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Improved Document Delivery Services

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LIBRARIANS KNOW that their institutions, if properly used, could produce increased knowledge transfer. Unfortunately there is no assurance that if knowledge is transferred, it will necessarily be applied. Everyone develops habits for learning, reading and hearing.[1] By the time one becomes a professional practitioner learning habits are difficult to change. Investigations have demonstrated that manipulating library environments which presumably make access easier does not produce a change in the way libraries are used.[2] Even a service which delivers documents to a faculty member's office may not cause much change in the use of library resources.[3] On the face of it, it would appear that libraries have exhausted their responsibilities if they merely own documents for potential users to consult. This is not the case with biomedical libraries because the environment in which health knowledge is utilized is altering, requiring modalities for knowledge transfer to operate in different ways from those in which present practitioners have been taught to acquire knowledge.

The business of a library, above all, is to have and to make documents accessible. Many kinds of information services can be (and are) created to disseminate information, but ultimately a society as complex as ours must have a library from which to retrieve documents. Some of the pressures that society is placing on health care and research endeavors will be discussed below, but a premise of this paper is that an institutional means must be available to deliver relevant information which provides individuals with the means to make decisions that may change their course of action or support their position. The decisions may encompass aspects from the health of one individual to the preparation of national efforts for the improvement of the quality of life.

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WHY IMPROVE DOCUMENT DELIVERY?

Orr finds the biomedical information complex a "system" in the same sense that a living organism is a system. Both have evolved in response to needs and both are self-organizing and were not designed.[4] Society has institutionalized its communication patterns for knowledge transfer: professional meetings, records of meetings, publishing of papers, distribution of papers, etc. Each of the communication methods became institutionalized when there was a sufficiently large group to require a common service. But once something is institutionalized, then people have to be taught how the system operates. Every institution carries on some kind of education program to enable the user of the institution's service to understand its functioning. Each communication method lends itself to the delivery of one or more particular types of information.

As an example of how to obtain information through extended institutional means, the physician can obtain information through personal contacts, telephone consultation, and in some areas of the nation through telephone conference of dial access tapes. The physician's information referral needs can be met with the same methods, but, in addition, once again depending upon local facilities, he can call upon a whole list of community and national resources, including federal and state agencies, professional organizations, academic institutions and voluntary health agencies. To reinforce or to learn new skills and knowledge there is access to MEDLINE, audio tapes, educational films, television, and radio.[5] In addition, there are many agencies which have established formal continuing education courses, such as hospitals, professional associations, academic institutions, and voluntary health agencies.[6] These means are also available to other health professional groups.

All of the institutions and methods, except for some recent telecommunication networks and computer applications, have been in use for many generations. Interestingly, the pressure for improving the overloaded communication system is not arising from the fact that it is not functioning with cost efficiency or cost effectiveness, but because of pressures on institutions outside the communication system to alter their objectives and functions. This in turn necessitates changes in the communication system to fulfill institutions' social functions. Describing our present social value system is a problem of our age. Only three factors will be discussed here which affect the biomedical communication system specifically related to document delivery: (1) increased need to apply knowledge

for health care delivery, (2) the social requirement for better standards for institutional accreditation, and (3) the growing recognition for change in the licensure procedures for health professionals.

Although presidents and members of Congress come and go, the federal establishment has responded with new laws and directives which recognized a need for new institutionalization of the health care industry. Today the federal government in one way or another pays for over half the hospital bills of the nation.[7] Critics of the federal programs rarely argue against the political vision which created the programs. The Regional Medical Program legislation, for example, was designed "to afford the medical professions and medical institutions of the nation . . . the opportunity to make available to their patients the latest advances in the . . . diagnosis of diseases."[8] This legislation merely codified the growing expectations of the nation that the results of modern medical care should be good, and, if not, then someone must be at fault. As Sloan has remarked:

> Central to the entire concept of the Regional Medical Programs is a need for continuing education of doctors, nurses, allied health personnel, and the lay public. It is a Regional Medical Program responsibility to explore all feasible means for the continuing transmission of new knowledge from the research centers to the health professional. . . . The medical literature has long been the most important mechanism for the communication of new knowledge, reaching far more people than is ever possible through person-to-person contact, even though in teaching terms the latter may be more effective.[9]

The RMP is but one experiment in trying to get people together for the achievement of improved health care.[10] The need for such an effort on a federal level is clear now that the United States has a highly complex set of professional practitioners, organizations, and consumers. From a phenomenological viewpoint there are a large number of people acting individually and collectively, all of whom are seeking and/or applying expert knowledge, according to their needs, wants, interests, and capacities.[11]

There are many who still view the health care industry as a highly individualistic industry. This is not true; health professionals, except for a few practitioners, are institutionally based. In 1950 there were less than 1,685,000 people employed in all health occupations. The

number of individuals has more than doubled in less than twenty years.[12] This has required the nation to build new, and to expand existing, institutions which can employ those who are able to apply knowledge to meet the growing expectations for dependable health care. No institution in this complex has been under more stress than the hospital.

Historically, the training of health professionals was moved from the entrepreneurial environment and the charity wards of hospitals to the academic institutions. The nation is now witnessing a reversion of the education and continuing education of health professionals to hospitals, whose prime function has always been patient care—not teaching or research. It is the hospital environment which is the embodiment of whether available health knowledge is adequately applied.

> The hospital, as the broadest-based source of authority, in terms of professional, technical, and financial resources, the site where professional needs and values and community needs and values meet and can be reconciled, will be assigned responsibility for assuring the essential functional and organizational relationships—through satellite units, affiliation agreements, inter-institutional contracts, etc.—to make the complex and inter-related system work for the entire community.[13]

The Joint Commission on Accreditation of Hospitals, in its latest standards, has given a new emphasis to libraries in hospitals by accentuating that the value of a library should be judged on its performance in providing information which, of course, ultimately rests on access to the scholarly record.[14]

A system that is dedicated to providing more and better care, and one which had to incorporate more than 2 million individuals in the past twenty years to accomplish this aim, obviously has had to undergo change in its administrative values. One of the significant changes in the administration of hospitals is the continued trend toward the establishment of hospital-wide education and training departments. A new professional group is arising—educational directors and their staffs—which is assuming the roles of "managers of training" and "learning specialists."[15] Part of the cause of this development within hospitals is the requirement to keep professionals working within that environment well informed. Perhaps partly because of this effort and other factors, the system of licensure of the health professional is brought under question.

Graduation from an academic institution with subsequent state licensure is no longer a sign of permanence—a lifetime license to practice. Not only institutions, but the professions themselves, want assurance that practitioners can update their knowledge. This is not just a theoretical issue. When Medicaid required evidence that physicians engaged in some continuing education program, the enrollment in courses sponsored by the American Academy of General Practice in New York City increased 100 percent. When the requirement was dropped, attendance dropped immediately.[16] This kind of evidence produces an uneasy feeling. As one physician remarked in an editorial; "Other professions are watching to see if we, as physicians, are willing to police ourselves and raise our standards of practice to the levels expected."[17] Programs are being tested to deliver new knowledge in many educational formats. As noted above, the methods of choice for dissemination of new information are varied. Criticisms of the administration of such programs have been many; this criticism is but an expression of the inadequacy of our communication system.[18]

Despite the considerable attention and investment made to educational innovation, when professionals are asked how they keep themselves informed, journal reading is invariably rated first among the currently available methods.[19] Educational technology will surely improve the ability to disseminate information, but at this stage in our institutionalization we must deal with the reality that the scholarly record still is an essential element in the communication process. Knox has remarked that it is impossible to increase the efficiency of individuals to absorb new knowledge in order to compensate for the added complexity of the system—the physiological qualities of the human visual and auditory senses have not changed to match the need to know more and more. Furthermore, the amount of time a professional can devote to learning and still remain a practitioner has about reached its limit; at least the evidence collected on the habits of scientists indicates that there has been no significant change in the amount of time devoted to interacting with our existing information systems.[20] The only option appears to be the institution of a better delivery system to the consumer of information, i.e., reduce his time in getting materials and provide him with the means to select from a wider range of materials than is available from his own resources. If the existing institutional array is to be used to accomplish such goals, then we must improve health science libraries, which still remain as the only dependable source for documents.

PLANNING FOR IMPROVED DOCUMENT DELIVERY

It is part of our culture to believe that if we manipulate the environment, or even more elusively, manipulate allocations of money, progress will have been accomplished. In our complex society, social commitment is more important than an administrative structure. Furthermore, planning is pointless unless the political process is included. The important choices among social goals become identified as a result of social values expressed through the political process.[21] If a social goal is to make the biomedical scholarly record more easily available and dependably accessible to all health professionals, neither the structure nor the commitment to implement this existed in 1965. The medical resource libraries were few and, in terms of the demands placed on them, unequal to the task of providing documents to their primary clientele, much less of expanding access to all health professionals.[22] In 1960 there were but eighty-eight medical schools and a similar number of professional organizational resource libraries that might serve as a focal point for document distribution.[23]

More important than the scarcity of resource libraries was the "territoriality" of these libraries. The libraries were created within and by agencies with specific objectives. In the main the academic and other large medical resource libraries were supportive of research and education with little concern for supplying documents or service to the practitioner outside their local research centers. The services to individuals that were provided by such agencies as the NLM and the Library of the American Medical Association were no longer adequate to supply document needs for the nation as a whole. As hospitals began to expand their educational role, more libraries were being supported in these institutions, but their resources were meager. Gaining access to the documents of resource centers was still a privilege, i.e., it was the responsibility of the practitioner to go to the "territory" of the research center with its libraries; the very admittance to use materials was a privilege accorded by rigid rules.

This description is unflattering and, as with all generalities, not a true picture. It was the efforts of librarians to improve the dissemination of knowledge through document delivery service which demonstrated its importance and the need to change the bureaucracy of libraries. From data collected covering 1962, it was estimated that 570,000 documents were being lent among

biomedical libraries; 15 percent were supplied by the NLM alone. The rate of growth of requests was calculated at about 10 percent per year.[24] At this rate of growth of interlibrary lending, 1,500,000 requests would be made by 1973. It was obvious in 1963 that resource libraries on which the burden of interlibrary document delivery rested could not carry this work load without a major change in the organization of the informal institutionalized library system.

As already noted, RMP legislation had as one of its objectives taking knowledge from the research medical centers to the community hospital—a kind of reversal of the educational system in which students are bussed to educational centers. Similarly, the concepts behind the Medical Library Assistance Act of 1965 functioned as a change agent for health science libraries. The MLAA and the legislation creating the RMPs are described elsewhere in this issue. Suffice it to say that these two federal programs, both involved in part with improving document delivery, may have appeared at times to be competitive, if not redundant in action in some areas of the nation. To some it would appear that effort (and money) was wasted which could have been applied to have produced more "free" documents to individuals. Perhaps a biomedical information czar in 1965 might have created a plan to replace the informal system of voluntary library lending with an organized network structure which within months would have been functioning dependably and been capable of infinite expansion; in reality the territoriality of our institutions was too strong to allow for so swift a change.

Actions of individual libraries would not meet the need and demand for documents and other library services—there is a limit to local self-sufficiency of libraries within any institutional complex.[25] Truelson remarked: "Medical librarianship has reached the age of the library system, not just the informal system of voluntary lending among libraries, which has been going on for decades, partly out of courtesy and partly out of proper self-interest, but now a system becoming formally structured and specifically financed in the realization that good library service requires that every library user have access to the total literature resources of the world."[26] The term library system has become interchangeable with the term library network, which in turn has become confused with communication networks.

Hindsight now makes it clearer what the guidelines should have

included in establishing library networks or systems. A recent listing
of requirements included the following:

1. creating and enforcing procedural standards,
2. establishing and implementing protocols for users of the system,
3. performing centralized accounting, billing and other monitoring,
4. furnishing documentation and general user support,
5. making a market for the services providable,
6. providing communication services among the separately
   organized systems or networks.[27]

Unfortunately such guidelines were not available in 1965 and even
today, when they are better defined, they are not acceptable within
the institutional constraints which still influence the behavior of
professionals. Each institution at its founding had specific objectives
and policies which have been altered and added to with the growth
of the health care industry. Each library within an institution
becomes a unique administrative operation that prevents it from
adhering to rigid standards and protocols and that prevents it from
giving up its "territory" or control of some of its functions to an
outside body.[28]

REGIONAL MEDICAL PROGRAMS

Eventually there were fifty-five Regional Medical Programs
established throughout the nation. In 1969 thirty-seven had some
informational projects including such activities as radio, television,
telephone, computer, film, tapes, and document activities.[29] Only a
few of these were centered within library organizations. Each had its
own administrative structure. The objective of these projects often
included an effort to change either the structure of institutions or
the information-seeking habits of health professionals. The
administration of RMP projects, even if common objectives could be
identified in the proposals, varied so in kind and quality that
comparison is difficult. Where it is known that there were
library-based or library-related projects, data may not have been
collected and, if collected, not available for review. To date very few
articles on accomplishments have reached the open literature and,
with the demise of the authorizing legislation, even less will be
forthcoming.

In spite of the variations in detail, the library-related projects
often had a pattern much like that described by the Kansas RMP
library services project started in 1969. The objectives were: (1) to

form a network to give health professionals access to information,
(2) to assist hospitals primarily in setting up or improving library
collections and services, (3) to inform and teach librarians about
network services, and (4) to provide documents not available locally
from medical resource libraries.[30] A common procedure of the
library-related RMP projects was a survey of the library facilities
available in hospitals. The purpose of these surveys was in most
instances to assess the capabilities of institutions to participate in a
network.[31] Telecommunication networks were also a common part
of these projects to aid institutions and individuals to request
information from resource institutions, as for example in Arizona
and Wisconsin.[32]

What effect these various activities had in fostering improved
knowledge transfer has not been measured in depth for any
particular RMP project. Those that supported "free" document
delivery programs, however, do have a measure of increased use of
biomedical literature. The experience of the University of Oklahoma
Health Sciences Center is undoubtedly typical. In 1968, before RMP
support was provided for document delivery, the Oklahoma Health
Sciences Center received requests from only nine communities in the
state. After three years of the RMP document delivery program, the
number of documents delivered increased eight-fold with a nine-fold
increase (to eighty-three) in the number of communities served
through this service. Although the RMP document delivery support
ended in 1971, some support was received from the Regional
Medical Library Program beginning in 1972, with the growth curve
still continuing to rise at the same rate as in previous years.[33]

As remarked earlier, document delivery services were given by
libraries before the existence of the subsidy through RMP or RML.
The establishment of document programs, however, forced
institutions to relate to specific resource libraries to obtain
documents. It was not always clear to either borrowers or lenders
just where the responsibilities for providing or requesting services
lay. Whether the changed relationships among libraries has resulted
in long-range improvements in distributing documents is difficult to
judge. Stabilized networks may not have been produced even
though there is a continuing demand for more documents.[34]

One of the major aspects of document delivery programs was that
documents, whether provided in original formats or in facsimile
copy, were to be free to the user. How much it costs to supply a
document is subject to many variables, depending upon the

borrower's and lender's resources and organization. The Arizona Medical Library Network perhaps demonstrates as dramatically as any RMP-funded program that free document delivery is not a requirement to get health professionals to request documents. Aside from three VA hospital libraries, there are but four viable medical collections in the state. A project was begun in 1970 to provide access to medical library services to all health practitioners through toll free call-in services located at five nodes in the state, with three TWX installations to connect the resource libraries. During the first year of its operation over 30,000 documents were delivered to individuals, which more than doubled in the second year to almost 72,000 documents. The project was expected to become self-supporting and in 1972 the subsidized document delivery program was phased out. Requests dropped 50 percent when services had to be "paid for." Although by the end of 1973 document delivery had not returned to the level reached when it was under completely subsidized service, conversion to a cost recovery method rather than a subsidized program did not interrupt the requests for library service. More important, after an administrative adjustment period, requests for service are again on the rise.[35]

REGIONAL MEDICAL LIBRARIES

At the time the Medical Library Assistance Act was passed it was obvious that the resource medical libraries of the nation were not up to the task of making biomedical literature available to all health professionals in all the environments in which they functioned. Regionalization as an administrative concept is built into our governmental structure. But to enlarge the concept of regionalization to allow private and local governmental agencies to work toward common objectives was not a part of the general experience of our institutional fabric. Three elements of the concept as expressed in the first Medical Library Assistance Act, and as they were subsequently interpreted and implemented, are important to note.

First, the regionalization of library service on a national scale had no working model. The acceptance of responsibilities by the national libraries to undertake certain functions and operations which could be used by libraries throughout the nation, and to which individual libraries contributed data, had a long history. This was quite different from what was proposed in creating RMLs in which some

of the services provided by the NLM were to be decentralized and additional services were to be given which had not been part of the federal establishment. The first guidelines issued for the formation of RMLs are a reflection of a massive endeavor to alter the institutional relationships among medical libraries and, at the same time a demonstration of a naiveté concerning implementation in that, operationally, RMLs were to accomplish this change by doing the same things for a geographic area that they did for their primary clientele.[36]

The second element of the task of regionalization was that it would be supported through a grant mechanism. In other words, since no model existed, institutions throughout the nation had to get together to construct a program which could conceivable provide regional services. Geographic areas had first to identify themselves and then determine how the institutions could function to the best advantage of the area. Obviously each geographic region had to interpret the guidelines to match the prevailing conditions of library services available as well as depend upon whatever leadership emerged. Each RML not only had a different perspective on reaching the objectives of the program, but had different administrative arrangements. Comparisons among the accomplishments of the RMLs are therefore difficult to make. The NLM, recognizing that creating a network must include the elements discussed above, has issued a new policy statement describing in more detail the organizational direction RMLs should take.[37]

The final element that has been subject to a great deal of discussion and controversy is the provision that regional interlibrary loans should be provided free to the requester. What constitutes a *regional* interlibrary loan, in spite of six years of experience, has yet to be determined. The RML was to function as a back-up library, not as an only source of documents to institutions in a region. Several methods have been applied in RMLs to limit the amount of free service: (1) requests for material in a core list of journals was determined not to be a legitimate request to make of a RML. This was decided to help prevent the disruption of local interlibrary loan arrangements that already existed and/or to encourage local interdependence of libraries; (2) a quota or upper limit was set for free service to institutions and individuals. Although quotas have been calculated in different ways, the number of documents that could be provided free to an individual or institution was determined from the funds available from federal sources.

Regional Medical Program library-related projects in some areas resulted in producing an awareness of the available literature resources. The Regional Medical Library Program, on the other hand, has brought about a realization that a national network of libraries is possible to create.

UTILIZATION OF DOCUMENT DELIVERY PROGRAMS

Interlibrary loans have come under intensive study since 1970 by the Association of Research Libraries. The basic reason for these studies is the increased demand on resource libraries for documents. The studies have demonstrated that it is exceedingly difficult to establish with any certainty how many interlibrary loan transactions are made.[38] While this situation is understandable with respect to academic libraries which have received no subsidy to promote or improve interlibrary document delivery services, it would be expected that because medical libraries have received funds to develop programs, some reckoning of the change should be possible to make in quantitative terms that would measure the significance of the increased demand for documents. There is as yet no agency which collects data to determine with any degree of accuracy the number of documents now being distributed through the various biomedical library networks. The RMLs show a continuous growth during the past three years (see Table 1), but there are many resource libraries that expanded document delivery programs with or without funding from either the RMP or the RML Program.

Examples have already been given, but more can be cited, to emphasize that there has been a change in the way documents are delivered. In the Medical Library Network formed under the Bi-State Regional Medical Program (St. Louis), 6,483 loans were made from three resource libraries from July 1971 through September 1972; during 1972 the Virginia Medical Information System filled 14,404 requests for documents; the Connecticut Health Library Service program filled 16,558 document requests in 1971.[39] Hospital libraries have been encouraged to lend to one another because of the establishment of quotas of free loans. It is known that at least 20,000 of the biomedical interlibrary loans in the Kentucky-Ohio-Michigan Regional Medical Library area in 1972-73 were provided by hospital libraries. The establishment of MEDLINE consortia are also causing an increase in the number of interlibrary loans among hospital libraries because in some regions one of the conditions of forming such consortia is a demonstration of a

TABLE 1
REGIONAL MEDICAL LIBRARY
FUNDED INTERLIBRARY LOAN ACTIVITY

Year	Requests Received	% Increase
1969-70	377,024	—
1970-71	525,771	39
1971-72	601,861	14

willingness to engage in such activity with a relatively large core list of journal titles. Whether the prediction made in 1962, that the biomedical community would be requesting over 1,500,000 documents through interlibrary loan in 1973, cannot be established with certainty, but it surely must be approaching that number.

To whom are all these documents being delivered? Before the MLAA the health research centers had evolved the means through informal arrangements and with the NLM to provide documents through interlibrary loan. Increases in demand at these centers only increased as the number of researchers increased, and the established interlibrary cooperation probably could have continued to support the interlibrary loan activity with but minor adjustment for many years. The legislation of 1965, however, shifted the emphasis from research to health delivery. One way to measure the effectiveness of the endeavor to get information to health professionals is to determine if the increase in document delivery evident from the figures given in Table 1 have in fact gone to hospitals. As remarked above, there is no consistent reporting of the document delivery activity for the nation from which definite statements could be made. Table 2 gives a tabulation of the change in document delivery flow for one RML. This is not presented as either typical or representative, but as an illustration that changes have resulted because of a structured program.

From Table 2 it can be seen that the number of institutions that have used the RML increased three-fold within a four-year period. Part of this increase can be explained by the fact that some institutions have perhaps shifted their interlibrary loan requests to the RML rather than making requests from resource libraries that they used before the establishment of the RML. This is not the case. As discussed above, because of quotas and other restrictions that have been placed on the federal subsidy, interlibrary lending has

TABLE 2

NUMBER OF INSTITUTIONS REQUESTING DOCUMENT DELIVERY SERVICE FROM
THE KENTUCKY-OHIO-MICHIGAN REGIONAL MEDICAL LIBRARY

	1968		1970		1972	
Type of Institution	Number of Institutions	% of Requests	Number of Institutions	% of Requests	Number of Institutions	% of Requests
Hospitals (including federal government)	102	67	252	67	340	52
Industrial agencies	33	9	94	11	93	13
Government agencies (other than hospitals)	14	6	34	5	46	7
Education institutions	45	12	125	9	98	14
Other	8	6	42	8	68	14
Total	206	100	547	100	645	100

Source: "Kentucky-Ohio-Michigan Regional Medical Library Papers and Reports," No. 1, No. 9; "Kentucky-Ohio-Michigan Regional Medical Library Working Paper," No. 28.

begun among hospital libraries. If these interlibrary loans are added to the total document flow of the region, the percentage of documents delivered to hospitals has in fact not decreased, but remained stable—approximately two-thirds of the total. In actual numbers there has been a four-fold increase (from 18,000 to 66,000) of documents delivered to three times as many hospitals in a short span of four years. There is evidence that at least in some areas when free document delivery was stopped, the number of requests made were reduced, but the number of institutions making requests did not diminish.[40]

Who are the individuals who request these documents? There seems to be no comparative study for any geographic area which showed a shift in who uses documents once a dependable library distribution system has been established. Two areas which might be compared because of the nature of the Regional Medical Library Project are in Kentucky and Arizona. In both instances individuals were permitted free communication access to the same complement of library services to resource libraries for about a similar period

TABLE 3

PERCENTAGE OF USER REQUESTS OF THE REGIONAL MEDICAL PROGRAM
LIBRARY INFORMATION SERVICES IN ARIZONA AND KENTUCKY, 1970-71,
BY CATEGORY OF USER

	Arizona	Kentucky
Physicians	91.0	57.0
Nurses	2.5	10.0
Hospital administrators	1.0	2.0
Other (D.V.M. dieticians, pharmacists, etc.)	5.5	31.0

Source: "Arizona Medical Library Network. Progress Report. Jan. 31, 1970 to March 31, 1971"; "Kentucky-Ohio-Michigan Regional Medical Library Papers and Reports," No. 10. Sept. 1971.

(eighteen months). The figures from Table 3 reveal the difficulties in trying to compare the activities of different programs. Is the variation in the use of similarly defined programs due to the differences in the institutional sociology, the publicity the service received, or the quality of service provided? The reason for presenting these data is not to ask such questions, rather to demonstrate that the need for access to biomedical information goes beyond the physican population. Also, if an organization is set up to assist all health professionals, there is evidence that it will be used.

SUMMARY AND EXPECTATIONS

The need for access to the scholarly record of biomedicine will continue to grow. The realization that research results must be applied if health care is to improve has changed institutional objectives and priorities for action. The further realization that health professsionals can only remain informed if they engage in institutionalized continuing career education is forcing new patterns of distribution of documents. Although the experience of the past few years is not yet reducible to a synthesis for a national plan for a document delivery system, there is ample evidence from the many attempts at networking throughout the nation that interinstitutional relations can be established for document delivery service. Institutions, if not individuals, are willing to support document delivery services when federal subsidies are withdrawn. A great deal has been accomplished even if it cannot be demonstrated with hard

data. There are librarians and others who might belabor the lack of precision in planning. This now becomes a pointless exercise. The guidelines are clear. Biomedical institutions are able to work toward objectives that go beyond their own doors. The biomedical libraries have shown that they are able to respond in supplying documents, comparatively speaking, in prodigious quantities.

Fiscal constraints may become even more stringent in the coming years. A trend is developing that is inefficient in time and wasteful of funds. Since no institution can support a library which is completely self-sufficient, all libraries must borrow materials from other libraries. The question that needs to be asked in the immediate future is whether libraries which borrow must also lend. Forcing all, even small, libraries to set up a lending program is not cost effective. Resource libraries are capable of expanding their lending programs beyond their present levels. This is not to suggest that resource libraries are infinitely expansible, but reluctance to take on further responsibility by being restrictive forces other libraries to invest energy in document delivery services for which they have neither the physical resources nor manpower. The implementation of quotas and restrictive lending avoids resolving the political and administrative considerations that must be faced if an understandable and efficient system of document delivery is to evolve. Interlibrary lending will have to be formulated into definitions of institutional responsibilities that are supported through other than complete subsidy, or the other extreme of each document delivery transaction being counted, tabulated, and calculated. There are models now being tested which replace emphasis on the specific transaction of document delivery with support of the whole information transfer process through libraries.[41]

Although libraries can form cooperative groupings to accomplish specific objectives with document delivery, these are self-limiting in that they are library-to-library arrangements. There are conditions which have a quality of urgency that must be approached in a larger context than the technical administration of a library for one service. The unit cost of owning materials may be a factor limiting not only what borrowing libraries can maintain, but also lending libraries. This, coupled with threatening copyright restrictions on producing facsimile copy by libraries will make library-to-library arrangements unstable. Obviously no institution can commit more than its own resources. Institutional dependence goes beyond borrowing and

lending documents. When this fact is fully accepted, a dependable system for document delivery will be formed.

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