Service a good deal of the research was contracted out, and the influence of such units as the MRC's Pneumococcosis Research Unit was relatively large. But since 1969 the National Coal Board has established its own Institute of Occupational Medicine or, more accurately, perhaps, Mining Medicine, in which a number of diverse research groups have been brought together. This is the first report of the Institute. The research programme which is set out has a strong environmental bias, as is most appropriate. A good deal of the work is concerned with dust, and, as well as the standard equipment, the Institute possesses a wind tunnel. Some interesting findings are already beginning to appear, such as the relationship of dust exposure to radiological pneumoconiosis and a tentative answer to, perhaps, an even more important question—How much dust can be breathed in without contracting pneumoconiosis? The resistance of some men to this condition is confirmed, and it is shown that in men under 45 years of age there is a definite association between exposure to respirable coal dust and the prevalence of bronchitis.

Some interesting work in ergonomics is going on and the acoustics team has shown how complicated the noise contours are round a piece of heavy machinery.

In its three years work the Institute has produced 29 publications and 36 technical memoranda. The report is nicely produced on art paper, and the photographs and reproductions reach a high standard.

R. C. Browne


The preface to this volume explains that its purpose is to describe, as simply as possible, the principles of health practice research and the managerial methods employed in tackling health practice problems. The 'application of scientific and especially mathematical methods to management problems is relatively new'. The methods were used in relation to military problems during the second world war and subsequently in industry and commerce. More recently, WHO consultants have studied these techniques in relation to health practice research, and this volume is an expansion of their conclusions.

The first chapter on Scope and Character of Health Practice Research discusses techniques which will be well known to the occupational health physician—systems concepts, systems analysis, need-demand relationships, cost-benefit analysis, and the use of network and mathematical models. He will also appreciate the necessity of the multidisciplinary approach in health practice research, but the authors are correct in emphasizing this concept, not always sufficiently appreciated in other branches of our profession.

Chapter 2—The Methods of Operations Research Applied to Health Practice—is an expansion of the study of suitable models, especially of mathematical models, and proceeds to discuss decision analysis and dynamic programming.

These techniques are then used in studying various subjects in the next few chapters—Health Care in the Community; Disease Control, using typhoid fever, tuberculosis and cholera as examples; and Health Manpower Requirements. Further chapters consider training for health administration and health practice research.

There is also a useful annex on practical considerations in health practice research, which in a few pages gives excellent advice on many aspects of research planning. Those who try to introduce a research element into their clinical or administrative work will find a very tidy outline for planning their research programme, so that this annex should be of interest to all occupational health physicians. While most of the book is concerned with general and hospital health services, occupational medicine could well profit from application of the principles enunciated. If we applied cost benefit analysis with adequate care to problems such as routine examinations and published our results, much good could result.

The authors have tackled a difficult subject with considerable success. They have enumerated their problems in the introduction, and their clarity here and in the subsequent chapters is perhaps the best recommendation of the techniques they describe.

They have chosen to give very few references in the text but have compiled a most useful annotated bibliography under seven subject groups. They and WHO are to be congratulated on such a fine presentation of their subject at such a low price.

M. A. Cooke


Eight papers presented at a symposium arranged by the Food Education Society are published together in this small book. Those interested in current problems of nutrition will find this a useful and informed publication.

The prevalence of malnutrition in the United Kingdom is a question frequently raised in relation to vulnerable groups in the population. These papers, covering a wide variety of nutrients, form a useful series of reviews.

Dr. Callender, writing on iron deficiency anaemia, enumerates the sources of iron in the diet and describes some of the work carried out on absorption of this nutrient. While she concludes that iron deficiency is widespread, its incidence has been reduced by better medical care and higher standards of living.

Dr. Chanarin, discussing deficiencies of vitamin B12 and folic acid, reviews the literature on requirements and availability of these vitamins, indicating that groups at risk are likely to be found among strict vegetarians and possibly, in relation to folic acid deficiency, among pregnant women and elderly people.

Nutritional aspects of calcium and vitamin D are discussed by Professor Nordin. While nutritional rickets are rare in this country, he considers that calcium may be playing a significant role in the growth of children. He cites the increase in growth as seen in Japan and questions the effect that the removal of school milk might have on the development of children in the United Kingdom. This paper raises many questions in relation to calcium absorption, supplementation with vitamin D,