A framework for good primary medical care— the measurement and achievement of quality

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A CONFERENCE was initiated by the Royal College of General Practitioners and sponsored by the Rockefeller Foundation at its Study and Conference Centre in Bellagio, Italy. The purpose was to assemble a small group of primary physicians and research workers from Europe and North America to discuss ways of improving the quality of primary care. The conference accepted the following objectives:

(1) To define primary care and to discuss its aims,

(2) To determine what research is needed in order to set standards of quality for primary care,

(3) To suggest methods for implementing improvements in the quality of primary care.

Background

Background papers (Buck, 1974; Fry, 1974; Jefferys, 1974; Lee, 1974) were distributed in advance; the salient points were:

(1) In definitions of primary care, emphasis is usually placed on availability, accessibility and continuity, and on the co-ordinating function. All definitions imply that the role of primary care is of such importance that its quality has an overwhelming influence on the quality of the whole system of medical care.

(2) The content of primary care varies from one country to another, with large differences between the developed and developing countries. Measurements of quality must allow for this.

(3) Charcteristics of the providers also vary throughout the world, and further variations are likely to arise as the result of deliberate experiments in the use of non-physicians as providers. Such experiments should give a stimulus to the measurement of quality of care. It is unlikely that any ' best ' system will ever emerge, given that cultural and economic factors determine what is regarded as best.

(4) Two important trends are appearing:

(a) the replacement of the solo physician by a group of physicians and the addition to the group of other health workers who may provide some preventive and counselling services more competently than the physician,

(b) the development of specific postgraduate education for primary physicians.

(5) In investigating or controlling the quality of primary care it is helpful to use Donabedian's classification (1966):

Structure of care—the setting, the qualifications of the providers, the administrative arrangements and the policies of the primary care service.

Process of care—the preventive, diagnostic and therapeutic actions taken by the provider of care.

Outcome of care—the change in health status of the recipient of care.

(6) Non-medical factors, both personal and environmental, have a strong influence on health and may often be more important than medical care. A by-product of research into the quality of care would be the highlighting of urgent needs to alter non-medical determinants of health.

(7) In appraising quality of care, it has been traditional to rely on the examination of structure and process, assuming their relationship to outcome is well understood. In fact, knowledge of the best clinical management of many conditions is deficient and research is needed into process/outcome and structure/outcome relationships before standards of quality can be set.

(8) The outcome of preventive and therapeutic actions against chronic diseases is usually not clear for many years, hence the importance of being able to link records that refer to one patient if process and outcome are to be related.

(9) In the management of emotional illness and social handicap the conventional medical approach, with its reliance on physical therapies, may have to be extensively modified before an acceptable level of quality can be achieved.

(10) Studies of quality that relate to the outcome of primary care must consider the objectives of care. Providers and consumers of care have different implicit objectives, which are not necessarily symmetrical or reciprocal, and no two providers or consumers are likely to have exactly the same range or order of objectives.

(11) Resistance to evaluating the quality of primary care exists both among the providers and within governments or other third parties engaged in financing care. Among providers, inertia delays some steps necessary for studies of quality. A reluctance to improve record-keeping is an example. Furthermore, not all providers view with equanimity the prospect of being evaluated by their peers or a central bureaucracy. Among third parties, there is unwillingness to divert scarce funds into studies of quality of care.

(12) The implementation of any system for monitoring the quality of primary care must not absorb excessively the time of physicians in reviewing the work of their peers. Thus, acceptable sampling procedures and routine indicators of quality must be developed.

Summary of conference discussions

(1) Definition and content

Two definitions were considered. The first was from the Royal College of General Practitioners (1972):

" The primary care physician is the doctor who will provide first contact care and where possible continuing and terminal care to a defined population of patients. He will make his assessments in physical, psychological and social terms."

The second was from Dr Alberta Parker (1973):

" The primary level of care is the one where the health care system is entered and basic services received and where all health services are mobilised and co-ordinated." In functional terms, the two definitions differ little. The second one, however, avoids specifying the provider.

The content of primary care differs from one country to another because disease patterns vary and there are differences in the relationship between the primary and other components of the medical care system. Such international variations must be kept in mind, so that standards of quality will be clinically and administratively appropriate for the country in which they are to be applied.

Because it may be easier to set quality standards for some aspects of primary care than for others, the temptation to let ease of measurement take precedence over the importance of what is being measured must be resisted.

There was recurrent discussion of the difference between primary *health* care and primary *medical* care. The former introduces concepts of health promotion, enhancement of social well-being and environmental modification not usually implied in the latter. The degree to which the primary care physician should be held responsible for health care in the fullest sense was arguable, although there was agreement that primary medical care should not be isolated from health care. As a member said, " the primary physician has pastoral responsibilities."

(2) *Process and structure*

When members of the conference tried to list specific elements of the structure and process of care, it became clear that the distinction between the two is not firm. Some elements of structure were mentioned which relate to the features of the community in which the consumers of care reside, while others apply to the physical and administrative characteristics of the service in which care is provided. Many of the latter blend imperceptibly into the clinical action usually listed under process.

It may be less important to distinguish between the categories of structure and process than to specify all the potentially important elements of both which need to be investigated in relation to outcome.

(3) *Outcome of care*

Since the ultimate criterion of quality must be in terms of what happens to the patient, the specification and measurement of outcome is vital to the control and improvement of quality. In one group discussion eight elements of outcome were listed:

(a) Prevention of disease or control of the disease process,

(b) Improvement or preservation of the patient's level of function in his family, at work and in his social activities,

(c) Relief of the patient's symptoms, distress and anxiety, and avoidance of iatrogenic symptoms,

(d) Prevention of premature death,

(e) Minimising the cost of the illness to the patient and his family,

(f) Giving the patient satisfaction with his care,

(g) Relieving or at least clarifying the patient's interpersonal problems,

(h) Preserving the human integrity of the patient from an ethical point of view.

It was recognised that another group might have produced a different list and also that there could be argument about the relative importance of the items. If consumers were to make such a list it might be very different.

Providers, consumers and third party financers of care should be invited to specify the outcomes they consider important. Consumers of care can affect outcome by the manner in which they seek or comply with care, and this in turn will be influenced by their perception of a desirable outcome.

(4) *Research to establish standards of quality*

Each member was asked to list up to ten health problems commonly encountered in primary care in developed countries and for which optimum standards of management cannot at present be set. The following clinical conditions were the most frequently listed:

(a) Hypertension,

(b) Acute otitis media,

(c) Acute back pain,

(d) Acute bronchitis with asthma,

(e) Acute urinary infections,

(f) Angina of effort,

(g) Acute sore throat,

(h) Low haemoglobin,

(i) Depression.

The list indicates the difficulty of controlling the quality of primary care when standards for such common conditions cannot be set. The best clinical management must be determined by scientifically acceptable methods, such as the traditional randomised control trial. It was suggested that because of the urgency of the need to set quality standards, controlled trials should be supplemented by applying multivariate statistical techniques (appendix) to uncontrolled situations in order to choose the optimum from among competing methods of management.

Randomised controlled trials and the multivariate analysis of data from uncontrolled situations can be applied to the analysis of structure as well as process. If there are many uncertainties about the optimum process of clinical management, there are equally urgent uncertainties about the influence on outcome of many structural variables of which the following were given particular importance:

(1) The composition of the primary care team,

(2) The number of patients cared for,

(3) The training of the primary physician,

(4) The participation of the primary physician in hospital care,

(5) The provision of instructions for self-care to patients,

(6) The use of the problem-oriented record.

It was agreed that there is a place for both national and international research projects. International comparative studies of outcome would be particularly valuable in determining the importance of structure because differences in some structural variables are much greater between nations than within any single nation.

The difficulty of allowing for other than structural differences in such comparative studies was recognised but not regarded as insoluble. To expedite studies of this sort it was suggested that potential research collaborators be asked to provide detailed information about the cultural, economic and structural characteristics of the community and the clinical setting in which they provide primary care. It would then be possible to choose the most appropriate participants for specific studies and to identify the research issues which can be attacked in this way.

At both national and international levels, collaborative research must be encouraged because it is difficult for a single investigator to acquire the volume of data or the range of structure and process variation necessary to reach definitive conclusions. The research literature is of little help because it describes completed research rather than studies being contemplated.

Would-be investigators with similar interests often remain unaware of each other's existence. Thus, a means of communication is necessary because conferences alone cannot meet the need. It was agreed that an international mechanism for fostering collaborative research in primary care must be established.

(5) Implementation of quality control in primary care

When standards of quality have been set by studies of the relationships between structure, process and outcome, feasible methods for monitoring quality must be developed. A sampling approach is indicated since it would be impracticable to review all aspects of care for which standards might exist.

The idea of using indicator (or tracer) conditions is attractive. These would be health problems for which optimum management has been established and which are common enough in primary care to make quality of care given to them important.

Two difficulties were discussed. First, that indicator or tracer conditions which have so far been proposed refer to the management of diagnosed conditions. Yet primary care deals in the first instance with undifferentiated symptoms rather than with clear-cut

diagnostic entities. To take a specific example, primary care needs standards that begin with the management of fever, irritability and earache in a child rather than with the care of streptococcal otitis media.

The second difficulty is that a set of indicator conditions might be put into use which missed completely the fact that very often the symptoms brought to the primary physician do not represent the patient's underlying problem. For example, a physician might provide exemplary management of repeated visits for minor sore throat of a child and yet fail to appreciate that the mother brought the child so often to the physician because she was trying to achieve a discussion of her own near-suicidal depression.

If the list of indicator conditions being used to monitor quality did not include the appraisal of " token " visits, his failure to understand the situation would be missed. Although this is an example of one of the most subtle aspects of the primary physician's function, it is extremely important because it is one of the functions that distinguishes him from other providers of care.

Some impatience was expressed with delaying the implementation of quality control while the research needed to identify optimal levels of structure and process is awaited. It was therefore suggested that some interim procedures for monitoring quality should be adopted. Two approaches were put forward:

(1) To use health problems for which there is already acceptable evidence of a relationship between process and outcome. It was not feasible to review the documentation permitting the preparation of a list of such interim indicators of quality. However, this is a potentially useful approach, as long as it is not allowed to institutionalise a meagre and inadequate list which might forestall research needed to create better indicators of quality.

(2) To adopt the approach hospitals have taken toward the appraisal of quality, whereby such " critical incidents " as deaths and surgical interventions are regularly reviewed, by, for example, reviewing all deaths, complications of illness, and iatrogenic health problems. Although useful as an interim measure, such an approach tends to emphasise poor outcomes of an acute and dramatic nature, thereby deflecting attention from less vivid but equally undesirable consequences of poor primary care.

In implementing quality control the motivation of the primary care physician was discussed. Monitoring of quality should become an integral part of the physician's continuing education. Thereby the intellectual and emotional participation of the physician in setting and maintaining quality standards could be secured, in contrast to a grudgingly passive acceptance of standards that might result from a purely bureaucratic process of control.

Because of marked differences among countries in the role of professional associations, universities and third parties in peer review and cost control, and in the organisation of continuing education, the manner in which the control of quality is implemented must be tailored to the circumstances of each country.

Recommendations of the conference

(1) That consideration be given to the establishment of an international committee to further the study of primary care in national systems of medical and health care.

The committee should be provided with secretarial and library staff. It would be asked to arrange for reviews and abstracts of published literature and for information on research work in progress. It would establish communication with similar groups in health systems and circulate information to interested groups and individuals. This committee would help research in primary care and in identifying problem areas.

It would convene international task forces to examine specific problems and to stimulate research. The conference suggested that in the first instance the Royal College

of General Practitioners should be invited to set up such a secretariat, provided that finance is obtained.

(2) That international organisations be asked to consider sponsoring and encouraging more research into specific clinical problems in primary medical care. These international organisations should be asked to carry out a review of the present position and of further actions necessary on research methods and techniques in primary care.

J. BUSH APPENDIX

The discussion on multivariate procedures was summarised: to assess statistically the quality of primary medical care, the structure/process/outcome paradigm can be transformed to a regression format. The dependent (outcome) variable may be a disease specific indicator, a general health index, or a measure less directly related to health, such as patient satisfaction. The advantages and disadvantages of multivariate analyses over the significance tests more commonly used must be considered; and the form of regression depends upon the form of the dependent variable. Thus, these methods provide techniques for data analysis to assess quality in ongoing practice situations.

A health status index was suggested as an overall outcome variable suitable to test the influence of most known factors, medical and non-medical, on the health status of a defined population. The index is constructed of multiple factors including symptoms, mobility, disability, performance, and social activity that have been scored with measured social values. Both the index and the statistical analysis could be adapted to analysing the outcomes from the diffuse non-specific complaints peculiar to primary care. Short and long-term follow-up studies are needed to allow for prognostic factors. The hope was expressed that a general index incorporating social values could help to resolve the need for a consensus outcome measure.

REFERENCES

Buck, C. (1974). *The measurement and improvement of quality in primary health care*. Typescript.
Donabedian, A. (1966). *Milbank Memorial Fund Quarterly*, **44**, Part 2. No. 3. 166–206.
Fry, J. (1974). *Primary medical care*. Typescript.
Jefferys, M. (1974). *The quality of primary medical care: outcomes of care for the patient*. Typescript.
Lee, P. R. (1974). *The process of primary medical care*. Typescript.
Parker, A. (1973). *The Dimensions of Primary Care—Blueprints for Change*. Presented to Sun Valley Forum. Sun Valley, Idaho.
Royal College of General Practitioners (1972). *The Future General Practitioner*. London: British Medical Association.

EVALUATING THE QUALITY OF PATIENT CARE

Description of a strategy for evaluating the quality of patient care. The four elements of this strategy in the order of their priority for evaluation are:

    (1) diagnostic outcomes (or results),
    (2) diagnostic process (or actions),
    (3) therapeutic outcomes (or results),
    (4) therapeutic process (or actions).

Several examples are given of the application of the strategy. " The overall value of this strategy appears to be supported by the following three factors:

(1) It requires that the providers of care focus on prognosis, probably the most critical element in clinical judgment encompassing both diagnosis and therapy,

(2) It focuses attention on overall patient impairment and stimulates search for any of the multiple determinants (medical, social, cultural, economic) of such impairment that may be important. This approach is in contrast to the usual preoccupation with considering mainly pathophysiological causes,

(3) Since this strategy focuses continuing education resources on solving real problems in medical practice, it would seem to enhance educational effectiveness in two specific ways . . . it identifies learning needs . . . it lends itself to educational assessment in terms of the objectives of the total care process, the improved health of those receiving care."

Williamson J. W. (1971). *Journal of the American Medical Association*, **218**, 564–569.