WORLD HEALTH ORGANIZATION
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ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ
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European Conference on Medical Computing

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SUMMARY REPORT

Over the last eight years, the WHO Regional Office for Europe has furthered developments in the use of computers in the health care field by organizing a series of meetings concerned with computers and health administration (1), health statistics and medical research (2), public health uses (3) and hospitals (4). WHO Headquarters convened Working Groups in Geneva in September 1971 and June 1972. A series of conferences on this and related subjects is planned for the period 1973-75. In 1970 a WHO Working Group (5) meeting in Bratislava outlined possible new activities for the Regional Office, and the present Conference took its recommendations as a basis for discussions. Convened by the WHO Regional Office for Europe in collaboration with the Government of Luxembourg, the Conference was attended by 24 participants, one observer, 8 temporary advisers and 8 staff members from the World Health Organization from the following 21 countries: Algeria, Austria, Belgium, Bulgaria, Denmark, Finland, France, Federal Republic of Germany, Hungary, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, USSR, USA, United Kingdom and Yugoslavia. A representative of the International Federation for Information Processing (IFIP) attended part of the meeting.

Scope and purposes

The primary objectives of the Conference were:

(a) to state the needs of Member States in relation to their development policies;

(b) to describe the benefits to be derived from WHO activity in medical computing;

(c) to advise on priorities and indicate the resources required.

A secondary aim was to contribute further to the advancement of medical computing, both internationally and within the Member States.

It was asked whether there should be a specially directed effort in the field, bearing in mind the individual computing interests of WHO Divisions, such as that of Health Statistics. The work already performed by the WHO Regional Office for Europe

in organizing meetings, providing consultants for survey purposes or for establishing computing activities, and the provision of fellowships for study abroad by health staff of many disciplines, was recognized. However, the influence of computers, both because of what they can be used to do and because of the improvements in health organization and management resulting from computer-based planning, permeates the fields of practical care, management, planning and research so widely that it was recommended that continued and increasing attention should be given to the introduction of this technology. There was a strong call from all sides for a supranational effort to be made now if the contribution which computers can make to health and treatment is to be timely. As was agreed at the Pan American Health Organization Committee on Medical Computing (6) "....Countries' efforts are directed towards planning their activities, rational utilization of resources to provide the greatest possible yield, and to improve the method of health care provided to the individual .... and to support these measures it is essential to have information systems". Such systems should range from the particular level, that of patient and doctor, through progressively larger units of care to the regional or national level. In modern terms this makes the use of computers inevitable. Yet if the use of computers develops in an uncoordinated manner, almost at random, according to specific, isolated requirements and with no correlation of the many interactive procedures that can be performed, the cost of this tool will be disproportionate to the benefit gained.

The Conference endorsed the view of the Bratislava Working Group that WHO assistance in this field should help to even out the pace of development between countries; prevent unnecessary duplication of effort in a field where development is very expensive and skilled staff are short; facilitate progress towards standardization, which will reduce individual countries' efforts, improve efficiency of systems which are developed because of the wider experience on which they are based, and improve the use of information by similarity in type of data and processing; and, finally, lower costs for Member States. These benefits, while of advantage to all, would in particular aid progress in less advanced countries.

The recommendations made in Bratislava were grouped under a number of subject headings and broadly endorsed.

Education and training

All countries recognized the need for sufficient and expert educational facilities for all health services users if this technology is to expand. Advice and help are needed in devising adequate courses and modern methods of teaching and in providing teachers, particularly those with a health services background.

Information and advice

Member States find difficulty in ascertaining what similar work is under way in other countries with which they could share expertise and discuss common problems. There was, therefore, a pressing need for a medical computing activity information service, but it was recognized that this would require an expert specialist staff. The difficulties of establishing such a service were agreed, but its importance outweighed these. In some Member States limited services of this type already existed, and a first step might be to co-ordinate these. Consultants provided by WHO to advise or assist undertakings in various countries were greatly appreciated. The world scarcity of able people in this field requires co-ordination of their help at a higher level than that of individual countries, and participants considered that extension of WHO consultancies would promote development, particularly where the rate of progress was slower.

Medical records

Standardization was seen as both the goal and the problem of possible developments in the handling and use of medical records by computers. The advantages already recognized where elements of the record had been standardized internationally (ICD, CIOMS), or in some medical specialities (SNOP) justified continued determined effort in this direction. Systems for management depend on standardization of the data handled. Standardization need not require regimentation, and although technology may ultimately diminish the importance of the matter, it would be foolish to ignore the gains that can be made by progressive measures of agreement.

Hospital systems, patient care and evaluation

Throughout Europe, there has been considerable uncoordinated activity in the development of hospital information systems involving a variety of technical methods, some of them very expensive and advanced. The absence of a widely acknowledged methodology of measurement of health care is making critical evaluation of these systems extremely difficult. It is important that the relatively small amount of information available should, if possible, be correlated for international use if any form of cost-benefit assessment is to be made. The use of computers in pathology laboratories is fast developing, and a careful review of such systems should be available to Member States. Other subjects for international review are patient monitoring and radiotherapy treatment planning.

Health information systems

Effective and comprehensive systems of health information services are required by all countries. The provision of an integrated information system which will eliminate the repetitive entry of similar data elements by different users at different times calls for organizational, technical and ethical developments. Integration may be "horizontal", when the data elements associated with care for the individual by a range of services in hospital and community are correlated to improve services to him, or "vertical", when, with progressive abstraction and depersonalization, they are used at various levels for management and planning. While there is considerable confidence that computers will play a vital role in improving the availability of significant information and will thereby bring about big improvements in health services, little practical success has so far been achieved in this respect. WHO should promote critical examination, including reference to industrial systems, and provide information about national experience (WHO Regional Office for Europe is to hold a Conference on National Health Information Systems in 1973).

Public health surveillance

The Conference heard with considerable interest that what had hitherto been regarded as computer-based health screening at the Kaiser-Permanente Clinics, USA, has greater significance as a system for personal health monitoring, in which the individual is regularly watched for potentially significant changes in the deviation of selected measurements from normal limits established for that individual. Computer facilities are essential to the information handling involved. A number of participant countries attached much importance to this field, and called for further research. This must be set against the view expressed in the technical discussion on Mass Health Examinations at the World Health Assembly 1971 (7) that such systems, used for screening, have become accepted with inadequate evidence.

Research

The use of computers in medical research is now widespread and diverse. Significant developments having implications for service use might sometimes come unexpectedly to the notice of the responsible authorities, or enthusiasts might over-emphasize the potential of some research. Reviews of such research by WHO consultants could help Member States in planning practical development.

Priorities and resources

The very large effort which is desirable in this field would undoubtedly outrun available financial resources, while the number of adequately trained staff available would almost certainly be insufficient to tackle the various problems simultaneously. The Conference therefore discussed necessary orders of priority. A substantial development of international activities in medical computing, probably requiring the establishment of a multidisciplinary team, was considered most important. The participants also recognized the importance of WHO activities in education and training and in reviews, expert studies and advisory services for projects.

Within specific areas of medical computing, highest priority for co-ordinated action was accorded to medical records, health information systems, automated multiphase health surveillance systems and clinical laboratory systems, while lower priority was given to patient monitoring systems, radiation treatment planning, subjects of confidentiality, together with other ethical and legal problems associated with medical computing. The low priority accorded to the last point reflected opinions as to the difficulty of achieving any effective international action in this respect, rather than the Conference's views on the importance of the issues themselves.

The means at present available to the WHO Regional Office for Europe were recognized as insufficient to carry out all the tasks outlined, and increased national collaboration in international programmes would be necessary. Several ways in which these tasks could be carried out were discussed by the Conference.

Conclusions

In the first place, a remarkably wide area of agreement was found among the participants from all countries on the needs, benefits and priorities relating to medical computing activities that might be undertaken by WHO, and this despite the different stages of development of medical computing reached in the individual countries and the different forms of organization of their health services.

The second notable feature was the determination of participants to secure progress in this field. It was generally recognized that to lay the full burden of responsibility on the shoulders of the Regional Office would be unreasonable. What was required was a spectrum of effort ranging from activities recommended by WHO, through work by other international institutions active in medical computing and intergovernmental action, to work by individual countries. This was particularly reflected

in the proposal, which was widely supported, that participants should seek to persuade their sponsoring governments to establish regular meetings at high managerial level in terms of responsibility for the co-ordination and development of medical computing, and with the participation of WHO Regional Office staff, to review progress in the field, especially those activities outlined by this Conference, and to evolve and agree further work which might be undertaken voluntarily to implement those recommendations.

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