In a number of nutritional surveys the interpretation of the raw findings became totally misleading because of the fatal identification of "requirements" and "allowances" *recommended* by the National Research Council. Thus, when in a group of 250 aircraft workers the content of the diet was estimated, the riboflavin content varied from 0.45 to 2.10 mg. per 1000 calories, with a median value of 0.75. The recommended allowance was 0.90 mg. per 1000 calories. On the basis of this comparison and the data on the estimated amounts of vitamin A, thiamine, and ascorbic acid, the conclusion was drawn that "riboflavin is still one of the most frequent deficiencies, second only to ascorbic acid."[99] According to the 1945 revision of National Research Council allowances, Wiehl's median value coincides, and in fact slightly exceeds, the recommended level.

It has been pointed out[100] that dietary requirements cannot—any more than any other human biological characteristics—be represented by a single value, but must be represented by a range of values around the population average. This is true if we think either in terms of "minimal" requirements, defined as the intake level necessary to prevent appearance of pathological changes, or in terms of "optimal" intakes, however these may be determined. If the dietary requirements are expressed as averages, it follows *by definition* that half of the population needs *less* than the average. To label without further clinical studies such an intake level as "deficient" is plainly incorrect. The task of determining whether individual requirements are matched with adequate individual intakes is an important but neglected part of dietary surveys. The definition of the standards in the National Research Council recommended allowances is not quite clear although it has been stated in a general way that, the "standards of dietary essentials are average."[101]

The effects of hard work upon nutritional requirements have been summarized by Forbes.[102] It appears that physical work increases primarily the need for calories. The requirements for protein and vitamins A, D, C, and K are increased only slightly, if at all. The need for the vitamins of the B complex is increased, though probably not as steeply as the caloric requirements. As far as acceptable scientific evidence goes, "Nothing is known of the extra requirements, if any, for the kind of work that the average industrial worker performs, namely, work which is physically easy but nervously or emotionally tiring."[102]

The problem as to whether the improvement of nutrition serves as a protection against industrial poisoning may be an interesting and fertile field for research, but the available evidence is limited.[103] For chronic cases of lead poisoning a diet rich in calcium has been recommended. Prophylactic use of low-fat diet in workers exposed to the danger of nickel poisoning appears promising. Vitamin C seems to increase resistance to benzol and TNT poisoning. However, in general the bearing of

[99] D. G. Wiehl, in *New Steps in Public Health*. Milbank Memorial Fund, New York, 1945.

[100] L. B. Pett, *Can. Pub. Health J., 36*, 69 (1945).

[101] *Natl. Research Council Bull.* No. 109, 19 (1943).

[102] W. H. Forbes, in *New Steps in Public Health*. Milbank Memorial Fund, New York, 1945.

variations in nutritional status "on resistance to toxic environment has not yet been sufficiently investigated and certain deductions must be made largely by analogy."[103]

3. In-Plant Feeding

During the war a large number of plants made provisions for in-plant feeding. The idea was a good one and should be kept up. The food, particularly the lunches of the industrial workers, did not appear to measure up to the best standards. Four major factors potentially producing nutritional deficiencies were suggested: (*a*) poor food habits leading to consumption of inadequate amounts of biologically valuable foods and to an excessive consumption of candy, sweet carbonated beverages, and alcohol; (*b*) difficulties the consumers had in obtaining foodstuffs rich in the protective foods; replacement of whole wheat flour by highly-milled grain products belonged to this category; (*c*) low family income limiting the purchasing power; and (*d*) increase in metabolism in such conditions as fever, work under extremes of temperature, lengthened working hours, where increased energy expenditure is not balanced by a parallel increase in food intake.[104]

For the purpose of promoting proper eating conditions and of serving nutritious foods to industrial workers, a manual was prepared containing suggestions for in-plant feeding menus and materials for an educational campaign, including posters, pamphlets, films, and radio scripts.[105]

B. Personal Adjustment

In the work of an industrial psychiatrist three tasks stand out: (*1*) his share in screening out the totally unemployable who must be taken care of in other than industrial environment, (*2*) therapy of individual cases of maladjustment, and (*3*) preventive measures. In addition, there are other tasks. New employees should be placed at jobs that match not only their aptitudes, but also their personalities; systematic psychiatric work in this area is practically nonexistent. There is a need for the development of sheltered workshops, comparable to those for the physically handicapped, for employees who can be saved for the industry and for society at large if special work conditions and supervision are provided. In order to do this effectively we should know much more than we do now about the incidence of neuropsychiatric disturbances in different types of work and the effect of working conditions, such as the length of the work week, shifts, etc., on personal adjustment.[106] Psychiatrists' help should be valuable in dealing with "chronic hospital users" for whom illness serves as an alibi for failure on the job and in their social life, or as a sympathy-getting mechanism; in handling the "sick leaves" of employees

[103] W. E. Crutchfield, Jr., in *New Steps in Public Health*. Milbank Memorial Fund, New York, 1945.

[104] *Natl. Research Council, Reprint and Circular Series* No. *110*, 9–11 (1942).

[105] Food Distribution Administration, *Manual of Industrial Nutrition*. U. S. Govt. Printing Office, 1943.

[106] L. S. Kubie, *Mental Hyg., 29*, 201 (1945).