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A HEALTH INFORMATION AND DOCUMENTATION
NETWORK FOR LATIN AMERICA AND THE CARIBBEAN

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A HEALTH INFORMATION AND DOCUMENTATION
NETWORK FOR LATIN AMERICA AND THE CARIBBEAN

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At its annual meeting in May 1979 the Scientific Advisory Committee of the Biblioteca Regional de Medicina (BIREME) recommended to the Director of the Pan American Health Organization that a Long Range Working Group be established. The task of the Working Group was to consider the developing needs for biomedical, behavioral and health services literature and documentation of the Latin American and Caribbean region and the operational capabilities required for a system coordinated by BIREME to serve the Region.

The analysis undertaken included a thorough study of the demands on BIREME's current resources for bibliographic searches, document retrieval and inter-library loans. A review of the periodical holdings in Latin American medical libraries, and consideration of the requests for bibliographic searches and documentation made to the United States National Library of Medicine in Washington, D.C., both directly through BIREME and indirectly from a variety of institutions and agencies in the Region provided additional information. The work of the National Center of Information and Documentation (CENIDS) in Mexico City, Mexico, was also examined. Field studies were carried out by consultants who visited Argentina, Colombia, Costa Rica, Peru

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and Uruguay to ascertain more directly the needs, resources and interests of these countries and their desire to participate in more extensive national and international health information networks.

Additional detailed studies on the possible composition of a core collection of biomedical journals from medical schools, and on the alternatives for telecommunications applications for BIREME's coordinated network were conducted. The Working Group also had available the papers and conclusions of three international meetings in 1978 and 1979 entitled respectively: "Coping with the Biomedical Literatures - A Qualitative Approach," "Research in Biomedical Communications - the Problem of Selectivity," and "Establishing Selected Libraries in Medical Schools of Less Developed Countries."

The Working Group held four meetings, one in Brasilia, two in Washington, D.C., and one in Mexico City. They dealt with the following issues:

- a) Analysis of BIREME's operational capacity and resource sharing potential to improve the utilization of collections;
- b) Analysis of the role and importance of bibliographic information for health services and their development;
- c) Analysis of technological alternatives available to manage and disseminate information;
- d) Analysis of Latin American and Caribbean health and biomedical, behavioral and health services information needs;

- e) Analysis of strategies to consolidate the Latin American health information network.

In May the 1980 meeting of the full Scientific Advisory Committee of BIREME was held in Sao Paulo. The sizeable collection of working papers prepared for the four Working Group meetings will be edited and published; in addition, minutes of their four meetings were prepared and circulated. Altogether over fifty individuals from many countries and institutions in the Region, including consultants from the National Research Council of Canada and The British Lending Library in England, participated in the extensive deliberations of this twelve-month-long exercise. From it all has emerged a plan for implementation and a set of recommendations to the Director of PAHO and to its Directing Council for possible endorsement.

Having summarized the work of the Scientific Advisory Committee over the past year, it is important to relate the findings to the ultimate needs and objectives of the Member Countries of the Region. These needs received worldwide political expression in the Declaration of Alma-Ata and its goal of "health for all by the year 2000" to be achieved "by creating a positive climate of opinion and facilitating the exchange of expertise, technology and information." The betterment of health is most likely to be accomplished effectively, expeditiously and efficiently if the health status and needs of the population are adequately estimated and useful and usable knowledge derived from biomedical, behavioral and health services research is made available readily to health personnel at all levels, from primary care workers, through university teachers, researchers and students to managers, planners, politicians and even the general public.

The object of a health information and documentation network is dissemination of the most appropriate and reliable knowledge to those in the best positions to apply it. Conversely, where problems or needs are identified, and where no knowledge or even erroneous knowledge exists, the system should stimulate the necessary biomedical, behavioral and health services research. Information in this sense is seen as the central element of a dynamic system that differs from a static or traditional collection of books, documents or periodicals on the one hand, or from raw data or even traditional health statistics on the other. The forms of storage, retrieval, transmission, reproduction and delivery become secondary to the information itself.

Although BIREME, which was established in 1965, has improved access to health and biomedical information enormously, the overall status of medical libraries in the Region appears to have deteriorated seriously. For example, in 1979, only one library subscribed currently to over 1,000 medical journals, four had over 700, ten had over 500, and another ten had over 300 titles. In all of Latin America only twenty-three medical schools, little over 10% had more than three hundred periodicals. In one major medical school, one of the oldest in the Region, the subscription list dropped from three hundred journals to twenty-two in the course of three years. Many schools have no periodicals and few books.

On the positive side, however, several countries are attempting to establish national bibliographic networks, union catalogues and lists, and ministries of health are developing documentation centers. In addition, the telecommunications networks of the

Region are improving rapidly and the prospects of new technology being introduced should encourage all countries to plan for its early adoption.

The task of the Long Range Working Group was to develop a realistic plan that took full account of the aspirations of Alma-Ata, the present and potential needs and demands of users of information, the perilous status of the Region's medical libraries, the potential for quantum improvement in telecommunications technology and the strengths of BIREME, and related documentation centers such as CENIDS and those in Brazil, Colombia, and Venezuela. Finally, the plan had to recognize the shrinking resources associated with the ubiquitous manifestations of inflation, especially the rapidly escalating costs of books and periodicals.

At an early stage in the Working Group's deliberations, several principles emerged that had their basis in one recurrent observation about variations in the use of the biomedical literature. It has been established that about half of all requests for medical journals or articles can be satisfied with the first one hundred subscriptions and that about 97% of all requests can be satisfied with about 500 subscriptions. More refined studies for specific diseases such as schistosomiasis, or of literature citations support these general findings. Indeed, about 50% of all scientific papers are never cited at all!

The principles that follow from these observations, together with considerations of the overall constraints, needs and opportunities that exist are:

1. A selective approach to the literature whereby the proliferation and unnecessary duplication of holdings and its negative economic consequences are minimized is an essential ingredient of any prudent response to the problem. By building collections on the basis of the utility, relevance and significance of the materials for defined groups of users, or for users in a defined geopolitical jurisdiction or serving a defined population, holdings can be limited to a basic collection of essential periodicals, books and documents. One element of this basic collection may well be international in character, a second element may be regional, another national, and still another local. Another way to construct the basic collection would be in relation to levels of care, one grouping of books, periodicals and documents being devoted to primary health care, another to secondary or community hospital level care, and still another to tertiary care including large referral medical centers, universities and their research enterprises.

Although much work has been done for and by the Working Group, there will be a need for national and local committees to give much further thought to refining the various basic collections to be employed.

2. Resource sharing through regional, national and international networks is the second major principle to be adopted. This implies the need for the maintenance of union catalogues of books and union lists of periodicals at all levels; a condition that is increasingly easy to accomplish through the use of mini-computers, distributed data systems and telecommunication networks. The fact

that some libraries and documentation centers are already more comprehensive than others will enable them, like basic libraries to grow selectively and hierarchically. Each library can extend access to its materials to all others in the network by making use of improved telecommunications and information technology and the cost-effectiveness need not be achieved at the expense of decreased access to materials that are less frequently used or marginal for most users but essential for a few.

3. Adaptivity to the realities of present resources and the potentials for growth require a process of calculated evolution for all of the holdings in a health information and documentation system that is selective and shared. Each component needs to be sensitive to what has been achieved already, flexible enough to encompass rapid technological developments, and comprehensive enough to satisfy the information needs not only of researchers, academicians and students but also of practitioners and health personnel at all three levels of care, and of planners, ministers of health and legislators.

In summary, the Scientific Advisory Committee envisions an information system based on the principles of selectivity, resource sharing and adaptivity and in a fashion analogous to the structure of health care systems into primary, secondary and tertiary levels of care. One might also add the analogy of primary, secondary and tertiary levels of education found in most countries. At each level of the system, the resources available should be those most often needed by the population served. Where resources are not available locally, an efficient referral system should connect the user with the appropriate

resources at the next higher level. For an information network this will consist of various nodes and levels of services, each of which makes the best possible use of bibliometric data analysis in designing its services and the most appropriate technology for referral and information communication. For Latin America and the Caribbean, this will require improving conditions at the level of each country in terms of facilities, resources and trained personnel. What is envisioned is that every health sciences and health services institution and agency will have local access to an adequate basic collection and electronic access to successively more comprehensive national, regional and international collections.

On the other hand, since 60% of the health sciences schools in Latin America and the Caribbean have no usable library collections, it is necessary to design a strategy for initiating the program. Accordingly, three major areas of work can be identified for immediate action:

- a) Improvement of existing information systems, primarily at the university level;
- b) Development of new information centers, primarily documentation centers at the services level;
- c) Consolidation of the support systems, primarily at the regional and sub-regional levels.

An extensive regional program based on these three strategic principles still requires the preliminary tactical decision as to where and what resources to commit. Strategically the plan approved by the Scientific Advisory Committee calls for the development of a

regional system that will link all local, primary services libraries to national, regional and international resources. However, a development scheme addressed initially to support broad cooperation among all institutions would be forced to provide rather limited support. Such funding for all institutions would encompass more than a thousand libraries, some presently with no information services, and it would involve exorbitantly high costs. Even after aid was given to many of these institutions, one could not assume continuity and development of the resources after the initial aid program is terminated. It would be preferable tactically, therefore, to concentrate initial efforts at selected institutions which appear to have the best chances of reaching and maintaining an adequate level of performance. Also, selectively assisting promising institutions would assure upgrading the capacity for information services and provide a stable basis of operation for secondary support to all other network institutions. Such a tactical approach, especially in the initial stages, is based on the availability in such institutions of the knowledge and technique needed to establish both basic collections and resource sharing. Availability of knowledgeable and skilled personnel should serve as an additional criterion for inclusion in the project.

If one adopts a policy of assisting and strengthening selected institutions, the scope of the entire plan can be readily defined. Selected university libraries, existing and new National Documentation Centers at the level of the Ministry of Health, and certain regional specialized centers can be grouped together to form sub-regional networks.

Initially a group of some forty-five libraries, each holding at least one hundred journals, can be grouped into five sub-regional networks. In those countries or sub-regions with five or more libraries, an automated unit with a mini-computer should be installed in a selected subcenter, exceptions being made in those cases where either a large computer is already available or some kind of agreement can be made for the utilization of a local data processing center. In this scheme a total of seven subcenters with access to computerization should be available for the network.

Operations at the subregional level will also allow for varying approaches to particular problems in collection building, resource sharing and technology to be taken in different subregions. This could provide an opportunity for comparing, contrasting, and evaluating these approaches in a controlled manner. It raises the possibility of a phased introduction of information services and the prospect of designing randomized trials to measure the efficacy of interventions by information systems. Only by planning such studies before the program begins will it be possible to determine the cost-effectiveness of such regional programs. Furthermore, essential bibliometric data analysis should be conducted as a guide for developing the Latin American and Caribbean system and for further development elsewhere in the world. It is widely believed that information is crucial for the development of the health sector but no one knows how crucial. However, it should be possible to measure the demand and use of the proposed bibliographic services and any opportunities to

measure other relationships between information, research and services should be sought. For these reasons it is proposed to include an evaluative component in the operation of the program.

Libraries of the health sciences and services institutions can be divided into three groups:

- a) Those that are adequate, i.e. that hold complete runs of the agreed basic journals;
- b) Those that are inadequate, i.e. that hold incomplete or broken runs of some agreed basic journals;
- c) Those that consider themselves seriously deficient in holdings and services.

Altogether forty-five libraries comprise all of those in the first category, some in the second category, and none in the third category. The tactic of assisting institutions which already have the necessary infrastructure and can shortly have the necessary personnel to assure success and continuity of the program would most likely be in the first two categories. For such institutions, collections could be strengthened based on selective criteria and appropriate measures initiated to institute resource sharing.

There is a possibility which should not be overlooked of there being within each of the five subregions, institutions of some promise or importance that fall into category (c). An initial program should at least investigate ways by which such institutions could be integrated into the network. This could be done at relatively small cost by providing five category (c) institutions with basic libraries consisting of 100 journal titles that included five years

retrospectively and prospectively on microfiche and of 100 basic book titles. Librarian education and user education courses should also be provided.

Finally, the three areas of emphasis, improving the existing information system, developing new information centers, and consolidating the support systems, should be highly integrated and coordinated in order to establish a functional network. Each participating institution should be simultaneously collecting and providing information for transmission to other institutions and receiving and processing information for its own clientele. These activities can then be grouped into three specific categories:

- a) Collection building in an orderly manner based on decisions taken by representatives of the network;
- b) Resource sharing within the network;
- c) Development of programs and services to users.

As a result of these three considerations, a matrix has been developed into which the various components can be placed for development in an orderly fashion. By way of specific implementation, tentative funding proposals have been prepared for a large sum to UNDP and for a smaller amount to a philanthropic foundation. Both proposals have been received sympathetically and there is the hope that favorable action will eventually be taken. It is estimated that the overall costs of implementing the plan will amount to about 6 million dollars over a period of four years. It is unlikely, however, that either of the first two sources combined will provide more than a third of the needed funds and it will then be necessary to bring together a variety

of multilateral and bilateral donors in order to obtain the necessary support for the full program. There also remains the need for cost-sharing among the member countries and for taking advantage of such economies as the bulk purchasing of periodicals through a revolving fund in much the same way that the textbook program has been developed by the Pan American Health Organization over the past decade.

In summary, during the past year an exhaustive study of the needs for health information and documentation in Latin America and the Caribbean has been conducted. An analysis has been made of the existing resources and the probable availability of technological improvements. Some principles to guide the organization of a network have been established and specific recommendations and priorities for implementation have been proposed. Budgets have been prepared and initial funding proposals have been put forward. Recommendations have been made to the Director of the Pan American Health Organization and the hope expressed that the Directing Council will endorse the plan and give it a high priority for implementation. Indeed, it is difficult to see how there is much prospect of achieving "health for all by the year 2000" without the use of appropriate information about useful forms of intervention that will help to ameliorate the health problems of the people who suffer from them. Usable, reliable information may not be a sufficient ingredient for achieving health for all, but it is certainly essential.