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ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ
ЕВРОПЕЙСКОЕ РЕГИОНАЛЬНОЕ БЮРО

ECONOMIC ASPECTS OF EYE HEALTH CARE

Report on a Meeting

Copenhagen, 31 January - 1 February 1980

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Introduction

A meeting on economic aspects of eye health care was convened in Copenhagen by the Regional Office for Europe of the World Health Organization.

The meeting brought together a small group of clinical ophthalmologists and health economists with experience relevant to the development of research in the economic aspects of eye health care. They were asked to formulate a list of issues in this field, at the micro and macro levels, which could be the subjects of further interdisciplinary studies, with an indication of their order of priority, and to provide guidance for the formulation of further work in this area. (For list of participants see Annex III.)

The participants were welcomed on behalf of the Regional Director, Dr Leo A. Kaprio, by Dr D. Sokolov, Director, Development of Comprehensive Health Services.

Professor B. Tengroth was elected Chairman and Dr G. Lambert Vice-Chairman; Dr J. Cumper acted as Rapporteur.

In his introductory statement, Dr B. Nizetic elaborated on a number of basic concepts in public health ophthalmology relative to comprehensive eye health care which were less familiar to non-ophthalmologists, and Dr H. Zöllner introduced the basic economic thinking in the analysis of health care problems as well as the recommendations of a recent research group on health economics. A glossary of terms used at the meeting and a list of background material are given in Annexes I and II respectively.

Relation to other WHO activities

The activities of WHO in the context of its global and regional programmes already reflect governments' concern with problems of eye health care. At the global level the special concerns of many developing countries are reflected in the programme, which is focused for action purposes on the prevention of blindness but involves other aspects of eye health care as well.

Activities of the WHO Regional Office for Europe have in the past been concentrated on communicable eye disease control programmes in the southern part of the Region and, more recently, on methodological aspects of a holistic approach to managerial and planning problems in public health ophthalmology.

On the other hand, at the national level in the European Region, eye health care is still in practice equated with activities of fully qualified ophthalmologists working in different settings (hospitals, group and individual practice). Nongovernmental agencies are deploying most of the resources in social and vocational rehabilitation.

WHO has also been increasingly aware of the support which can be offered to clinical and public health work by other disciplines such as economics, and a number of meetings have been arranged in this connexion at the global and regional levels. At its meeting on 27-29 November 1979, the Planning Group on Economic Aspects of Health Care, a subgroup of the European Advisory Committee for Medical Research, made a number of recommendations for action at the research level, which may be summarized as follows:

- (1) developing (a) indicators of health care performance; and (b) at the level of health care delivery, simple methods for assessing inputs and outcomes of health care;
- (2) making information available to health care providers about the economic and social implications of their routine decisions;
- (3) studying the cost-effectiveness of shifting the balance of care towards primary health care;
- (4) investigating methods for reducing the costs of general hospitals;
- (5) studying the influence of the economy on health and of health policies on the economy;
- (6) examining the effects of different ways of paying for health care;
- (7) developing (a) techniques for evaluating innovations in treatment and other procedures; and (b) methodology for assessing socioeconomic implications of major equipment, drugs and supplies and other health technologies.¹

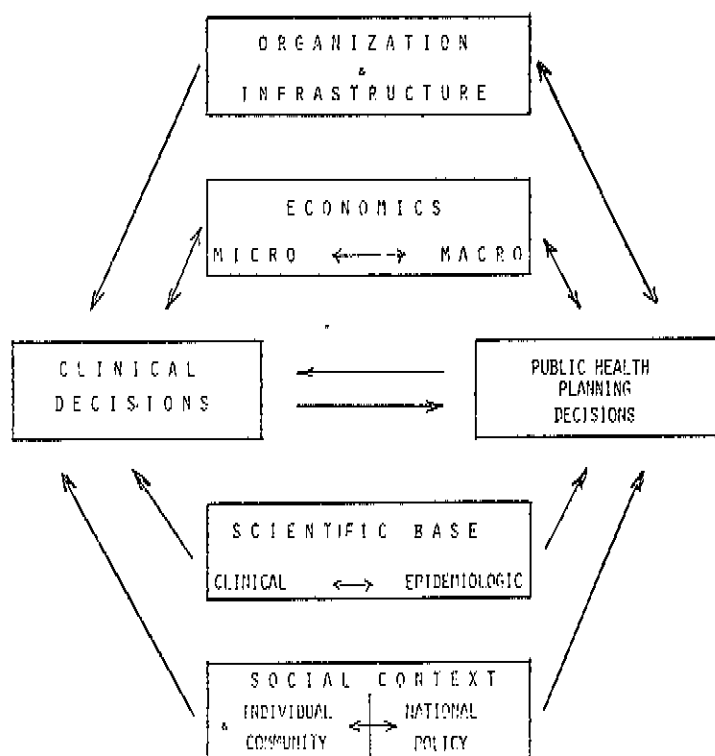
¹ See document ICP/RPD 008(2).

If these general recommendations are to be translated into specific proposals for action which may be useful to national research institutions and programmes, they must be related to the specific concerns of practitioners in a particular field and provide a list of topics for action, as has been attempted at the present meeting. While this meeting was concerned in particular with the situation in the developed countries of the European Region, its views may in some respects be of interest to the Programme Advisory Group of the WHO Programme for the Prevention of Blindness.

Framework for discussion of key areas of eye health concern

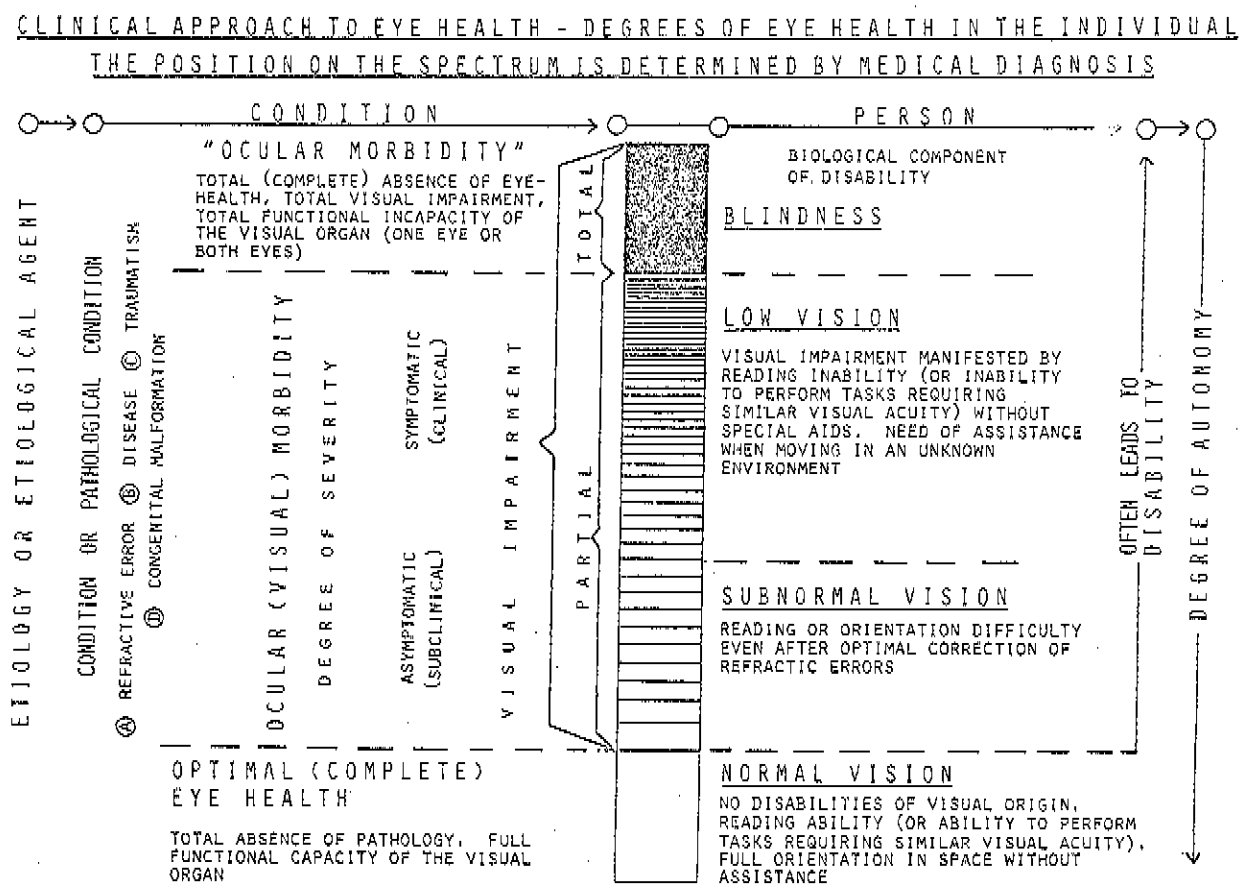
When identifying key areas for research in the field of eye health care, the participants of the meeting were concerned with two types of decision: clinical decisions and those related to public health planning; these had to be made consistent with each other. Further, each decision was influenced by organizational and social factors, as well as by developments in the scientific base, so that in any research area it might be necessary to call on skills other than those of the health professions and of economics (e.g., sociology, operations research). On the clinical side, the fields immediately relevant would generally be basic sciences and clinical medicine at the micro level and the sociology of the individual and the community, while public health decisions would tend to draw on epidemiology, economics at the macro level and the principles of social policy. However, the micro and macro aspects of each discipline should continuously influence each other (see Diagram 1).

Diagram 1



In ophthalmology there are basically two important, essentially different but not mutually exclusive, lines of approach to issues of eye health and disease. The first is concerned with the spectrum of eye health and vision in the individual (see Diagram 2), its traditional domain being that of clinical ophthalmology. The second is concerned with the problems related to various levels of eye health, eye diseases and visual impairment in population groups (see Diagram 3) and enters the domain of public health ophthalmology, supported by, *inter alia*, the basic sciences of epidemiology, biostatistics, health economics and sociology, all of which are complemented by modern methods of management.

Diagram 2



BV/ 1979

The concept of public health ophthalmology implies a change from crisis or acute intervention (typical of clinical ophthalmology) to comprehensive eye health care, which includes, in a continuum, promotion of eye health, prevention, diagnosis, prognosis, treatment of eye diseases and visual impairment at individual and community levels, as well as medical, vocational and social rehabilitation of the visually impaired.

The team concept is basic to public health ophthalmology. It implies an interdisciplinary approach and the coordinated utilization of different skills within the specialty as well as the utilization of skills from other specialties.

Finally, the public health ophthalmological approach to eye health care implies that the services of a fully qualified ophthalmologist are not always necessarily required. General medical practitioners, paediatricians and appropriately trained auxiliary health personnel may carry out many personal health care interventions in this field, and the potential value of the self-care component (see Diagram 4) should not be forgotten.

Discussion

The participants noted that the present topic was specially appropriate at a time when many countries and institutions were in a situation of financial stringency. They reviewed the potential for research under three broad headings: (i) economic aspects of disabilities arising from sensory impairment; (ii) economic assessment of alternative patterns of eye health care; and (iii) incomes from eye health care, and attempted to identify from their experience those situations which offered the best prospects of improving the efficiency of service provision through the application of economic concepts. The list of possible studies thus generated forms the basis for the following section of this report. Certain more general conclusions and recommendations are also given below.

Diagram 3

EPIDEMIOLOGICAL APPROACH TO EYE HEALTH
LEVELS OF EYE HEALTH IN A DEFINED POPULATION
MEASURED OR EXPRESSED BY DIFFERENT EYE HEALTH INDICATORS

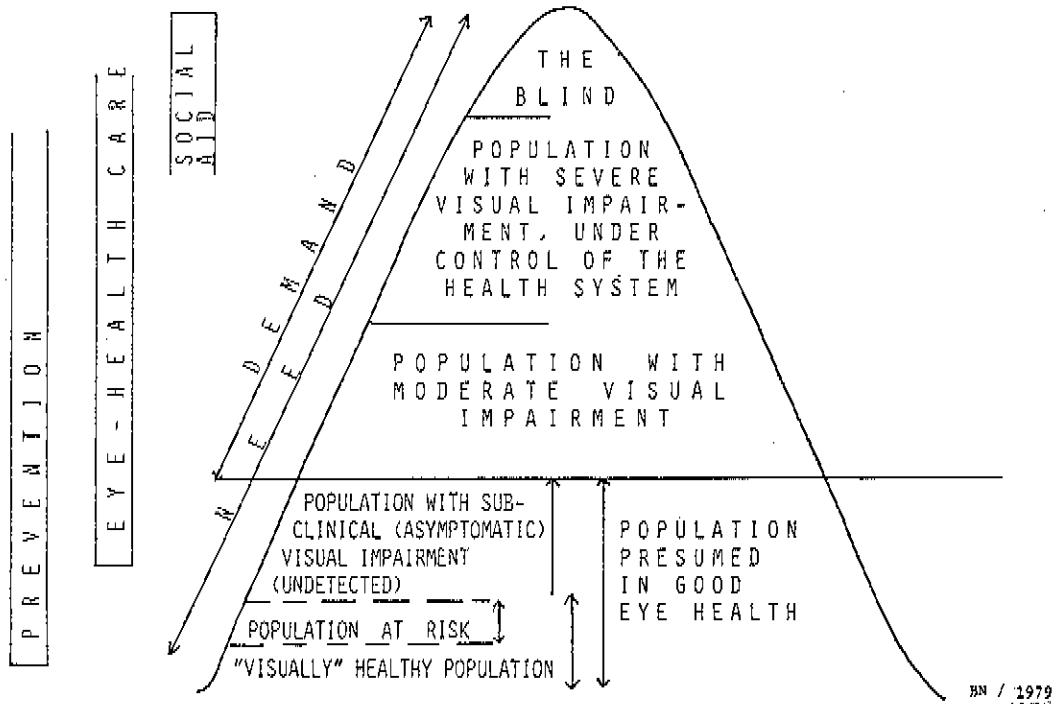
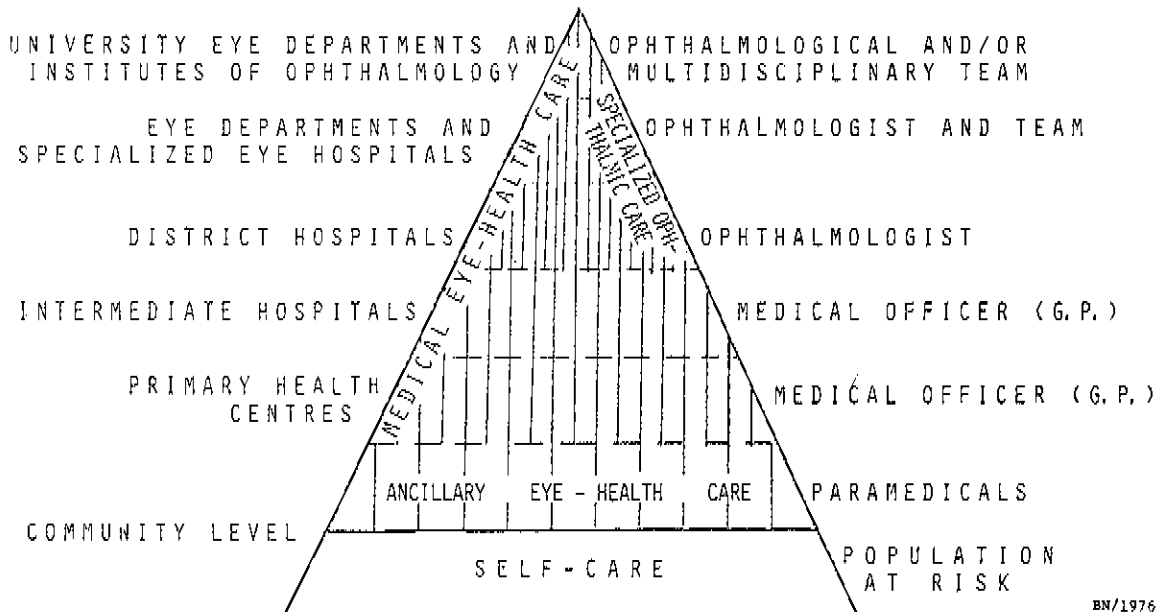


Diagram 4.

COMPONENTS OF A COMMUNITY-ORIENTED
EYE-HEALTH CARE REFERRAL SYSTEM



The meeting drew attention to the benefits obtained from informal discussions in a specific health context, with frankness on both sides about the limitations of various techniques and a realistic assessment of what each discipline could contribute to the joint solution of problems. It was felt that automatic application of a particular technique without attention to the broader context could be dysfunctional, for example, concentration on raising the level of utilization of a machine or facility without regard to whether the service provided was appropriate.

Priority areas for research

The meeting identified several functional areas of the system of eye health care as suitable for economic research because serious uncertainty existed about the efficiency of alternative patterns of resource use, and suggested that attempts should be made to apply cost-effectiveness and, where appropriate, cost-benefit analysis. It was recognized that in some cases this might require simultaneous development of the clinical and epidemiological base, since unless effectiveness could be demonstrated and assessed it would be pointless to apply concepts of cost-effectiveness. The suggested functional areas were:

(1) the economics of prevention of blinding diseases and injuries and of resulting visual impairment, as opposed to cure and rehabilitation; it was realized that prevention was not universally cheaper than other forms of health care, but it was felt that there was scope for widening the scope of preventive work;

(2) the cost-effectiveness of alternative forms of screening for eye diseases and defects;

(3) influence on the patient's length of stay in hospital, particularly the use of costly in-hospital testing in cases where its value in diagnosis and treatment was not clearly demonstrated;

(4) the rationale for the level of resources allocated to laboratories and the sharing of laboratory use between different users and purposes, including the range of tests available within ophthalmological units and the contribution of specific tests to diagnosis;

(5) the economics of the choice between different technologies (e.g., the selection of drugs and the purchase and use of equipment); particular attention should be paid to the export of high-technology equipment (e.g., the use of lasers in connexion with diabetic retinopathy and analogous conditions);

(6) the effect of costs and payment systems in the case of items with a cosmetic or fashion component (e.g., contact lenses);

(7) the possible economic effects of genetic counselling in reducing the incidence and social consequences of congenital defects;

(8) the costs and benefits of combinations of safety measures and screening for eye defects at the workplace, and also in relation to road safety;

(9) possible economies in the delivery of eye health care through modification of the manpower structure to incorporate more rational delegation of tasks, with corresponding modifications in education and training systems;

(10) an analysis of the appropriate balance in eye health care between centralized provision of services (with resulting economies of scale) and decentralization (with beneficial effects in terms of access and equity as between different population groups).

The meeting suggested that research would be profitable in three other general areas:

(11) assembly and synthesis of existing data on costs, utilization, etc., to provide a national data base for further studies and to permit preliminary evaluation of fields of activity within national eye health care systems, and perhaps international comparisons;

(12) study of the direct and indirect costs of legal and administrative attitudes toward questions of negligence, malpractice, etc., in the field of eye health care;

(13) development of relevant and economical systems of hospital accounting and record-keeping to provide the clinician and administrator with economic information in a form relevant and applicable to their current decisions (e.g., costings by specialty and by diagnosis).

Specific diseases and conditions mentioned in connexion with the above areas of research included glaucoma ((2)), squint and amblyopia ((1), (2)), uveitis ((3), (4)) and retinal degeneration in the aged ((3)).

Three main target groups in the population were distinguished: children, the working population and the elderly. In each of these cases, but particularly in the case of the elderly, it would be desirable to study not merely the effect of particular diseases or functions of the health care system but also the problems raised by visual impairment, however caused, in relation to the whole economic and social context of the individual. The elderly were a priority target group, both because of the substantial number of cases of visual impairment and because of the possibility that the group experienced a large unmet need.

It was recognized that some of the suggested studies (e.g., (4), (5), (9), (10), (12), (13)) involved issues common to a wide range of health services, though they were justifiable in relation to eye health care alone.

Conclusions and recommendations

While the meeting was primarily concerned with eye health care in the European Region, it heard with great interest of current activities under the WHO Programme for the Prevention of Blindness, including a study of the economic implications of blindness and its prevention, particularly in areas of the world where infectious and deficiency diseases were still major causes. The participants felt that the fundamental justification for such a programme lay in its direct social and health benefits rather than in its impact on the economy. Economic research, however, could play a necessary role in defining its priority vis-à-vis other health programmes. In spite of socioeconomic differences there were potential links with the research concerns of the developed countries. For example, the study of the economics of alternative manpower patterns ((9) above) raised some of the fundamental issues involved in the necessary provision of simple eye health care under the Programme for the Prevention of Blindness, particularly as that programme would in many cases eventually have to face difficult decisions concerning the most cost-effective balance between vertical and horizontal programmes and the appropriate point of transition from one to the other. The meeting also felt that the European Region had a special responsibility towards the developing countries because it continued to provide education and training for their nationals and thus influenced their clinical and public health attitudes and practices. Technology assessment ((5) above) was one way of meeting that responsibility.

The meeting considered that, in order to improve practitioners' day-to-day decisions and so contribute directly to more cost-effective eye health care, medical education should sensitize doctors to matters of cost and efficiency. Appropriate methods should be developed for that purpose, since the inclusion of sections of the academic economics curriculum appeared impractical.

Responsibility for further action

The participants believed that WHO could continue to play a useful role in facilitating the exchange of experience and promoting international coordination in the field of research into the economics of eye health care. At the same time, the principal responsibility lay with national institutions (ophthalmological and health economics institutes, WHO collaborating centres in this field, teaching institutions and the appropriate sections of national health administrations) to select and proceed with those elements in the suggested research fields which they felt to be applicable to their situation and to implement the results. Useful mechanisms for that purpose might be the organization of national seminars and the establishment of an appropriate network of collaborating research centres.

GLOSSARY

In these notes, an attempt is made to define certain terms used at the Meeting on Economic Aspects of Eye Health Care, and in this report. It is not claimed that these definitions have universal validity.

Clinical ophthalmology: a study or science concerned with problems of eye health and disease in an individual.

Cost of disability: costs arising from the health-related inability of a person to function normally in the relevant socioeconomic context. Items usually reckoned as costs of disability include: (a) the production forgone through disablement (seen against the standard of a healthy peer group), whether in the short or long term; (b) the excess expenditure arising from the disability (especially in terms of health care and social care); and (c) the intangible costs to the disabled in terms of shame, pain, loss of prestige and insecurity. Costs may be considered from the point of view of the individual or the State or of society in some general sense, and the point of view adopted and the range of items covered will depend on the nature of the problem studied. Costs are, where possible, measured in terms of money, the value of intangible factors being reduced to a monetary basis by the use of various conventions and techniques, but cost items may still be worth enumerating even when they cannot be reduced to a common monetary basis.

Cost-effectiveness analysis: The analysis of the costs (usually to the State or to society as a whole) of achieving a given objective by alternative means, in order to permit more efficient decision-making. Various technical problems arise, including those connected with the definition and measurement of cost, and also the problem of balancing costs arising at different times. The latter problem is often dealt with by using a discount rate which assigns greater weight to present than to future costs. Useful cost-effectiveness analysis requires careful specification of the objective, the alternative means to attain it and the context of the decision to be taken.

Cost-benefit analysis: the analysis of the costs and benefits ensuing from a contemplated course of action, usually measured against the situation anticipated if no action is taken. It is more comprehensive than cost-effectiveness analysis, in that it permits the comparison of programmes directed to different objectives (through a comparison of the excess of benefits over costs in each case, as measured by various techniques), but is even more difficult to make precise since the benefits associated with different types of objectives are difficult to bring to a common measure. Even where commensurability cannot be attained, however, it may still be useful as a means of evaluating systematically alternative courses of action.

Disability: the use of the physical and emotional impairments within a given social and environmental context (what may be a severe disability in one society may be minor or even an asset in another).

Economy, economize: in common usage, these terms refer to the attainment of a given objective with a smaller expenditure or use of resources. In principle, this permits the allocation of the resources saved to meet other important objectives in the same or another field. From the point of view of economic analysis, the virtue of economizing lies in the possibility of such rational reallocation, with the ultimate aim of an optimal use of all the available resources. If for institutional reasons such rational reallocation is not possible, the economic significance of economizing (in the colloquial sense) is much more limited. In no case, however, should economy/economizing be considered as cutting costs and expenditures without regard to effectiveness, benefits and other objectives.

Equity: the distribution of costs (e.g., taxes) and benefits (e.g., services) is usually felt to be equitable if it departs from an equal distribution of net benefits between persons and groups no more than can be justified in terms of the values of the society concerned and the external constraints on the situation. Equity can be analysed in "horizontal" terms (equal treatment of those in the same situation) and in "vertical" terms (differential treatment of those in different situations), and with reference to costs and benefits separately or to the balance between the two. Considerable difficulties arise in trying to make the intuitive idea of equity more precise (e.g., in the definition of differential need).

Eye health care: a concept implying not only the care of the acutely and chronically ill but also case-finding, prevention¹ of eye disease and disability due to blinding conditions, rehabilitation, eye health maintenance and health education. The provision of eye health services thus involves the synthesis or integration of the skills of many professions. Eye health personnel, in cooperation with clients, families and communities, work towards the achievement of eye health care goals. Comprehensive eye health care covers in a continuum all preventive, diagnostic, prognostic, curative and rehabilitative aspects of eye health care. This concept is basic to public health ophthalmology.

Handicap: the concept of the burden imposed on the individual when confronted with specific situations that cannot be resolved because of body dysfunction or impairment.

Macroeconomics, microeconomics: in economics different techniques and types of theory are applied to differentiate between individual decisions (e.g., those of the individual consumer and producer) and those needed to analyse topics at the level of the whole national and international society, though there is an underlying consistency between the two levels of analysis. The former is known as microeconomics, the latter as macroeconomics. However, many basic economic concepts can be applied at either level. The terms can therefore be used to denote either the level of application or the use of the specialized techniques appropriate to a given level (for example, Keynesian analysis is macroeconomic in the sense that it can be applied only at the national or regional level).

Medical eye care: eye-health care provided by the medical profession (general practitioner, paediatrician, ophthalmologist). However, in some languages (e.g., German) the term "medical" covers, in addition, certain other health professions providing personal health services.

Prevention of blindness: defined by the WHO Consultative Group on Prevention of Blindness in 1978 as: "systematic community-based action to prevent blindness and visual loss and to relieve remediable blindness".² The goal of the WHO Programme for the Prevention of Blindness is to eliminate the burden of avoidable (preventable or easily curable) blindness by reducing national blindness rates to less than 0.5%, with no more than 1% in individual communities.

Public health ophthalmology: "a discipline that encompasses the comprehensive community approach to the promotion of eye health and particularly to the prevention of disability due to visual impairment and blindness. The basic tools for research and practice in this field, in addition to clinical knowledge, are epidemiological and modern management procedures".³

As a recent resolution of the International Council of Ophthalmology has stressed,⁴ public health ophthalmology is not, should not and cannot be considered a subspecialty. It is a new dimension of ophthalmology as a science and a service. Consequently, while public health ophthalmology exists as a concept and a body of knowledge, public health ophthalmologists as a professional group do not exist and such labels should not be used.

Community ophthalmology is used, in certain countries, as a synonym, but many professionals tend to exclude hospital-based eye health activities from the concept covered by this term, thus creating an artificial and harmful separation between hospital-based (mostly urban) and community-based eye health activities.

Similarly, preventive ophthalmology indicates that prevention is something which the ophthalmologist practises apart from his curative work. This separation is artificial; in dealing with a patient there should only be comprehensive ophthalmology. While half a century ago preventive medicine meant little more than the use of immunizing procedures, its meaning today is much broader and includes different levels of prevention, from prevention of occurrence of illness through the

¹ In its primary prevention phase it includes also environmental health control activities.

² ACTA XXII Concilium Ophthalmologicum, Paris, 1974 - Masson 1976, Vol I, p.99.

³ WHO Technical Report Series, No. 518, 1973. (The prevention of blindness: report of a WHO Study Group).

⁴ Prevention of Blindness: report of the Advisory Meeting on Programme Development, Geneva, 20-23 February 1978 (WHO Publication 78.4, p.4).

prevention of progression of disease to the prevention of disability. The term preventive ophthalmology can therefore be defined in a variety of ways, depending upon individual concepts and, indeed, this idea has only to be extended slightly, i.e., to the prevention of pain or blindness (ocular mortality) and the whole of ophthalmology becomes preventive.

Social ophthalmology: is a term which is inappropriate; it has the disadvantage of meaning different things to different people. In general, social ophthalmology derives its inspiration from the field of clinical experience and deals with individuals. It is really concerned with the social aspects of eye disease affecting the sick individual. As far as hospital practice is concerned, it includes the whole of the work of hospital-based social workers. This includes social diagnosis and therapeutics and the organization of after-care, rehabilitation and resettlement. Sometimes, however, the term social ophthalmology has been used to describe services provided for diseases of special social importance, such as trachoma. Finally, some consider social ophthalmology to be synonymous with schemes for social security or so-called socialized medicine.

Specialized ophthalmic care: eye health care provided by fully qualified ophthalmologists.

BACKGROUND MATERIAL

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