

MILBANK MEMORIAL FUND  
**QUARTERLY BULLETIN**  
NEW YORK HEALTH DEMONSTRATIONS  
VOL. V      JANUARY 1927      No. 1

IMPROVING *the* DIETARY HABITS  
*of a* RURAL COUNTY




**P**EOPLE cannot be well and strong unless they eat the right kinds and the right amounts of foods. It was inevitable, therefore, that in some way provision would be made for special attention to the subject of nutrition in the program of the rural health demonstration in Cattaraugus County before the work had gone very far. Such provision might have been made in any one of several different ways. The form it did take was the appointment of a nutrition worker on the staff of the County Board of Health, whose duty it was to see that the subject received an appropriate amount of consideration by workers in other fields of public health, and to try to improve the dietary habits of the County by whatever methods she could devise.


As a result, the program which has been developed permeates many of the other health services of the demonstration. As stated, its aim is "to promote the building of stronger bodies, to lessen the incidence of disease and increase the number of happy, successful lives, by correcting faults and deficiencies in diet, bringing about better selection of food and better habits of eating."

The methods used are chiefly the slow and patient processes of education. The nutrition specialist instructs the teaching personnel of the County—the rural school teachers; the fifteen Home Economics

teachers; the Home Bureau local leaders; the seventy-five young men and women who are enrolled in the training-classes, preparing themselves to teach in the rural schools; the nursing staff of the demonstration—all of whom in turn teach others, children and adults. Many talks are given to miscellaneous groups also—granges, women's clubs, parent-teacher associations, church societies, and so on. Personal advice is given on request of physicians in selected cases involving some nutritional problem such as constipation, overweight, underweight, or "indigestion." Dietary



THE methods used by a nutrition specialist in attempting to improve the dietary habits of a rural county are described in this issue of the *Quarterly Bulletin*. Here is told how helpful information about what one should eat was disseminated in Cattaraugus County, New York, through many existing community channels, including the public schools. Of special interest are the measures undertaken to correct faulty diets revealed by a study of the food habits of ninety-nine representative families in the County.



schedules are prepared on occasion for babies, for expectant mothers, for pre-school children.

Consultant work has developed, especially in connection with the Children's Health Camp

**A**N appropriation by the Cattaraugus County Board of Supervisors of \$56,060 for public health work in 1927, and adoption by the County Medical Society of a resolution commending the county health unit plan as it is being demonstrated in Cattaraugus, are told of on pages 21-22. (Preceding this is an account of the dedication on November 30, 1926, of the Bellevue Yorkville Health Building which is to be used as headquarters for the metropolitan health demonstration on the east side of the City of New York.

tion with the Children's Health Camp conducted by the County Tuberculosis and Public Health Association, which accommodates 125 underweight school children. Help is given the director of the Camp in planning educational devices and well balanced meals. The Bureau of Tuberculosis asked assistance in the way of dietaries for small children in the families of patients. The County Tuberculosis Sanatorium

asked for an analysis of their dietaries and for suggestions for improving them. The social workers of the County from time to time ask advice in connection with making a budget for a family under their care. The nutrition worker also set aside one day a month to assist the nurses in each of the six health districts.

As nutrition specialist, Miss Ruby M. Odell began work in Cattaraugus County in April of 1924, the second year of the rural health demonstration, working for three months from the office of the County Home Bureau, which is under the direction of the extension department of the New York State College of Home Economics at Cornell University.



UNTIL her resignation on July 31, 1926, she had been a member of the demonstration staff since July 1, 1924. From the beginning Miss Odell's work as well as that of her successor, Miss Genette Wierman, has been guided by the Advisory Committee on Nutrition of the Milbank Memorial Fund, with suggestions from the New York State College of Home Economics and the supervisors of nutrition in the New York State Department of Health and the New York State Department of Education.

The above photograph and the miniature posters reproduced with this article are illustrative of nutrition work being carried out in the schools of Syracuse, New York.



SINCE it was obviously desirable to know as accurately as possible what the prevailing food habits of the County were, before trying to improve them, the Advisory Committee on Nutrition recommended that Miss Odell's first undertaking be a nutrition survey. Ninety-nine housekeepers, living in cities, villages and different country vicinities, were persuaded to keep careful records, by weight, of all food used for a period of seven days, in preparing meals for their families, which represented various occupations. The first day an inventory was made of all foods on hand. Each day the amount bought was recorded. On the seventh day another inventory was made. The difference between the two inventories added to the amount purchased during the week gave the total amount of food used by the family. The presence of guests or the absence of members of the family from any of the meals was noted, and as far as possible allowance was made for any food fed to animals or thrown away, but not for waste in preparation or cooking or serving. The price paid was also recorded, or the market value of foods grown at home. This keeping of records of the market value of home-grown foods made possible a comparison of the cost of living on the farms, in the villages and in the cities of the County.

These records were made at different times between April,

1924, and April, 1925. Then they were analyzed, reduced to common denominators, and studied from various viewpoints, to determine the caloric, protein, mineral and vitamin content of the various dietaries and the cost of the foods they listed.



**T**HIRTEEN of the families were already interested in food values and had had instruction in the selection of foods. Their records showed an average well above the standard requirements in the amount of fruits, milk, green vegetables and other articles of food, and no shortage of minerals; but in calories and in protein value they were higher than is necessary and the cost (63 cents per man\* per day) was higher than necessary to secure an adequate ration. Of the 86 other families, 39 had been more or less influenced by instruction in nutrition, and 47 were not known to have received any such instruction. These two groups spent considerably less for their food than the group trained in nutrition. The "influenced" group spent a cent less per man per day than the "uninfluenced" group (51 cents compared with 52 cents) and got more in food values. Only 4 families in the "influenced" group used no green vegetables; only 6 had less than the minimum desirable amount of milk; only 3, less than the minimum amount of iron; and 1, less than the minimum amount of calcium—as compared with 14, 23, 15, and 10 families, respectively, in the "uninfluenced" group. Without attaching more importance to these comparisons than is justifiable, considering the small number of cases, they are at any rate very interesting as indicating what effect education may have.

\*For the purposes of this study, the dietary requirements of a man were used as a standard and the dietary requirements of families were stated in terms of requirements for an equivalent number of men.

The 86 dietaries do not represent conditions among the poor of the County, but among the more prosperous families, and probably the very fact that the record was being kept for a nutrition specialist tended to make the food for that week rather better than usual. In some cases, moreover, suggestions were asked on the first visit; and as the nutrition worker, being primarily an educator, could not let such an opportunity slip, no doubt her advice resulted in some immediate improvement.

In caloric content the dietaries were high. Only 11 of the 86 were decidedly deficient on this score, while 22 were so high as to indicate either overeating or unrecorded waste of food or both. Similarly, only 4 were deficient as to protein, while 53 contained more than the required amount. Eighteen were deficient in iron, 11 in calcium, 5 in phosphorus; and 24 were scored "poor" or "fair to poor" in respect to foods containing vitamins.



**T**HERE were none that had too little sweets or meat; but 63 were deficient in green vegetables, 29 in other vegetables, 28 in milk, 26 in eggs, 25 in fats, and 14 in fruits. Sixteen of the 86 families used no green vegetables at all during the week that they kept the record; 28 used less than the desirable amount of one cup per man per day. The farm families used less vegetables and fruit and meat than the city families; more milk and cereals and potatoes.

The average cost per man per day was 51 cents for the 86 families, ranging from 28 cents to 81 cents. Examination of the schedules indicated that a satisfactory standard could be maintained with an expenditure of about 45 cents per man per day if the money were spent wisely.

Similar studies in other rural counties of the United States might reveal a different collection of dietary faults, but it was clear from this survey that in Cattaraugus County in the State of New York the important points to emphasize were (1) the potential bad effects of too much protein, starch, and sugar; and (2) the need of a generous supply of green vegetables and the value of milk. The farmers, especially, were shown to need education on the former, the city people on the latter. These conclusions were reinforced by the prevalence of obesity and constipation among the adult population of the County, and of various indications of malnutrition among the children. Clinic records of the medical examinations of 62 persons noted 130 ailments—an average of about two apiece—apparently connected with nutrition.

There is not room here to tell about the ingenious methods that were devised\*—in cooperation with the Home Economics Bureau, the school teachers, the nurses and doctors, and many others in the County—to teach



children to like the foods that are good for them and to adopt health-promoting habits; to stimulate in their parents, especially the mothers, an interest in

providing a well-balanced diet and in encouraging hygienic practices; to provide hot lunches in the rural schools; and to make available, on the farms and in the towns, a more ade-

\*It is planned to make them available in a special publication which will be procurable through the Milbank Memorial Fund.





Less than a dozen of the rural schools in Cattaraugus County had made provision for hot lunches for their pupils at the end of the school year 1924. By the end of June, 1926, this number had been increased to ninety-nine.

quate supply of fresh fruit and vegetables during the winter.

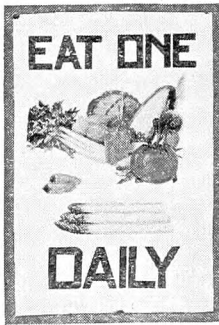
Results from such work as this, which is essentially the changing of long-established habits, cannot well be tabulated and charted with mathematical precision. Nor can the effects of the nutrition service be sharply segregated from the effects of other parts of the demonstration program, since all are directed towards the same end. Many evidences, however, of its value are already apparent, notably in the correction of underweight in school children.

The principal of one of the high schools stated that as the boys and girls in his school were brought up to normal weight, by special instruction and the provision of milk in the middle of the morning session, their dispositions improved noticeably and discipline became correspondingly easier. At least fifteen stores have added lettuce, spinach, cabbage, and oranges to the articles they have on sale

through the winter, and a still larger number now keep whole cereals in stock regularly. Seventy families in 1926 planted their gardens and canned and stored fruits and vegetables with reference to the requirements of the standard dietary.

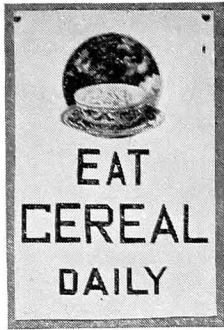
The development of the school lunch program has been an important channel for promoting nutrition work in the County. In the year 1923-24, less than a dozen of the 272 rural schools made provision for a hot lunch. In 1924-25, there were 86 which did so, and this number was increased to 99 in 1925-26.

“A school lunch program in a rural school district is a very different and a much more important feature than in an urban district,” said John C. Gebhart, member of the Fund’s nutrition committee in describing this service.\*



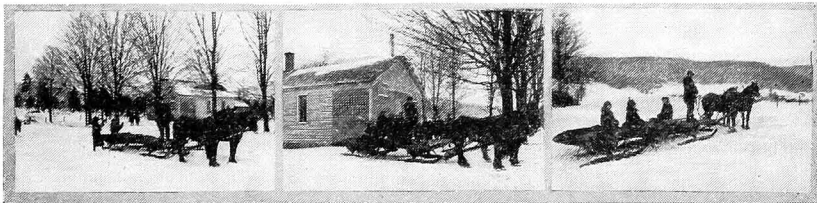
**I**N rural districts, he continues, “because of the great distances which the children must travel, they are obliged to bring their lunches to school. It is a comparatively simple matter to see that they bring vegetables, milk and other articles of food which are essential to good nutrition, and to use the preparation of these foods as a means of teaching the proper selection and preparation of food. The teacher usually helps in preparing the lunch and the entire school take their lunch together. The school lunch therefore becomes a communal activity of the school and one which may very well be used for health education purposes. During the past year and a half approximately one hundred and fifty school lunches have been started, largely as a result of the nutrition program.”

\*Speech delivered at the Annual Meeting of the State and Local Committee on Tuberculosis and Public Health in Cattaraugus County, Cattaraugus County, New York, June 1-3, 1926.



ONE of the girls in the training class of 1924-25 applied in a most effective way, in the rural school to which she went the following year, what she had learned under the instruction of Miss Odell and the nurses in their fortnightly series of lessons. She found time to give ten minutes each day, at the beginning of the afternoon session, to health work, in addition to the morning inspection.

She got money to buy a thermometer by selling pencils. At the beginning of the year she weighed and measured all the children, and found that all but one of the fourteen were below normal weight, some as much as nine or ten pounds. By May, all had reached the standard, or had only a pound or so to gain. The children made illustrated booklets through the year, adding a page for each new health habit as they learned about it. Score cards were kept for breakfasts, for washing of hands, and for brushing of teeth, besides the height and weight charts. The health work was correlated with other subjects—English, drawing, physiology, and geography. All the children under ten were immunized against diphtheria. A hot lunch was established. Group competition was introduced to stimulate interest in observing health rules. Practically everything was done, moreover, by the ingenious use of materials which could be secured at little or no expense. This is one example of how the instruction is being passed on to an ever-widening circle.





CATTARAUGUS COUNTY PUBLIC NURSING SERVICE

“NEITHER SNOW, NOR RAIN, NOR HEAT,  
NOR GLOOM OF NIGHT, STAYS THESE  
COURIERS FROM THE SWIFT COMPLE-  
TION OF THEIR APPOINTED ROUNDS.”