft, which is disseminated in step five. Step six entails individual agencies or coalitions implementing the strategies. After the planning and implementation process has been completed, the needs assessment (step one) then shifts to program evaluation. The evaluation component, which should happen during each stage of the cycle, gives stakeholders the knowledge to make sure the plan is on course and that it is effective.

**Figure 2: Planning Cycle**



### 1.3.3 Conducting the Background Assessment

A literature review helped to determine strategies for the Plan development, the relevance of the Social-Ecological Model to the planning process, and the scope of Hawaii's health problems. The literature was reviewed for the most recent data on physical activity, nutrition, overweight, and obesity. Effective strategies, or best practices, were also identified to address the lack of physical activity and poor nutrition among Hawaii residents.

### 1.3.4 Engaging Stakeholders

The DOH, HHI, convened a multi-disciplinary group of private and public stakeholders to develop a comprehensive physical activity and nutrition state plan. The groups represented a cross-section of community organizations, government agencies, and nonprofit programs across Hawaii. This document is the outcome of six meetings, held between October 2005 and April 2006, during which diverse stakeholders submitted a broad range of strategies to improve physical activity and nutrition among Hawaii residents.

During the first meeting on October 17, 2005, over 100 stakeholders from various organizations across Hawaii participated in the planning group. Participants at the meeting were asked to list the names of individuals and organizations not represented, but who should be included in the planning process. A summary of data related to physical activity and nutrition and best practices in physical activity and nutrition were presented to the group. The Social-Ecological Model and the Guidelines for Comprehensive Programs to Promote Healthy Eating and Physical Activity, crafted by the CDC Nutrition and Physical Activity Workgroup, provided direction during the workgroup sessions and served as the basis for many of the strategies contained in this Plan. A collective decision was made to break out into the following four workgroups: (1) Built Environment, (2) Worksite, (3) Schools and Childcare Facilities, and (4) Healthcare Systems and Providers. Each of these individual groups met separately to determine priorities, objectives, and strategies. On April 7, 2006, participants from all four workgroups met to consolidate the goals and objectives from each group. This meeting allowed the group as a whole to prioritize goals and objectives and to develop a unified vision for the Plan.

### 1.3.5 Writing the Plan

A team from the DOH, HHI, and the University of Hawaii, Manoa, wrote and edited the Plan, which integrated ideas from the six stakeholder meetings. The first draft of the Plan was sent to stakeholders for feedback. The feedback was then incorporated into the Plan to produce the final draft.



## Section 2.0 Description of the Problem

### 2.1 Physical Activity

In the United States (U.S.) and Hawaii, there is a severe lack of physical activity among adults and adolescents, and an epidemic of unhealthy eating practices. Regular physical activity and physical fitness make important contributions to health, one's sense of well-being, and maintenance of a healthy weight. Regular physical activity has been shown to reduce the risk of certain chronic diseases, including high blood pressure, stroke, coronary heart disease, type 2 diabetes, colon cancer, and osteoporosis.<sup>3</sup> Physical activity may also reduce arthritis pain, symptoms of depression, and falls among older adults.<sup>4,5</sup>



**Figure 3: Physical Activity Recommendations**

| Age Group | Exercise Type | # of Minutes | # of Days per Week              |
|-----------|---------------|--------------|---------------------------------|
| Adults    | Moderate      | 30 or more   | 5 or more                       |
|           | Vigorous      | 20 or more   | 3 or more                       |
| Youth     | Moderate      | 60 or more   | Most days<br>(preferably daily) |

According to the CDC and the U.S. Surgeon General, adults should engage in moderate intensity physical activity for at least 30 minutes on five or more days of the week or vigorous intensity physical activity on three or more days per week for 20 or more minutes.<sup>6</sup> Moderate physical activity involves exercise that causes small increases in breathing and heart rate, while vigorous physical activities are those that increase the heart rate to 70% or more of the maximum heart rate and breathing.

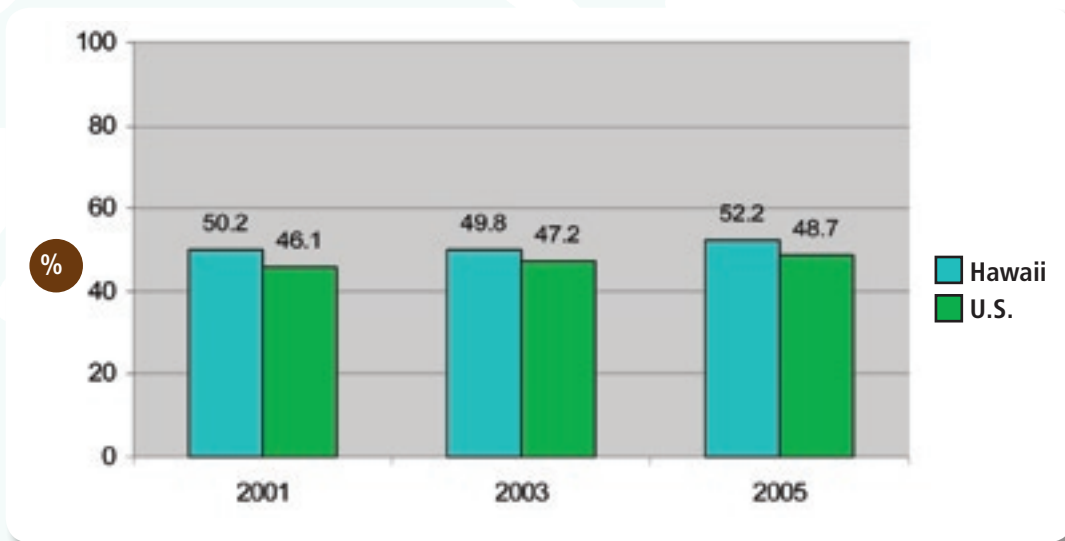
The guidelines for children and adolescents have recently changed. Previously, the recommendations were the same as for adults. The current guidelines recommend that children and adolescents participate in at least 60 minutes of moderate intensity physical activity most days of the week, preferably daily.<sup>7</sup> Since these recommendations have changed recently, most of the current data available on physical activity for children and adolescents describe the previous recommendations.



## 2.1.1 Physical Activity Among Adults

According to the BRFSS, a higher percentage of adults in Hawaii met the recommended guidelines for physical activity than in the rest of the U.S. for each of the three years shown in Figure 4.<sup>8</sup> In 2001 and 2005, Hawaii exceeded the 2010 goal that 50% of adults meet recommended guidelines for physical activity.

**Figure 4: Percentage of Adults in Hawaii and the U.S. that Met Guidelines\* for Physical Activity, BRFSS, 2001, 2003 and 2005**



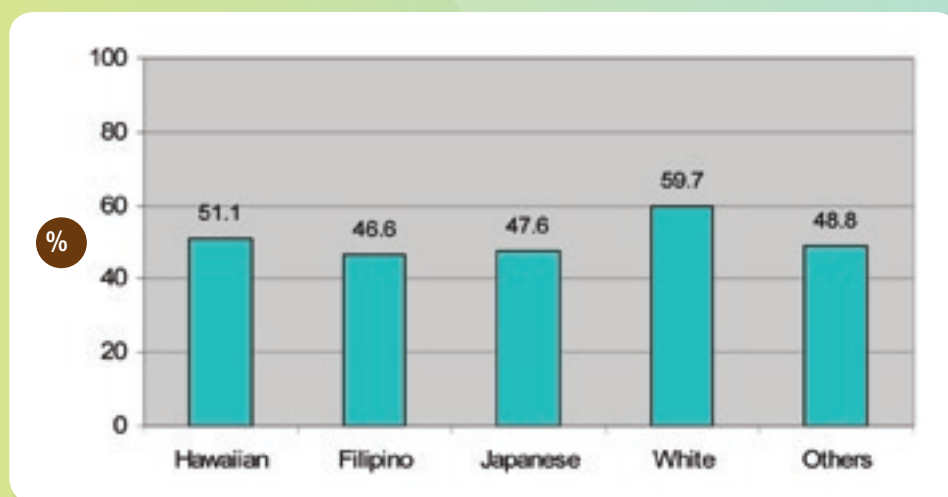
\* Recommended guidelines: moderate intensity physical activity for at least 30 minutes on five or more days of the week or vigorous intensity physical activity for 20 or more minutes on three or more days per week.





The percentage of adults that met the guidelines for physical activity varied by ethnicity (Figure 5). In 2005, white adults reported the highest physical activity levels, followed by Native Hawaiians, Others, Japanese, and Filipinos. Whites and Native Hawaiians were the only groups that met the Healthy People 2010 goal of 50%.

**Figure 5: Percentage of Adults in Hawaii that Met Guidelines\* for Physical Activity by Ethnicity, BRFSS, 2005**



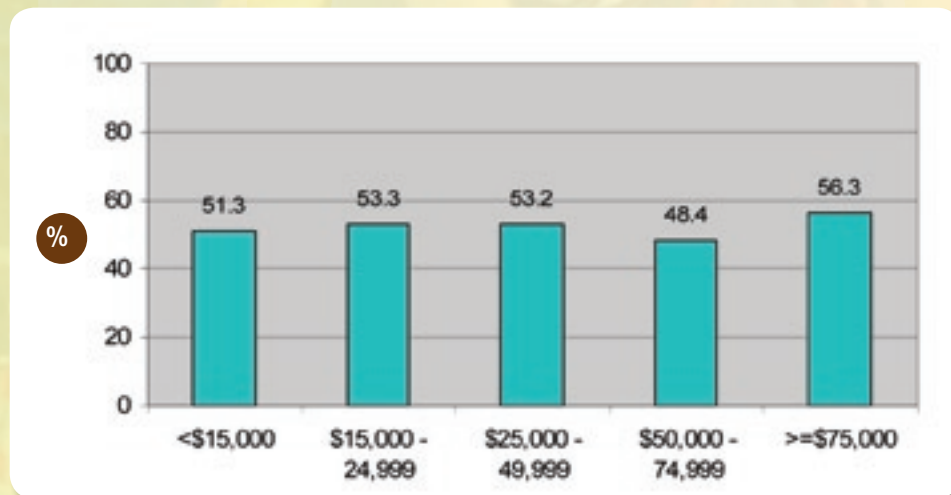
\* Recommended guidelines: moderate intensity physical activity for at least 30 minutes on five or more days of the week or vigorous intensity physical activity for 20 or more minutes on three or more days per week.





An examination of physical activity among different income levels revealed that individuals in the highest income category reported the highest levels of physical activity (Figure 6). All income categories exceeded the Healthy People 2010 goal of 50%, except the “\$50,000-74,999” range, which was 48.4%.

**Figure 6: Percentage of Adults in Hawaii that Met Guidelines\* for Physical Activity by Income, BRFSS, 2005**

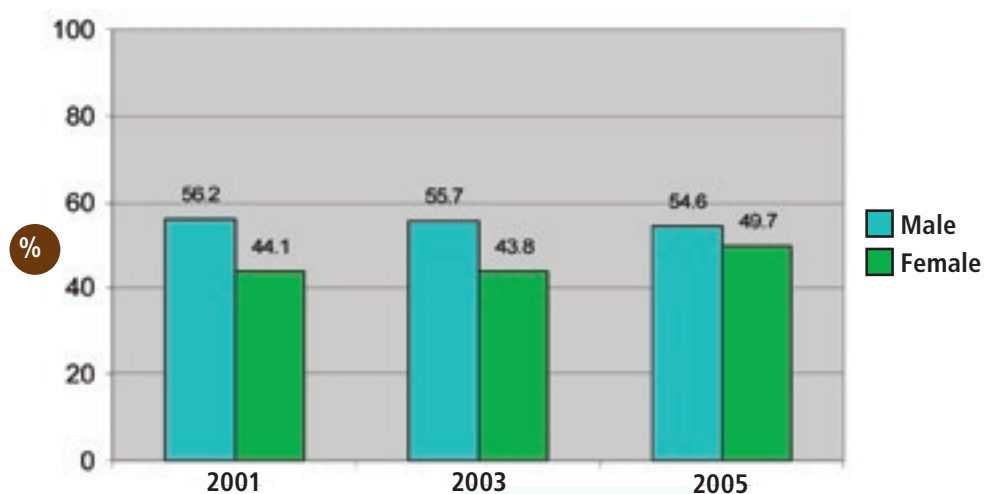


\* Recommended guidelines: moderate intensity physical activity for at least 30 minutes on five or more days of the week or vigorous intensity physical activity for 20 or more minutes on three or more days per week

When analyzing physical activity by sex, males in Hawaii consistently had higher levels of physical activity than females in each of the three years shown (Figure 7). In each year, males exceeded the Healthy People 2010 goal of 50% while females did not.



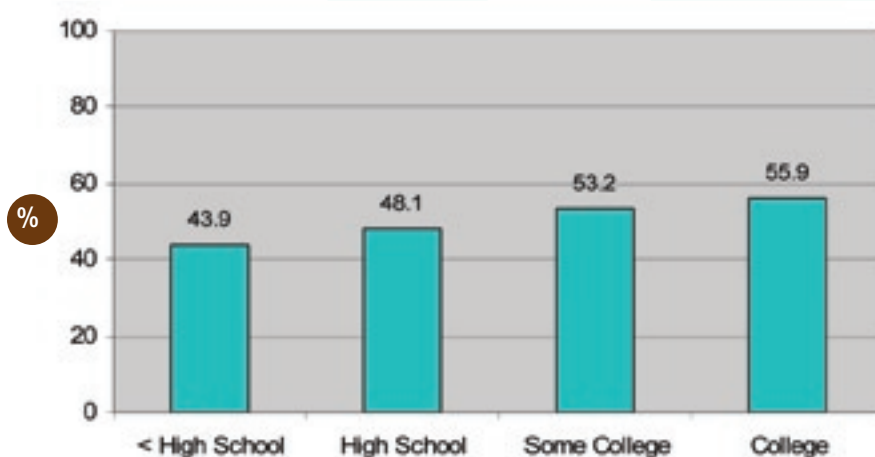
**Figure 7: Percentage of Adults in Hawaii that Met Guidelines\*  
for Physical Activity by Sex, BRFSS, 2001, 2003 and 2005**



\* Recommended guidelines: moderate intensity physical activity for at least 30 minutes on five or more days of the week or vigorous intensity physical activity for 20 or more minutes on three or more days per week

An examination of physical activity levels by educational level revealed that physical activity levels of adults in Hawaii increased with higher levels of education (Figure 8). Individuals in the “Some College” and “College” categories exceeded the Healthy People 2010 goal of 50%.

**Figure 8: Percentage of Adults in Hawaii that Met Guidelines\*  
for Physical Activity by Education, BRFSS, 2005**



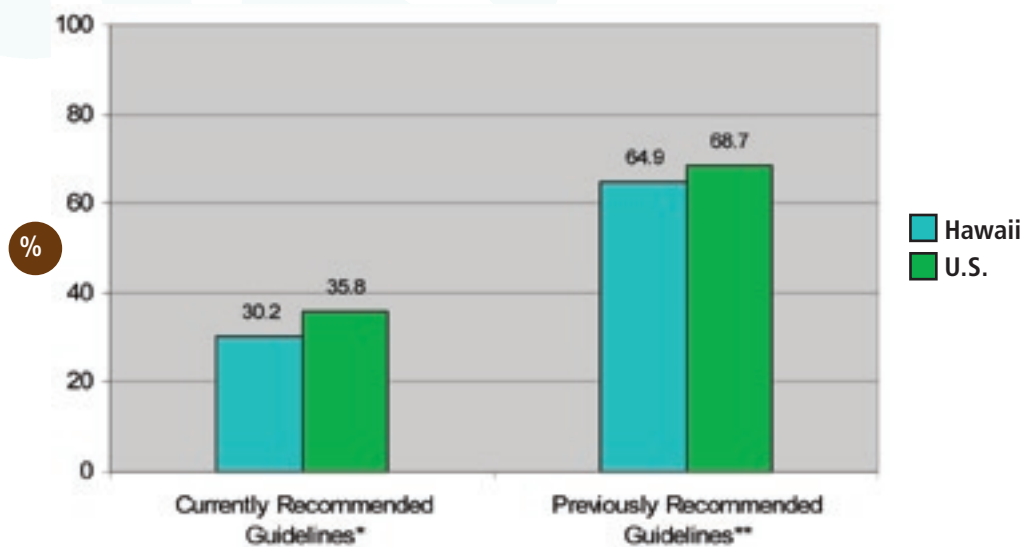
\* Recommended guidelines: moderate intensity physical activity for at least 30 minutes on five or more days of the week or vigorous intensity physical activity for 20 or more minutes on three or more days per week



## 2.1.2 Physical Activity Among Youth

Results from the 2005 Youth Risk Behavior Survey (YRBS) indicated that only 30% of Hawaii high school students, versus almost 36% nationally, met the currently recommended levels of physical activity (Figure 9).

**Figure 9: Percentage of High School Students in Hawaii and the U.S. that Met Guidelines for Physical Activity, YRBS, 2005**



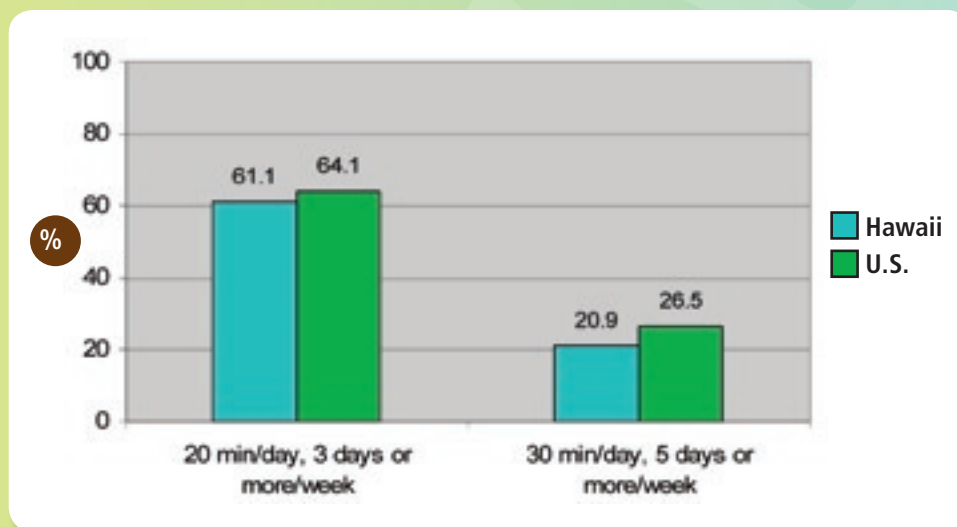
\* Currently recommended guidelines: moderate or vigorous exercise for 60 minutes a day, 5 days or more a week

\*\*Previously recommended guidelines: moderate intensity physical activity for at least 30 minutes on five or more days of the week or vigorous intensity physical activity for 20 or more minutes on three or more days per week

In 2005, neither high school students in Hawaii nor the U.S. met the Healthy People 2010 goal that 85% of high school students engage in vigorous physical activity for at least 20 minutes per day for three or more days per week (Figure 10). They also fell short of the Healthy People 2010 objective that 35% of high school students engage in moderate physical activity for at least 30 minutes per day for five or more days per week.



**Figure 10: Percentage of High School Students in Hawaii and the U.S. that Met Previously Recommended Guidelines\* for Physical Activity, YRBS 2005**

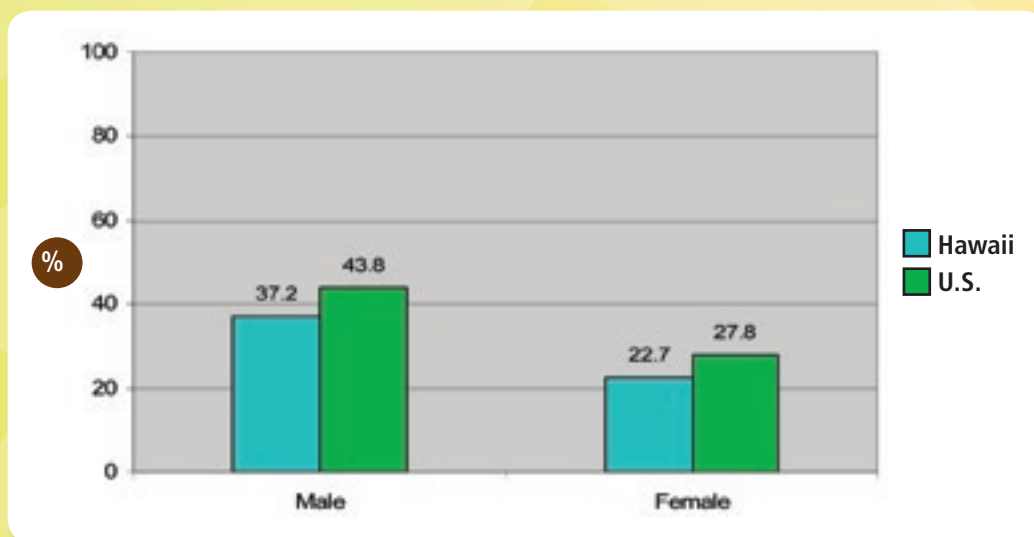


\* Previously recommended guidelines: moderate intensity physical activity for at least 30 minutes on five or more days of the week or vigorous intensity physical activity for 20 or more minutes on three or more days per week

A review of physical activity by sex showed that a higher percentage of male high school students in Hawaii reported meeting the currently recommended physical activity guidelines than did female students (Figure 11). However, the percentages for both male and female high school students were lower than the national average.



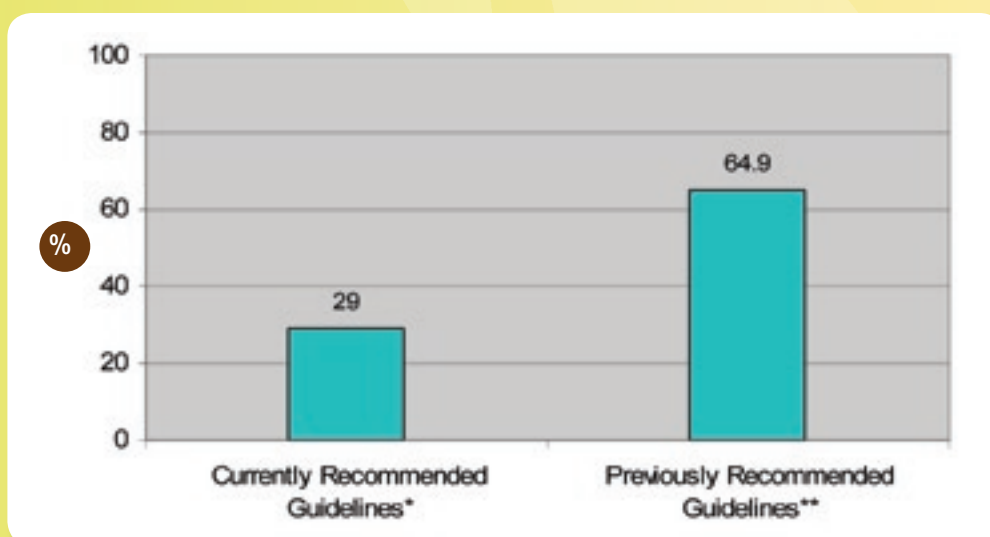
**Figure 11: Percentage of High School Students in Hawaii and the U.S. that Met Currently Recommended Guidelines\* for Physical Activity by Sex, YRBS, 2005**



\* Currently recommended guidelines: moderate or vigorous exercise for 60 minutes a day, 5 days or more a week

In 2005, 29% of middle school students in Hawaii met the currently recommended levels for physical activity (Figure 12). In comparison, 64.9% of middle school students in Hawaii met the previously recommended levels for physical activity.

**Figure 12: Percentage of Middle School Students in Hawaii that Met Guidelines for Physical Activity, YRBS, 2005**

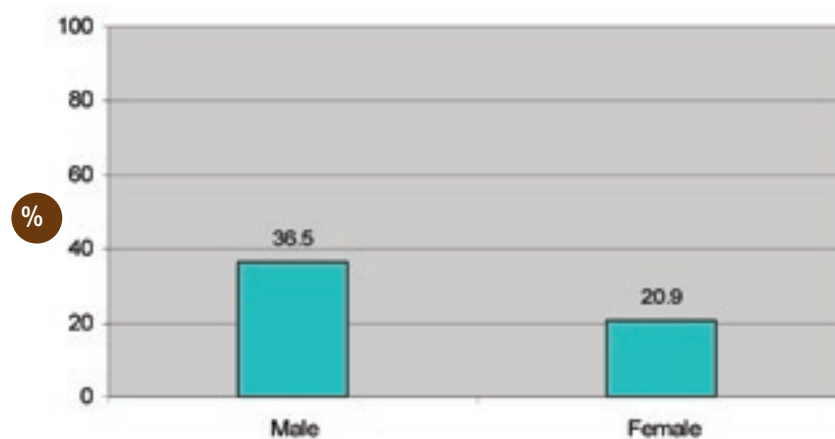


\* Currently recommended guidelines: moderate or vigorous exercise for 60 minutes a day, 5 days or more a week

\*\*Previously recommended guidelines: moderate intensity physical activity for at least 30 minutes on five or more days of the week or vigorous intensity physical activity for 20 or more minutes on three or more days per week

In 2005, an analysis of middle school physical activity by gender revealed that 36.5% of male students met the currently recommended guidelines for physical activity versus 20.9% of females (Figure 13). The national average for the U.S. is not currently available.

**Figure 13: Percentage of Middle School Students in Hawaii that Met Currently Recommended Guidelines\* for Physical Activity by Sex, YRBS, 2005**



\* Currently recommended guidelines: moderate or vigorous exercise for 60 minutes a day, 5 days or more a week

## 2.2 Fruit and Vegetable Consumption

A balanced diet can help individuals maintain good health and prevent various types of chronic diseases. A strong link exists between diet and disease.<sup>9,10</sup> Consuming a diet rich in fruits and vegetables reduces the risk for heart attack, colon cancer, diabetes, and high blood pressure, and may reduce the risk for stroke.<sup>11,12</sup>

The CDC's Healthy People 2010 reports that about 75% of the U.S. population eats too few servings of fruit, 95% eats too few servings of vegetables and 64% eats too much saturated fat. The current recommendation for fruit and vegetable consumption is a minimum of five servings per day. The United States Department of Agriculture (USDA) is currently devising new recommendations which will tailor the amount of fruit and vegetable consumption based on age, gender, and current physical activity levels. However, the available data is based on the recommendation of five or more servings per day.

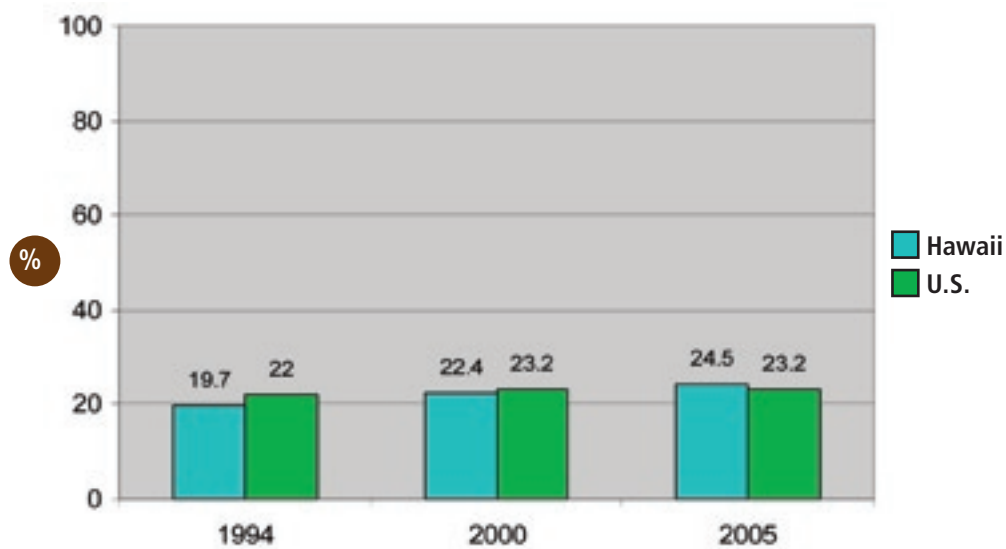




## 2.2.1 Fruit and Vegetable Consumption Among Adults

In 1994 and 2000, adults in Hawaii ate fewer servings of fruits and vegetables than the national average (Figure 14). However, in 2005 almost 25% of Hawaii residents ate five or more servings of fruits and vegetables a day, which was higher than the national average. Still, almost 75% of adults in Hawaii did not consume five or more servings of fruits and vegetables a day.

**Figure 14: Percentage of Adults in the U.S. and Hawaii that Consumed the Daily Recommended Servings\* of Fruits and Vegetables, BRFSS, 1994, 2000 and 2005**

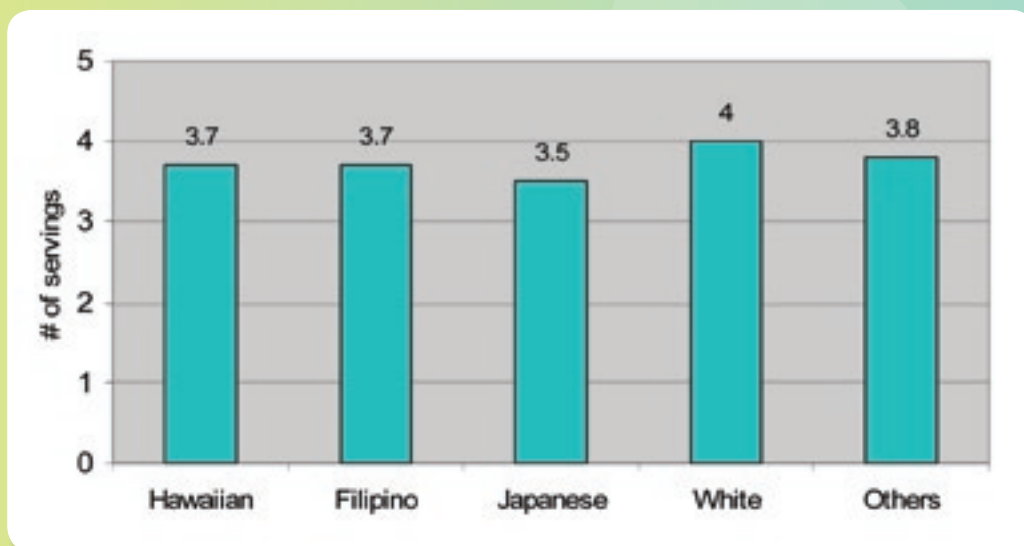


\*5 or more servings of fruits and vegetables a day



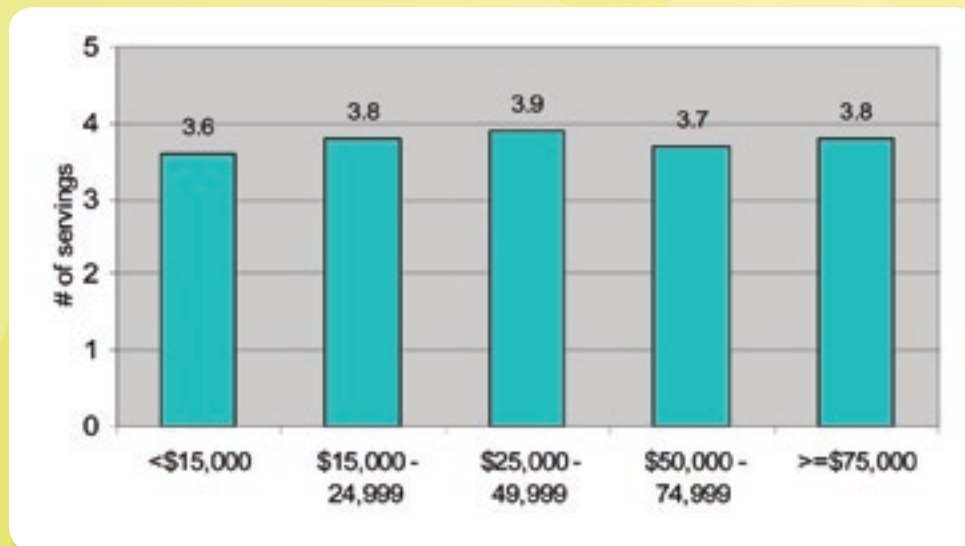
In 2005, white adults ate the most servings of fruits and vegetables among all ethnicities in Hawaii (Figure 15). Adults in the Other category were second, followed by Native Hawaiian/Part Hawaiian and Filipinos, which had identical consumption levels. Japanese adults ate the least amount of fruits and vegetables daily.

**Figure 15: Average Number of Daily Servings of Fruits and Vegetables Consumed by Adults in Hawaii by Ethnicity, BRFSS, 2005**



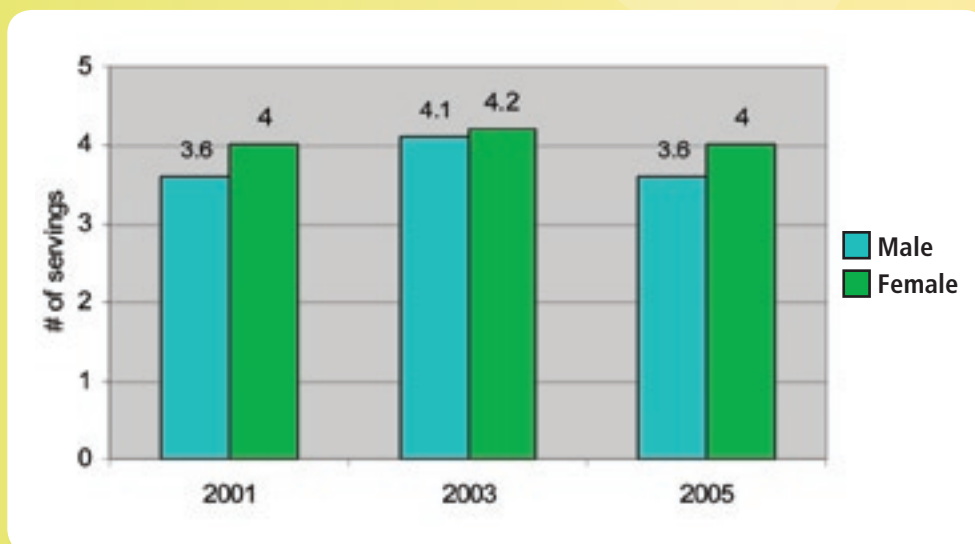
An analysis of fruit and vegetable consumption by income (Figure 16) shows that the most servings of fruits and vegetables were consumed by individuals in the middle income range (\$25,000 - \$49,999) and the least number of servings was consumed by those individuals in the lowest income bracket (<\$15,000).

**Figure 16: Average Number of Daily Servings of Fruits and Vegetables Consumed by Adults in Hawaii by Income, BRFSS, 2005**



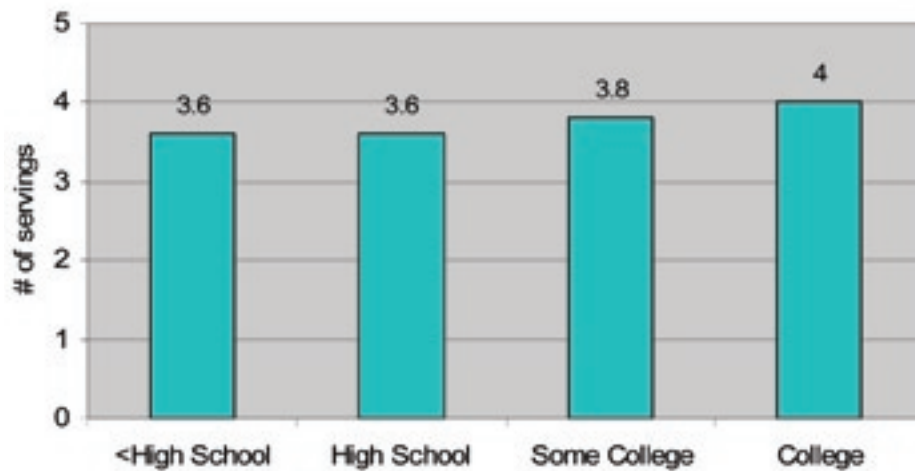
In general, adult females in Hawaii consumed more servings of fruits and vegetables per day than males (Figure 17). In 2005, women in Hawaii consumed 4.0 servings of fruits and vegetables a day, while men consumed 3.6 servings.

**Figure 17: Average Number of Daily Servings of Fruits and Vegetables Consumed by Adults in Hawaii by Sex, BRFSS, 2001, 2003 and 2005**



Education was positively correlated with the number of servings of fruits and vegetables consumed (Figure 18). As educational level increased, consumption of fruits and vegetables increased. In 2005, those adults in Hawaii with the highest level of education, a college degree or higher, reported consuming the highest number of servings of fruits and vegetables.

**Figure 18: Average Number of Daily Servings of Fruits and Vegetables Consumed by Adults in Hawaii by Education, BRFSS, 2005**

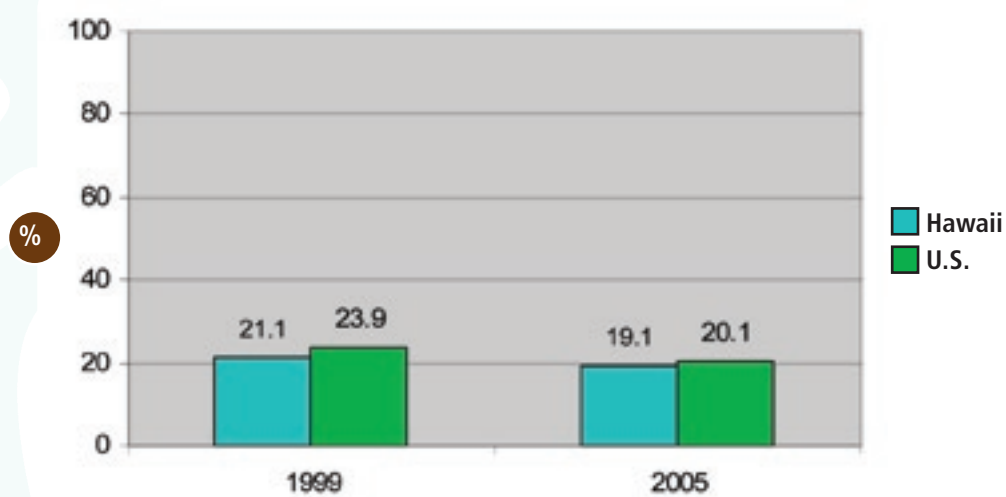




## 2.2.2 Fruit and Vegetable Consumption Among Youth

In 1999 and 2005, a smaller percentage of high schools students in Hawaii ate five or more servings of fruits and vegetables a day than the national average (Figure 19). In 2005, 19% of students in Hawaii (20% U.S.) ate five or more daily servings of fruits and vegetables during the past seven days.

**Figure 19: Percentage of High School Students in the U.S. and Hawaii that Met Recommended Guidelines\* for Fruit and Vegetable Consumption, YRBS, 1999 and 2005**



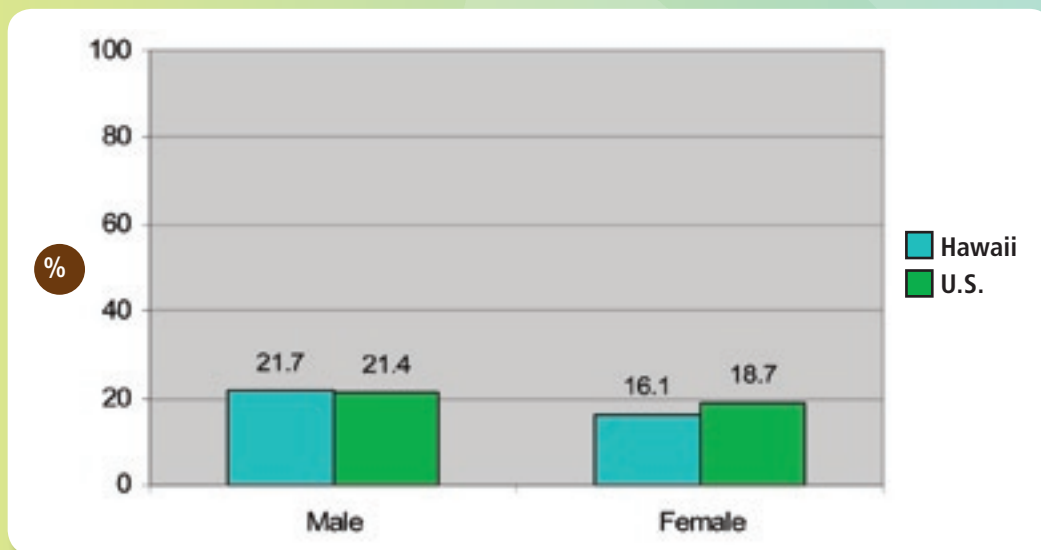
\* 5 or more servings of fruits and vegetables a day





While high school males in Hawaii consumed slightly more servings of fruits and vegetables than the national average, females consumed fewer servings than the national average (Figure 20).

**Figure 20: Percentage of High School Students in the U.S. and Hawaii that Met Recommended Guidelines\* for Fruit and Vegetable Consumption by Sex, YRBS, 2005**



\*5 or more servings of fruits and vegetables a day

In 2005, 22.9% of middle school students in Hawaii ate five or more servings of fruits and vegetables per day. Fruit and vegetable consumption data are not available for middle school students across the U.S.

## 2.3 Health Complications and Mortality

Lack of physical activity and poor nutrition, are linked to numerous health complications, such as overweight and obesity, high blood pressure and diabetes.<sup>13,14</sup> Research has shown that almost all individuals will benefit from physical activity.<sup>14</sup> Moderate physical activity can reduce the risk of developing or dying from heart disease, diabetes, colon cancer, and high blood pressure. Nutritional factors are associated with many preventable illnesses and premature deaths in the U.S. A healthy, balanced diet may reduce the risk of coronary heart disease, cancer, stroke, and diabetes.<sup>15,16</sup>

### 2.3.1 Obesity and Overweight

The impact of overweight and obesity is significant. According to the National Center for Health Statistics, one in three American adults is obese and two in three are overweight.<sup>17</sup> According to the National Institutes of Health (NIH), overweight and obesity have been associated with an increase in morbidity and mortality.<sup>18</sup> Being overweight or obese substantially increases the risk for coronary heart disease, type 2 diabetes, hypertension, some forms of cancer, and certain musculoskeletal disorders, such as osteoarthritis.<sup>19</sup> As a result, obesity and overweight have been labeled a public health epidemic.

#### Definitions of Overweight and Obesity

Obesity and overweight are measured by body mass index (BMI), a calculation based on a ratio of height and weight:

$$\text{BMI} = \text{Weight in pounds} / ((\text{height in inches}) \times (\text{height in inches})) \times 703.$$

According to guidelines from the NIH, a BMI of less than 18.5 is considered underweight, a range of 18.5 to 24.9 is considered normal, 25.0 to 29.9 is considered overweight, and a BMI of 30 or more is considered obese.<sup>20</sup>

| Category      | BMI range      |
|---------------|----------------|
| Underweight   | Less than 18.5 |
| Normal weight | 18.5 to 24.9   |
| Overweight    | 25 to 29.9     |
| Obese         | 30 and higher  |



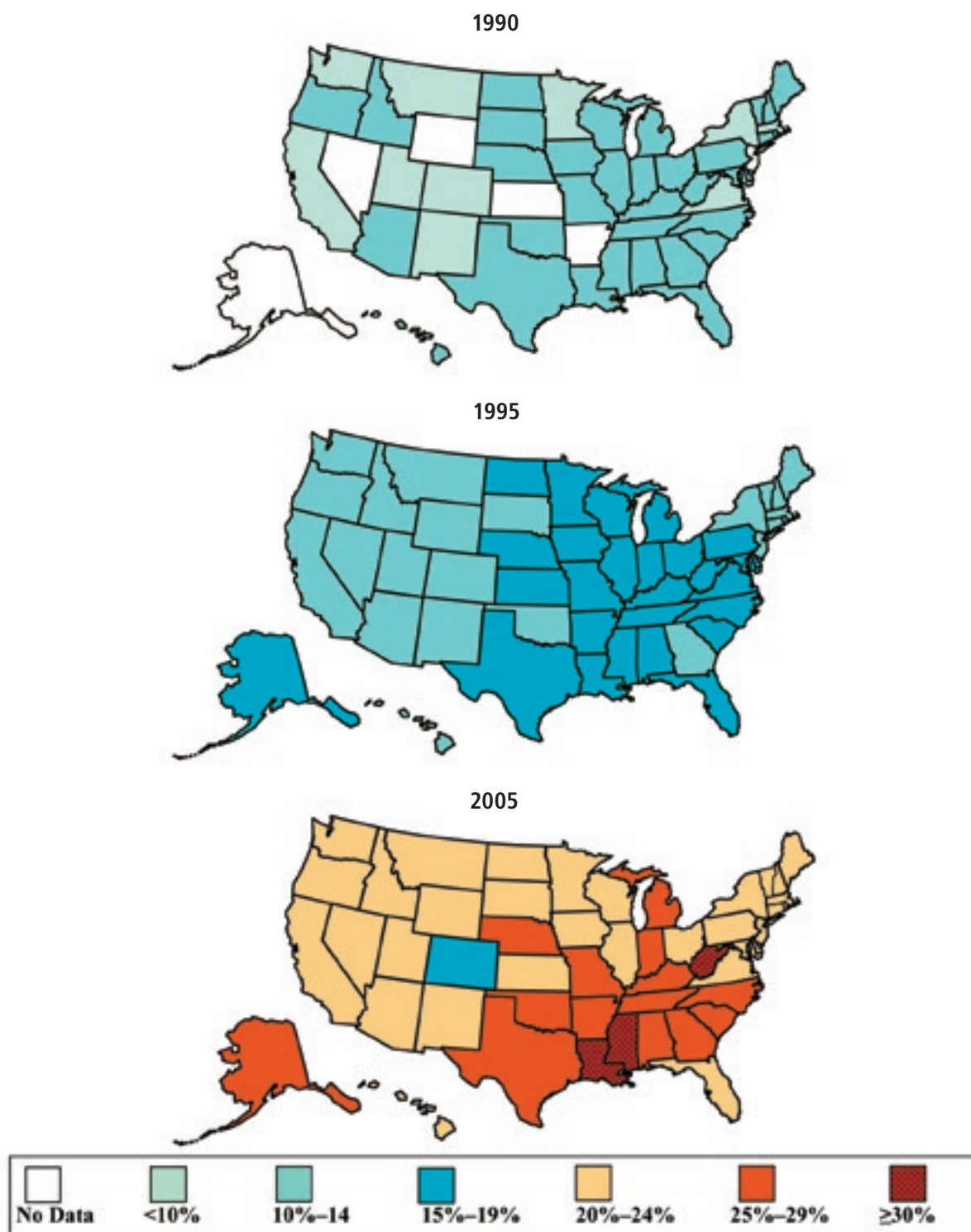
### 2.3.1.1 Overweight and Obesity Among Adults

The rates of overweight and obesity have increased steadily among U.S. adults (Figure 21). According to the BRFSS, overweight has increased among U.S. adults eighteen and older from 33% in 1990 to 37% in 2002. Obesity has increased among U.S. adults from almost 12% in 1990 to a little over 22% in 2002. From 1990 to 2005, the prevalence of obesity has increased in every state of the U.S., including Hawaii. In 2005, 19.7% of adults in Hawaii were considered obese. Hawaii reported the second lowest rate of obesity among adults in the U.S. Hawaii does not yet meet the Healthy People 2010 goal to reduce the number of obese adults to 15%.



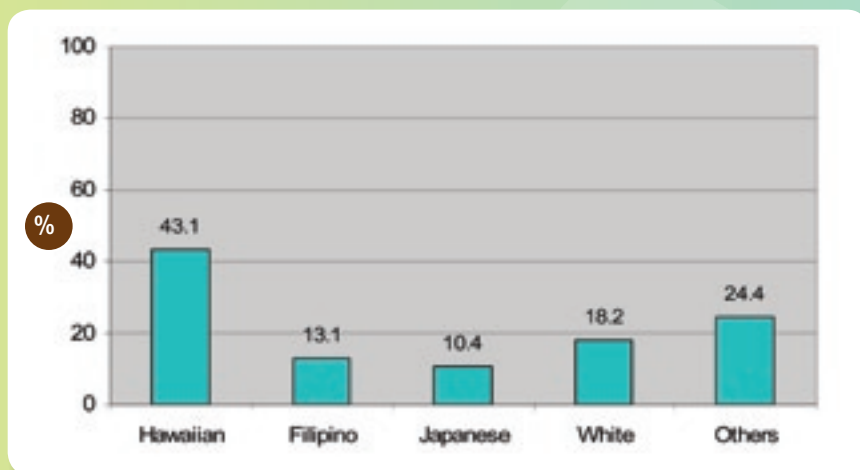
Figure 21: Obesity Trends\* Among U.S. Adults, BRFSS, 1990, 1995, 2005

(\*BMI  $\geq 30$ )



In 2005, among the adult residents of Hawaii, Native Hawaiians had the highest rates of obesity at 43%, followed by Others (24%), Whites (18%), Filipinos (13%), and Japanese (10%). Only Filipinos and Japanese met the Healthy People 2010 goal of 15% or below (Figure 22).

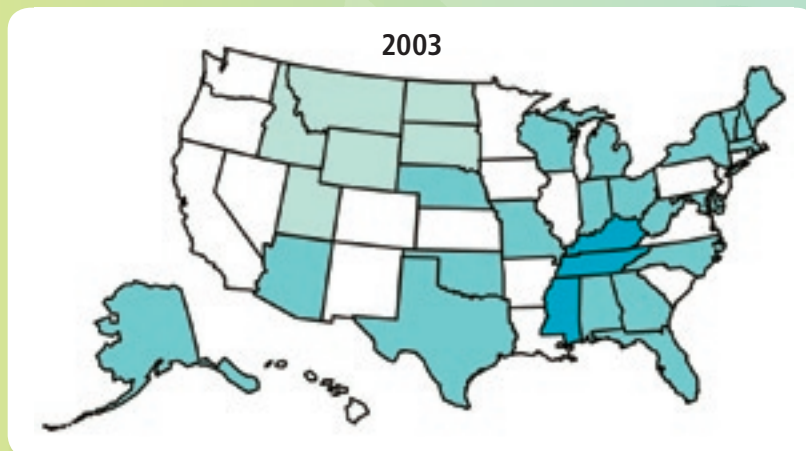
**Figure 22: Percentage of Obese Adults in Hawaii by Ethnicity, BRFSS, 2005**



### 2.3.1.2 Obesity and Overweight Among Youth

From 2003 to 2005, the prevalence of overweight has increased in many states across the U.S (Figure 23). In 2003, three states reported that 15-19% of high school students were overweight. In 2005, a total of six states (an increase of 50%) reported that 15-19% of high school students were overweight. Hawaii does not yet meet the Healthy People 2010 goal to reduce the number of obese adolescents to 5%.

**Figure 23: Percentage of Overweight\* High School Students – Selected U.S. States, YRBS, 2003**



\*Students who were  $\geq$  95th percentile for boy mass index, by age and sex





### 2.3.2 Asthma

26

### 2.3.3 Cancer

According to findings in a landmark study from the American Cancer Society, excess body weight may contribute to more than 90,000 cancer deaths in the U.S. each year.<sup>26</sup> Findings revealed that overweight and obese men and women had a greater risk of death from cancers of the esophagus, colon, rectum, liver, gallbladder, pancreas, kidney, non-Hodgkin's lymphoma, and multiple myeloma. Men who were overweight or obese also had an increased risk of dying from cancer of the stomach, colon and prostate, while overweight or obese post-menopausal women had an increased risk of death from cancers of the breast, cervix, ovaries, and uterus. Scientific evidence indicates that physical activity may reduce the risk of several types of cancer, including cancers of the breast, colon, prostate, and endometrium.<sup>27</sup> A healthy diet, including the recommended allowance of fruits and vegetables, may also reduce the risk of cancer.<sup>28,29</sup> More information about the burden of cancer in Hawaii can be found in the *Hawaii Cancer Plan 2004 - 2009*:

<http://www.hawaii.gov/health/family-child-health/chronic-disease/cccp/plan.pdf>



### 2.3.4 Cardiovascular Disease

Heart disease is the number one cause of death in the U.S. and Hawaii. Physical inactivity, overweight, and obesity are considered cardiovascular risk determinants.<sup>30</sup> Regular physical activity and a diet low in unhealthy fats and high in fruits and vegetables may help reduce the risk for cardiovascular disease.<sup>31,32</sup> The DOH is currently developing a cardiovascular disease report which will contain detailed data on cardiovascular disease in Hawaii.

## 2.3.5 Diabetes

In both Hawaii and the U.S., the prevalence rate for diabetes is increasing as the population becomes older and more overweight. Nearly 80% of diabetes is diagnosed in overweight and obese individuals, suggesting a strong link between weight status and the development of diabetes.<sup>33</sup> Regular physical activity may reduce the onset of diabetes.<sup>34,35</sup> More information about the burden of diabetes in Hawaii can be found in the *Hawaii Diabetes Plan 2010*: <http://www.hawaii.gov/health/family-child-health/chronic-disease/diabetes/pdf/hawaiidiabetesplan.pdf>.

## 2.3.6 High Blood Pressure

High blood pressure is a risk factor for heart disease, the leading cause of death in Hawaii and the U.S.<sup>36</sup> Research indicates that overweight and obesity are significantly associated with high blood pressure. According to the CDC, high blood pressure can lead to hardened or stiffened arteries, which can decrease blood flow throughout the body.<sup>37</sup> Reduced blood flow to the heart muscle can lead to angina or to a heart attack. Regular physical activity can help lower high blood pressure.<sup>38</sup> A diet rich in fruits and vegetables and low in sodium, cholesterol, and saturated fat can help reduce blood pressure levels.

## 2.3.7 High Cholesterol

High blood cholesterol is a leading risk factor for heart disease. High cholesterol is more prevalent among overweight or obese adults than healthy weight adults.<sup>39</sup> Excess cholesterol in the bloodstream forms plaque on artery walls, which leads to restricted blood flow, angina, or a possible heart attack. Consuming saturated fat and cholesterol makes your blood cholesterol level go up. Regular physical activity and a healthy diet low in saturated fat help reduce blood cholesterol levels.<sup>40,41</sup>

## 2.3.8 Osteoarthritis

Research indicates a significant relationship between obesity and joint problems, such as osteoarthritis.<sup>42</sup> Overweight and obese people were more likely to report pain, stiffness or swelling in or around a joint, and also were more likely than persons of a healthy weight to be diagnosed with arthritis by a doctor. Joints are injured more often and deteriorate more quickly from excess body weight. Reduced activity due to joint pain can lead to stiffness and a decreased range of motion. Research suggests that physical activity and changes in diet, such as eating more fruits and vegetables, can help reduce the symptoms of various types of arthritis.<sup>43,44,45</sup>



## Section 3.0 Vision, Goals, Objectives, and Guiding Principles

The vision and goals were developed to serve as foundation for the objectives and recommended strategies for this Plan.

***Vision:** We envision a future for Hawaii in which all residents are physically active, eat healthy foods, and live in healthy communities.*

***Goals:** Through healthful eating and regular physical activity, the people of Hawaii will:*

1. Reduce their burden of disease;
2. Increase years of healthy life; and
3. Reduce health disparities.

***Objectives:** We will achieve the above goals through the following objectives:*

1. Establish state and county coalitions to take the lead in advocating for systemic changes in physical activity and nutrition.
2. Increase support for physical activity and healthful nutrition in communities.
3. Increase opportunities for physical activity and healthful nutrition in workplaces.
4. Strengthen systems to provide daily physical activity and healthful nutrition in pre- K-12 and childcare facilities.
5. Increase the engagement of healthcare providers in health promotion.
6. Increase the percentage of people living in Hawaii that follow the recommendations for physical activity and nutrition.
7. Increase the percentage of Hawaii residents at a healthy body weight.
8. Reduce mortality from coronary heart disease, stroke, cancer and diabetes.



## Guiding Principles:

- Collaboration with partners is essential in both the writing of this Plan and the implementation of its goals.
- The Hawaii Physical Activity and Nutrition Plan will include diverse viewpoints from stakeholders across Hawaii.
- Decision-making will be driven by the best and most recent available data.
- Data will be used to identify disparities in physical activity, nutrition, and chronic disease among Hawaii residents and plans will be made to reduce those disparities.
- When possible, this Plan will use strategies that are considered evidence-based best practices.
- Progress towards the Plan's priorities will be regularly evaluated and the findings will be published and accessible to the public.
- Based on the evaluations, the Plan will evolve and grow to continue to meet the needs of the stakeholders involved in its creation.

## Section 4.0 Four Component Areas

The Plan is composed of four topic areas: worksites, schools and childcare facilities, healthcare system, and built environment. The overarching theme of health disparities impacts each of the four component areas. Each of these components comprises unique elements to reach different segments of the population. Likewise, each component has applications for addressing and designing strategies and interventions across organizational, community, infrastructure and policy levels.

### Worksites

Worksites are a practical starting point to institute and support opportunities for the adult population to engage in healthy lifestyles. Eighty-two percent of the U.S. population is linked in some way to a worksite. With the exception of sleeping, people spend more time working than performing any other activity, and employees often consume one or more meals at their worksite.<sup>46</sup> Worksite health promotion programs can have a positive effect on health status, reduce absenteeism, improve productivity, and increase morale.

## Schools and Childcare Facilities

Schools and childcare facilities have the ability to improve health outcomes for young people because they provide easy access to many children. In 2005, 57% of three to five year-olds in Hawaii were enrolled in nursery school, preschool, or kindergarten.<sup>47</sup> For the 2005 - 2006 school year, 181,897 children were enrolled in Hawaii's public school system.<sup>48</sup> Besides providing physical activity and nutrition education, schools are in a key position to offer an environment that can promote healthy eating and physical activity. All children have lunch at school, with a large percentage eating cafeteria food.

## Healthcare System

The healthcare system encompasses physicians and other healthcare providers, health insurance companies, and primary care clinics. Each of these members has an interest in increasing physical activity and promoting healthy eating. They also have the ability to influence environmental and policy factors associated with unhealthy weight and related chronic diseases. Both pediatric and adult healthcare providers can influence and reinforce patient diet, physical activity patterns, and lifestyle choices. For example, physician communication and counseling regarding physical activity and breastfeeding has been shown effective in helping patients adopt healthy behaviors.<sup>49</sup>

## Built Environment

The built environment refers to buildings (e.g., workplaces, housing, and schools), land-use (e.g., agricultural, industrial, and residential), public resources (e.g., parks, museums, sidewalks, bicycle paths, and crosswalks), zoning regulations, and transportation systems. There is growing recognition that the built environment has an enormous impact on our health.<sup>50</sup> Zoning, transportation, land-use, and community design decisions influence the distance people travel to work, school, and shopping, as well as the safety and attractiveness of neighborhoods for walking. In addition to creating barriers to physical activity, community design may also make it inconvenient for residents to purchase healthy foods. The built environment reflects and influences the norms of a community around physical activity and healthy food consumption.<sup>51</sup>





## Section 5.0 Objectives and Benchmarks

*Objective 1 Establish state and county coalitions to take the lead in advocating for systemic changes in physical activity and nutrition*

- Benchmark 1: Number of coalition members
- Benchmark 2: Number of times coalitions meet
- Benchmark 3: Objectives and strategies adopted by coalitions
- Benchmark 4: Resource matrix developed by community areas
- Benchmark 5: Action plan developed and implemented by coalitions

*Objective 2 Increase support for physical activity and healthful nutrition in communities*

- Benchmark 1: Increase the percentage of adults with a place close to home where they can walk safely
- Benchmark 2: Increase the percentage of adults with a park close to home where they can engage in physical activity
- Benchmark 3: Increase the number of schools with programs that encourage biking and walking to school

*Objective 3 Increase opportunities for physical activity and healthful nutrition in workplaces*

- Benchmark 1: Among worksites that have vending machines or cafeterias that sell foods or beverages, increase the percentage of worksites that offer healthy food options
- Benchmark 2: Increase the percentage of worksites with a policy or guidelines encouraging healthy foods be served in each of the following settings (when applicable): (1) staff meetings, (2) company-sponsored events, and (3) customer waiting areas
- Benchmark 3: Increase the percentage of worksites that, during the preceding 12 months, offered employees any health or wellness programs, support groups, counseling, classes, or contests related to physical activity, healthy eating or weight management
- Benchmark 4: Increase the percentage of employer-sponsored offerings or support for physical activity, healthy eating, or weight management

*Objective 4 Strengthen systems to provide daily physical activity and healthful nutrition in pre- K-12 and childcare facilities*

- Benchmark 1: Increase the number of teachers trained in standards-based K-12 nutrition education
- Benchmark 2: Increase the number of teachers trained in standards-based K-12 physical education
- Benchmark 3: Increase availability of healthy food options at schools and preschools
- Benchmark 4: Increase opportunities for physical activity in schools and preschools

## *Objective 5 Increase the engagement of healthcare providers in health promotion*

- Benchmark 1: Increase the percentage of overweight or obese adults that were encouraged to lose weight by a doctor, nurse, or other healthcare professional during the preceding 12 months
- Benchmark 2: Develop comprehensive interventions for overweight children
- Benchmark 3: Increase the percentage of adults that discussed healthy eating and physical activity with a doctor, nurse, or other healthcare professional during the preceding 12 months
- Benchmark 4: Increase the number of health insurance plans that reimburse for weight management

## *Objective 6 Increase the percentage of people living in Hawaii that follow the recommendations for physical activity and nutrition*

### **Physical Activity – Among Adults**

- Benchmark 1: Decrease the percentage of adults that engage in no leisure time physical activity
- Benchmark 2: Increase the percentage of adults that engage in the recommended levels of physical activity

### **Physical Activity – Among Youth**

- Benchmark 3: Increase the percentage of middle school youth that meet the recommendations for physical activity
- Benchmark 4: Increase the percentage of high school youth that meet the recommendations for physical activity

### **Nutrition - Among Adults**

- Benchmark 5: Increase the percentage of adults that consume five or more servings of fruits and vegetables a day

### **Nutrition - Among Youth**

- Benchmark 6: Increase the percentage of middle school youth that consume five or more servings of fruits and vegetables a day
- Benchmark 7: Increase the percentage of high school youth that consume five or more servings of fruits and vegetables a day



## *Objective 7 Increase the percentage of Hawaii residents at a healthy body weight*

### **Body Weight – Among Adults**

Benchmark 1: Increase the percentage of adults that are at a healthy body weight

### **Body Weight – Among Youth**

Benchmark 2: Increase the percentage of middle school students that are at a healthy body weight

Benchmark 3: Increase the percentage of high school students that are at a healthy body weight

## *Objective 8 Reduce mortality from coronary heart disease, stroke, cancer and diabetes*

Benchmark 1: Reduce mortality from coronary heart disease

Benchmark 2: Reduce mortality from diabetes

Benchmark 3: Reduce mortality from stroke

Benchmark 4: Reduce mortality from breast cancer

Benchmark 5: Reduce mortality from colon cancer





# Section 6.0

## Strategies and Recommended Activities

*Objective 1 Establish state and county coalitions to take the lead in advocating for systemic changes in physical activity and nutrition.*

**Strategy:** Advocate for initiatives and policies that support nutrition and physical activity issues

**Recommended Activities:**

- Create a built environment resource directory for communities to include a list of best practices and an inventory of existing state, county, and community resources
- Train stakeholders to advocate for policies concerning the built environment and policy changes that support healthy eating and physical activity
- Develop a statewide resource directory of programs that promotes healthy eating and physical activity, overweight and obesity
- Establish an interdisciplinary center for healthy workplaces inclusive of University of Hawaii School of Business Administration, Department of Urban and Regional Planning, Department of Economics, and health professional schools that addresses such issues as consistent and complementary messaging regarding physical activity and nutrition curricula development
- Increase involvement of the public health community in traffic and land use planning
- Identify high priority populations that experience health disparities
- Establish a surveillance and tracking system to monitor progress and benchmarks
- Establish a core set of measures that indicates a healthy community

*Objective 2 Increase support for physical activity and healthful nutrition in communities*

**Strategy 1:** Increase the number of community-based recreational facilities available for physical activity

**Recommended Activities:**

- Increase the number of Hawaii elementary and secondary schools, colleges and universities that allow children or adults in the community to use indoor/outdoor physical activity and athletic facilities without being in a supervised program
- Partner with the Department of Education and the Department of Parks and Recreation to provide and oversee physical activity opportunities during and outside school
- Support and promote local community center physical activity offerings, e.g., walking clubs, Fit-Kids, YMCAs, YWCAs, etc.
- Increase the number of community sites offering free or low-cost physical activity opportunities for residents
- Expand the number of programs that cater to adults and children with special needs

**Strategy 2:** Increase the number of educational opportunities to learn about making changes in physical activity and eating

**Recommended Activities:**

- Identify and enhance community-wide healthy eating and physical activity programs, seminars, and special events
- Use multiple channels for educational interventions, such as retail food outlets, beauty shops, faith-based communities, transit and recreational facilities, worksites, and social service centers to reach targeted subgroups within the community
- Develop educational interventions that are culturally appropriate for groups experiencing health disparities



**Strategy 3:** Increase the availability of healthy foods in the community

**Recommended Activities:**

- Educate restaurants on the need and importance of increasing healthy food options and labeling within Hawaii restaurants
- Explore ways to encourage vendors to offer healthy food choices at community fundraisers and events
- Support farmers' markets

**Strategy 4:** Increase public and professional awareness of the importance of healthy eating and daily physical activity and the need for supportive policies

**Recommended Activities:**

- Develop messages to reduce health disparities that are culturally competent and family-centered when appropriate
- Develop, field-test, and disseminate physical activity and healthy eating messages for television, radio, and print media
- Coordinate and stratify messages by age, ethnicity, and geography based on data
- Establish physical activity and nutrition messages to create a clear vision for stakeholders
- Establish an annual Healthy Community Development Conference
- Develop a media campaign on the benefits of walkable communities

**Strategy 5:** Create a healthy environment development guide for communities that includes changes communities can make to increase physical activity and improve nutrition

**Recommended Activities:**

- Identify best practices related to environments that support nutrition and physical activity
- Inventory existing state, county, and community plans for healthy environmental changes
- Identify resources and associations within communities (e.g., business associations, neighborhood boards) that influence planning
- Establish criteria for a “healthy community” and develop a community checklist
- Publish best practice guidelines and physical activity and nutrition inventories on the DOH website

*Objective 3 Increase opportunities for physical activity and healthful nutrition in workplaces*

**Strategy 1:** Educate employers on the advantages of healthy worksites

**Recommended Activities:**

- Encourage employers to implement wellness policies and programs that encourage healthy food choices and physical activity
- Provide support materials for healthy worksites that include toolkits, best practices, technical assistance, and local resources
- Develop a process to educate employers on the benefits of having a healthy worksite using a social marketing model

**Strategy 2:** Use rewards and incentives to create healthy work cultures

**Recommended Activities:**

- Promote and support physical activity campaigns that can be implemented at the worksite
- Increase number of worksites that offer health education classes to their employees at the worksite
- Increase number of worksites that offer age-appropriate prevention screenings to their employees
- Identify best practices related to environments that support nutrition and physical activity in the worksite (include special populations)
- Develop a recognition and incentive program acknowledging businesses that establish policies and create a work environment promoting healthy worksites
- Establish forum with recognized business leaders to discuss healthy work environments





**Strategy 3:** Increase opportunities for consumers (employees) to advocate for their own health

**Recommended Activities:**

- Expand opportunities to work with unions to support employer health benefit package
- Advocate for clear healthcare benefits that are transparent and accessible to the consumer
- Develop a mechanism that allows consumers input into their benefits package, especially for health-promotion services
- Increase the opportunities for employees to receive appropriate counseling on weight issues and age-appropriate prevention screenings
- Develop guidelines for worksite health and wellness groups to share information, ideas, and needs between staff and management
- Encourage providers to develop insurance packets for distribution during open enrollment periods that include information on promoting healthy lifestyles, e.g., nutrition and physical activity resources, recipes, etc.



**Objective 4** *Strengthen systems to provide daily physical activity and healthful nutrition in pre- K-12 and childcare facilities*

**Strategy 1:** Increase the number of schools implementing age-appropriate pre-K-12 curricula and opportunities designed to promote lifelong healthful nutrition and daily physical activity among students

**Recommended Activities:**

- Establish School Health Advisory Councils to assess, plan, and implement nutrition and physical activity actions
- Continue to support the Physical Education Specialist position within the DOE
- Establish a permanent position within the DOE for a Health Education Specialist
- Work with Coordinated School Health Program Interagency Committee to establish local School Health Advisory Councils to assess, plan, and implement quality physical activity programs and policies for students
- Provide ongoing professional development opportunities in health and physical education for physical education, health education, and general classroom teachers
- Encourage schools to adopt non-competitive, structured school-based physical activities
- Develop a recognition and incentive program to acknowledge schools that promote healthy eating
- Encourage the incorporation of physical activity opportunities in school curriculum such as Brain Breaks, Take 10 and Minds in Motion
- Promote policies that require daily recess for all elementary students
- Develop, obtain or adapt physical activity and healthy nutrition curricula kits for all teachers

**Strategy 2:** Increase the number of school policies that promote healthy food choices for lunch programs, fundraisers, and vending machines

**Recommended Activities:**

- Develop nutrition guidelines for school activities (e.g., healthy snacks at concession stands, require vendors to provide healthy food and beverage alternatives, and fundraisers to sell healthy foods)
- Promote Fit, Healthy, and Ready to Learn sample policies
- Educate school policy makers and vendors about the importance of healthy foods and learning
- Provide ongoing professional development in nutrition education for school food service staff, managers, and supervisors
- Encourage Board of Education (BOE) to adopt physical activity and healthy eating as a priority
- Establish and implement policy prohibiting commercial (competitive foods) food advertising in schools
- Develop partnerships with food and beverage suppliers who service schools
- Establish policy requiring lunch wagons and other mobile food vendors be no closer than 1,000 yards to school property
- Ensure schools involve students in defining and creating healthy school environments
- Promote education on how to purchase and prepare healthy foods in health and home economics classes



**Strategy 3:** Improve physical activity and nutrition in preschool and childcare facilities

**Recommended Activities:**

- Develop curriculum to educate childcare providers on nutrition and physical activity
- Promote and support change in licensing requirements to reflect appropriate physical activity and nutrition guidelines
- Identify a mechanism to reach non-licensed providers
- Develop and promote activity kits for childcare providers
- Increase the number of childcare facilities that have policies for daily physical activity and healthy eating
- Encourage childcare policies that are supportive of breastfeeding
- Provide and promote opportunities for individuals who work in childcare environments to improve knowledge, attitudes, and practices related to supporting healthy eating and daily physical activity
- Increase access of early childhood programs to nutrition and physical activity resources
- Educate and encourage parents to advocate for physical activity and nutrition resources in preschools and childcare facilities

**Strategy 4:** Establish a comprehensive healthy school environment with support of staff, students, parents, and community members in all Hawaii school districts

**Recommended Activities:**

- Establish state and school policies to increase nutritional value of food distributed in the cafeteria, school store, vending machines, fundraising, and at classroom parties or for rewards
- Work with schools to develop policies to hold recess before lunch and daily physical education and wellness for all Hawaii's school-age children
- Increase physical activity, emphasizing intramural, wellness and other broad-based activities and nutrition education opportunities on school property before, during, and after school
- Provide education programs on physical activity and nutrition to schools and after-school programs that have physical education and activities that meet the needs of special needs children
- Educate students and encourage them to apply knowledge learned in classroom curricula to make healthy meal choices
- Establish peer training program to work with business community and schools to develop expectations regarding what comprises a healthy workplace



**Strategy 5:** Increase percentage of school-age youth that participate in quality, daily physical education (PE)

**Recommended Activities:**

- Develop education campaign for BOE, Parent Teacher Association (PTA), and administrators on the importance of PE
- Encourage key decision makers, including the BOE, to establish policies that require quality, daily PE for all students K-12 or, at a minimum, require quality PE for a minimum of 150 minutes per week for students K-5 and 225 minutes for grades 6-12
- Increase percentage of schools that provide sequential, skills-based instruction on the benefits of lifelong physical activity as a part of the health education curriculum and that also provides necessary professional development opportunities for teachers
- Develop local policy that requires PE classes be taught by certified physical education teachers
- Develop a recognition program that acknowledges PE teachers and programs
- Develop physical activity and nutrition policies for after school programs
- Educate personnel about nutrition and physical activity recommendations
- Encourage after school program policies that limit electronic sedentary behavior, (e.g., TV, handheld video games, computer games, etc.)
- Develop and distribute an after-school program nutrition and physical activity resource guide
- Identify best practices related to environments that support nutrition and physical activity in the schools (include special populations)
- Develop policy for consistent physical activity, health and nutrition messages to be distributed to students, families, communities, DOH, DOE, and private schools



**Strategy 6:** Create environments that are safe and more supportive for Hawaii students to walk and bike to school

**Recommended Activities:**

- Increase the number of schools with safe and accessible sidewalks, bike lanes, and crosswalks
- Develop and promote a “walk and bike to school” campaign that establishes designated routes, creative incentive programs, and promotional events
- Develop policies that support parent-led “walking schools buses” and Safe Routes to School to increase physical activity before and after school



## *Objective 5 Increase the engagement of healthcare providers in health promotion*

**Strategy 1:** Increase the number of healthcare systems and providers that support and promote healthy eating and physical activity

### **Recommended Activities:**

- Convene partnerships to identify and promote best practices for use by providers, healthcare systems, insurers, and purchasers to promote physical activity
- Recruit healthcare systems and providers to co-sponsor community-wide health promotion campaigns
- Provide physical activity and nutrition-related brochures and pamphlets for waiting rooms and lobbies
- Engage healthcare providers to advocate for increased physical activity opportunities and policies with county and state policymakers
- Encourage healthcare providers to provide information and facilitate discussion with clients on current physical activity recommendations
- Establish core competencies for physical activity and nutrition curricula across healthcare disciplines
- Increase training for healthcare professionals in physical activity through schools and continuing education programs for physicians, sports medicine professionals, occupational and physical therapists, nurses, dietitians, and health educators
- Increase coordination and develop partnerships between healthcare professionals and the community to facilitate referrals to programs and resources that promote daily physical activity for persons of all ages
- Develop physical activity and nutrition curricula for healthcare providers
- Provide experts on physical activity and nutrition programs who can speak at health professional meetings
- Increase referrals to appropriate services for prevention and treatment of overweight and obesity

**Strategy 2:** Redesign the healthcare financing system to promote healthy lifestyles

### **Recommended Activities:**

- Engage top leadership from public and private health plans, business community, and policy staff to identify innovation in financing systems
- Provide research opportunities to determine current cost reimbursement policies that promote healthy lifestyles and models of financing strategies
- Identify and secure funding through grants and other sources to support research and planning

Since objectives 6, 7 and 8 are outcomes of the other objectives, the strategies and recommended activities for these objectives are already listed under the previously mentioned objectives.

## *Objective 6 Increase the percentage of people living in Hawaii that follow the recommendations for physical activity and nutrition*

## *Objective 7 Increase the percentage of Hawaii residents at a healthy body weight*

## *Objective 8 Reduce mortality from coronary heart disease, stroke, cancer, and diabetes*

## Section 7.0 Evaluation

Evaluation should always be an integral component of the planning process to ensure that public health programs are accomplishing their goals and objectives. In order to determine whether or not we are making progress on the objectives listed in the Plan, we must be clear about what needs to be measured and how it should be measured. Each objective in the Plan can be measured by using benchmarks, indicators, baselines and outcomes. For example, Objective 7 states that by 2020 we want to increase the percentage of Hawaii residents at a healthy body weight. The first benchmark for Objective 7 aims to increase the percentage of adults living at a healthy body weight. The indicator, Body Mass Index (BMI), is the measure we would use to assess whether or not change is occurring. The baseline is where we are starting from; here it would be the current BMI of adults in Hawaii. Lastly, an outcome measure should be created to identify how much of a reduction in BMI we want to see in a specific timeframe (e.g., reduce the number of obese adults in Hawaii by 10% by 2020).

The following matrix is to be used only as a guide for evaluation purposes. The benchmarks, indicators, and baselines listed are suggestions and should not be seen as absolutes. The objectives are organized by the logical order in which they need to occur. For example, Objective 1, establishing a coalition, needs to happen before the later objectives can be realized. Many plans have chosen to use the Healthy People 2010 national goals to determine what the outcome measure should be for their own plan. While we have listed the Healthy People 2010 outcome measures where appropriate, these might not be the most appropriate measure for a few reasons. Since the year 2010 is only a few years away, we do not want to set unrealistic expectations for our stakeholders. The 2010 goals should be modified to determine a more appropriate timeframe depending on stakeholder priorities. Also, most activities we are measuring do not have a Healthy People 2010 outcome measure. In the absence of Healthy People 2010 measures, we need to develop measures that are appropriate for our goals and objectives.

While the goals, objectives and strategies were the product of various meetings with stakeholders, the benchmarks, indicators, baselines, and outcome measures have not gone through the same rigorous process of stakeholder group discussion. In order to determine appropriate outcome measures, we need to first determine which stakeholders will form the body of the physical activity and nutrition coalition. The size and resources of the coalition will affect what can be accomplished, and the timeframe in which it can be accomplished. The stakeholders who attend the physical activity and nutrition coalition meetings should come to a consensus over which measures to use in order to make their voices heard and to feel a sense of ownership.

Since many organizations will be working towards the same goals, it is imperative that these organizations work together to combine resources and to agree on a unified strategy to improve physical activity and nutrition in Hawaii. Together, we can improve physical activity, nutrition, and the overall health of the residents of Hawaii.





Green boxes indicate measures where Hawaii exceeds Healthy People 2010 goals

*Objective 1: Establish state and county coalitions to take the lead in advocating for systemic changes in physical activity and nutrition*

| Benchmark   | Indicator              | Baseline               |                        |      | Outcome                |
|---|------------------------|------------------------|------------------------|------|------------------------|
|   |                        | Data Source            | Measure                | Year |                        |
| <b>Benchmark 1:</b> Number of coalition members                               | Coalition will develop | Coalition will develop | Coalition will develop | 2008 | Coalition will develop |
| <b>Benchmark 2:</b> Number of times coalitions meet                           | Coalition will develop | Coalition will develop | Coalition will develop | 2008 | Coalition will develop |
| <b>Benchmark 3:</b> Objectives and strategies adopted by coalitions           | Coalition will develop | Coalition will develop | Coalition will develop | 2008 | Coalition will develop |
| <b>Benchmark 4:</b> Resource matrix developed by community areas              | Coalition will develop | Coalition will develop | Coalition will develop | 2008 | Coalition will develop |
| <b>Benchmark 5:</b> Action plan developed and in implementation by coalitions | Coalition will develop | Coalition will develop | Coalition will develop | 2008 | Coalition will develop |

*Objective 2: Increase support for physical activity and healthful nutrition in communities*

| Benchmark   | Indicator   | Baseline                 |                      |                      | Outcome                |
|---|---|--------------------------|----------------------|----------------------|------------------------|
|   |   | Data Source              | Measure              | Year                 |                        |
| <b>Benchmark 1:</b> Increase the percentage of adults with a place close to home where they can walk safely                 | Self-report data of whether adults agree or disagree using a Likert scale | DOH HHI Community Survey | DOH HHI will develop | DOH HHI will develop | Coalition will develop |
| <b>Benchmark 2:</b> Increase the percentage of adults with a place close to home where they can engage in physical activity | Self-report data of whether adults agree or disagree using a Likert scale | DOH HHI Community Survey | DOH HHI will develop | DOH HHI will develop | Coalition will develop |
| <b>Benchmark 3:</b> Increase the number of schools with programs that encourage walking and biking to school                | DOH HHI will develop  | DOH HHI Community Survey | DOH HHI will develop | DOH HHI will develop | Coalition will develop |



*Objective 3: Increase opportunities for physical activity and healthful nutrition in workplaces*

| Benchmark   | Indicator            | Baseline                         |                      |                      | Outcome                |
|---|----------------------|----------------------------------|----------------------|----------------------|------------------------|
|   |                      | Data Source                      | Measure              | Year                 |                        |
| <b>Benchmark 1:</b> Among worksites that have vending machines or cafeterias that sell foods and/or beverages, increase the percentage that offer healthy food options  | DOH HHI will develop | DOH HHI Worksite Wellness Survey | DOH HHI will develop | DOH HHI will develop | Coalition will develop |
| <b>Benchmark 2:</b> Increase the percentage of worksites with a policy or guidelines encouraging healthy foods be served in each of the following settings (when applicable): (1) staff meetings (2) company sponsored events (3) customer/client waiting areas | DOH HHI will develop | DOH HHI Worksite Wellness Survey | DOH HHI will develop | DOH HHI will develop | Coalition will develop |
| <b>Benchmark 3:</b> Increase the percentage of worksites that, during the past 12 months, offered employees any health or wellness programs, support groups, counseling, classes or contests related to physical activity, healthy eating, or weight management | DOH HHI will develop | DOH HHI Worksite Wellness Survey | DOH HHI will develop | DOH HHI will develop | Coalition will develop |
| <b>Benchmark 4:</b> Increase the percentage of employers offering support for physical activity, healthy eating and weight management   | DOH HHI will develop | DOH HHI Worksite Wellness Survey | DOH HHI will develop | DOH HHI will develop | Coalition will develop |

*Objective 4: Strengthen systems to provide daily physical activity and healthful nutrition in pre- K-12 and childcare facilities*

| Benchmark   | Indicator   | Baseline                     |                        |                        | Outcome                |
|---|---|------------------------------|------------------------|------------------------|------------------------|
|   |   | Data Source                  | Measure                | Year                   |                        |
| <b>Benchmark 1:</b> Increase the number of teachers trained in standards-based K-12 nutrition education | % of teachers trained   | CDC Training Tracker         | Coalition will develop | Coalition will develop | Coalition will develop |
| <b>Benchmark 2:</b> Increase the number of teachers trained in standards-based K-12 physical education  | % of teachers trained   | CDC Training Tracker         | Coalition will develop | Coalition will develop | Coalition will develop |
| <b>Benchmark 3:</b> Increase availability of healthy food options at schools and preschools             | % of schools offering healthy food choices                        | School Accountability Survey | Coalition will develop | 2007                   | Coalition will develop |
| <b>Benchmark 4:</b> Increase opportunities for physical activity in schools and preschools              | % of students that participates in physical education class daily | Youth Risk Behavioral Survey | 12.1%                  | 2005                   | Coalition will develop |



Green boxes indicate measures where Hawaii exceeds Healthy People 2010 goals

### Objective 5: Increase the engagement of healthcare providers in health promotion

| Benchmark   | Indicator   | Baseline                                   |                        |                        | Outcome                |
|---|---|--|------------------------|------------------------|------------------------|
|   |   | Data Source                                | Measure                | Year                   |                        |
| <b>Benchmark 1:</b> Among overweight or obese adults, increase the percentage that were encouraged to lose weight by a doctor, nurse or other health care professional during the preceding 12 months | % of overweight or obese adults that received advice regarding their weight from a doctor, nurse or other health professional | Behavioral Risk Factor Surveillance System | 13.5%                  | 1996                   | Coalition will develop |
| <b>Benchmark 2:</b> Develop comprehensive interventions for overweight children   | Coalition will develop  | Coalition will develop                     | Coalition will develop | Coalition will develop | Coalition will develop |
| <b>Benchmark 3:</b> Increase the percentage of adults that discussed healthy eating and physical activity with a doctor, nurse or other healthcare professional during the preceding 12 months        | % of adults that discussed healthy eating and physical activity with a doctor, nurse, or other health professional            | Coalition will develop                     | Coalition will develop | Coalition will develop | Coalition will develop |
| <b>Benchmark 4:</b> Increase number of health insurance plans that reimburse for weight management  | % of health insurance plans that reimburses for weight management   | Coalition will develop                     | Coalition will develop | Coalition will develop | Coalition will develop |

### Objective 6: Increase the percentage of people living in Hawaii that follow the recommendations for physical activity and nutrition

| Benchmark   | Indicator   | Baseline                                   |         |      | Outcome   |
|---|---|--|---------|------|---|
|   |   | Data Source                                | Measure | Year |   |
| <b>Benchmark 1:</b> Decrease the percentage of adults that engage in no leisure time physical activity                            | % of adults that did not participate in any physical activity or exercise during the 30 days preceding the survey   | Behavioral Risk Factor Surveillance System | 19.5%   | 2005 | 20% (Healthy People 2010)   |
| <b>Benchmark 2:</b> Increase the percentage of adults that engage in recommended levels of physical activity                      | % of adults that engages in moderate physical activity for 30 or more minutes on 5 or more days per week or 20 minutes vigorous activity 3 or more times per week | Behavioral Risk Factor Surveillance System | 52.2%   | 2005 | 30% (HP 2010)   |
| <b>Benchmark 3:</b> Increase the percentage of middle school youth that meet recommendations for physical activity                | % of students that exercises for 60 minutes a day, 5 days or more a week  | Youth Risk Behavioral Survey               | 29%     | 2005 | Guidelines have changed - no HP 2010 goal for new measure           |
| <b>Benchmark 4:</b> Increase the percentage of high school youth that meet recommendations for physical activity                  | % of students that exercises for 60 minutes a day, 5 days or more a week  | Youth Risk Behavioral Survey               | 30.2%   | 2005 | Guidelines have changed - no HP 2010 goal for new measure           |
| <b>Benchmark 5:</b> Increase the percentage of adults that consume 5 or more servings of fruits and vegetables daily              | % of adults that consumes 5 or more servings of fruits and vegetables daily   | Behavioral Risk Factor Surveillance System | 24.5%   | 2005 | Guidelines have changed - see USDA Dietary Guidelines for Americans |
| <b>Benchmark 6:</b> Increase the percentage of middle school youth that consume 5 or more servings of fruits and vegetables daily | % of middle school youth that consumes 5 or more servings of fruits and vegetables daily  | Youth Risk Behavioral Survey               | 19%     | 2005 | Guidelines have changed - see USDA Dietary Guidelines for Americans |
| <b>Benchmark 7:</b> Increase the percentage of high school youth that consume 5 or more servings of fruits and vegetables daily   | % of high school youth that consumes 5 or more servings of fruits and vegetables daily  | Youth Risk Behavioral Survey               | 19%     | 2005 | Guidelines have changed - see USDA Dietary Guidelines for Americans |





*Objective 7: Increase the percentage of Hawaii residents at a healthy body weight*

| Benchmark   | Indicator   | Baseline                                   |         |      | Outcome                |
|---|---|--|---------|------|------------------------|
|   |   | Data Source                                | Measure | Year |                        |
| <b>Benchmark 1:</b> Increase the percentage of adults that are at a healthy body weight                 | 18.5 < BMI < 25   | Behavioral Risk Factor Surveillance System | 44.7%   | 2005 | 60% (HP 2010)          |
| <b>Benchmark 2:</b> Increase the percentage of middle school students that are at a healthy body weight | At risk for overweight + overweight = not healthy wt; difference = healthy wt (may include underwt) | Youth Risk Behavioral Survey               | 73.9%   | 2005 | Coalition will develop |
| <b>Benchmark 3:</b> Increase the percentage of high school students that are at a healthy body weight   | At risk for overweight + overweight = not healthy wt; difference = healthy wt (may include underwt) | Youth Risk Behavioral Survey               | 72.3%   | 2005 | Coalition will develop |

*Objective 8: Reduce mortality from coronary heart disease, stroke, cancer, and diabetes*

| Benchmark  | Indicator               | Baseline                                 |   |           | Outcome                |
|--|-------------------------|--|---|-----------|------------------------|
|  |                         | Data Source                              | Measure                                     | Year      |                        |
| <b>Benchmark 1:</b> Reduce mortality from coronary heart disease | # of deaths per 100,000 | Hawaii Dept. of Health, Vital Statistics | 113.1/100,000                               | 2002      | 166/100,000 (HP 2010)  |
| <b>Benchmark 2:</b> Reduce mortality from stroke                 | # of deaths per 100,000 | Hawaii Dept. of Health, Vital Statistics | 64.7/100,000                                | 2002      | 48/100,000 (HP 2010)   |
| <b>Benchmark 3:</b> Reduce mortality from diabetes               | Prevalence              | Hawaii Dept. of Health, Vital Statistics | 5.8%  | 2002      | 2.5% (HP 2010)         |
| <b>Benchmark 4:</b> Reduce mortality from colon cancer           | # of deaths per 100,000 | Hawaii Dept. of Health, Vital Statistics | Males: 18.3<br>Females: 11.6<br>Per 100,000 | 1995-2000 | Coalition will develop |
| <b>Benchmark 5:</b> Reduce mortality from breast cancer          | # of deaths per 100,000 | Hawaii Dept. of Health, Vital Statistics | 18.1/100,000                                | 1995-2000 | 21.3/100,000 (HP 2010) |

## Section 8.0 Glossary

*The 5 A Day Campaign* is a nationwide initiative to encourage the consumption of five servings of fruits and vegetables each day to reduce risks for chronic conditions. The USDA currently recommends a modified version of 5 A Day that is based on a person's age, sex, and level of physical activity. <http://www.5aday.gov/>

*At-risk-for-overweight* describes children and youth with a gender and age specific Body Mass Index (BMI)  $\geq 85$ th and  $< 95$ th percentile. <http://www.cdc.gov/nccdphp/dnpa/obesity/defining.htm>

*Behavioral Risk Factor Surveillance System (BRFSS)* is a surveillance system that uses a population-based telephone survey to assess behavioral health risk factors of American adults. The BRFSS provides national and state data for following trends in many areas, including obesity, physical activity, and fruit and vegetable consumption. <http://www.cdc.gov/brfss/>

*Body Mass Index (BMI)* is a common measure expressing the relationship (or ratio) of weight-to-height. BMI is a mathematical formula in which a person's body weight in kilograms is divided by the square of his or her height in meters (i.e., weight/height<sup>2</sup>). Individuals with a BMI of 25 to 29.9 are considered overweight, while individuals with a BMI of 30 or more are considered obese. <http://www.cdc.gov/nccdphp/dnpa/obesity/defining.htm>

*Built environment* refers to the manmade surroundings that provide the setting for human activity, from the largest-scale civic surroundings to the smallest personal space. <http://www.cdc.gov/healthyplaces/>

*Cardiovascular Disease (CVD)* is any abnormal condition of the heart or blood vessels. Cardiovascular disease includes coronary heart disease, stroke, congestive heart failure, hypertensive disease, atherosclerosis, and many other conditions. <http://www.cdc.gov/HeartDisease/>

*Childhood overweight* describes children (2-17) with a gender and age specific BMI value  $> 95$ th percentile. <http://www.cdc.gov/nccdphp/dnpa/obesity/defining.htm>

*Cholesterol* is a waxy substance that circulates in the bloodstream. When the level of cholesterol in the blood is too high, some of the cholesterol is deposited in the walls of the blood vessels. Over time, these deposits can build up until they narrow the blood vessels, which reduces the blood flow. The higher the blood cholesterol level, the greater the risk of heart attack or some other symptom of heart disease. Blood cholesterol levels of less than 200 mg/dL are considered desirable. Levels of 200-239 mg/dL are considered borderline. Levels of 240 mg/dL or above are considered high and require further testing and possible intervention. Lowering blood cholesterol reduces the risk of heart disease. [http://www.nhlbi.nih.gov/health/dci/Diseases/Hbc/HBC\\_WhatIs.html](http://www.nhlbi.nih.gov/health/dci/Diseases/Hbc/HBC_WhatIs.html)

*Chronic disease* is an illness that is ongoing or recurring, does not resolve spontaneously, and is rarely cured completely. <http://www.cdc.gov/nccdphp/>

*Community-based program* is a planned, coordinated, ongoing effort operated by a community that characteristically includes multiple interventions intended to improve the health status of members of the community. <http://www.healthypeople.gov/Document/HTML/volume1/07ED.htm>

*Culturally appropriate* refers to an unbiased attitude and organizational policy that values cultural diversity in the population served; reflects an understanding of diverse attitudes, beliefs, behaviors, practices, and communication patterns that could be attributed to race, ethnicity, religion, socioeconomic status, historical and social context, physical or mental ability, age, gender, sexual orientation or generational and acculturation status; includes an awareness that cultural differences may affect health and the effectiveness of healthcare delivery. <http://www.healthypeople.gov/Document/HTML/volume1/07ED.htm>

*Dietary Guidelines for Americans* is a report published by the U.S. Department of Agriculture and U.S. Department of Health and Human Services that explains how to eat to maintain health. The guidelines form the basis of national nutrition policy and are revised every five years. <http://www.health.gov/DietaryGuidelines/>

*Food Guide Pyramid* is a graphic depiction of the U.S. Department of Agriculture's current food guide that includes five major food groups in its "base" (grains, vegetables, fruits, milk products, meats, and meat substitutes) and a "tip" depicting the relatively small contribution that discretionary fat and added sugars should make in U.S. diets. The Food Guide Pyramid provides information on the choices within each group and the recommended number of servings. <http://www.mypyramid.gov/>

*Health Disparities* describes differences in health status in certain segments of the population that occur by gender, race, ethnicity, education, income, disability, geographic location or sexual orientation. <http://www.cdc.gov/omh/AboutUs/disparities.htm>

*Healthy foods* are described in the USDA Nutritional Guidelines for Americans; they contain no more than 30 percent of calories from fat, no more than 10 percent of calories from saturated fat, and no more than 35 percent added sugar by weight (except fresh, dried or canned vegetables and fruits). <http://www.health.gov/DietaryGuidelines/>

*Healthy People 2010* health promotion and disease prevention initiative aims to increase life expectancy and quality of life among all Americans. Major topic areas outlined by the initiative, such as maternal and child health or chronic disease, reflect the leading public health concerns in the nation. Within these topic areas, multiple health indicators are used to measure health status and track progress towards goals for population levels of illness, disability, and death. Information on whether Hawaii is meeting or exceeding the Healthy People 2010 goals is presented in the plan where relevant. <http://www.healthypeople.gov>



*Indicator* provides information about a population's status with respect to health or a factor associated with health (i.e., risk factor, intervention) in a specified population through direct or indirect measures.

<http://www.cdc.gov/nceh/indicators/description.htm>

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

<http://www.health.gov/dietaryguidelines/dga2005/document/html/appendixC.htm>

*Moderate physical activity* comprises activities that use large muscle groups and are at least equivalent to brisk walking a minimum of 30 minutes per day on five or more days a week. In addition to walking, activities may include swimming, cycling, dancing, gardening and yard work, and various domestic and occupational activities.

<http://www.fitness.gov/healthy2k.pdf>

*Obesity* is an excessively high amount of body fat in relation to lean body mass in an individual. In Body Mass Index measurements, obesity is defined as a BMI equal to or greater than 30 in adults.

<http://www.cdc.gov/nccdphp/dnpa/obesity/defining.htm>

*Overweight* is an increased 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 or greater in adults. In children and youth, a gender- and age-specific measure that places the individual at or above the 95th percentile for children and youth aged 2-20 years old. <http://www.cdc.gov/nccdphp/dnpa/obesity/defining.htm>

*Physical activity* is any bodily movement produced by skeletal muscles that results in an expenditure of energy.

<http://www.cdc.gov/nccdphp/dnpa/physical/terms/index.htm>

*School Health Index (SHI)* is a tool developed by CDC for schools to assess their nutrition and physical activity environments, plan and implement improvements, and monitor change over time.

<http://www.cdc.gov/HealthyYouth/SHI/training/>

*Social marketing* is the application of advertising and marketing principles and techniques (i.e., applying the planning variables of product, promotion, place, and price) to health or social issues with the intent of bringing about behavior change. The social marketing approach is used to increase the acceptability of a new idea or practice within a target population. <http://www.cdc.gov/communication/practice/socialmarketing.htm>

*Social-Ecological Model* is the model that 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 interventions with groups or individuals, public health problems must be approached at multiple levels, stressing interaction and integration of factors within and across levels. [http://www.cdc.gov/nccdphp/dnpa/obesity/state\\_programs/se\\_model.htm](http://www.cdc.gov/nccdphp/dnpa/obesity/state_programs/se_model.htm)

*Stakeholder* is a person or organization actively involved in a project that could positively or negatively impact the achievement of the project objectives, and/or whose interests may be positively or negatively affected by the execution or completion of the project. [http://www2.cdc.gov/cdcup/document\\_library/glossary/default.asp#S](http://www2.cdc.gov/cdcup/document_library/glossary/default.asp#S)

*Surveillance System* is the ongoing, systematic collection, analysis, and interpretation of health data. This activity also involves timely dissemination of the data and use for public health programs. <http://www.atsdr.cdc.gov/glossary.html#Public%20Health%20Surveillance>

*Unhealthful foods:* Foods that have more than 30% of calories from fat, more than 10% of calories from saturated fat, more than 35% added sugar by weight (except for fresh, dried or canned vegetables and fruits); foods with minimal nutritional value; low nutrient-dense foods; non-nutritious foods; foods that are not conducive to health. <http://www.health.gov/DietaryGuidelines/>

*Vigorous physical activity* is an activity that requires sustained, rhythmic movements that are intense enough to represent a substantial challenge to an individual and results in a significant increase in heart and breathing rate. <http://www.cdc.gov/nccdphp/dnpa/physical/terms/index.htm>

*Worksite Health Promotion Programs* are programs offered by employers that allow employees the opportunity to learn and practice healthy behaviors and lifestyles. <http://www.thecommunityguide.org/worksite/>

*Youth Risk Behavior Surveillance System (YRBSS)* is a program developed to monitor priority health-risk behaviors that contribute to the leading causes of mortality, morbidity, and social problems among high school students in the United States. The survey is administered in Hawaii to middle and high school students every other year. <http://www.cdc.gov/healthyyouth/yrbs/>

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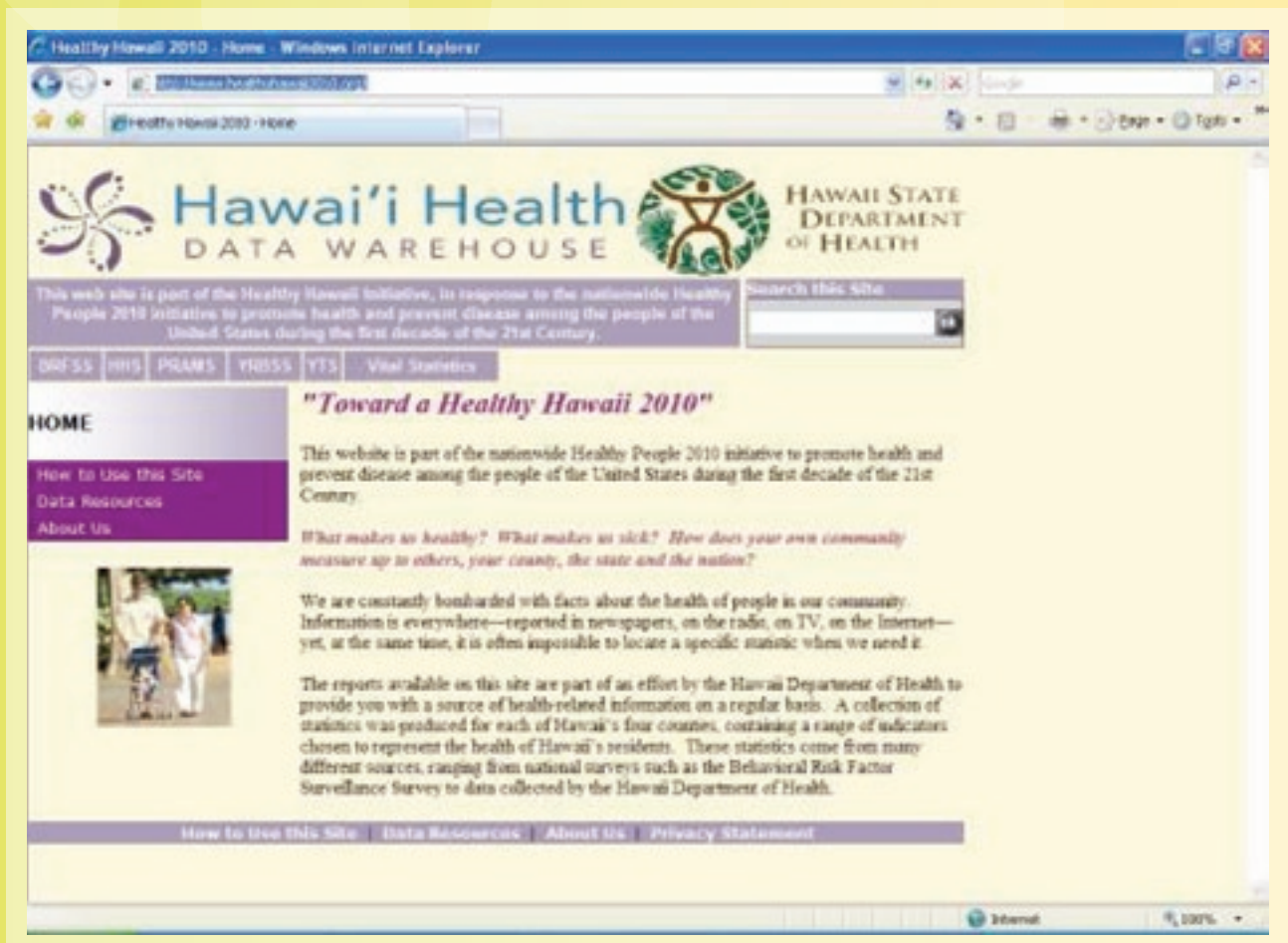
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# www.healthyhawaii2010.org

The Hawaii Health Data Warehouse is a central location to access data on a variety of health topics. The reports available on this site are part of an effort by the Hawaii Department of Health to provide a source of health-related information on a regular basis. A collection of statistics was produced for each of Hawaii's four counties. These statistics come from six different sources, ranging from national surveys, such as the Behavioral Risk Factor Surveillance Survey, to data collected by the Hawaii Department of Health. These statistics are provided as a tool for advocacy groups, community health organizations, policy makers, and individuals concerned with their community's health.

These statistics can be used for:

- Program planning—addressing populations and areas in need
- Creating health policies
- Writing grant applications
- Community mobilization and action - assessing the health status of your community
- Setting benchmarks to measure the progress of our health













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Funded by the Tobacco Settlement Special Fund, Healthy Hawaii Initiative,  
Hawaii State Department of Health.

August 2007 / (750)