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of the present program.

Third, home-produced food appears to be relatively more important for lower income groups. As shown in table 3, home-produced foods constituted as much as 11 percent of the food at-home budget among very low-income groups in the 1965 Household Food Consumption Survey as opposed to 2 percent for high income groups.

HAS FOOD ASSISTANCE HELPED?

By William T. Boehm and Anthony E. Gallo

Family food programs have expanded sharply since 1969. Federal expenditures between 1969 and 1976 for all food programs increased from \$1 billion to \$8 billion (table 1). The value of bonus stamps increased from about \$200 million in 1969 to almost \$5 billion in 1976, while Federal contributions to child nutrition programs rose from about \$2,100 million to almost \$2 billion.

In addition, today there is a food program for pregnant and lactating women, infants, and children, a feeding program for the elderly, a commodity distribution program, a special child feeding

program, and an array of nutrition educational programs designed for low-income shoppers and children in order to improve their ability to select and use nutritious foods.

The prime objective of these family food programs is to eliminate hunger and malnutrition. The key question is whether these programs have been successful in reaching that objective. A study now underway in the Food Economics Program Area of ESCS is attempting to answer this question.

Answering the question really has two parts. First, if Federal food programs are going to work, then the food assistance dollars must go to those areas where hungry people live. Second, even if the dollars of aid reach the poor, it must be shown that these assistance programs have influenced increases in food consumption and improved the nutritional level of the diet.

In 1968, the "Citizen's Board of Inquiry into Hunger and Malnutrition in the United States" (CBHM) published its now famous report *Hunger USA*. The authors reported that one-half of all households in the U.S. had poor diets, and that only a fifth of these, or about 5 million people, were

reached by food programs.

Today, while more than 15 million persons each month participate in the Food Stamp Program alone, we still are not able to conclude that the hunger problem has been eradicated.

Meaningful, measurable definitions of hunger imply the need for data. While the CBHM pointed out the *existence* of hunger in America, it was unable to measure the *incidence* of hunger. New data to more fully accomplish that task have not been made available since 1968. This new USDA study, therefore, is hampered by the same lack of basic data with which to determine the magnitude of the hunger problem as was the CBHM.

Hunger USA identified three groups of U.S. counties in an effort to determine the relationship between hunger, income, and post-neonatal mortality (a major indicator of infant malnutrition). These county groups were: (a) a single county in each of 47 States, within the continental United States, which, for the State, had the lowest post-neonatal mortality rate (PMR), (b) a single county in each of 50 States, within the continental United States, which for the State, had the highest PMR,

TABLE 1. FEDERAL EXPENDITURES FOR USDA FOOD AND NUTRITION PROGRAMS, FISCAL YEAR 1969-76

Program	Fiscal year							
	1969	1970	1971	1972	1973	1974	1975	1976*
<i>Million Dollars</i>								
Food stamps								
Total	603.4	1090.0	2713.3	3308.6	3884.0	4724.3	7265.6	8700.2
Bonus	228.8	549.7	1522.7	1797.3	2131.4	2714.1	4385.5	5326.5
Child nutrition								
School lunch	203.8	300.3	532.2	738.8	882.2	1068.3	1289.0	1489.4
School breakfast	5.4	10.8	19.4	24.9	34.6	55.5	86.1	113.9
Special food	1.5	7.7	20.8	37.1	44.9	62.1	96.5	148.8
Special milk	101.3	101.2	91.1	90.3	90.8	52.4	122.9	144.1
Food distribution								
Schools	272.1	265.8	279.2	314.8	331.0	319.4	423.5	417.8
Needy families	223.9	281.6	308.4	298.6	241.4	189.4	36.9	12.0
Supplemental food	1.0	7.8	12.8	12.9	13.3	15.1	17.3	17.2
Institutions	25.4	22.5	24.5	25.8	27.4	25.0	20.2	11.8
Food certificate	0.0	0.1	1.0	1.1	0.9	0.8	0.7	0.7
WIC	0.0	0.0	0.0	0.0	0.0	11.1	89.3	142.7
Total	1063.1	1547.5	2812.9	3341.6	3797.9	4513.2	6567.9	7824.9

and (c) for the United States, a set of 256 "Hunger Counties." These counties were chosen using both the percent of the population below the poverty line and the rate of post-neonatal mortality. While PMR's do not necessarily reflect the food buying potential of people in a county, the PMR is an indicator of the existence of hunger.

Federal Food Assistance

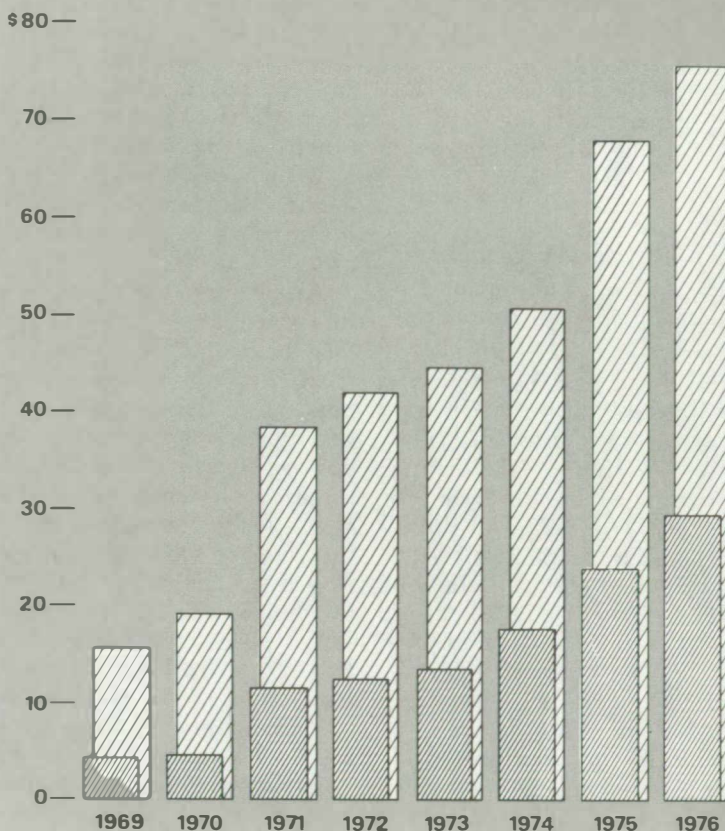
In fiscal 1969, expenditures per person on food assistance programs in the 50 Hunger Counties with the highest PMR were about \$26. By fiscal 1976, per person expenditures on food programs in these counties exceeded \$127. In absolute dollars, the per person expenditures in the Hunger Counties increased by more than \$100. Per person expenditures for the same programs in the United States total increased by \$44.

Comparing the changes in per-person Federal expenditures for these programs in the U.S. counties (one from each State) with the highest and lowest PMR, reinforces the contention that food assistance funds are going to those areas where hunger is likely to be most severe. In fiscal 1969, per-person expenditures for the major food programs in the counties with the lowest PMR were about \$4. Expenditures per person in the counties with the highest PMR were about \$15. By fiscal 1976, these per-person expenditures had increased to about \$39 and \$75, respectively. Absolute dollar differences per person increased from \$11 in fiscal 1969 to \$46 in fiscal 1976.

Food Sales

If Federal food stamp expenditures, in particular, are reducing the magnitude of the hunger condition, their influence should be observable through increases in local per-capita retail food sales. To test this proposition, however, the influence of Federal commodity distributions on food sales since 1969 would have to be accounted for. Further, the effect of the transfer of funds to local

FEDERAL PER-PERSON EXPENDITURES FOR DOMESTIC FOOD ASSISTANCE IN U.S. COUNTIES WITH THE HIGHEST AND LOWEST POST NEONATAL MORTALITY RATES



areas for the School Lunch Program on retail food sales would also have to be taken into account. If schools purchase items for the lunch program through local retail food stores, the transfer of such funds could have a positive influence on local food sales. On the other hand, if schools purchase foods at wholesale and school lunches do substitute for other meals, the effect on retail food sales could be negative.

The results of our study indicate that, in the counties with highest PMR, the increases in Federal expenditures for food stamps did exert a statistically significant influence on retail food sales per person. Similar results were not obtained when the data from the counties with lowest PMR were analyzed. For these counties, the food stamp assistance had no statistically significant impact on per-

person retail food sales.

Food Consumption and Nutrition Among the Poor

While funds have apparently been channeled to those areas with evidence of the existence of hunger, these data are not sufficient to indicate that hunger in the United States has been eliminated. Indicators of the continued existence of hunger include: lack of resources to buy food, lack of access to food markets, and the lack of knowledge about food and nutrition. While family food programs increase the availability of resources, they do little to enhance the access to food outlets or materially increase recipients' knowledge about food.

Resources To Purchase

The only nationwide data collected by the U.S. Government

since publication of *Hunger USA* which relate to food consumption are the Bureau of Labor Statistics' Consumer Expenditure Survey (CES). Because of the need to protect the identity of reporting households, it is not possible to identify the location of residence (except as living in one of four census regions). These data are only a record of the expenditures on food and some nonfood items made during a 2-week period. They provide no information on either the frequency of purchased food consumption or the consumption of food obtained through nonmarket sources (gardens, for example).

The CES data can, however, be used to help define the boundaries of the money-related problem. Households in the lowest income group (less than \$5,000 per year) spend almost 40 percent of their pre-tax income on food. Those in the highest income class (greater than \$20,000) spend 10 percent of their income on food. Unfortunately, these data are too old to reflect any increases in food buying resource availability for low-income consumers which may have occurred since the Food Stamp Program was substantially expanded in 1974.

Access to Food Stores

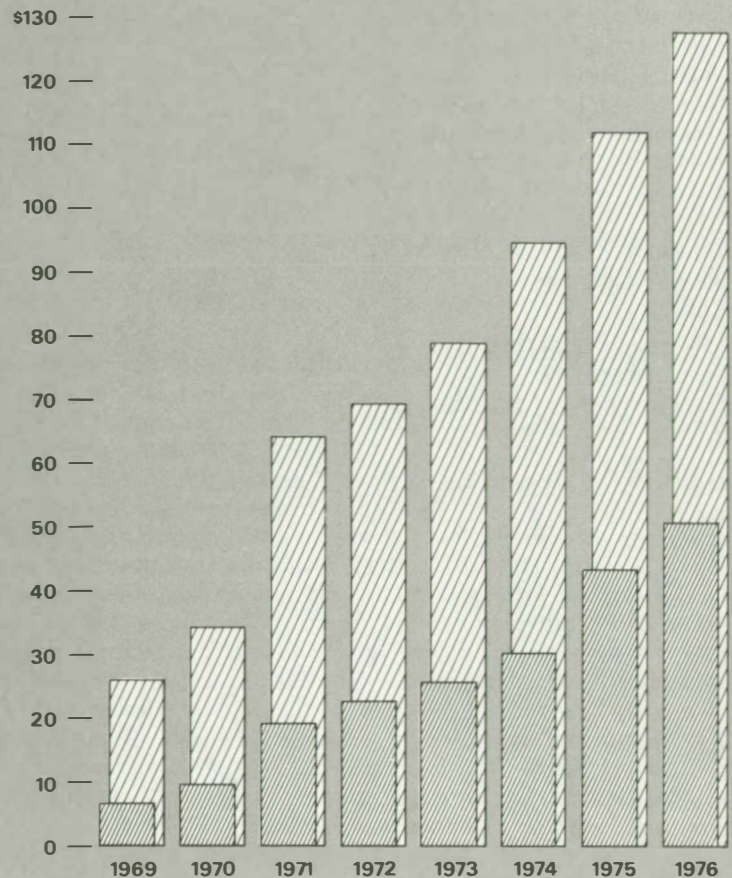
Even if the purchasing resources are available, consumers must have access to food, potentially a serious problem for those living in remote areas and in the inner city. Data from the 1972 Census of Retail Trade show that half the cities in the country had absolute declines in grocery store sales capacity during 1972. Supermarket sales capacity increased in about 85 percent of the suburban areas, compared with 65 percent of the cities, suggesting that availability may be more of a problem in areas with high concentrations of poor people.

Knowledge About Nutrition

Education level has been identified as one of the most important factors influencing food choice. Data from both the 1955 and 1965

FEDERAL PER-PERSON EXPENDITURES FOR DOMESTIC FOOD ASSISTANCE

IN FIFTY 'HUNGER COUNTIES' AND U.S. TOTAL



USDA Household Food Consumption Surveys indicate that the highly educated homemaker spends more, on the average, for food per person in the household. These shoppers tend to purchase more milk, fruits, and vegetables, and less flour, cereals, dry beans, and peas. After a thorough analysis of the data, one researcher concluded: "Regardless of the amount of money spent per person for food, among households with less education, there were a larger proportion with poor diets. Among households earning under \$3,000, the percent of poor diets increased as education decreased."

The information problem is certainly made worse by the lack of food buying resources. Ready access to information costs money—money which poor people simply don't have. A 1958 survey found, for example, that among low-income households, infor-

mation about costs or quality for foods usually comes from friends or relatives. One-fourth of the low-income households in that survey had no newspaper that regularly carried food advertising.

The 1977-78 Nationwide Food Consumption Survey

USDA's Nationwide Food Consumption Survey (NFCS) is being conducted at the time of this writing. This survey has, in recent years, been conducted once each decade and is the most comprehensive nationwide source on food consumption in the United States. They are the only data which can be used to help define the incidence of hunger in the population at large. For example, authors of *Hunger USA* relied heavily on the 1965-66 Food Consumption Survey to document the existence of poor diets in America.

Data from the 1977-78 NFCS will not be available for analysis until sometime in 1979. These data will likely provide a valuable reference point regarding food consumption patterns of the poor (an over-sample of 5,000 poor households is a special feature of the survey). However, because of the need to maintain the anonymity of respondents, the 1977-78 NFCS will not permit identification of either the specific locations of hungry people or who they are.

FOOD EXPENDITURES BY FOOD STAMP PARTICIPANTS AND NONPARTICIPANTS

By Donald A. West*

With rapid growth of the Food Stamp Program (FSP) in the 1970's, analysis of the food purchasing behavior of participants has become an increasingly important topic. Most of the economic research has focused on household expenditures for all food consumed at home. Less attention has been given to participants' outlays for individual food items and few comparisons have been made between these expenditures and those made by non-participants in the FSP.

The Diary Surveys conducted by the Bureau of Labor Statistics as part of its 1972-73 Consumer Expenditure Survey have provided food-item information and make expenditure comparisons possible.¹ Respondents recorded detailed expenditures made by their households or consuming units (CU's) for food items during 2 consecutive weeks. The July 1973 to June 1974

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¹A number of publications from the Bureau of Labor Statistics describe the methodology and content of the Consumer Expenditure Survey. For a succinct description of design and procedures, see Carlson, Michael D., "The 1972-73 Consumer Expenditure Survey," *Monthly Labor Review*, December, 1974, pp. 16-23.

ALLOCATION OF THE AT-HOME FOOD DOLLAR FOR FOOD STAMP PARTICIPANTS AND NONPARTICIPANTS

Food Group	Participants	Nonparticipants
	Percent	
Cereal and bakery products	12.9	11.9
Meats, poultry and fish	36.5	36.3
Eggs	3.5	2.6
Dairy products	13.8	13.7
Fruits	5.5	6.5
Vegetables	8.2	7.7
Sugars and sweets	2.7	3.0
Fats and oils	3.3	3.0
Other	13.6	15.3

portion of the Diary Surveys identified those consuming units who were using food stamps.

The 1973-74 data were obtained by USDA's Food and Nutrition Service and edited to remove observations not complete for household size, income, and the months when the diaries were completed. The resulting sample of 587 CU's participating in the FSP and 9927 other (nonparticipating) CU's is the basis for the food group expenditure means presented in this article. A comparison is also made with a set of eligible but not participating CU's.

The data to support this article are quite detailed. As a result, only summary tables are published with the article. Detailed data are, however, published in a set of appendix tables in the back of this issue of the *National Food Review*.

FSP Purchasing Patterns

Food stamp CU's allocated a slightly higher percentage of their food-at-home expenditures to cereal and bakery products than did non-participants. Percentages of food-at-home expenditures allocated to the major food group of meats, poultry and fish, and dairy products are nearly identical. Participants spent less on fresh and processed fruit but more on fresh and processed vegetables than did nonparticipants.

Among individual items, there is evidence that FSP participants bought less expensive types of food. The CU's using food stamps spent less on bakery products and more on flour and other cereals.

Their expenditures for beef steak and other beef and veal were lower, while higher percentages of the food budget were allocated for pork and poultry products.

FSP participants also spent relatively more for eggs and fresh whole milk and relatively less on cheese, yogurt, and ice cream than did nonparticipants. There was no significant difference in the means for nonalcoholic beverages among the two groups; however, participants spent less on snacks (nuts, potato chips, pretzels, and other snacks) than did non-participants.

The detailed means in appendix table 1 show weekly expenditures by food group for the CU's. Examination of these data shows that while total food expenditures for nonparticipants are significantly greater than those for participants, expenditures on *food-at-home* (food purchased for home consumption) are similar for the two groups of CU's.

Comparison on an Adult Equivalent Basis

The detailed averages reported in appendix table 1 show how food expenditures were allocated among the various food items, but no adjustment is made in that table for differences in household size. CU's participating in the FSP averaged 3.2 persons in size as compared to 2.8 persons in non-participating households. Consequently, means for food expenditures calculated on an adult equivalent basis are presented in appendix table 2. The