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## THE FORGOTTEN POOR AND THEIR FOOD PROBLEMS

Benjamin Senauer

February 26, 1990



**Department of Agricultural and Applied Economics**

University of Minnesota  
Institute of Agriculture, Forestry and Home Economics  
St. Paul, Minnesota 55108

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## Chapter 9

### THE FORGOTTEN POOR AND THEIR FOOD PROBLEMS

Ours is a society in which time is increasingly the scarcer factor than money for many people, and many food consumers are willing to pay a premium for quality, variety, and convenience. However, we should not forget that millions of Americans do not share in this abundance. For many individuals and families, just getting enough to eat is a frequent problem. In a New York Times Magazine article on hunger, Sally Sawatzki, the wife of a laid-off Caterpillar Corporation worker in Peoria, Illinois, described how she would act like she was not hungry and take only a little food at dinner, in order to leave more for her children to eat. She would then try to fill up on popcorn after dinner (Lelyveld, 1985, p. 20).

The program, "Hunger in America" which was recently shown on public television in December 1989, chronicled the lives of four families for whom hunger was a problem. Brian Fuller and his wife operated a small dairy farm in Stevens County, Washington. They had three daughters. Last year, they earned \$7,200, which was less than half the poverty level for a family of five. After they had covered bills which must be paid, they had little money left for food. Some nights dinner might be just cheese and soup, and there were times when there was literally nothing in the refrigerator.

The Craigs were a black family who lived in Green County, Alabama. Mr. Craig made \$25 per day working on a farm when work was available. They had eight children living at home in a house which lacked indoor plumbing. They typically ran out of food stamps before the end of the

month and having enough for the family to eat was a frequent worry.

The Spences, who lived in Minneapolis, Minnesota, recently lost their home when Mr. Spences became unemployed. They were now getting by on welfare payments and food stamps. One of their young sons admitted to going to school hungry sometimes and when asked how that made him feel, said that it made him "sad".

The Castros were an Hispanic family who worked as farm laborers in California's Central Valley. The older children frequently worked in the fields along with their parents. The pay was \$4.25 an hour. The Castros could not afford to buy the very vegetables which they helped to raise. And in winter, when there was little work, they could not afford to buy meat.

The Sawatzkis, the Fullers, the Craigs, the Spences and the Castros are typical of the millions of families and individuals in this country living in poverty. Although they may not be facing the kind of severe malnutrition and outright starvation which we have seen pictures of during famines in Africa, many have serious food and nutrition problems. Furthermore, the poor and their plight seem to have become increasingly invisible to, and easily forgotten by, those who are more well-off and living in society's mainstream.

This chapter first looks at the magnitude and nature of the problems of hunger and poverty in the U.S. The next section examines some of the specific nutrition and nutrition-related health problems of the poor. The third major section provides an overview of the major government food assistance programs, such as the Food Stamp Program, the National School Lunch Program, and the Special Supplemental Food Program for Women,

Infants, and Children (WIC). We also discuss the widespread private food assistance initiatives to help the poor through emergency feeding facilities and food shelves or banks. The chapter closes with a review of some moral and economic arguments for addressing the food and nutrition problems of those who are poor.

#### HUNGER AND POVERTY

In the late 1960s, the public concern about the widespread problem of hunger in the U.S. was aroused by the attention given the issue in such studies as the Citizens' Board of Inquiry report, the CBS television documentary, Hunger, USA and Nick Katz's 1969 book, Let Them Eat Promises: The Politics of Hunger in America (Paarlberg, 1980, pp. 101-102). In addition, those who accompanied the fact-finding missions to depressed areas in the rural South and elsewhere, including Senator Robert Kennedy and other politicians, were strongly affected by what they saw. In some of the worst situations, they were shocked to find children suffering from severe malnutrition and literally starving. Senator George Murphy, a Republican from California, was dismayed at what they found: "I didn't know that we were going to be dealing with the situation of starving people and starving youngsters" (Physician Task Force, 1985, foreword).

Action was taken to address the problem of hunger. The White House held a Conference on Food, Nutrition and Health in 1969 to address the issue, and the Senate Select Committee on Nutrition and Human Needs was formed (Paarlberg, 1980, p. 102). The major response by the federal government was a substantial expansion in funding for the domestic food assistance programs, particularly food stamps, during the 1970s. By the

late 1970s, the situation had greatly improved and significant progress had been made in reducing the occurrence of hunger in the U.S. (Physician Task Force, 1985, foreword). Now in the 1980s, many argue that conditions have deteriorated and that hunger has again emerged as a serious national problem (Brown, 1987, p. 37 and Physician Task Force, 1985). Others dispute the seriousness of the problem.

The Physician Task Force on Hunger in America concluded in 1985 that "hunger in America is a national health epidemic" (p. 6). They found that "hunger is now more widespread and serious than any time in the last ten to fifteen years" and "perhaps never in the past half century has hunger in this nation spread so quickly" (pp. xxi and xix). The Physicians Task Force estimated some 20 million Americans, 12 million children and 8 million adults, were affected by hunger (Brown, 1987, p. 37).

### Hunger

Hunger, however, can be an ambiguous term and different meanings may be applied to it by those who claim its widespread existence and those who minimize the problem (Brown, 1987, p. 37 and Davis and Senaeur, 1986, p. 1253). The President's Task Force on Food Assistance (1984) suggested two basic definitions of hunger. Medically, hunger can be defined as "a weakened disordered condition brought about by prolonged lack of food" (p. 34). This clinical definition relates to extended nutritional deprivation and the resulting physiological effects. With this definition, hunger implies malnutrition. On the other hand, in common usage, hunger may simply mean "the inability, even occasionally, to obtain adequate food and nourishment" (pp. 34 and 36). It is the experience of not being able to

get enough to eat and being unsatisfied. In this case, hunger can be a concern even if there are no clinical symptoms of malnutrition. Hunger may be a social problem, even if the deprivation is not prolonged enough to cause observable implications for nutrition and health.

The President's Task Force found that, with hunger defined clinically, there was "no evidence that widespread undernutrition is a major health problem in the United States", except perhaps among the homeless (p. 35). They did conclude that there was evidence of hunger in terms of some people having difficulty obtaining access to food, but found it "impossible to estimate the extent of that hunger" (p. 39). They felt they could not document the amount of such hunger caused by income limitations.

For many low-income individuals and families, it is perhaps more relevant to think of their problem as a lack of food security (House Select Committee, 1989). An absence of food security is typified by difficulty in obtaining food in a sufficient quantity and/or the necessary quality. Providing enough food for their families is a reoccurring worry for them and, sometimes, there may not be enough to eat. These households have many demands placed on what few financial resources they do have. The situations of the various families described in the introductory section of this chapter reflect the typical food security problems faced by many of the poor.

The period towards the end of the month is a particular problem for many poor families. During that time, running out of food may become a real concern. They have used up all their food stamps, if they receive them, and have little or no cash remaining. There may be little left to



eat in the house and they may be reduced to eating the cheapest foods they can find. Macaroni and cheese is the kind of cheap staple which may be eaten with greater frequency towards the end of the month. "They get full off rice and butter and sugar", was what Joyce Wiltz, a welfare mother in Houston, described her children as eating after she had used up their monthly food stamp allotment (Lelyveld, 1985, p. 520). The demands placed on private food shelves typically reach a peak towards the end of the month.

Poor families, even though they may run low on food towards the end of the month, spend their food budgets quite wisely in most cases. The evidence is that lower-income households are more efficient food shoppers and do obtain more nutrients per dollar's worth of food. For example, based on data from the 1977-78 Nationwide Food Consumption Survey, households with incomes below \$5,000 obtained 1,280 calories, 45 grams of protein, and 470 milligrams (mg) of calcium per dollar's worth of food used at home, compared to 1,140 calories, 41 grams of protein, and 440 mg. of calcium for households with incomes of \$20,000 and above (USDHHS, 1986, p. 220; USDA, 1979, p. 12; and Senauer, 1986, pp. 52-53).

### The Poor

There is a strong association between the occurrence of hunger and poverty. The lack of food security and inadequate diets among the poor are primarily a direct result of inadequate income to buy sufficient food. In addition, the link between poverty and hunger may be indirect and "part of a complex of problems, including a lack of information, physical and mental illness, addiction to drugs and alcohol", and other factors

(USDHHS, 1986, pp. 21-22).

Table 9.1 gives the number of persons and the percent of the population below the poverty level in the U.S. The most recent year for which the figures were available was 1988, when this book was written. In 1960, almost 40 million Americans, 22.2 percent of the population, were living below the poverty line. By 1966, the number of people under the poverty line had fallen by over 10 million persons and was down to 14.7 percent of the population. The number reached a low of only 24.5 million people in 1978, which was just 11.4 percent of the population. This significant progress against poverty was the result of a growing economy, the government's anti-poverty programs, particularly those initiated under Lyndon Johnson's Great Society and War on Poverty, and substantially more generous Social Security benefits for the elderly.

Due to the economic recession in the early 1980s, the number of people living in poverty rose by over 10 million persons between 1978 and 1983, and reached 15.2 percent of the population. However, even during the last several years while the U.S. economy has enjoyed one of the longest periods of prosperity in history, the proportion of the population living in poverty has remained distressingly high, and had declined to only 13.1 percent of the population, with almost 32 million poor persons in the U.S. in 1988 (see table 9.1)

Primarily because of increased Social Security payments, it has been among senior citizens that the rate of poverty has declined most sharply. In 1970, 24.6 percent of persons age 65 and over were below the poverty line. By 1987, this figure had fallen to only 12.2 percent, which is lower than the rate of 13.5 percent in the same year for the overall

population, as shown in table 9.1 (Department of Commerce, 1989, p. 454). Senior citizens are now proportionately less poor than the rest of the population. Americans can be proud of the progress that has been made against poverty among our senior citizens.

However, we should be ashamed of the rate of poverty among children in what is one of the richest, if not the richest, country on earth. The poverty rate of children under 18 years old, which was 14.9 percent in 1970, reached 20.0 percent in 1987. And even more shocking, nearly half of all black children--45.1 percent--were living in poverty. The figure for children in Hispanic families was 39.3 percent (Department of Commerce, 1989, p. 454).

It is useful to distinguish between different categories of the poor: (i) the traditional poor, such as single-parent households with an historically high rate of poverty, (ii) the new poor, who are individuals and families experiencing an extended period of unemployment and reduced income, and (iii) the homeless, who are individuals without a permanent address (President's Task Force, 1984, pp. x-xi and 10-14). An additional category now being identified are the working poor. The problems, and availability of assistance programs, are different for these three groups.

In terms of the traditional poor, about half of all female-headed households with dependent children are below the poverty line. Some two-thirds of these families receive Aid to Families with Dependent Children (AFDC) and Medicaid benefits, and an even higher proportion participate in the Food Stamp Program. In terms of the new poor, about one-fifth of households which experience unemployment fall into poverty. Because they have assets, they may be ineligible for assistance programs, such as food

stamps (President's Task Force, 1984, p. xi). For this reason, they may turn to privately run food shelves. They also have fixed payments, such as mortgages, which may leave little money left to buy food.

Homelessness is the most extreme form of poverty. A few days before Christmas in 1989, there was a picture in the newspaper of a homeless man covered by a blanket huddled over a steam grate. He was within sight of the National Christmas Tree in front of the White House in Washington, D.C., in weather with a below zero windchill (Associated Press, 1989, p. 7A). In a survey of 27 cities, the Mayor's Task Force on Hunger and Homelessness found that 24 percent of the homeless were employed and that the homeless contain an increasing number of families with children, who have lost their homes (Minneapolis Star Tribune, 21 December 1989, p. 7A). The homeless population in the U.S. has been estimated to be at least 500,000 on any given day. As many as 2 million persons may be homeless at some time over the course of a year (President's Task Force, 1984, p. xi and Minneapolis Star Tribune, 11 October 1989, p. 7A and 4 November 1988, p. 17A). Most efforts to help the homeless are local and many are private, non-government initiatives.

The working poor hold part-time or part-year, or even low-wage, full-time, year-around jobs, but still earn so little that their household incomes are below the poverty level. Working 40 hours a week, 52 weeks a year at the current minimum wage of \$3.35 an hour would generate an annual income of \$6,968, which would be below the poverty level for any household of two or more persons (Rich, 1990). Under the new law, the minimum wage will eventually be raised to \$4.25 an hour.

For many people, poverty is temporary. However, for others it is a persistent, chronic condition. Based on an analysis of data which traced the economic circumstances of the same families over many years, researchers found that one out of four Americans lived below the poverty line at some point in the 1970s. However, less than 10 percent of those falling into poverty were persistently poor during eight or more of the ten years and more than half were poor for two years or less. Many people slip into poverty as the result of the economic adversity which may accompany a divorce or the loss of a job, for example. In most cases, they manage to climb back out of poverty in a fairly short period of time (Duncan, 1984, pp. 33-70).

However, the same research also found that 2.6 percent of the population were poor for more than seven years. The persistently poor have limited job opportunities and become heavily dependent on welfare. This group has been referred to as the "underclass". They are isolated from mainstream society and basic economic opportunities. More recent studies have found the problem of persistent poverty growing worse in the U.S. Over one-fifth of blacks living in big cities were living in poverty for the entire ten years from 1974 to 1983 (New York Times, 12 March 1989 and Wilkerson, 1987).

### Defining Poverty

The purpose of measuring poverty is to identify families and individuals who do not have sufficient economic resources to achieve a minimally acceptable standard of living. The poverty income guidelines for 1990 are given in table 9.2 The poverty level rises from \$6,280 for a

single individual to \$21,260 for a family of eight. Interestingly, the current poverty index is based on a family's food needs. The current method of measuring poverty was first proposed by Mollie Orshansky of the Social Security Administration in 1964 and was adopted as the official government measure of poverty in 1969. The basic concept of the Orshansky poverty index is to define as poor any household who would have to spend more than one-third of their income to purchase a minimum, nutritionally adequate diet.

Based on an analysis of the USDA's 1955 Household Food Consumption Survey, Orshansky found that the typical household of at least three persons was spending about one-third of its income on food. She then multiplied USDA's 1961 Economy Food Plan by three to determine the poverty threshold. The Economy Food Plan provided a low-cost food basket, which met the nutritional needs, in terms of the recommended dietary allowances (RDA's) for nutrients of different size households. It reflected the actual food use of low-income households. The poverty guidelines are updated annually to reflect changes in the Consumer Price Index (CPI), which measures the overall rate of inflation (HEW, 1976, pp. xxi and 8). The Orshansky poverty index suffers from a number of limitations and is in some ways quite arbitrary. However, it was available when there was a great need for an official poverty measure. Since its adoption, it has served quite well as a standard for measuring our relative progress or lack of progress against poverty in the U.S.

The poverty guidelines relate to total annual money (cash) income before taxes. Noncash or in-kind benefits, such as Medicare, Medicaid, food stamps, school lunches and housing assistance, are not included.

These include many of the government's major anti-poverty programs. The federal government now provides an alternative measure of poverty, which includes the value of noncash benefits.

Two different methods are used for valuing the noncash benefits: a market value approach and a recipient or cash equivalent approach. The market value of a noncash benefit is what it would cost if purchased in the private market. The recipient or cash equivalent value is the amount of cash that would make the recipient just as well off. It reflects the recipient's own valuation of the benefit. The recipient or cash equivalent value is typically smaller than the market value of an in-kind benefit, because the recipient would prefer a smaller amount of cash which could be spent as he or she chose. Rather than the 13.4 percent in table 9.1, the proportion of the population in 1987 below the poverty level was only 8.5 percent, counting all noncash benefits using the market value approach, and 11.0 percent using the recipient or cash equivalent approach (U.S. Department of Commerce, 1989, p. 457).

#### NUTRITION AND HEALTH PROBLEMS OF THE POOR

This section looks at specific nutrition and nutrition-related health problems of the poor. Evidence is examined from USDA's 1977-78 Nationwide Food Consumption Survey (NFCS) and the 1986 Continuing Survey of Food Intake by Individuals (CSFII) and also from the National Health and Nutrition Examination Survey conducted in 1976-1980 (NHANES II). These data sources allow us to compare the nutrient intake and the nutrition-related health problems of the poor with the rest of the population.

### Nutrient Intake

Table 9.3 gives the percent of the population broken down by poverty status and race who consumed less than 70 percent of the recommended daily allowances (RDA's) for food energy and twelve other major nutrients. The proportion receiving less than 70 percent of the RDA is a better indicator of potential nutrition problems than simply the average or mean percent of the RDA consumed for a nutrient. The data presented in the table are from USDA's 1977-78 NFCS.

In table 9.3, calorie intakes were below 70 percent of the Recommended Energy Intake (REI) for more whites and blacks below the poverty level than above it, comparing each racial group separately. In addition, more blacks than whites in both groups consumed less than 70 percent of the REI for calories. Even though the caloric intakes of approximately 40 percent of those below the poverty level were lower than 70 percent of the REI, being overweight is a problem for many of the poor, probably because of a low level of physical activity (USDHHS, 1986, pp. 2; 5-6). As shown later in figure 9.1, being overweight is, in fact, a particular problem for low-income women.

For the remaining 12 nutrients in table 9.3, a higher proportion of the population below the poverty level than above it had intakes lower than 70 percent of the RDA, with the exception of calcium, thiamin, and riboflavin for blacks. However, the differences for some nutrients are quite small. The proportion of the population with intakes less than 70 percent of the RDA was highest for vitamin B<sub>6</sub>, calcium, and magnesium. The percent of the population below 70 percent of the RDA for these nutrients ranged from 36 to 56. Vitamin B<sub>6</sub> intakes were similar for those



below and above the poverty level. Calcium and magnesium intakes were lower for blacks than whites for both the population below and above the poverty level.

The portion of the population below 70 percent of the RDA for iron and vitamins A and C ranged from 24 to 39 percent; those for the remaining nutrients, thiamin, riboflavin, niacin, B<sub>12</sub> and phosphorus ranged from 7 to 22 percent; and the proportion for protein ranged from 3 to 5 percent. The largest differences between the poor and non-poor occurred for vitamins A and B<sub>12</sub>. Thirty-seven percent of the blacks below the poverty level consumed less than 70 percent of the RDA for vitamin A and 30 percent above poverty, a difference of 7 percentage points. For vitamin B<sub>12</sub>, the difference between poor whites and non-poor whites was also 7 percentage points, 21 versus 14 percent of the population.

However, it was not indicated in the available reports whether any of the apparent differences shown in table 9.3 between those below and above the poverty level were statistically significant (USDHHS, 1986). The concept of statistical significance relates to whether it can be reasonably presumed that the differences perceived in the sample, in fact, are true for the entire population, which the sample represents.

Since the data in table 9.3 are now over ten years old, table 9.4 is presented which is based on data for 1986. Table 9.4 draws on the results of USDA's CSFII, which sampled only two specific subgroups in the population on a regular basis: women 19-50 years of age and their children 1-5 years old (USDA, 1988 and 1989). The percent with nutrient intakes less than 70 percent of the RDA's are given for those women and children in households with incomes at or below 130 percent, and over 130

percent of the poverty level. These particular income levels are used because they are the ones available in the published USDA reports (USDA, 1988 and 1989).

For food energy and each of the fifteen other nutrients shown in table 9.4, a larger proportion of the low-income than the higher-income women consumed less than 70 percent of the RDA's. The differences for some nutrients are small. However, from 8 to 20 percent more of the low-income than the higher-income women had low intakes of calcium, ascorbic acid, vitamin A, riboflavin, niacin, vitamin E and magnesium. Although 54.6 percent of the women in households with income at or below 130 percent of the poverty level consumed less than 70 percent of the food energy (calorie) RDA, as will be shown later, many low-income women are overweight.

A larger proportion of the children in low-income households consumed less than 70 percent of the RDA for food energy and each of the other nutrients, with the exception of iron. The differences between the two income groups are greatest for food energy, vitamin A, vitamin B<sub>6</sub>, magnesium, and zinc. For iron, 40.8 percent of low-income children, ages 1-5, consumed less than 70 percent of the RDA, but the percent was even higher (44.8 percent) among children in higher-income households. Again, it was not indicated whether these apparent differences are statistically significant.

#### Nutrition-Related Health Problems

Many health problems which are either directly or indirectly related to poor nutrition are more prevalent among the poor (USDHHS, 1986, p. 2).

Figures 9.1 through 9.6 examine specific health and nutrition conditions which are a particular concern among at least certain segments of the low-income population. These figures are based on data from NHANES II conducted in 1976-1980.

Excessive weight is a critical health problem among low-income women. Figure 9.1 clearly shows that the percent of women overweight is far higher among those below the poverty level than those above poverty. Nearly 50 percent of poor women age 35-44 and over half of those age 45-54 were overweight. A person was defined as overweight if they were at or above the 85th percentile in terms of their weight in relation to their height, with the mean weight for height determining the 50th percentile (USDHHS, 1986, p. 54). Pregnant women were not included. Being overweight increases the risk of certain diseases, such as hypertension and diabetes, and can be correlated with increased morbidity and mortality (USDHHS, 1986, p. 2).

The overweight problem of poor women does not appear to be the result of unusually high energy (calorie) intake, although food consumption may be under-reported. The problem is most likely a result of an extremely sedentary lifestyle (USDHHS, 1986, p. 2). Excessive weight is not a particular problem among low-income men and, in fact, the percent of men who are overweight is lower among all age groups over age 35 for those below the poverty level (USDHHS, 1986, p. 60).

Iron deficiency is a particular problem among certain portions of the low-income population. The NHANES II used several biochemical indicators to diagnose impaired iron status in the blood (USDHHS, 1986, p. 166). Figures 9.2 and 9.3 show the percent of males and females with impaired

iron status by poverty status and age. As can be seen, the problem is most serious for boys 3-5 years old, teenage girls ages 12-17, and women 25-54 in households below the poverty level. Nearly 14 percent of boys age 3-5 living in households below the poverty level, suffer from an iron deficiency as opposed to only about 4 percent for those in non-poor households. The prevalence of iron deficiency is generally high for women 25-54 years of age, but is even higher for those below the poverty level in that age group,. In addition, 20.6 percent of infants 1-2 years of age in households below the poverty level suffer from impaired iron status, compared to only 6.7 percent of infants in non-poor households. In its most serious form, iron-deficiency anemia can lead to abnormal, small, pale red blood cells (USDHHS, 1986, pp. 166-168).

In terms of other nutrient deficiencies, evidence of vitamin C depletion was most common for those living below the poverty level, especially among poor adult men who were smokers (USDHHS, 1986, p. 2). Based on blood samples, 20 percent of men ages 55-74 who were poor had a low serum vitamin C reading compared to only about 6 percent for those not poor (USDHHS, 1986, p. 148).

Growth charts have been developed based on the distribution of heights and weights of children by age and gender in a healthy, reference population. A particular child's height and weight can be compared to that of the reference population reflected in the growth chart. The impact of racial and ethnic differences on children's growth rates are minor compared to the effect of diet and health-related factors (USDHHS, 1986, p. 199).

A normal pattern of physical development and growth in terms of

height and weight is characteristic of healthy, well-fed children (USDHHS, 1986, p. 197). A nutritionally adequate diet is necessary for a child's development, but other factors which affect the child's health are also important. If a child's height is less than it should be for his or her age, this is referred to as "stunting". It is referred to as "wasting" when a child's weight in relation to his or her height is too low. The former is an indicator of a child's long-run or chronic nutritional and health status. The latter reflects a child's short-run or current nutritional and health status.

Figure 9.4 shows for those under and above the poverty level, the percent of children below the 5th percentile of height for age by age and gender based on the National Center for Health Statistic's (NCHS) growth chart. At the 5th percentile, a child would be significantly stunted. He or she would be shorter than 95 percent of the children in a healthy population of the same age and gender. Children living below the poverty level consistently suffered a higher incidence of stunting than those above poverty. The most extreme difference was for girls, 2-5 years old, with over 14 percent below the 5th percentile among those below poverty, and only about 5 percent below the 5th percentile in non-poor households.

Likewise, figure 9.5 gives the percent of the children who are suffering from significant wasting, as defined by being below the 5th percentile in terms of weight for height based on their age and gender. Poverty did not have a consistently significant effect on a child's weight in relation to his or her height. However, a substantially higher percent of boys, ages 6-9, living below the poverty level were suffering from wasting than among those above poverty. About 7 percent were below the

5th percentile as opposed to only 2 percent among the non-poor (USDHHS, 1986, pp. 197-199).

For every age group shown in figure 9.6, the percent of persons diagnosed as having diabetes in NHANES II was higher among the poverty population than for those above the poverty line. Diabetes is a condition involving the inadequate production of insulin by the pancreas and an inability to metabolize glucose in the bloodstream. Genetic factors are believed to play a dominant role in the onset of most cases of diabetes. However, research suggests that diet and nutrition can be associated factors in many cases, in terms of overeating, combined with a lack of physical activity, and the resulting excess body weight.

Overall, the incidence of diabetes was 12.9 percent for the poor compared to only 6.8 percent for the non-poor. However, the correlation between poverty and diabetes may be largely indirect. Blacks, who are disproportionately poor, also suffer from a higher rate of diabetes than whites (11.2 percent, compared to 7.0 percent for whites). Furthermore, the percentage of diabetics among overweight persons was 13.4, compared to just 4.9 percent for those who were not overweight. As was seen previously in figure 9.1, low-income women in particular suffer from a high rate of overweight, and thus could be expected to have a higher percentage of diabetics (USDHHS, 1986, pp. 188-189).

Unavoidably, this presentation probably understates the seriousness of the nutrition and nutrition-related health problems of the poor. The samples for USDA's 1977-78 NFCS and the 1976-80 NHANES II did not include individuals without a permanent address (the homeless), nor Native Americans (Indians) living on reservations (USDHHS, 1986, p. 22). These

two groups suffer from a high incidence of extreme poverty and serious malnutrition. The sample plan of future surveys should be expanded to include these important population groups, who are at high risk.

#### FOOD ASSISTANCE PROGRAMS

The origin of federal food assistance programs can be traced back to farm support laws enacted during the Depression of the 1930s. The legislation was aimed more at disposing of agricultural surpluses than meeting the food and nutrition needs of people, but they were a welcome help to most of the recipients anyway (Jones and Richardson, 1988, p. 2 and Paarlberg, 1980, pp. 99-101). A commodity distribution program was established which distributed surplus agricultural commodities directly to the needy. In 1939, 13 million Americans received food supplements (Paarlberg, 1980, p. 104). A food stamp program and a school lunch program were initiated in 1939 and a school milk program in 1940. Many of these programs were curtailed or reduced during World War II, which was accompanied by soaring demand for agricultural products and a robust economy. The initial food stamp program, for example, was discontinued in 1943 (Paarlberg, 1980, p. 101).

In response to the concerns about widespread hunger in the U.S. in the late 1960s, which was discussed earlier, the commitment to funding food and nutrition assistance was greatly expanded in the 1970s. In addition, the emphasis shifted from disposing of surplus agricultural commodities to assisting low-income people with their food needs. The federal government's expenditures on food assistance programs rose from \$1.1 billion in 1969 to \$11.2 billion in fiscal year 1979 (FY 79), largely

due to a substantial expansion in the coverage of the Food Stamp Program.

In the 1980s, during the Reagan Administration, with a tax cut and greatly expanded expenditures on national defense, there was significant pressure to reduce, or at least hold down, spending on domestic programs, such as food assistance. President Reagan, in his 1982 State of the Union Address, proposed replacing the major federal food assistance programs with cash block grants to the states (Sims, 1988, p. 16). The federal government's spending on food assistance programs in current dollars continued to grow during the 1980s, increasing from \$14.1 billion in FY 80 to \$21.1 billion in FY 87 (Jones and Richardson, 1988, p. 3). However, government expenditures for food stamps in fiscal year 1982 were reduced by 12 percent and for child nutrition programs by 24 percent below the levels they would have reached without budget reduction measures enacted in 1981 (Jones and Richardson, 1988, p. 3). Furthermore, between FY 83 and 88, although spending on food programs rose 9.9 percent, the Consumer Price Index increased 18.4 percent. Therefore, in real terms or constant dollars, expenditures for food assistance fell (USDA, FNS, 1989, p. 1).

Table 9.5 gives the federal government's expenditures in FY 88, and also the average monthly participation if available, for the various food assistance programs. Food stamps are the largest program by a substantial margin, with federal outlays of over \$12 billion and an average of almost 19 million recipients in FY 88. The Special Supplemental Food Program for Women, Infants and Children (WIC) has been one of the few programs to expand significantly in recent years and now accounts for the third largest allocation of food assistance dollars. In 1982, food stamps were replaced with a nutrition assistance block grant in Puerto Rico. Over



half of the island's population participates. Monthly participation averaged 1.4 million in FY 88 (USDA, FNS, 1989).

The next five are child nutrition programs which operate through our nation's schools and child care centers. The National School Lunch Program had the second highest expenditures and over 24 million children participated on average, with slightly less than half receiving free or reduced price meals. The Child Care Food Program provides cash and commodity assistance to child care centers and to family day care homes. The School Breakfast, Summer Food Service, and Special Milk programs are additional child nutrition programs which operate through the schools (USDA, FNS, 1989).

The next five programs involve the distribution of commodities. The Temporary Emergency Food Assistance Program provides surplus agricultural commodities to needy persons. The Charitable Institutions Program provides surplus commodities to charitable organizations who serve meals to the needy. The Commodity Supplemental Food Program operated through 18 state agencies and one Indian tribal organization in FY 88 and served the elderly, women, infants and children. The Needy Family Program now operates only on Indian reservations and on our Pacific Island territories, which prefer food commodities to food stamps. The Nutrition Program for the Elderly provides cash and commodities to senior citizen centers which provide meals, and to the Meals-On-Wheels program for the home-bound (USDA, FNS, 1989).

Several federal programs that provide food assistance which are not run through the Department of Agriculture's Food and Nutrition Service are not listed in table 9.5. The Expanded Food and Nutrition Program

operates through the Agricultural Extension Service. The program educates low-income families on efficient food purchasing and preparation and on nutritional needs. The Community Food and Nutrition Program assists local and state governments coordinate private and public food assistance. The Emergency Food and Shelter Program provides federal funds to assist the homeless. An estimated 46 percent of the funds are used to provide meals (Jones and Richardson, 1988, p. 6). The remainder of this section will provide more detailed information on the major government programs and also discuss private food assistance initiatives.

#### The Food Stamp Program

The current Food Stamp Program was initiated on a pilot basis during the Kennedy Administration in 1961. The program was permanently authorized in 1964 for states wishing to take part and in 1974, Congress passed legislation which required all states to offer food stamps (USDA, FNS, 1988 and 1989). The objective of the program, as declared in the Food Stamp Act of 1977, is to "permit low-income households to obtain a more nutritious diet" (Allen and Newton, 1986, p. 1249). Food stamps are a vital support for many low-income families. Delaine Lee, an unemployed, single mother living in rural Minnesota, said "I wouldn't make it without the food stamps. That's plain and simple," (Draper, 1989).

Monthly allotments of coupons that can be used to purchase food at grocery stores are issued to eligible households. Congress reformed the program so that, after 1979, all eligible households receive their coupon allotment free. Prior to that time, most households had to purchase their allotment at some fraction of the face value of the coupons. The Food

Stamp Program operates through the public assistance agency in each state and the local county welfare offices, which certify the eligibility of applicants and issue benefits. The federal government, through the Food and Nutrition Service in the Department of Agriculture, covers the entire cost of the coupons and at least half of the states' administrative expenses. Overall policies and procedures are set at the federal level. The eligibility criteria and benefit levels are standardized nationally (USDA, FNS, 1988).

To be eligible to receive food stamps, a household's gross monthly income may not exceed 130 percent of the official poverty guidelines for their household size (divide the levels in table 9.2 by 12 to get the monthly poverty levels). Also, after being allowed certain deductions, such as a standard deduction of slightly over one hundred dollars for most households, and a deduction for excess shelter expenses for some, the household's net income may not exceed the monthly poverty income level. Households with an elderly or disabled member need only meet the net income criteria. And households receiving Public Assistance (PA) or Supplemental Security Income (SSI), a welfare program for the low-income elderly, are automatically eligible (USDA, FNS, 1990). There are also limits on the assets a household may hold. The households, for example, cannot own a car worth more than \$4,500, unless it is needed for employment, or have more than \$2,000 in cash and liquid assets for nonelderly households (Davis and Senauer, 1986, p. 1256). If not employed, a work registration requirement must also be fulfilled.

The coupon allotment is affected by a household's size and income. Households with more members receive a larger coupon allotment, but more

income reduces their benefits. The allotment is reduced by 30 percent of the household's net income. This reflects the idea that a family should spend 30 percent of their own income on food. The maximum allotment, as of October 1989, for a household with no net income, was \$99 per month for a single person, \$182 for two, \$260 for three, \$331 for four, on up to \$596 for eight, and then \$75 more for each additional person (USDA, FNS, 1990). The monthly coupon allotment averaged \$49.77 per person in FY 88, which works out to about 55 cents per meal (USDA, FNS, 1989, p. 20).

The maximum coupon allotments are based on the Thrifty Food Plan, which replaced the Economy Food Plan as the Department of Agriculture's lowest cost food plan and is one of four USDA food plans. The maximum allotment was 100.65 percent of the Thrifty Food Plan in FY 89 and that will rise to 103 percent in FY 91 (USDA, FNS, 1989, p. 3). The Thrifty Food Plan provides for a nutritious diet which reflects the food consumption patterns of low-income households based on the 1977-78 NFCS for Low-Income Households. A computerized mathematical model is used to design the food plans. Its objective is to make the smallest changes possible in the actual consumption patterns of low-income households in order to meet the nutrient goals and cost limit established for the plan (Cleveland and Kerr, 1988). However, households that do not plan meals and grocery shop carefully, or which lack the necessary nutrition knowledge or cooking skills, would have difficulty achieving a nutritional diet with the food expenditures allowed under the Thrifty Food Plan (Allen and Newton, 1986, p. 1250).

Empirical research studies have found that households receiving food stamps increase their total food purchases by 25 to 35 cents for each

dollar's worth of food coupons received (Senauer and Young, 1986). This means the \$12 billion of food stamps issued in FY 88 increased total food sales by some 3 to 4.2 billion dollars, which is fairly minor as a factor in the total food market. The reason the increase is not dollar for dollar is that food stamp households typically substitute coupons for some of the cash they spent on food prior to joining the program, which is completely legal. For example, a family that was spending \$400.00 per month for food after joining the program and receiving \$200 worth of coupons, purchases \$460 of food, but now needs to spend only \$260.00 of their own money.

The same studies show, however, that food stamps should be far more effective at increasing the recipient households' food expenditures than cash payments. The food purchases of low-income households typically only increase by five to ten cents for each additional dollar of money income (Senauer and Young, 1986). They face many other pressing demands on their very limited financial resources. An analysis of the 1977-78 NFCS data for Low-Income Households found that households receiving food stamps had more nutritious diets than households which were eligible but not participating in the program. They consumed significantly more of each nutrient studied but the effect was quite limited (Allen and Gadson, 1983).

A major criticism made against the Food Stamp Program is that the program is not utilized by a large proportion of those eligible (Physician Task Force, 1985 and Brown, 1987). It has been estimated that between 30 and 60% of those households which are eligible over the period of a year do not participate in the program (Sims, 1988, p. 18). Some are unaware

of their eligibility; others want to avoid the hassle of applying or the stigma of using food stamps. A federally funded outreach program aimed at increasing participation was eliminated in 1982 (Davis and Senauer, 1986, p. 1257).

Arguments have been made for eliminating the use of food coupons and simply providing assistance in the form of cash. The various reforms of the program have decreased its food demand and nutritional aspects, so that food stamps have literally become a substitute for a national income maintenance program (Senauer, 1982, p. 1012-1013). Further major reform of the program seems unlikely in the foreseeable future.

#### Other Major Government Programs

The Special Supplemental Food Program for Women, Infants, and Children (known as WIC) was started as a pilot program in 1972 and then officially established in 1974. Its goal is to improve the nutrition and health of pregnant, breast feeding, and postpartum women, and their infants and children under age five. The program is run through some 8,000 local health clinics and is aimed at those who are at nutritional risk because of inadequate income. To be eligible, household income cannot exceed 185 percent of the poverty guidelines.

Most clinics now give vouchers to participants which can be used to purchase certain specified foods at grocery stores. A few clinics distribute the food directly or arrange for home delivery. The authorized foods are designed to fulfill nutrient needs that have been found lacking in the target population. Milk, cheese, eggs, fruit or vegetable juice containing vitamin C, dried beans and peas, peanut butter, iron-fortified

breakfast cereal, infant cereal and iron-fortified infant formula, are included among the approved food items. The foods are individually prescribed and mothers receive nutrition education. Monthly food benefits averaged \$33.32 per participant in FY 88 (USDA, FNS, 1988 and 1989, pp. 5-6 and 22). WIC is not an entitlement like food stamps and other of the food assistance programs, which means that there have not been sufficient funds to cover all those who have been determined eligible and in need of the program. Coverage is provided on a priority basis with the highest priority given to pregnant women, then infants up to a year old. These two groups typically receive complete coverage.

The extensive nutrition and medical data collected as part of the program have been used to evaluate its impact. The evaluation studies have found the program to be highly effective. Program participants had improved intakes of a number of important nutrients, including iron and vitamin C. In addition, the program results in an increase in average birth weights and a decrease in preterm births and neonatal mortality (Sims, 1988, p. 21-24 and USDA, FNS, 1986). Largely because of its proven effectiveness, the WIC program has been able to obtain increased funding in recent years. Funding increased from \$949 million in FY 82 to the \$1.8 billion in FY 88, shown in table 9.5.

The National School Lunch Program was first authorized in 1946. This program helps support food services in elementary and secondary schools and in child care centers, with cash and commodity distributions. Cash payments are based on the number of meals served and are higher for those meals which were provided free or at reduced cost. Schools are also given government-owned, surplus commodities. The household income of a child's

family must be below 130 percent of the poverty level for him/her to be eligible for free lunches and below 185 percent of the poverty figure for reduced-price meals. In FY 88, some 4.03 billion meals were provided at 90,600 sites, with 47.5 percent either free or at reduced price (USDA, FNS, 1989). A typical price in 1989-90 for a full-priced lunch was \$1.00 in elementary school and \$1.20 in secondary school (Roseville Area Schools, 1989).

The goal of the school lunch program, as written in the original legislation, is "to safeguard the health and well-being of the nation's children, and to encourage the domestic consumption of nutritious agricultural commodities and other food," (Allen, Matsumoto, and Traub, 1985, p. 29). The meals served are designed to fulfill one-third of the child's daily nutrient needs. However, the program has been criticized concerning the nutritional quality of the meals for containing too much fat, sodium and sugar.

Another issue is whether you provide meals that the children will like, and hence eat, or ones that will develop good nutritional habits. Studies have found that about 15 percent of the typical school lunch remains uneaten and ends up in the trash (Gallo, 1978, p. 36 and Paarlberg, 1980, p. 105). The proportion which got wasted was even higher for some highly nutritious foods, such as raw vegetables like carrot sticks (Clark, 1981, p. 10). In order to provide foods the students like, more and more fast food products are showing up in school lunch meals (Dean, 1989). They are popular with a generation of children who frequently go to McDonald's or Burger King. Even school lunch menus are being consumer-driven.



An evaluation based on data from the 1977-78 NFCS found the program had a significant positive impact on the nutrient consumption of participating children, and particularly for low-income children (Akin, Guilkey and Popkin, 1983). Children, ages 6-11, who participated in the school lunch program had higher intakes of calcium, iron, riboflavin, and vitamins A, B<sub>6</sub> and C (Sims, 1988, p. 21, and Akin, et al., 1983).

The Temporary Emergency Food Assistance Program (TEFAP) was established in 1981 as a mechanism for distributing surplus government inventories, particularly of dairy products, to low-income households. This is the program which was behind the cheese give-aways. Other commodities which have been included are honey, rice, butter, non-fat dry milk, cornmeal and flour. The food is distributed free to the recipients who are supposed to meet eligibility standards established by the states. The value of TEFAP distributions declined nearly 30 percent between FY 87 and 88, because of the reduced availability of surplus commodities (USDA, FNS, 1988 and 1989).

#### Private Initiatives

During the 1980s there was a sharp increase in the number of people seeking food assistance from private, non-government organizations. The two basic forms of private assistance are "food shelves", which provide basic grocery products free to needy families, and feeding facilities or "soup kitchens" which serve free meals to the destitute. The food shelves operating in Minnesota, for example, filled over 1.2 million requests in 1987. This represented an increase of about 600 percent since 1982, when approximately 200,000 requests were filled. There were some 303 food

shelves operating in the state by 1987 (FAN Forum, 1989). Furthermore, it has been said that there are now more soup kitchens in the U.S. serving more meals to more people, than at any time since the Depression of the 1930s (Lelyveld, 1985, p. 20). The number of providers of free meals in New York City jumped from 30 in 1981 to 500 in 1987 (Ansberry, 1988).

Food shelves are run by churches, social service agencies, or free standing organizations. Their budgets are usually small and they heavily depend on volunteers for labor and donated food and cash. They typically provide clients with a supply of groceries designed to last their families three to seven days. Eligibility is determined by each food shelf, but usually, someone who says their family is in need is not turned away. However, clients must normally live within a given geographic area. Families might have been limited to one visit per month in the past, but increased demand has forced food shelves to limit the use to four to six times per year in many cases.

A survey of food shelf users in Minnesota found that 63 percent were families that had children under 18 years of age, and a quarter of them had jobs. Over half were not receiving food stamps and the most common reason given was they thought their families were not eligible. However, income data suggested that many of them were (Minnesota Food Education and Resource Center, 1985). Many users would be classified among the "new poor". Demand on food shelves is particularly heavy towards the end of the month, when many food stamp recipients have exhausted their resources.

Food banks act as warehouses, collecting and distributing food to affiliated food shelves. A major function of the food banks is to solicit donations of food products from major food manufacturing and distribution

companies. Second Harvest, with headquarters in Chicago, is a national network of food banks. In 1985, it distributed 152.2 million pounds of food donated by 256 food companies to 205 member food banks throughout the U.S. (FAN Forum, 1989).

The feeding programs which provide free meals serve as a last resort for those who have fallen through the social welfare "safety net". The population served by these free-meal providers contain a high proportion of homeless people. Many of these soup kitchens try to help their users with additional needs, such as finding housing and clothing and, in some cases, child abuse and alcoholism problems (Ansberry, 1988). Most soup kitchens operate on a shoe string. Much of the work is performed by volunteers and the resources, cash and food commodities are frequently outstripped by the demand.

These private initiatives can be viewed with two perspectives. One is as a healthy indicator of the ability of private charity and volunteerism to reduce overdependence on government welfare programs. The other views them as a response to the inadequacy of the government's safety net and the large number of hungry. There are limits to the role that can be played by the private programs. What they can do best is fill gaps left by the government programs, responding to emergency needs and special local requirements.

However, the private programs are becoming a long-term food source for many individuals and families (Davis and Senauer, 1986, p. 1255). Those who run the private programs find the demand threatens to overwhelm their very limited resources. Robert Andersen, who helped start the Rainbow Kitchen, a free-meal operation in Homestead, Pennsylvania, said:

"I'm afraid we're becoming the substitute for a long-term solution." Two additional problems with the private efforts are the unreliability of charitable donations and wide differences between areas in their availability. Food assistance must continue to be treated as primarily a government responsibility. Private programs can reasonably be expected to shoulder only a limited portion of the burden. Dolores Patrick, the Rainbow's director, said: "Our dream is to go out of business" because their services are no longer needed (Ansberry, 1988).

#### SOME FINAL COMMENTS

Americans have mixed feelings about government welfare programs that assist the poor. This includes the food programs, and particularly, food stamps. Many find their cost objectionable and incidents of fraud and misuse prompt outrage. However, we are also a charitable, compassionate people, and if the situation of specific individuals were described, such as an elderly widow living below the poverty level or an unemployed single mother with two preschool children, we would likely strongly favor helping them. A political consensus has emerged that social welfare programs should contain strong work incentives and job training support, which reflects the widespread belief that able-bodied adults should work to support themselves.

Current government programs, including those involving food assistance, reflect the belief that certain types of consumption, such as those related to nutrition, health, and education, are more meritorious than others. Society is more concerned about the level of inequality in the distribution of such merit goods, than the distribution of income or

other goods. Access to adequate food might be thought of as a fundamental right, since a lack of food means, in the extreme, to be deprived of life. There is no basis for making ethical judgments between different consumption patterns for most goods. However, food consumption levels can be evaluated against nutrient requirements and dietary guidelines.

The economists' concept of human capital offers another perspective on food assistance. The productivity of our economy depends on the skills and knowledge of the work force, which can be thought of as human capital. As Theodore W. Schultz, a recipient of the Nobel Prize in economics, noted, "Much of what we call consumption constitutes investment in human capital," such as expenditures on education, health and nutrition (Schultz, 1961, p. 1). The human capital argument is particularly strong for children. A child's nutritional status can affect his or her physical and mental development and educational achievement. If we want to have the kind of highly productive labor force that can compete in the world economy of the 21st Century, we must be willing to make the necessary investments in the education, health and nutrition of today's children.

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**TABLE 9.1**  
**THE NUMBER OF PERSONS AND PERCENT OF THE**  
**POPULATION BELOW THE POVERTY LEVEL**

<u>Year</u>	<u>Number (Millions)</u>	<u>Percent</u>
1960	39.9	22.2
1966	28.5	14.7
1970	25.4	12.6
1975	25.9	12.3
1976	25.0	11.8
1977	24.7	11.6
1978	24.5	11.4
1979	25.3	11.6
1980	29.3	13.0
1981	31.8	14.0
1982	34.4	15.0
1983	35.3	15.2
1984	33.7	14.4
1985	33.1	14.0
1986	32.4	13.6
1987	32.3	13.4
1988	31.9	13.1

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Source: U.S. Department of Commerce, 1989, p. 452; 1987 and 1988 figures, Minneapolis Star Tribune, 19 October 1989, p. 7A.

TABLE 9.2  
1990 POVERTY INCOME GUIDELINES<sup>a</sup>

<u>Size of Family</u>	<u>Poverty Guideline</u>
1	\$6,280
2	8,420
3	10,560
4	12,700
5	14,840
6	16,980
7	19,120
8	21,260 <sup>b</sup>

<sup>a</sup> For all states, except Alaska and Hawaii

<sup>b</sup> For family units with over 8 persons, add \$2,140 for each additional person.

Source: U.S. Department of Health and Human Services, 1990.

TABLE 9.3  
 PERCENT OF THE POPULATION WITH NUTRIENT INTAKES  
 LESS THAN 70 PERCENT OF THE RDA  
 BY POVERTY STATUS AND RACE: 1977-78

<u>Nutrient</u>	<u>Below Poverty</u>		<u>Above Poverty</u>	
	<u>White</u>	<u>Black</u>	<u>White</u>	<u>Black</u>
Food energy (calories) <sup>a</sup>	37	43	31	39
Protein	5	5	3	3
Calcium	45	56	40	56
Iron	35	39	32	34
Ascorbic Acid	32	26	26	24
Vitamin A	37	37	31	30
Thiamin	18	16	17	16
Riboflavin	13	16	11	17
Niacin	15	14	9	9
Vitamin B <sub>6</sub>	55	52	50	50
Vitamin B <sub>12</sub>	21	22	14	17
Phosphorus	11	17	7	12
Magnesium	42	56	36	53

<sup>a</sup>70 percent of the 1980 REI (Recommended Energy Intake) for calories; otherwise 1980 Recommended Dietary Allowances were used.

Source: U.S. Department of Health and Human Services, 1986, pp. 251-279; based on USDA's 1977-78 NFCS, 3-day individual data.

TABLE 9.4  
 PERCENT OF WOMEN AND CHILDREN WITH NUTRIENT INTAKES  
 LESS THAN 70 PERCENT OF THE RDA BY  
 POVERTY STATUS: 1986<sup>a</sup>

<u>Nutrient</u>	<u>Women 19-50 Years</u>		<u>Children 1-5 Years</u>	
	<u>0-130%</u> <u>Poverty</u>	<u>Over 130%</u> <u>Poverty</u>	<u>0-130%</u> <u>Poverty</u>	<u>Over 130%</u> <u>Poverty</u>
Food energy	54.6	46.1	15.8	7.6
Protein	8.3	4.8	0.8	0.0
Calcium	55.9	46.8	19.4	16.6
Iron	81.5	78.0	40.8	44.8
Ascorbic Acid	36.4	25.3	7.5	6.6
Vitamin A	51.9	34.3	11.1	2.2
Thiamin	25.6	19.5	0.6	0.0
Riboflavin	29.0	18.1	1.7	0.4
Niacin	16.7	8.5	2.8	1.3
Vitamin B <sub>6</sub>	80.5	73.2	12.0	6.4
Vitamin B <sub>1</sub> <sup>2</sup>	24.7	17.3	3.1	1.1
Vitamin E	61.3	41.2	33.2	30.7
Folacin	89.6	87.0	8.7	6.0
Phosphorus	15.7	9.3	6.1	1.4
Magnesium	69.2	52.8	10.2	2.3
Zinc	79.8	77.3	40.5	34.8

<sup>a</sup> 1980 Recommended Dietary Allowances used.

Source: U.S. Department of Agriculture, Human Nutrition Information Service, September 1988, pp. 70-77 and January 1989, pp. 78-85.

**TABLE 9.5**  
**GOVERNMENT FOOD ASSISTANCE PROGRAMS:**  
**COST AND PARTICIPATION - FISCAL 1988**

<u>Programs</u>	<u>Federal Government Costs (Millions)</u>	<u>Participation<sup>a</sup> (Thousands)</u>
Food Stamps	\$12,341	18,700
WIC	1,801	3,593
Nutrition Assistance Block Grant	845	1,430
- Puerto Rico		
Child Nutrition Programs:		
National School Lunch	2,920	24,200 <sup>b</sup>
Child Care Food	618	1,251
School Breakfast	484	3,690 <sup>c</sup>
Summer Food Service	136	1,577 <sup>d</sup>
Special Milk	19	na <sup>e</sup>
Commodity Distribution Programs:		
Temporary Emergency Food Assistance	633	na
Charitable Institutions	154	na
Commodity Supplemental Food	62	213
Needy Family	62	137
Nutrition Program for the Elderly	150	na
Total	<u>21,211<sup>f</sup></u>	

<sup>a</sup> Average monthly participation unless otherwise indicated.

<sup>b</sup> 9.8 million free, 1.6 million reduced price, and 12.8 million paid.

<sup>c</sup> 3.03 million free, 180,000 reduced price, and 470,000 paid.

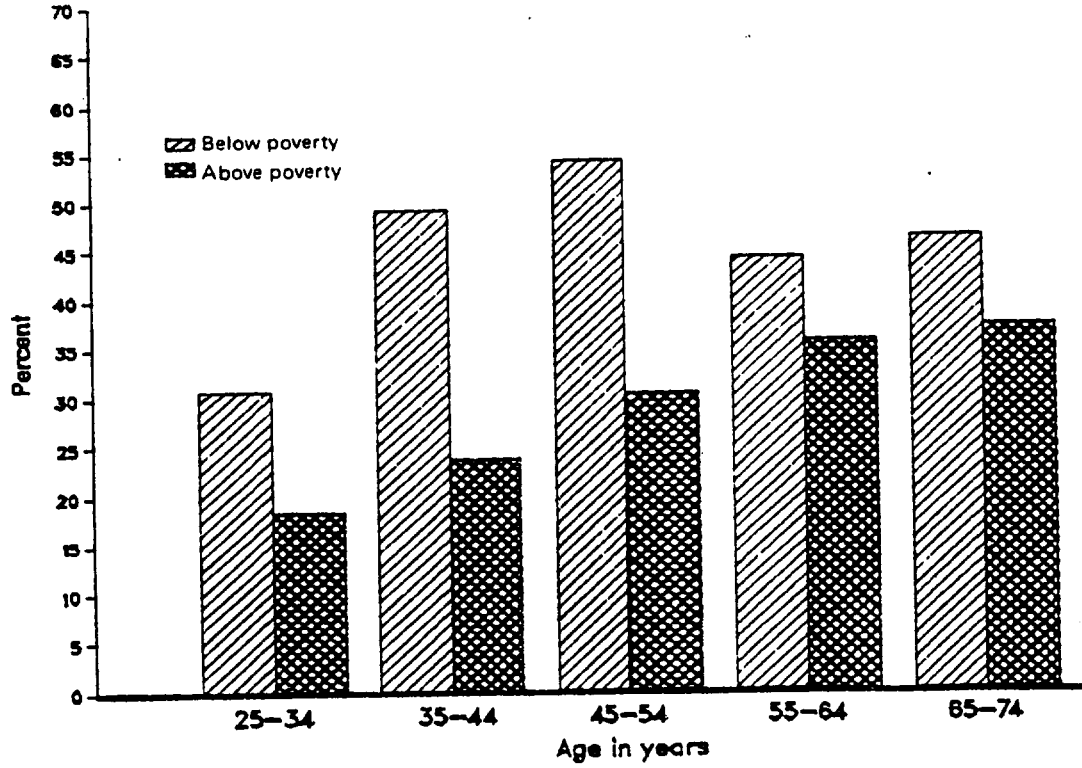
<sup>d</sup> Participation in July.

<sup>e</sup> Not available.

<sup>f</sup> Not all programs are shown, so categories do not add up to the total.

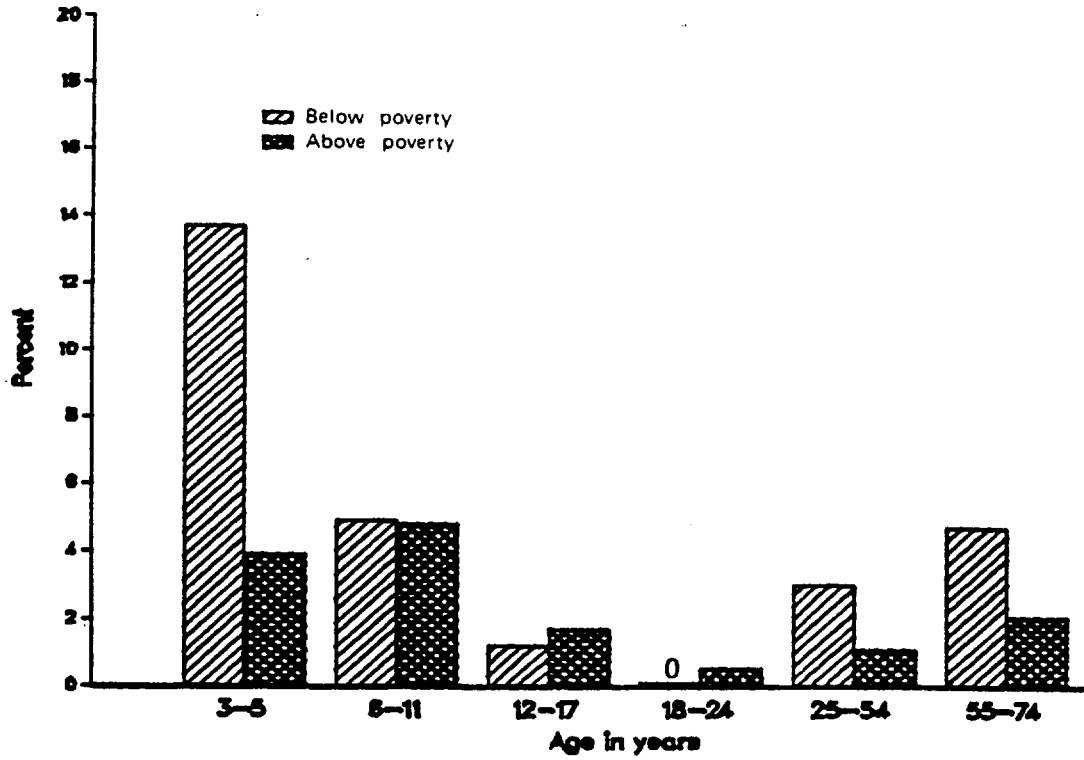
Source: U.S. Dept. of Agriculture, Food and Nutrition Service,  
February 1989.

**FIGURE 9.1**  
**PERCENT OF FEMALES OVERWEIGHT,**  
**BY POVERTY STATUS AND AGE**



SOURCE: U.S. Department of Health and Human Services, 1986, p. 60.

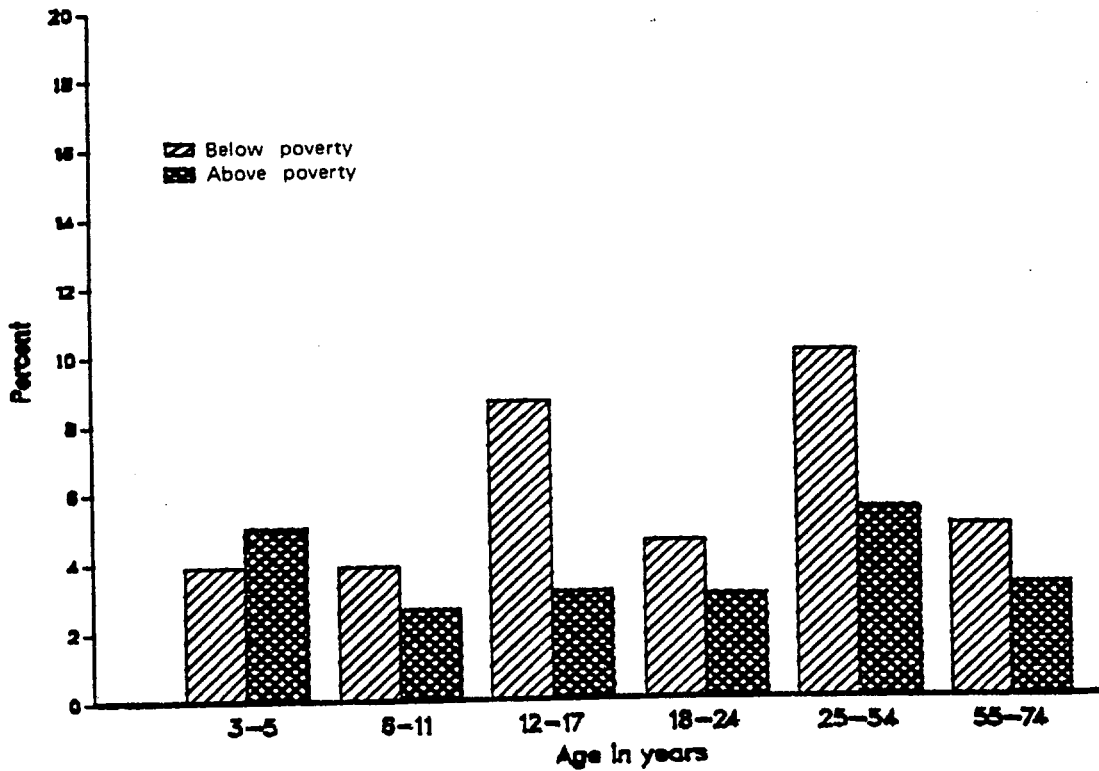
**FIGURE 9.2**  
**PERCENT OF MALES WITH IMPAIRED IRON STATUS,**  
**BY POVERTY STATUS AND AGE**



Source: U.S. Department of Health and Human Services, 1986, p. 174.

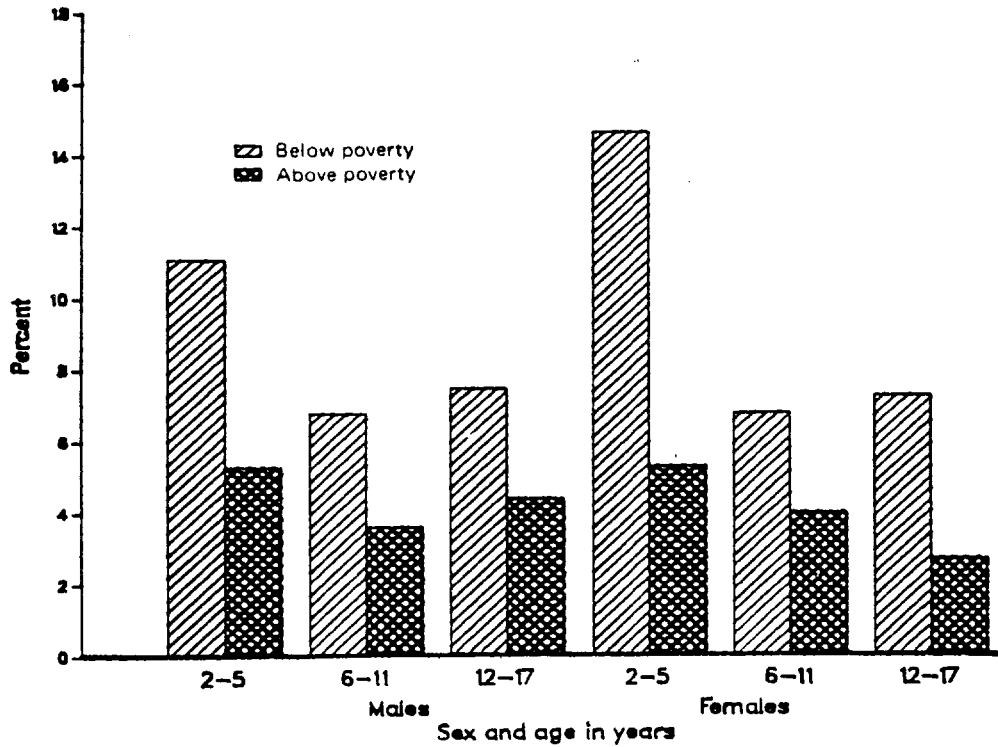


**FIGURE 9.3**  
**PERCENT OF FEMALES WITH IMPAIRED IRON STATUS,**  
**BY POVERTY STATUS AND AGE**



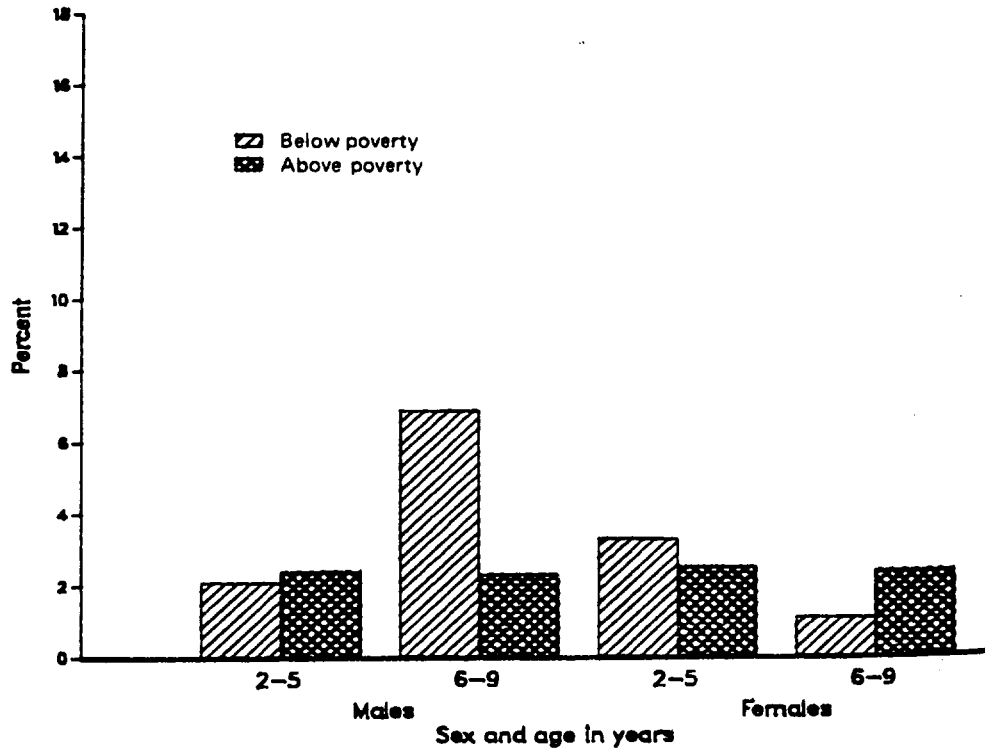
Source: U.S. Department of Health and Human Services, 1986, p. 174.

**FIGURE 9.4**  
**PERCENT OF CHILDREN BELOW THE NCHS GROWTH CHART 5TH PERCENTILE**  
**OF HEIGHT FOR AGE, BY SEX, AGE, AND POVERTY STATUS**



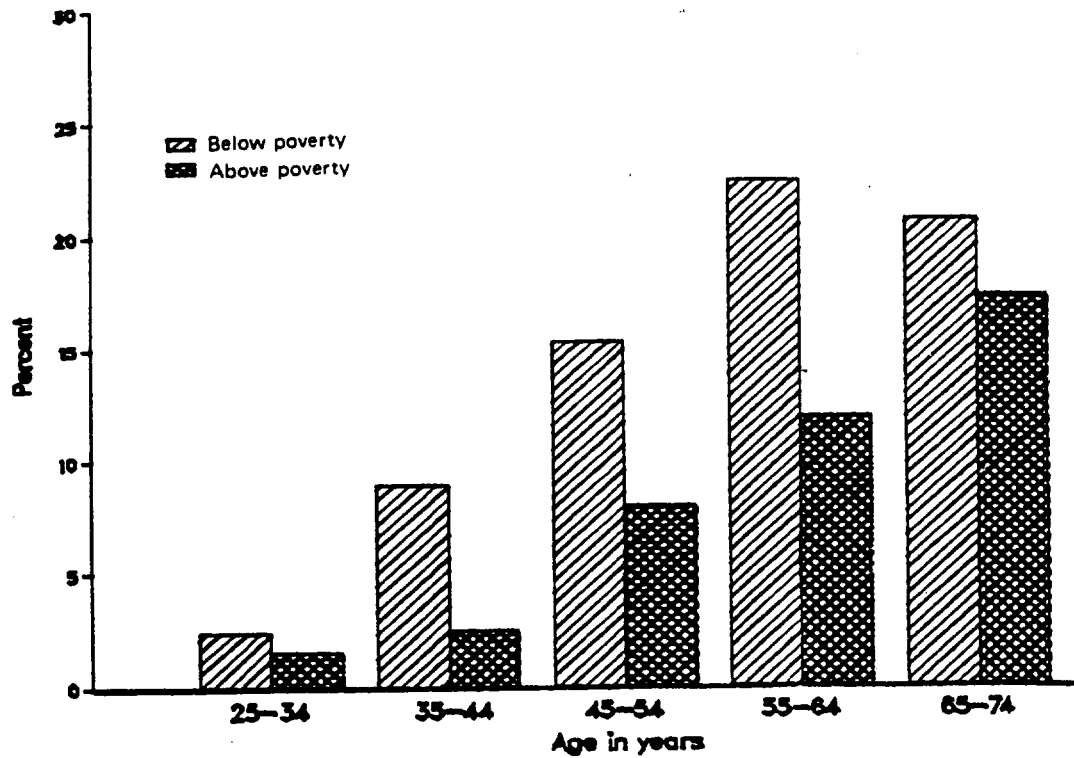
Source: U.S. Department of Health and Human Services, 1986, p. 213.

**FIGURE 9.5**  
**PERCENT OF CHILDREN BELOW THE NCHS GROWTH CHART 5TH PERCENTILE**  
**OF WEIGHT FOR HEIGHT, BY SEX, AGE, AND POVERTY STATUS**



Source: U.S. Department of Health and Human Services, 1986, p. 214.

**FIGURE 9.6**  
**PERCENT OF ADULTS WITH DIABETES, BY POVERTY STATUS AND AGE**



Source: U.S. Department of Health and Human Services, 1986, p. 203