

RECENT CHANGES IN INCOME AND FOOD EXPENDITURES AMONG TUBERCULOUS FAMILIES IN HARLEM¹

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THE war is bringing changes in the trend of mortality from tuberculosis. Increases in the death rate have been reported from various European countries, including Great Britain. In 1941 Canada reported that tuberculosis had gone up from eighth to seventh place as a cause of death. Preliminary data for 1942 indicate an increase in mortality and morbidity among residents of upstate New York; for the United States as a whole there is indication of a slight decline in the death rate. Increase in tuberculosis mortality at this particular time may be interpreted as due in part to a lowering of human resistance, which Frost has called "non-specific resistance" to the disease. He cited factors as probably increasing resistance, namely, "environmental improvements such as better nutrition and relief from physical stress." In the light of these observations, an examination of recent changes in certain social and economic conditions of tuberculous families is appropriate, since these families constitute a population in most imminent danger of contracting the disease.

The data describing changes in income and food expenditures are from records of a special study of tuberculosis which is being carried on in Negro families in the Harlem area of New York City. The periods compared are (1) February to November, 1940 and (2) January 1, 1943. At monthly intervals, information has been obtained from the families concerning the amount of income from all sources and the amount spent for food per week.

Table 1 shows the distribution of the families according to the average annual income in 1940 compared with January 1, 1943. In

¹ From the Milbank Memorial Fund, the Community Service Society of New York, and the New York City Department of Health.

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Table 1. Distribution of families according to average annual income in 1940, compared with January 1, 1943—Harlem area of New York City.

Classification of Average Annual Income Per Adult Cost Unit	202 Families Surveyed February 1- November 30, 1940	88 Families Surveyed December, 1942 and January, 1943
	Per Cent	
TOTAL	100.0	100.0
Less Than \$2.00	13.8	10.2
\$ 2.00- \$ 2.99	32.2	14.8
3.00- 3.99	22.3	15.9
4.00- 4.99	14.4	9.1
5.00- 5.99	9.9	12.5
6.00- 6.99	1.5	10.2
7.00- 7.99	3.0	8.0
8.00- 8.99	0.4	5.7
9.00- 9.99	2.5	5.7
1,000- 1,099		2.3
1,100- 1,199		2.3
1,200 and Over		3.3

Table 2. Distribution of families according to weekly amount spent for food in 1940, compared with January 1, 1943—Harlem area of New York City.

Classification of Weekly Amount Spent for Food Per Adult Cost Unit	202 Families Surveyed February 1- November 30, 1940	94 Families Surveyed December, 1942 and January, 1943
	Per Cent	
TOTAL	100.0	100.0
\$1.00-\$1.99	23.0	0
2.00- 2.99	42.7	8.5
3.00- 3.99	19.7	34.0
4.00- 4.99	9.9	31.9
5.00- 5.99	2.3	14.9
6.00- 6.99	1.9	4.3
7.00- 7.99	0	3.2
8.00- 8.99	0.5	2.1
9.00- 9.99	0	1.1

1940 almost half of the families (46 per cent) had an average annual income per adult cost unit of less than \$300; at present only one-fourth of the families are in this class. Fifty per cent of the families now have an average income of \$500 or more per cost unit per year, compared with 17 per cent in 1940.

The changes in food expenditure per week are shown in Table 2. In 1940, 66 per cent of the families spent less than \$3.00 per cost unit per week; at present only 8 per cent of the families are spending as little as that for food. The majority of the families (66 per cent) are spending from \$3.00 to \$4.99 per cost unit per week.

The increases in income and food expenditure may be further described by a comparison of the means for the

PERIOD OF TIME	MEAN AVERAGE ANNUAL INCOME PER ADULT COST UNIT	STANDARD DEVIATION σ	NUMBER OF FAMILIES
February 1–November 30, 1940	\$357 \pm 12.1	171.93	202
December, 1942–January, 1943	\$662 \pm 36.3	340.45	88

Table 3. Average annual income in 1940, compared with January 1, 1943—Harlem area of New York City.

families in the two periods. These data are presented in Tables 3 and 4. The mean average annual income per cost unit showed an 85 per cent increase, as of January 1, 1943, over 1940.² The mean weekly expenditure for food increased 53 per cent in the same time period.³ This increase is somewhat greater than the change in the cost of food in the same period of time. The cost of an estimated minimum-cost diet has on the average increased approximately 44 per cent.

An increase in expenditure for food was to be expected because of the increase in the cost of food. An important question is: Are these families now spending on the average enough to provide a fairly adequate diet? Table 5 shows the average expenditure for

² The increase in income has been due largely to an increase in employment and to changes in employment. In 1940, 30 per cent of persons 16 years of age and over were employed, compared with 49 per cent in January, 1943. Also, there are now more employed persons per family; in 1940 the number of employed persons per family was 0.6, compared with 1.1 per family in January, 1943. Twenty-three per cent of the persons employed in 1940 were on work relief projects; only 2 per cent of the total employed in 1943 were on WPA projects. These changes in employment are especially significant in view of the fact that some persons of employable ages have gone from these families into the armed forces.

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	MEAN VALUE IN DOLLARS		DIFFERENCES
	1940	January, 1943	
Weekly Food Expenditure Per Adult Cost Unit	2.86	4.38	1.52 \pm 0.16
Average Annual Income Per Adult Cost Unit	357.50	662.10	304.60 \pm 38.25

The differences between the means are statistically significant, that is, they are greater than would be expected to occur as chance variations.

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PERIOD OF TIME	MEAN WEEKLY FOOD EXPENDITURE PER ADULT COST UNIT	STANDARD DEVIATION σ	NUMBER OF FAMILIES
February 1–November 30, 1940	\$2.86 \pm .08	1.14	212
December, 1942–January, 1943	\$4.38 \pm .14	1.35	94

Table 4. Average weekly food expenditure in 1940, compared with January 1, 1943—Harlem area of New York City.

food per cost unit, according to size of family, for the families surveyed January, 1943, compared with the average amount estimated as necessary for families of the same size. The estimated amount of money necessary for food is based on present food costs in New

Table 5. Average expenditure for food in families classified according to size of family, compared with an average minimum expenditure estimated as necessary to obtain a good diet—Harlem area of New York City, December, 1942 and January, 1943.

SIZE OF FAMILY IN ADULT COST UNITS	AVERAGE EXPENDITURE FOR FOOD PER WEEK PER ADULT COST UNIT	ESTIMATED MINIMUM COST FOR FOOD PER ADULT COST UNIT PER WEEK ²	NUMBER OF FAMILIES
<i>One Person</i> (0.85–1.00)	\$5.74	\$4.05	18
<i>Two Persons</i> Two Adults or One Adult and One Child ¹ (1.39–1.96)	4.51	3.90	22
<i>Three Persons or More</i> (2.36–2.96)	4.06	3.30	28
(3.03–3.70)	4.02	3.10	10
(3.75–4.71)	3.53	3.10	10
(4.75 and Over)	3.26	3.10	6

¹ In a few instances, family includes one adult and two very small children.

² The standard for the amount of money needed for food expenditure was obtained from the Table of Food Allowances, which is a part of the Schedule for Planning Budgets, issued by the Community Service Society for use by members of its staff. The Schedule for Planning Budgets is issued at intervals and takes account of changes in the cost of food and other items of living which are a part of the family budget. The Table of Allowances, dated January, 1943, was the one used as a standard for the data in this table.

In computing the average weekly amount of money needed for food, account was taken of the food requirements, by sex, of adults and of children of different ages.

York City and all of the data take into account the food requirements, by sex, of adults and of children at different ages. The estimated necessary expenditure is, however, a minimum amount needed. On the average, families are spending somewhat more than the estimated minimum amount needed. Families of relatively large size have food expenditures closest to the minimum amount needed.

In 1940 the average expenditure for food was much closer to the estimated minimum cost of food. These data are shown in Table 6. The small families (one- or two-person families) on the average spent somewhat more for food than the estimated minimum amount needed. On the other hand, the very large families on the average spent less for food than the estimated minimum amount needed for a balanced diet.

Table 6. Average expenditure for food in families classified according to size of family, compared with an average minimum expenditure estimated as necessary to obtain a good diet—Harlem area of New York City, February 1 to November 30, 1940.

SIZE OF FAMILY IN ADULT COST UNITS	AVERAGE EXPENDITURE FOR FOOD PER WEEK PER ADULT COST UNIT	ESTIMATED MINIMUM COST FOR FOOD PER ADULT COST UNIT PER WEEK ²	NUMBER OF FAMILIES
<i>One Person</i> (0.85-1.00)	\$4.12	\$3.18	27
<i>Two Persons</i> Two Adults or One Adult and One Child ¹ (1.39-1.96)	2.94	2.68	56
<i>Three Persons or More</i> (2.36-2.96)	2.53	2.40	56
(3.02-3.73)	2.47	2.15	35
(3.75-4.71)	1.95	2.14	17
(4.75 and Over)	1.93	2.10	21

¹ In a few instances, family includes one adult and two very small children.

² The standard for the amount of money needed for food expenditure was obtained from the Table of Food Allowances, which is a part of the Schedule for Planning Budgets, issued by the Community Service Society for use by members of its staff. The Schedule for Planning Budgets is issued at intervals and takes account of changes in the cost of food and other items of living which are a part of the family budget. The Table of Allowances, dated July, 1939, was the one used as a standard for the data in this table. Study of retail food prices in New York City in 1940 indicated approximately the same level as in 1939.

In computing the average weekly amount of money needed for food, account was taken of the food requirements, by sex, of adults and of children of different ages.

Expenditure of sufficient money for food does not necessarily insure a good diet. To obtain a good diet with a minimum expenditure requires careful management and some knowledge of food values. A study of food habits in these families has shown that there is a relationship between the quality of the diet and the amount of money spent for food. However, 44 per cent of the families had food habits rated as "fair or poor" even when the food expenditure was considered satisfactory.⁴ Even though income in the families has increased considerably, and on the average expenditures for food are now within amounts required for a good diet, it is wise to continue instruction as to proper food habits in these families.

⁴Downes, Jean: A Study of Food Habits of Tuberculous Families in a Harlem Area of New York City. See page 164.