THE LOGIC behind the concept of periodic health examinations as a health maintenance procedure is impeccable. Yet many of us have feelings of doubt about their real value which are in conflict with this logic. Since logic has played only a small part in many of the successes of the scientific method, our doubts are at least respectable. It has however strongly appealed to many medical and lay minds and has by now produced in its support an enthusiasm, almost a faith. Perhaps the very level of enthusiasm is enough to stimulate the sceptics. There are several reasons behind this scepticism, and these are perhaps felt rather than expressed, but it is the purpose of this contribution to examine some of them.

The whole topic is bedevilled with problems of definition and semantics. The main question of when an abnormality is sufficiently severe or established to be called a disease has never been squarely faced. There are many examples in the literature where this problem is completely ignored and authors are content to list a series of abnormalities discovered. Yet it is a fundamental problem in this broad borderland between health and disease, and until commonly accepted criteria are developed and used, the results of separate investigations often cannot be validly compared.

Many of the articles in a voluminous, and American-dominated, literature describe a method of investigation and presentation of results which leave much to be desired. There are many examples in the literature where this problem is completely ignored and authors are content to list a series of abnormalities discovered. Yet it is a fundamental problem in this broad borderland between health and disease, and until commonly accepted criteria are developed and used, the results of separate investigations often cannot be validly compared.

The specific directed routine examination has a proven and time-honoured place in preventive followings upon the initial one. In other papers it is not clearly stated whether the findings reported were already known to the patient as a result of previous procedures; where this was so, little can have been achieved by the examinations. Some reports show that the people entering were often highly selected and in some instances were volunteers. It is very difficult to find from the published literature much objective evidence to support the present enthusiasm. The existence and discovery of large numbers of abnormalities proves nothing. Any regular examination of an ageing biological organism, if thoroughly and carefully performed, must reveal the stigmata of decay.

It can be argued that the aim of periodic examinations must be essentially curative—the object being the early detection of disease and its subsequent treatment in the hope that the course of the illness can be favourably influenced. But, if the procedure is viewed as therapeutic, the same modern criteria of validity must be applied to this as to other recently introduced therapeutic weapons. Yet there is an almost total absence of reports of controlled trials in matched populations of adequate size. (A small trial is reported by Wade, 1958.) There are difficulties in the definition, planning and organization of a controlled trial, some of which have already been mentioned, but perhaps the biggest is the length of the human life span. Such an investigation will yield results but slowly, and so we are in the classical dilemma of being pressed to allow the empirical impressions of limited individual experiences to become the justification for a new procedure.

Perhaps another doubt arises from the non-specific, almost blunderbuss, approach. The specifically directed routine examination has a proven and time-honoured place in preventive
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medicine. Certain environmental hazards have been shown by a combination of clinical, laboratory and epidemiological techniques to produce specific clinical and laboratory responses in the exposed human. By selecting and using certain proven indices at regular intervals the hazard of the environment can be estimated and controlled. But the periodic medical examination is most often applied in situations where a hazard is but dimly suspected and where the responses it may produce are distributed over the whole of the wide field of clinical medicine. There is here no definite and proven relationship between environment and response. The indices are non-specific and the criteria of their significance are but vague. It seems at the moment, therefore, that the value of such periodic procedures as a true health control measure is limited. We must hope for a more rational approach. The epidemiological method will, no doubt, in future define new and rewarding foci of attention. It is upon population groups which are shown by this and other methods to have unfavourable health experiences that routine periodic medical examinations should primarily be concentrated. The time-consuming non-specific sifting of a mass of "normal" observations will then be replaced by a detailed search for specific deviations from a clearly defined healthy pattern in a population known to be at risk. Mass radio- graphy and routine urine testing have shown one possible way, and some of the more rewarding future developments in this field are certain to resemble this type of "screening" procedure.

It must be admitted that the existence of a "base line" measurement of a patient’s physical state can be of considerable help should a suspected deviation appear, but we should not over-value this aid. Some of the most important diagnostic information obtained during a clinical examination is almost intuitive, many of the more subtle nuances are subconsciously recognized, and in this field of clinical endeavour above all others is this, the clinical "hunch", of most value. Yet such information is immeasurable and frequently unrecordable. If the time interval between examinations is long, the physician overloaded and the memory burdened, the value of this, potentially the most valuable of information, becomes very limited. The "yield" of measurable findings must be directly related to the length and thoroughness of both history-taking and clinical examinations. There is published one paper full of frank discussion of these difficulties together with adequate details of a follow-up over a period of four years of some five hundred patients (McComb & Finn, 1953). It is perhaps significant that this obviously rewarding annual procedure required a stay of three full days in a very sophisticated diagnostic centre and the range and nature of the tests performed would be startling to many British participants.

As yet there does not seem to be adequate and critical comparative evidence to show that periodic medical examinations conducted in a significantly large population group on a non-specific basis reduce either morbidity or mortality. This does not detract from the very real benefits which it can confer on some fortunate individuals, but to the practitioner of preventive medicine, who is primarily concerned with large groups, the existence of isolated individual successes is an insufficient basis to justify the installation of complex control procedures. It would appear that much energy and skill is being misdirected, and that more attention should be devoted to defining and agreeing basic criteria of assessment to allow comparison and to the discovery of exposed population groups which require detailed attention. More knowledge is needed about the early clinical forms of disease and particularly about the earliest biochemical changes which may be detectable by routine "screening" procedures. It is perhaps in this latter field that the greatest hope for the early detection of disease must lie. Whilst we await basic advances in knowledge it is felt that our efforts in the field should be directed towards the better education of our patients. An awareness and willingness to recognize and admit early symptomatic deviations from health and a readiness to seek prompt advice, against a background of a mature mental state, would seem to be the most rational and rewarding approach for at least the immediate future.

Shortened Bibliography

BOLT, R. J., et al. (1955), A.M.A. Arch. industr. Hlth., 12, 420.
COMMISSION ON CHRONIC ILLNESS (1957), Prevention of Chronic Illness, Chap. 4 and 5. Cambridge, Mass.: Harvard University Press.
WADE, L. (1958), A.M.A. Arch. industr. Hlth., 17, 175.