Center for School, Health and Education

AT THE
American Public Health Association

Understanding Hunger and Obesity and the Role for School-Based Health Care

Hunger, due to the inability to purchase food, has doubled in the United States since 2000. In the coming year, one in four people are worried about having enough money to put food on the table.[1] And 23% of America's children now live in food-insecure households.[2]

The U.S. Department of Agriculture (USDA) defines food insecurity as being periodically uncertain of having, or unable to acquire, enough food for all household members because of insufficient money or resources.[3] A 2004 Roundtable on the subject concluded that hunger in the United States was, "a chronic, cyclical inadequacy in household food supplies and resources for the purchase of an adequate diet."[4]

Food insecurity in African American and Hispanic households is more than twice that of the average white household—25 and 27 percent—compared to 11 percent for whites.[5] This disparity is consistent with generally accepted inequities in poverty, diseases such as diabetes and hypertension, and obesity among these groups.

In fact, the Centers for Disease Control and Prevention (CDC) reports that compared to whites, blacks had a 51 percent higher prevalence of obesity. The rate for Hispanics is 21 percent higher.[6] A USDA finding that most food-insecure households did not reduce their food intake, but rather relied on a few basic foods with very little variety (or quality), provides greater insight into the variables of these statistics.[7] In short, to avoid hunger and sustain energy, poor people consume a good deal of inexpensive, high calorie, low quality food. Herein lies the intersection between two seemingly opposite phenomena.

Determinants of Food Choice

"This is such an unhealthy diet. I am trying to eat the most healthy food I can afford, but I have no problem imagining how someone eating like this could quickly develop diabetes or high cholesterol. And with all these carbs, I can see how easy it would be to gain a fair amount of weight."[8]

Citing the most critical determinant of food choice—cost—California Congresswoman Barbara Lee shared this insight on her blog in 2007. She is one of many legislators who have participated in the Food Stamp Challenge organized by the Food Research and Action Center (FRAC) to raise awareness on the economics of food choice.

The FRAC Challenge toolkit notes that not only does the allotment not afford a "healthy" diet but it typically runs out before the end of the month.[9] Even low income families without benefits find they have little or no money left

for food after paying housing, energy, transportation, clothing, child care and health care expenses. In order to make food dollars stretch and avoid hunger, large portion, value-sized products with high carbohydrate, sugar and fat content become the items of choice.

Research now indicates that low cost, energy dense diets (e.g., tasty processed foods with added sugar and fat) account for close to 40% of the daily caloric intake of people with low resources.[10] Thereby suggesting that "the obesity epidemic is not so much a failure of biological systems but a social and economic phenomenon."[11]

Not surprisingly, a 2009 study by the Trust for America's Health also correlated obesity to impoverishment. States with the highest rates of obesity for children (10-17 years)[12] are also some of the poorest—seven of them have the highest rates of poverty in the country. Moreover, six of these states overlap for the highest rates of adult obesity as well (see Table 1—States with Highest Levels of Obesity and Poverty).[13]

An illustration of how policies reflect the economics of food choice can be found in the four level food plan developed by USDA. Based on dietary guidelines and food intake recommendations for home prepared meals, the plan is intended to serve as a standard for dietary nutrition based on cost. Food stamp allotment planning and the allocation of food expense in bankruptcy proceedings utilize these tables, for example.[14] Unfortunately, economic disparity within the United States is inherent in the existence of a multitiered frame such as the food plan. Yet perhaps more importantly, to meet the minimum nutrition guidelines as represented in the "Low Cost" plan,[15] the most vulnerable of our families would have to spend over 25% of their income[16] on food alone (see Figure 1—USDA "Low Cost" Food Plan in Context of African American and Hispanic Income).

Table 1—States with Highest Levels of Obesity and Poverty

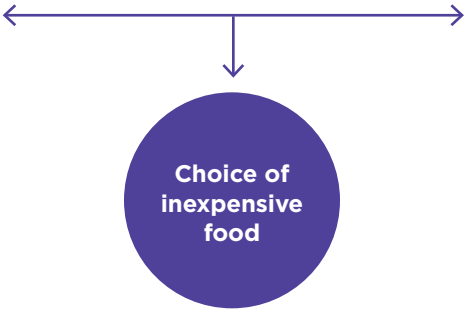
State	Obesity Rate (Child)	Poverty Rate	Obesity Rate (Adult)
Mississippi	1	1	1
Arkansas	2	8	10
Georgia	3	15	14 (tie)
Kentucky	4	5	7
Tennessee	5	10	4
Alabama	6	11	2
Louisiana	7	3	8
West Virginia	8	9	3
District of Columbia	9	2	45
Illinois	10	28	27
South Carolina	13	18	5
New Mexico	19	4	36
Texas	20	6	14 (tie)
Arizona	26 (tie)	7	33
Michigan	26 (tie)	22	9
Oklahoma	33	14	6

Citing an editorial in *The Lancet*, researchers writing in the *Journal of Nutrition* more than five years ago said "as long as a meal of grilled chicken, broccoli, and fresh fruit costs more and is less convenient than are the less healthy options, the battle for obesity will be lost."[17] Caught between the proverbial rock and a hard place five years later, the cost of healthy food at the most basic level is still too high for many.

What's more, lack of food accessibility limits food choice as effectively as lack of resources. Terri Wright, Director of the Center for School, Health and Education at the Ameri-

Figure 1—USDA "Low Cost" Food Plan in Context of African American and Hispanic Income

Under the "Low Cost" plan, the monthly cost of feeding a male aged 14–18 is $225. The cost for feeding the same child under the "Liberal" plan is just over $324. Based on these projections, for one member of the household, food costs can range from $2,700 to over $3,888 annually. For a family of 4 with children under the age of 11, the range is $9,353 to over $14,000 each year.



In 2009, the median income for Hispanic and African Americans was $38,039 and $32,584, respectively. Assuming the provision of meals for a family of 4 under the "Low Cost" plan, 25% to 29% of this income would be used to purchase food.

can Public Health Association states, "residents of low income communities shop in convenience stores, gas stations, and dollar stores where food choices are limited, and dine at fast food restaurants because there are no other options."[18]

Proceedings from the 2004 Roundtable on hunger further explained this second determinant of choice: full service supermarkets and therefore fresh fruits, vegetables, low fat milk, low fat snacks, etc., are typically unavailable in low income neighborhoods or significantly more expensive. Given these conditions, these neighborhoods are aptly described as food deserts.

The Roundtable also presented research on the psychological and physiological impact of both food deprivation and stress as related to poverty and race, which were characterized as additional influencers on obesity.[19] And nascent research suggesting a relationship between poverty, the chemicals used in plastics and childhood obesity is mentioned in the Trust for America's Health's 2009 report on obesity and related policy.[20]

Toward a Solution

Not only does food insecurity include the risk of poor nutrition, obesity and complications from chronic diseases, but also poor school performance. In a study of obese adolescent girls, it was reported that they were 1.5 times more likely to be held back a grade (and twice as likely to consider themselves a poor student compared to average weight girls).[21] From other studies, we now know that grade retention is a key indicator for dropout.[22]

Despite the best efforts of the media, policymakers, researchers and health professionals in illuminating the obesity crisis in this country, little has changed. As an example, a decrease in the consumption of fresh fruits and vegetables by high school students was reported as the trend from 1991 to 2009 in the most recent CDC Youth Risk

Retained students are five to eleven times more likely to drop out. The probability increases for students who are retained more than once.

-National Association of School Psychologists

Behavior Survey (YRBS).[23] This drift is likely to continue, while the problem of obesity (and thus the solution) is narrowly defined as one of making better food choices and exercising. The broader lens is food security—how to overcome scarcity and cost to afford a healthier diet with better food options.

There is a growing awareness of this perspective in many communities across the nation. Farmers markets have opened in some neighborhoods; others have provided incentives for convenience stores to carry fresh produce. Communities have organized mobile markets, and large food retailers in public-private partnerships have opened in poor areas.[24] But most efforts are local and there is no national policy to support them.

A promising partnership, though, between USDA, the Departments of Health and Human Services and Treasury aims to expand accessibility "through the establishment of healthy food retail outlets, including developing and equipping grocery stores, small retailers, corner stores, and farmers markets to help revitalize neighborhoods that currently lack these options."[25] Although included in President Obama's 2012 budget, the Healthy Food Financing Initiative (HFFI) has yet to be legislated.

Still, one in 50 children experience homelessness and go hungry at twice the rate of other children.[26] For these children and the rest of the nation's youth, school meals and afterschool programs are critical for improving access and choice. Says Wright, "children spend most of their time in school where they eat at least one meal, often two, and sometimes even three—as well as consume snacks during school hours. This makes schools a logical first place to begin addressing childhood obesity" and food insecurity.

The HealthierUS School Challenge is one attempt toward making a difference in access to healthier food choice for school-aged children. Introduced by the USDA in 2004, it is a voluntary opportunity for schools participating in the National School Lunch Program to enhance and promote a healthier school environment through nutrition and exercise. Utilizing challenge levels (bronze, silver, gold, and gold with distinction), the program provides a metric to evaluate achievement of the standards.[27] For example, food or drinks sold outside of the lunch program (e.g., "competitive" foods from vending machines) must meet certain criteria. Sodium content of an entree, as measured by the bronze level and then compared to the gold standard, would be acceptable at lower than 600 mg versus under 480 mg. (For a complete list of criteria, see Healthier Schools Challenge Criteria in the Center's online resource list.) As a consequence of the Challenge, many schools and school districts have in-

40% of Black children are born poor, compared to 8% of White children

26% of Black teens are more likely than White teens to be overweight or obese.

60% of Black students graduate from high school, compared to 80% of White students.

-Children's Defense Fund

stituted restrictions in sugary foods and drinks in their meal planning and vending machines.

School-based health centers (SBHCs) can be a critical partner in addressing hunger and obesity in their schools. They can provide leadership in working with food service, administrators, staff and students to assure those students have healthy food in school, including in vending machines. SBHCs can advocate for policies that support nutritious, subsidized breakfast, lunch, and afternoon meals. Health center staff can also provide leadership to coordinate, implement, promote and monitor both nutrition and physical activity standards like the Challenge. Additionally, they can facilitate programs in their schools such as Farm to School, a network between local and regional farmers that delivers fresh produce to school cafeterias.[28] A win-win for farmers, schools and kids!

SBHCs can develop other programs related to healthier food options specific to the needs and population of their schools. For example, nutritional and obesity-related counseling that is gender and culturally relevant; providing instruction on the influence of advertising and general health education. SBHCs can start gardens, and sponsor school wide walk-a-thons or dances!

In brief, school-based health centers can provide leadership in advocating for policies in the school building, in the community, and with state and national policymakers to assuage hunger and curb the spiraling trend toward obesity for the 43 million[29] people who live in poverty, including 17 million[30] food vulnerable children. More than not, these are the same children who attend schools with the lowest graduation rates, half of them found in the nation's poorest neighborhoods.[31] ■

School breakfast programs have been shown to raise basic skills test scores and reduce absenteeism and tardiness while lowering anxiety, hyperactivity, depression and psychosocial dysfunction.

–California Education Supports Project

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About the Center

The Center for School, Health and Education at the American Public Health Association advances school-based health care as a proven strategy for preventing school dropout. School-based health centers have the capacity to benefit all students in a school by addressing barriers to learning such as bullying, hunger and distress. They keep students healthy and in school.

Through partnerships, policies and advocacy, the Center links the educational and public health communities to ensure that all students—particularly those facing social inequities—are supported to graduate. For more information, please visit www.schoolbasedhealthcare.org.

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