Obesity in Boston

A Public Health Briefing

Understanding all of the factors that affect our health

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"Today there are groups of residents in Boston that have not benefited equally from our progress and who bear a severe and disproportionate burden of diseases."

In Boston, we have made significant progress improving the health status for many of our residents. Mortality rates have dropped steadily for the past 10 years, there are significantly fewer teen pregnancies, a near disappearance of lead-poisoned children, and fewer people are smoking tobacco. Our success is a result of improved surveillance; advances in medical research; increased access to prevention, screening, diagnosis, and treatment; and policy changes that reduced exposure to harmful substances. Nevertheless, today there are groups of residents in Boston that have not benefited equally from our progress and who bear a severe and disproportionate burden of diseases. To tackle this imbalance, we must understand and address the many issues that influence our health, paying particular attention to finding approaches that allow all residents to have equal access to the conditions that promote the best possible health.

In the recent past, many of our programs have focused on individual-level interventions, intended to influence knowledge, attitudes, and behaviors. As we move forward, we will need to prioritize strategies that address the interpersonal, community, and societal influences of disease transmission and health. We will need to understand how racism and poverty limit the opportunity for many Boston residents to make healthy choices and have led in particular, to significantly worse health outcomes for many Black residents in the city. Our health is influenced by where we live, the jobs we hold, our knowledge of risk, our access to resources, and our support systems, making it critically important that our public health programs acknowledge and address these broader realities and contexts.

This briefing paper describes a significant racial inequity in obesity and overweight rates in Boston and offers information to help us identify opportunities for reducing the gap. The purpose of the briefing paper is to allow our entire health department to work together through our practices, policies and research activities to advance the health of our communities and eliminate persistent racial inequities in health outcomes.
Executive Summary

Reducing the Obesity Gap in Boston

The Problem

Being overweight or obese can lead to many serious health problems in both children and adults. Nearly 30 preventable diseases -- such as Type 2 diabetes, certain cancers, arthritis, heart attacks and strokes -- are all linked to obesity in adults. Two out of three adults, and one out of three children, now weigh more than what is considered healthy.

More Overweight and Obesity in Certain Populations

In Boston, Black and Latina women and girls in high school have the highest rates of both obesity and overweight. For obesity alone, Black men have the highest adult rates. (We don’t currently have data on children in Boston, but nationally, Black and Latina children are also shown to have disproportionately high rates at very early ages. We expect the same to be true in our city.) Not only do these populations have higher rates of adult and childhood obesity, but the problem is getting worse more quickly than in White communities.

Why are Some Groups Affected More than Others?

Economic and social position in society are highly connected with higher disease rates of all kinds, shorter lifespans, and worse overall health. This is true for obesity as well. The differing social, economic, educational and environmental conditions in which people live are the most important reasons for these inequities in health between different groups. The additional physical and emotional stresses of racism, such as living in racially segregated housing and neighborhoods, having lower paying jobs, attending poorly funded schools, receiving lower quality health care services, not being fully included socially in the dominant culture, and the persistent racial cues that undermine self-esteem have additional negative affects on health, and on overweight in particular. Hormones from too much stress produce fat around the waist, which increases the chances of developing heart disease and diabetes.

Some Factors Promoting Worse Obesity Rates

- Disproportionately more Latino and Black residents are poor and live in racially segregated neighborhoods that are targeted for distribution and promotion of unhealthy foods. Residents living in these neighborhoods generally find it more difficult getting to supermarkets and affording healthier options, while at the same time have easier access to cheap, unhealthy foods from an abundance of fast-food outlets and convenience stores.

- Lack of access to safe, well-maintained recreational indoor and outdoor facilities or active transportation opportunities have a role in lower exercise levels in Black and Latino adults

- Parents’ concerns for their children’s safety when engaging in outdoor recreation, including community violence and traffic.

- Boston Public School students, 85% of whom are children of color and 74% of whom are low income, have inadequate school facilities and physical activity opportunities.

What are we doing and what more can we do?

For nearly a decade BPHC has devoted increasing efforts to reducing obesity in the city as a whole, and in communities of color in particular. The Commission has advocated on a wide range of policy issues at the local, state and federal levels to support laws and regulations that seek to improve the ability of people to live healthier lives. From improving school nutrition to advocating for changes in the federal transportation and farming policy, the BPHC has been a strong voice in addressing the obesity epidemic here and around the country.

There are many other ways in which BPHC managers and staff can work with their own programs to reverse obesity inequities in Boston. In addition to reading this briefing booklet and actively participating in program planning to address this and other strategic goals, feel free to contact the BPHC’s Chronic Disease Prevention and Control Division for resources and assistance in your efforts.

The Goals:

- Reduce the combined obesity/overweight gap between Black and White adult Boston residents by 20% (from 29.4% to no more than 23.5%) as well as between Latino and White adult residents by 20% (from 24.6% to no more than 19.7%)

- Reduce the combined obesity/overweight gap between Black and White Boston children and youth by 30% (from 30.6% to no more than 21.4%) as well as the gap between Latino and White Boston children and youth by 30% (from 29.5% to no more than 20.7%)

Find Out More

Visit the Commission-wide goals page on the BPHC Intranet for more information and to view an online presentation on this topic.
A Public Health Crisis

Being overweight or obese can lead to many serious health problems in both children and adults. Nearly 30 preventable diseases -- such as Type 2 diabetes, certain cancers, arthritis, heart attacks and strokes -- are all linked to obesity in adults. High cholesterol and diabetes are also on the increase in children because so many of them now weigh more than they should. In addition, overweight children are more often taunted and bullied, are restricted in their physical activities and engage in riskier behaviors, affecting their success in school.

The problem of overweight and obesity has increased so much over the last twenty to thirty years that it is now considered to be one of the leading public health issues of our time. Nationally, two out of three adults, and one out of three children, now weigh more than what is considered healthy. Women of childbearing age are of special concern because obese pregnant women are more likely to give birth to infants with health problems and have children who eventually develop weight problems themselves.

**Obesity** generally occurs when there is a larger intake of calories than expenditure of those calories through physical activity.

**Body Mass Index (BMI)** is a common measure for understanding whether an adult or child is obese or overweight. It is a measurement that compares weight to height.

Adults with a BMI of 30 or more are considered obese while those with a BMI of 25 to 29.9 are considered overweight.

Children with a BMI at or above the 95th percentile for their age and gender are considered obese, while children with a BMI at the 85th percentile to 94th percentile are considered overweight.

The Obesity Burden in Boston

While the obesity epidemic affects everyone, people of color and residents with lower incomes or less education are at highest risk. In Boston, Black and Latina women and girls have the highest rates of both overweight and obesity, while Black men have higher rates of just obesity than other adult racial groups. Not only do these populations have higher rates of adult and childhood obesity, but the problem is getting worse more quickly than in White communities.

One-third of all public high school students in our city had a Body Mass Index (BMI) considered overweight or obese. However, among racial/ethnic groups, 35% of Black and Latino students had BMI scores considered overweight or obese compared with 27% of White students. More than half of all Boston adults had a BMI considered overweight or obese. However, 63% of Black adults and 61% of Latino adults had BMI scores considered overweight or obese compared with 49% of White adult residents.

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**Figure 8.65 Obese Adult Residents by Neighborhood, 2008**

**Figure 8.30 Diabetes Mortality by Race/Ethnicity and Age 2008**

NOTES: Data are presented as age-specific rates. This data do not include persons whose age and/or ethnicity was not reported.

DATA SOURCE: Boston Resilience Centre, Massachusetts Department of Public Health

DATA ANALYSIS: Boston Public Health Commission Research and Evaluation Office
What's Causing the Obesity Epidemic?

There are many factors that have led to the current obesity epidemic in the United States and here in Boston. Among some of the overarching causes are:

**Changes in food policy and the way foods are processed.** Unhealthy, processed and packaged foods that are high in sugars, salt and fat are generally cheaper to buy than fresh locally grown fruits, vegetables and whole grains. The explosion in the availability of these types of food is due partially to federal food and agriculture policies that have supported the growing of certain crops – especially corn – over healthier alternatives. A component of corn, high-fructose corn syrup, is a sweetener used as a key ingredient in many junk foods.

**Financial pressures on working families** that result in less time or money available to prepare healthy foods, or to engage in physical activity. Research shows that parents who are not active are more likely to have children who are overweight or obese.

**The “Super-Sizing” of portion sizes** for food and beverages eaten at home and sold in stores and restaurants, and an increase in consuming food that is prepared “away from home” at a restaurant or store. Even our plates are growing. In the 1940’s a dinner plate averaged approximately 9 inches in diameter, but now plates can average 12 or 13 inches across.

**Inactivity.** Increased time children and adults spend passively sitting with television sets, computers, video games, while at the same time consuming more calories.

**Billions of dollars spent advertising and promoting unhealthy food,** especially marketing efforts aimed at children.

**Increased reliance on cars,** and longstanding transportation policies focused on moving traffic faster as opposed to encouraging safe walking and biking routes.

**Financial and educational pressures on schools** which results in the elimination of physical education classes and opportunities for physical activity, and gives rise to the trend of supporting school budgets by selling unhealthy foods in vending machines and through bake sales.

**The failure to provide healthy school meals** due to inadequate funding from the federal government for the purchase and preparation of healthier lunch foods.
What Causes Inequities in Obesity?

Poverty and low socioeconomic status in society are strongly connected with higher disease rates of all kinds, shorter lifespan, and worse overall health. This is true for obesity as well. The differing social, economic, educational and environmental conditions in which people live are the most important reasons for these inequities in health between different groups. These factors influence the ability of community members to have the resources that allow them to access and afford healthier lifestyles, such as eating nutritious foods, participating in recreational opportunities, having well-paying jobs, and having access to quality education, decent housing, and safe neighborhoods.

The additional physical and emotional stress of racism also plays a role. Living in racially segregated housing and neighborhoods, having lower paying jobs, attending poorly funded schools, receiving lower quality health care services, and not being fully included socially in the dominant culture, all contribute to poorer health outcomes. The persistent racial cues that undermine self-esteem also have additional negative affects on health, and on overweight in particular. Hormones from too much stress produce fat around the waist, which increases the chances of developing heart disease and diabetes – health conditions that are seen at higher rates in communities of color.

Other factors that lead to the unequal burden of overweight and obesity in Boston include:

**Place** (see map on page 3): Disproportionately more Latino and Black residents are poor and live in racially segregated neighborhoods that are targeted for distribution and promotion of unhealthy foods. Residents living in these neighborhoods generally find it more difficult getting to supermarkets and affording healthier options, while at the same time having easier access to cheap, unhealthy foods from an abundance of fast-food outlets and convenience stores. Twenty-eight percent of Boston public high school students, many of whom live in vulnerable lower-income and segregated neighborhoods, report consuming one or more sodas per day and only 18% report consuming the recommended 5 daily servings of fruits and vegetables. In addition, a high proportion of obese adults and diabetics in Boston report that fruits and vegetables are not affordable. Mattapan is the neighborhood in the city with the highest rate of obesity.

**Access:** Lack of access to safe, well-maintained recreational indoor and outdoor facilities or walking and biking opportunities have a role in lower exercise levels in Black and Latino adults.

**Safety:** Parents’ concerns for their children’s safety, because of community violence and traffic, results in children spending more time indoors, thereby reducing outdoor play and activity.

**Lack of School-based Activity:** Boston Public School students, 85% of whom are children of color and 74% of whom are low income, have inadequate school facilities and physical activity opportunities.

**Less Time:** Low income people often hold two jobs to make ends meet, and have less access to private vehicles, thus making it hard to find time for leisure activities and healthy food preparation.

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Social determinants of health are the circumstances in which people are born, grow, live, work, play, and age that influence access to resources and opportunities that promote health. The social determinants of health include housing, education, employment, environmental exposure, health care, public safety, food access, income, and health and social services.
Current Strategies to Address Obesity in Boston

Over the past seven years the BPHC has devoted increasing efforts to addressing obesity, especially in low-income neighborhoods and communities of color. The work is led primarily by the Community Initiatives Bureau’s Chronic Disease Prevention and Control Division (CDPC Division).

While the CDPC Division focuses on prevention strategies and policies that promote healthy eating and active living, the Offices of Intergovernmental Relations and Public Health Advocacy (IGR), Policy & Planning, and the Center for Health Equity & Social Justice, support laws and regulations that address food policies and increase equal opportunities for education, jobs, and affordable housing which improve people’s abilities to afford healthier food, be physically fit, and reduce overall stress. Additionally, other BPHC programs address these issues in a variety of ways, many of which occur in partnership with other city agencies and community organizations.

Many of the factors that affect our ability to afford and eat healthy foods and be physically active are heavily influenced by federal and state laws and funding. The BPHC’s IGR Office takes the lead in organizing advocacy for local, state and federal level legislation that support obesity prevention, working in conjunction with the Mayor’s Office and partners such as the Massachusetts Public Health Association. In the past year, priorities included:

Support for the Massachusetts School Nutrition bill, which passed in June 2010. This bill will require standards for foods and beverages available at schools.

Support for the Massachusetts Food Policy Council bill, which was originally filed with support of Mayor Menino. The bill, also passed in June 2010, will establish a statewide food council to advise state agencies on making foods more affordable and accessible to everyone, from local sources.

Support for the re-authorization of the federal Child Nutrition Act, which passed in December 2010. This law governs multiple federal programs that support healthy food for children, such as better reimbursements for school meals and after-school programs.

In the next several years, important federal legislation that the Commission may advocate for will include the Transportation and Farm Bills. These bills can make a huge difference in communities having affordable access to healthier foods and active living.

Policies, Systems Change and Community Engagement:

In addition to legislative efforts, there are many city-level policies, regulations, ordinances and system-changing initiatives that the BPHC is involved in that can contribute to obesity prevention here in Boston, including:

The Mayor’s Food Council, a public-private multi-sector partnership that is a coordinating point for supporting healthy eating and anti-hunger initiatives in Boston.

Farmers markets are expanding to almost every neighborhood across the city, including assuring that food stamps can be easily used at these markets. The City also developed Boston Bounty Bucks, to increase the buying power of low-income food stamp and WIC participants at farmers markets by matching their purchases with up to $10 in additional funds.

The BPHC’s Center for Health Equity and Social Justice and the Boston Collaborative for Food and Fitness have both supported farmers markets through their food access grants to several Boston community-based organizations, and the CDPC Division coordinates nutrition education programs at many weekly farmers markets. Serving
Ourselves Farm has a weekly farmers market at the BPHC’s facility at 1010 Mass Ave.

**Bicycling** is also being supported by the BPHC through the Mayor’s Boston Bikes program, which includes the planned rollout of Bike Share, a large-scale bike rental program in spring 2011. BPHC programs also support community events and bike safety through the Operations Department and the Injury Prevention program.

A great deal of newer work here at the BPHC is being funded by a recent federal grant called, “Communities Putting Prevention to Work” (CPPW). CPPW works with two community coalitions - The Strategic Alliance for Health and the Boston Collaborative for Food & Fitness - and a leadership team headed by Boston Mayor Thomas M. Menino and the BPHC’s Executive Director Dr. Barbara Ferrer. A number of interventions are being launched and supported by these coalitions that focus especially on high-risk and under-resourced communities. These initiatives include:

**Sugar-Sweetened Beverages Campaign**: An effort to reduce consumption of sugar-sweetened beverages such as sodas and sweetened waters and juices.

**Active Living & Transit Initiative**: To increase opportunities for biking and walking through programs like a citywide bike sharing program, youth and family bike trainings and events, and distributing low cost bikes and helmets. Additionally, Active Transportation -- which includes walking, biking and public transit -- is being promoted through the Boston Transportation Department’s Complete Streets initiative that will require that these healthier modes of transport be given equal treatment and consideration as cars. The initiative also seeks to increase ‘green space’ – trees, plantings, benches, etc. – that enhance walking and beautification. The BPHC is also focusing on programs targeting low-income neighborhoods with grants to local organizations that will support walking, biking and violence prevention.

“**Grow Your Own Initiative**”: This initiative seeks to increase access to fruits and vegetables through expanding backyard and community gardening opportunities, and by establishing a 10,000 square foot greenhouse and support for families on neighborhood-based food production.

**School Interventions**: Efforts are underway to increase physical activity and physical education and institute fitness testing to monitor progress.

**The Corner Store Initiative**: This program helps small local store and bodega owners to offer healthier foods and beverages, especially in Mattapan and East Boston.

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**A Steady Diet**

Americans consume 250-300 more calories per day today than we did just a few decades ago.

Soda and other sugar-sweetened beverages account for a large part of those extra calories. We consume an average of 50 gallons each year of these “sugar drinks”. That’s about 40 pounds of sugar per person.
Best and Promising Practices

Much of the obesity-related research emphasizes the need to target resources, policies and programs in communities and workplaces where residents are at highest risk of obesity and have the most burden. There is general agreement that since the obesity epidemic in disadvantaged populations is so intertwined with the social, physical, historical, economic, and policy environments at play, tackling the societal policies and practices which contribute to these inequitable conditions is paramount. Changing the way society operates requires us to become more involved politically. It means organizing your neighbors, coworkers, and clients to become more effective advocates. It means taking the time to vote and letting your elected representatives know how you feel about the issues. You can also contact the Intergovernmental Relations and Public Health Advocacy Office to make suggestions about policies you think are important, and support the legislation they have identified that can improve the obesity epidemic. These steps must accompany community-based programs in order to forge effective, long-lasting change.

When planning new initiatives, focus on places where people live, learn, work, play and worship. Focusing on policies that foster healthy young children and families, as well as women of reproductive age, can make a particular difference. The following approaches can improve the health of all residents.

Promoting neighborhood safety so children and adults can safely play outdoors.

Making access to healthy foods easier and more affordable.

Increasing opportunities for active transportation (bicycling, walking, close public transportation).

Mandating increased physical education and activity in schools.

Improving the quality and taste of breakfast and lunch offered in schools, while limiting the sale of junk foods.

Working with childcare facilities to improve health knowledge and practices of staff and families.

Encouraging federal programs to improve transportation policies, as well as increase financial incentives for the production and distribution of healthier local foods to schools and workplaces.

Encouraging breastfeeding in public and workplace venues, which is protective of children becoming obese later on and helps women lose weight after pregnancy.

Counteracting corporate advertisements of junk foods to children and poor neighborhoods.

Addressing the portion sizes and offerings in restaurants and corner stores.

Changing workplace policies so as to encourage daily physical exercise and healthy eating opportunities.

Opportunities at BPHC to Support the Work

There are many other ways in which BPHC managers and staff can work within their own programs to reverse the obesity gap in Boston. To begin with, you should feel free to call upon the BPHC’s CDPC Division and the Center for Health Equity and Social Justice to see how their staff and resources might assist you in your efforts. They can help with community organizing strategies and other initiatives.

Additionally, take stock of your own program’s practices as well as staff and personal routines, which may be unintentionally fostering unhealthy client habits and messages. This includes paying attention to the food served at meetings, and being mindful of taking the stairs instead of the elevator. How about biking and walking to work?

Also, focusing your efforts on programs that serve mothers, infants and children hold tremendous opportunity for prevention as a major group served by BPHC programs. Since high proportions of Black and Latina women of childbearing age are overweight because of environmental pressures -- residential, outpatient and social service programs should target this population with economic and social supports, education and counseling. By focusing on healthy eating, breastfeeding, and opportunities for active living in women of this age group, we not only can prevent the development of diseases as they get older, but we can also prevent childhood obesity and improve overall newborn health. This can include supporting mothers-to-be to achieve ideal body weight before pregnancy, counseling them on the dangers of gaining excess weight during pregnancy, and providing information and support on proper dietary, breastfeeding and exercise habits and opportunities to lose weight safely afterwards.
Finally, focusing on reaching young children is an important strategy to reduce the racial gap. By the preschool years, racial/ethnic inequities in obesity are already present. Home visiting programs, after school programs, and daycare centers are excellent opportunities to intervene early in the process.

**Possible Action Steps:**

**In the community and workplace settings:**

Promote walking clubs, and offer childcare during these programs, especially in affordable housing developments where safety and social isolation are big concerns for residents.

In residential and counseling programs, incorporate healthy eating and physical activity messaging in your work.

Disseminate Bounty Bucks in every BPHC program (coupons for farmers markets).

Offer nutrition and life skills trainings (food shopping, budgeting, label reading and food preparation) in your group programs.

Focus on worksite wellness programs. Consider training to promote lay health advisors who lead walking groups, encourage breastfeeding, and meet one on one with co-workers.

**Commission or citywide campaigns and voluntary Policies:**

Promote stair-walking campaigns in all BPHC programs, COB agencies and other workplaces.

Initiate a campaign to reduce portion sizes of food and drinks in restaurants, or at least increase the options for purchasing smaller portions.

Partner with businesses, hospitals, and foundations to spearhead a high-visibility media campaign to counter unhealthy food advertising and encourage consumption of healthier foods and beverages, and more physical activity.

Engage in educational campaigns regarding healthy infant feeding and sleeping patterns, and the negative effects of too much TV and computers. These behaviors are associated with childhood obesity, and are found more commonly in Black and Latino children.

**In the health care setting and home visiting programs:**

Disseminate toolkits to health care providers and school nurses that are designed to better assess and address overweight in children.

Educate providers on recent pregnancy weight gain recommendations (IOM, 2009) as well as how to diagnose and manage diabetes during pregnancy, especially monitoring Latinas. Also, encourage all mothers to exclusively breastfeed for at least 6 months both for improved weight loss following delivery and for decreasing the risk of their children becoming obese and screen pregnant and postpartum women for depression, which is also associated with obesity.

Home visitors and community health workers could be trained in the principles of healthy eating, making assessments of infant dietary and sleeping habits in the home, assessing pregnant and postpartum women for depression, examining children’s bedrooms for the existence of TVs and video games, and facilitating access to recreational and affordable food options. These are all risks for obesity and are shown to be more prevalent among disadvantaged populations.

**In schools and daycare settings:**

If you work with youth, you can train them to be “media wise” and to critically analyze advertisements promoting junk foods, alcohol and beverages.

Train daycare providers on using evidence-based curricula that promote healthy behaviors. Target Healthy Start programs, as research shows that both staff and families in these programs have incomplete knowledge about healthy weight.

**At the policy level:**

Developing policies and laws that improve the built environment in low-income and racially segregated communities.
Supporting the Work (cont.)

With other organizations and agencies:

Examine how neighborhood projects and programs you are involved with may affect the health of the communities served, and advocate for addressing health impacts. Assess new development projects and programs with Health Impact and Health Equity assessments, which are tools that can help evaluate the health and quality of life impacts of those projects on socially disadvantaged and segregated communities.

Requests for Proposals sent out to community grantees can stipulate policies that support healthy eating and active living, such as having “Healthy Meeting” guidelines, bike racks, and programs that promote stair walking in the workplace. Food vendors you work with should be required to offer healthier foods for meetings and celebrations.

With schools:

Promote equitable physical education and access to sports/playground facilities across all Boston schools.

Promote Memoranda of Agreements (MOAs), or “Joint Use Agreements” that foster shared recreational facilities between schools and community agencies to promote more widespread access for both students and community members alike.

In the health care sector and for employers:

Promote insurance reimbursements that provide financial incentives for members to join health facilities, and which pay providers to offer weight and nutrition counseling -- especially for pregnant women and women of reproductive age.

In the community:

Consider reducing the sale of junk foods in neighborhoods through zoning restrictions that restrict new convenience stores in high density districts with poor health outcomes, or work with existing convenience stores to help them sell healthier food items.

The Challenge of childhood obesity.

“Childhood obesity isn’t some simple, discrete issue. There’s no one cause we can pinpoint. There’s no one program we can fund to make it go away. Rather, it’s an issue that touches on every aspect of how we live and how we work.”

-- Congressional Black Caucus Foundation Legislative Conference, 9/15/2010
Data gathering and dissemination:

Engage in more community-driven GIS mapping of neighborhood built environment deficiencies so that policy makers and community residents can better “visualize” the conditions in their neighborhood environments that may be contributing to obesity.

Provide support to the Boston Public Schools (BPS) to collect high quality BMI data and develop an agreement to ensure that the data is provided to the BPHC on an annual basis. Consider using waist circumference as an additional measure for more accurate information.

To better understand youth behaviors contributing to overweight and obesity, oversample for the YRBS.

Ensure that obesity is one of the measures included by the Health Equity Committee as part of the new Data Regulations and the Aligning Forces for Quality initiative.

At the program level:

Some programmatic elements that have been shown to be particularly effective in communities of color include:

Offering greater opportunities for social supports as part of educational or recreational programs, both for adults and youth.

Addressing both diet and exercise together (including sedentary behaviors in children).

Developing culturally tailored approaches, especially when promoting physical activity and food preparation.

Making certain that parents or guardians are involved when promoting behavior change in children.

Allowing adolescents to have input and choice into increasing physical activity levels and fruit and vegetable intake.

Reference List

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