LIBRARIES WITHOUT WALLS: BLUEPRINT FOR THE FUTURE

Report of a Survey of Health Science Library
Collections and Services in Canada

by
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A Joint Project of the Special Resource Committee on Medical School Libraries of the Association of Canadian Medical Colleges, and the Canadian Health Libraries Association

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Libraries Without Walls: Blueprint for the Future

SUMMARY

This is the report of a survey of health sciences library collections and services in Canada, a joint project of the Special Resource Committee on Medical School Libraries of the Association of Canadian Medical Colleges, and the Canadian Health Libraries Association.

The report provides an analysis of health sciences lilbraries across Canada today, with comparisons to highlight trends over the years. Major changes noted since the last comprehensive study in 1962 are (a) very substantial growth, (b) the much-needed establishment and, operation of the Health Sciences Resource Centre at CISTI, and (c) the advent of sophisticated technological advances. The evidence indicates that growth over the past five and ten years, however, has not nearly kept pace with expanding needs and with expenditures in other aspects of Canada's health enterprise.

In addition to a summary of the issues which Canadian health sciences librarians must now resolve, the report concludes with recommendations related to technology, finance, and administrative accommodations within and between health care institutions. Further study and planning is recommended as follows:

1) That CISTI, with SRCMSL, establish a task force on harnessing technology for health sciences information.
2) That the ACMC invite the Dean of Medicine at each of Canada's sixteen medical schools to establish an Information Management Council to deal with health sciences information provision within the region served.
3) That ACMC's SRCMSL and the CHLA establish a joint committee to deal with problems of inter-library sharing of information resources in health sciences fields.
4) That ACMC's SRCMSL and the CHLA appoint a work party to grapple realistically with recurrent problems of underfunding, and propose defensible plans for more adequate funding as required for the future.
5) That the Health Sciences Resource Centre at CISTI, as a national centre, clearing house, and research base, be maintained and strengthened.

Attention is also drawn to particular problems facing francophone health sciences libraries in Canada.

March 1987

Bibliothèques sans frontiers: projet d'avenir

RESUME

Voici le compte rendu d'un sondage réalisé sur les collections et les services des bibliothèques de la santé au Canada, projet conjoint du comité spécial sur les ressources des bibliothèques médicales de l'Association des facultés de médecine du Canada et de l'Association des bibliothèques de la santé du Canada. Ce compte rendu propose une analyse de la situation actuelle des bibliothèques de la la santé au Canada, et fournit quelques comparisons qui mettent en évidence l'évolution qui s'est produite au fil des ans. Parmi les grandes mutations constatées depuis la dernière étude détaillée qui date de 1962, mentionnons: (a) une croissance très substantielle, (b) la creation attendee depuis longtemps du centre bibliographique des sciences de la santé de l'ICIST et son exploitation; et (c) l'avènement de technologies extrêmement perfectionnées. Il est indéniable toutefois que la croissance qui s'est produite au cours des cinq et même des dix dernières années s'est laissée dépasser par l'élargissement des besoins et des dépenses dans d'autres domaines des sciences de la santé au Canada.

Outre un résumé des problèmes que les bibliothécaires de la santé canadiens doivent aujourd'hui résoudre, ce compte rendu se termine par une série de recommendations au sujet de la technologie, des finances et des besoins administratifs au sein des établissements de soin de la santé ou entre eux. Ce compte rendu contient d'autres recommendations, notamment:

1) que l'ICIST, de concert avec le CSRBM, crée un groupe d'étude sur l'exploitation de la technologie informatique en sciences de la santé.

2) que l'AFMC invite les doyens des seize facultés de médecine du Canada à instituer un conseil de gestion de l'information chargé des questioins relatives à la prestation d'informations en sciences de la santé dans la zone desservie.

3) que le CSRBM de l'AFMC et que l'ABSC établissent un comité mixte chargé d'étudier les problèmes de partage des ressources bibliographiques entre bibliothèques dans le domaine des sciences de la santé.

4) que le CSRBM de l'AFMC et l'ABSC instituent un groupe de travail chargé de se deébattre de mainère réaliste avec le problème récursif de sous-financement, et proposent un plan de financement soutenable exigé par l'avenir.

5) que le Centre bibliographique des sciences de la santé de l'ICIST, en tant que centre national, bureau central et base de recherche, soit maintenu et renforcé.

Ce rapport attire également l'attention sur certains problèmes auxquels se heurtent les bibliothèques de la santé au Canada.

Mars 1987

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I – INTRODUCTION

> For the teacher and the worker a great library is indispensable. They must know the world's best work and know it at once. They mint and make current coin the ore so widely scattered in journals, transactions, and monographs.
>
> \- Sir William Osler, Aphorisms

Those wise words were penned over seventy-five years ago. In quoting them as a preface to the McGill University Medical School Library Annual Report for 1985-86, Frances Groen, Life Sciences Librarian at McGill, comments that Sir William's statement of the essential nature of a good medical library remains as relevant today as when it was written.[1]

But just what is the current state of health sciences libraries in Canada? Of medical school libraries? Of teaching hospital libraries? How far have they come from the landmark study by Beatrice V. Simon twenty-five years ago?[2] What changes have occurred, and what trends can be discerned over more recent years? In what directions are or should health sciences libraries now be moving to ensure the highest possible level of health information service nation-wide?

It was with questions such as these in mind that a working party of the Special Resource Committee on Medical School Libraries (SRCMSL) of the Association of Canadian Medical Colleges (ACMC) addressed itself to a survey of health sciences libraries in Canada. A formal proposal was developed jointly by SRCMSL and the Board of Directors of the Canadian Health Libraries Association (CHLA). That proposal submitted by the ACMC to the Canada Institute for Scientific and Technical Information (CISTI) in June 1986, including a request for Canadian Government funding of $66,000. The proposal was well

received, with a formal contract in that amount being signed in September 1986. ACMC has administered the funds through its executive office. A Project Committee on the Survey of Health Sciences Collections and Services in Canada, jointly representing SRCMSL and the CHLA, accepted responsibility for the survey. The alloted time span for the project was six months, through March 1987, reflecting a considerable sense of urgency. The Project Committee reviewed applications for the post of Project Officer, and appointed Mrs. M.A. Flower, a health sciences library consultant with experience both in the academic library community at McGill and in the hospital community as an Ontario Medical Association consultant for hospital libraries. By the beginning of October the project was in full operation.

The project Committee consists of Ms. Ann D. Manning, Dalhousie University, as Chair; M. Bernard Bédard, Université de Montréal; Mr. David S. Crawford, McGill University; Ms. Dorothy Fitzgerald, McMaster University; and Dr. Wilma Sweaney, University of Saskatchewan. The Committee has met four times since October, reviewing and approving the directions the survey has taken, and offering helpful advice. Indeed members of the Committee have themselves participated in the day-to-day work of the study: Ms. Manning and Mr. Crawford undertaking an analysis of the pattern of health sciences interlibrary loan requests to CISTI, and M. Bédard coordinating the preparation of a paper on the particular needs of francophone libraries.

The extent of interest in the project expressed from coast to coast must be regarded as indicative of the importance of its purposes and the timeliness of the study. Officials on all sides, both directly within and also without health library circles, have been warmly supportive and generous with their time and thinking. Their participation is appreciated. Special thanks are due to Mrs. Vivien Ludwin, who heads the Bracken Library at Queen's University, for marshalling a variety of resources for the Project Officer in her home

city of Kingston; and to the Health Sciences Resource Centre at CISTI not only for library services but also for making office space available for the Project Officer in Ottawa.

This report has been titled "Libraries without Walls: Blueprint for the Future". The evidence suggests that health sciences libraries in Canada have come a long way over the past twenty-five years. We are doing well; but new needs and opportunities beckon. The main issues appear to be technology, finance, and administrative accommodations within and among academic and other health care institutions. The future of health sciences libraries promises to be an exciting one of which Sir William Osler would be proud, providing we have the wit and will to make it so.

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1. McGill University Libraries, "Medical Library Annual Report, June 1985 - May 1986", p. 4.

2. Simon, Beatrice V., Library Support of Medical Education and Research in Canada. Ottawa, Association of Canadian Medical Colleges, 1964. (Widely referred to as The Simon Report.)

II – THE NATURE OF THIS STUDY

The overall purposes of this study have been two-fold:

1) To gather and present information on health science libraries in Canada today (particularly the sixteen medical school libraries, libraries in the major teaching hospitals, and CISTI), with comparisons to highlight trends over the years; and

2) Looking ahead, in the light of analysis of the current situation, to recommend steps which need to be taken to improve health information service nation-wide, and which could lead to a functioning health-care information network in Canada.

One tempting possibility was a relatively straightforward statistical approach. This would have involved the design of detailed instruments to be completed afresh by library heads and others, with the object of providing an extensive range of numerical data on the dimensions and operations of health sciences collections and services today. Statistics on trends in enrolment in the health sciences faculties and on changes in curricula might also be added, as well as statistics on the geography of funding for medical research, and the realities of informatics in the hospitals. Extended resulting tables could be compared with whatever statistics could be located for five and ten years ago, and with The Simon Report. The product could be reasonably hard data for considering needs and making recommendations for the future.

Such an approach was considered, but discarded, for three reasons:

1) A considerable body of basic statistics is already available on these topics as gathered and published periodically by the Association of Canadian Medical Colleges, its Special Resource

Committee on Medical School Libraries, and the Association of Academic Health Sciences Library Directors, among others. There are gaps in those statistics, and data as reported frequently appear to reflect differing interpretations of what was actually asked for, as well as the complexity of organizational differences within and among institutions. Nevertheless, they are sufficient to permit the teasing out of some general tendencies, and especially so when read in conjunction with a variety of other publications and reports over the years.

2) While statistics are clearly useful for many managerial purposes, their implications are far from obvious, even when they are without gaps and in full conformity - which is seldom the case in a country as broad as Canada and given the complex uniqueness of local situations. One can appreciate, wryly, the note in block capitals which the Canadian Association of Research Libraries inscribed on a table summarizing library expenditures as reported by member library systems:

> Certain of the summary data in this table are subject to interpretation or clarification because of inherent differences among institutions in their organization, physical arrangements, management philosophy and budgetary or accounting procedures.[1]

It is all too easy, as philosopher Alfred North Whitehead argued, to be led astray by the false definiteness of numbers.

3. Further, in a forward-looking study of this sort more is needed than statistics. Depending on what we are able to count, and what we are able to persuade respondents to reduce to numerical terms, statistics can provide one reasonably dependable database. Beyond that, however, and often diffuse and far less specific, lies a more difficult kind of database consisting of thoughtful views of informed persons actually wrestling with problems of the provision and delivery or use of health sciences information.

Therefore the approach adopted for this study (a bold one, since the study had to be limited to six months overall, with minimal staff), was as follows:

1) Reliance largely on existing statistics, annual reports, working papers, policy statements, and published documentation, to the extent such items could be located: rather than undertaking to collect many statistics afresh.

2) Site visits to each of the sixteen medical schools across Canada, for discussions especially with their library director, but also with other librarians within the health sciences complex, deans of medicine and in some cases of other faculties, teachers, researchers, clinicians; and with teaching hospital librarians, and some hospital directors or administrators. (Copies of interview guides for discussions with directors of medical school libraries and at teaching hospital libraries are attached as Appendix B).

3) Discussions with senior officials at CISTI and the Health Sciences Resource Centre, as well as with officials of the Canadian Hospital Association, the Canadian Dental Association, the Canadian Nurses Association, Health and Welfare Canada; and directors of the two major health sciences libraries in the country beyond universities, hospitals, and government: the Academy of Medicine in Toronto, and the British Columbia Medical Library Services. (In all, including the site visits to university centres, some 150 interviews were conducted with individuals, as well as several group sessions.)

4) An all-too-brief period, given the complexity of the total situation as revealed, to order and analyse the wealth of materials and reactions growing out of (1), (2), and (3) above,

to produce the present report and the conclusions and recommendations it advances.

The approach and procedures followed in this study can easily be criticized. Lacking is something of the usually expected routine of developing and presenting "hard" data, leading to finite conclusions growing out of those data. The Tables attached, in spite of comments appended to several of them by way of interpretation, provide a good deal less than a definitive picture of health sciences libraries overall - much less adequate detail on individual situations. Yet the author supports the approach, and the findings from it, as a useful route to suggesting where we should be going from here.

Dr. John E.F. Hastings described the approach of the Community Health Centre Project which he headed in Ontario as a "conceptual" approach, rather than a "nuts-and-bolts" approach.

> ...We would try to find out what was going on across the country ... and apply our best judgement to it ... Saying to people with knowledge, "Give us the most up-to-date information on this particular specific subject and give us your critical analysis of where you think things ought to be going and what problems you foresee."

Hastings referred to this approach as "...a type of research ... which increasingly, I believe, people in the academic world must be prepared to take part in and give their time to." He added:

> Perhaps the report's major value is in this area of influencing attitudes, coalescing ideas that many people across the country have been gradually coming to over a period of years, and focusing them into a single document.[2]

That statement encapsulates very well the principal method, and central approach, of this study.

What follow in this report, then, are:

- A broad-brush summary of the current situation, in comparison with the days of The Simon Report, and with special reference to the more recent past;

- A section describing in some greater detail aspects of the current situation across Canada, with examples being given;

- A section outlining some of the concerns and suggestions raised by people across the country: some current difficulties as they see them, and some suggestions as to what they would see as desirable;

- A summative section, arriving at some conclusions which can reasonably be drawn; and

- A section recommending some directions for continuing development.

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1. Canadian Association of Research Libraries, "Expenditures - Staff and Collections, 1984-85". Mimeographed working paper, dated March 4, 1986.

2. Hastings, John E. F., "A Commentary on the Approaches and Impact of the Community Health Centre Project". Larson, Donald E. and Edgar J. Love, eds., Health Care Research: A Symposium. 1973, University of Calgary, pp. 89-97.
   (The symposium was part of the activities surrounding the official opening of the University of Calgary's Health Sciences Centre.)

III - HEALTH SCIENCES LIBRARIES NOW... AND THEN

The sub-title for this project, as it appears in the actual contract with the Government of Canada, is "Update to the Simon Report 1964". This section is therefore a broad-brush summary, growing out of the current survey, of where we are now - compared to the situation in the early Sixties as reported by Simon. Attention is also paid to a comparison of "now" with a "then" of the more recent past.

Certainly the current situation of health sciences library collections and services in Canada is vastly different from Simon's day. Of the many changes that have occurred, it seems fair to suggest that the most salient developments can be characterized as:

1) Substantial growth (though less so over the past five and ten years);

2) The establishment and operation of the Health Sciences Resource Centre at CISTI (in line with one of Simon's principal recommendations); and

3) The advent of sophisticated technological advances.

1) Growth

No doubt growth - sheer increase in size - was only to be expected over the past quarter-century. In 1961 the population of Canada was just over 14 million; by 1986 that had increased to 26 million. Meanwhile Canada's preoccupation with and commitment to the provision of health profession services had similarly increased markedly.

The twelve medical schools had become sixteen. And, in response to recognized needs, libraries to serve those medical schools had increased remarkably in size. For example:

Collection Size (a traditional common measure of libraries)

By 1976-77 more than four times as many volumes were available in Canada's medical school libraries combined than had been the case in 1961-62. (See Table 111, p. 92).

Current Serials (the heart of any health sciences collection, given the rapidity of advances in health sciences fields)

In 1962 the 12 medical libraries currently received, on average, some 31% of the journals indexed in the respected and widely used Index Medicus. By 1986 the average for the 16 medical schools had advanced to 45%. (See Table VI, P. 98).

Total Expenditures

In 1961-62 total direct expenditures of the 10 libraries reporting averaged $44,588. Corrected for inflation to 1985 dollars, that becomes $180,581. That constant dollar figure is only about one dollar in every six spent on average by the medical school libraries reporting in 1985-86. (See Table VII, p. 100).

Size of Library Staff

In 1961-62 the 12 medical school libraries had, on average, a total staff of 6.17. In 1985-86 the average for libraries serving the 15 medical schools reporting was well over four times as large as that. (See Table IX , p. 105).

In even a broad-brush treatment of growth, however, other factors should be noted. The above examples deal only with medical school libraries. In addition there has been substantial growth in teaching hospital libraries from 1962 when it was possible for Thompson to report "only thirteen of the sixty-one official teaching hospitals maintain organized libraries administered by professional

librarians."[1] More will be said later about hospital libraries. Further, the important role which CISTI now plays must also be taken into account.

But if sheer growth be taken as a positive criterion, two other circumstances should be mentioned. First, the rate of growth in medical school libraries (with notable exceptions) has slowed perceptibly in more recent years. Let one example, in budgetary terms, suffice.

As indicated in Table VII (p. 100), after correction to constant dollars the average increase in total expenditures from 1980-81 to 1985-86, among medical school libraries where comparison could be made, was only about 4%. That is 4% over the entire five-year period, not 4% per year. Given salary demands, it is remarkable that these libraries nonetheless managed to increase acquisitions budgets by a similar 4%. But, as indicated in the comments on Table VIII (p. 102), 4% was not nearly sufficient to keep pace with the soaring prices of journal subscriptions. Over the five-year period the price of a typical medical journal, in constant dollars and after corrections for conversion to United States dollars, increased a whopping 52.8%: more than thirteen times the increase in acquisitions budgets overall. No wonder medical school libraries have been struggling with vexing problems not of continuing growth, but of trying simply to keep up with where they have been!

The second factor to note, in considering the extremely modest rate of growth on the part of medical school libraries overall across Canada in the past five years, is that the world those libraries serve has been growing over the same period at a much more rapid pace. Here are some indices to support the point:[2]

Increase in medical school library expenditures in constant dollars, five-year period 1980-81 to 1985-86:	4%
Increase in overall expenditures for biomedical research in Canada, in constant dollars, four-year period 1980-81 to 1984-85:	40%
Increase in total number of full-time academic faculty in medical schools, 1984-85 over 1980-81:	15%
Total undergraduate enrolment in medicine remained virtually the same for 1985-86 over 1980-81, and currently is projected to decline slightly; meanwhile, however, graduate degree enrolment in medical schools increased 1984-85 over 1980-81 by	51%
Increase in post M.D. trainees under the jurisdiction of faculties of medicine, 1984-85 over 1980-81:	13%
Increase in total expenditures on health in Canada, 1985 over 1980 in constant dollars	22%
Increase in total number of physicians in Canada, 1984 over 1980	13%

Looking back over the years, then, it can be demonstrated on almost any index one may care to use that Canada's health sciences library enterprise today is very substantially larger than it was in Simon's time. But it is also clear that provisions for library collections and services, at least in Canadian medical school libraries overall, have not been increasing in recent years at anything like the rate of increase in other aspects of the health sciences enterprise. Yet growth in all of those other aspects must clearly result in increased demands on libraries.

2. A National Library Resource Centre

A second salient development and marked difference from Simon's day is that the Health Sciences Resource Centre (HSRC) is now in place, and functioning as a part of the Canada Institute for Scientific and Technical Information (CISTI). HSRC and CISTI are also dealt with further elsewhere in this report.

HSRC is not a "national library of medicine". It serves, however, as an access point, specifically dedicated to the health sciences, to the extensive collections and services of CISTI. In the health sciences fields, where Canada depends heavily for control of medical information on the National Library of Medicine in Washington, D.C., CISTI stands as the Canadian interface. HSRC functions as the Canadian MEDLARS Centre, issuing access numbers and invoices, and providing training programs. In addition - though HSRC is relatively small in staff and budget for the many demands placed upon it by the health sciences community - HSRC responds to myriad requests for information, and CISTI serves as a back-up for collections elsewhere in the country.

In interlibrary loans CISTI is a major lender. When unable itself to fill a request, it provides alternative locations. Valiant efforts are made to keep up-to-date the union list of what serials are available where in Canada (online, as well as periodically issued in print form and microfiche as the Union List of Scientific Serials in Canadian Libraries). The effort is made to maintain in CISTI's own collection, wherever possible, unique serials which may be discontinued elsewhere.

HSRC has become a major factor on the health sciences library scene in Canada today. If it did not exist, it would have to be invented.

3. Technological Advances

The third major change which must forcibly strike any observer looking at health sciences library collections and services in Canada over the past twenty-five years is technological advance: the advent of the computer, and efforts to harness evolving technology for the enhancement of health sciences information services.

Matheson and Cooper, in the report of their landmark study published in 1982 by the Association of American Medical Colleges, outline what has been happening in the United States, suggest rationales, indicate needed further directions.

> New technologies improve our ability to access information selectively and offer an approach to managing the overload caused by the continuing expansion of knowledge so pronounced in the biomedical sciences. We are seeing a shift from paper to electronic means of managing information, and the academic community is exhibiting a growing awareness of a need to incorporate new information technologies into the processes of medical education, research, and health care practice... It is argued that even though we are facing financially constrained times, academic health centers should invest resources to control and many better their intellectual information resource systems.[3]

There is widespread evidence of movement, in Canada's health sciences libraries, toward (if not yet fully into) the age of automation. (See Table XIV, p. 115) Adaptation to newer technologies typically occurs, first, by replacing older methods with newer technologies to do the same tasks more effectively. Thus only on rare occasions do our medical school libraries any longer do their cataloguing manually: they log into available sources by computer. Handling circulation manually - checking materials in and out - has similarly become largely a thing of the past in most major libraries. Five of the medical school libraries reported online public access to their catalogues in 1985-86, and at least two others have joined them since with online catalogues replacing the once ubiquitous 3 x 5

cards, or the intermediate stage of microfiche. Acquisitions, authority control, serials check-in and control, interlibrary loans, public access beyond the library's own catalogue to other databases: all these erstwhile time-consuming functions are increasingly streamlined by automated procedures.

An unkind observer might be tempted to suggest that the process for libraries is really only beginning; compared to the world of business and industry, where a profit must be turned at the end of each period to stay in business, we in libraries have a very long way yet to go in the automation of information flow.

It is true that we what we have been doing, principally - and to differing extents in differing health sciences libraries - is finding ways to handle more quickly and more reliably many of the labour-intensive chores which libraries have been doing for many decades. But this is a good beginning, even though it has often been taken for granted that somehow existing staff will adapt to new technologies, and be inventive and productive with them, after only minimal introduction to the possibilities of those technologies. It is also a good beginning because there are some notable leading edges, and forward thinking, at many points in Canada's health library system. We begin to see efforts toward not just doing better what we have always done, but toward doing things that have simply not been possible before. Automated storage and retrieval of data is itself a major advance; now it becomes possible also to consider the electronic transmission of data to wherever it is needed - and immediately, rather than three days or three weeks later. Matheson and Cooper refer to a transformation in concept from library as custodian to library as active partner in the management of biomedical information.

How far will this evolution - or revolution - go in Canada, and how fast? CD-ROM, Fax, researchers with their own desk-top computers on line, local interactive networks: all are already in place somewhere within the health libraries system. At least half a dozen of the medical school libraries are now actively pursuing further advances in the application of new technologies for information provision and management, spilling over from the library itself throughout the health sciences segment of the university, and in varying ways to associated hospitals and beyond. Is it possible, for example, that in the foreseeable future we may end up with an entirely different notion of a library's "collection": not simply what it actually holds in situ, but whatever it can access on demand, from wherever that information may be, either on paper, or electronically stored?

Marshall McLuhan used to speak of the early days of the horseless carriage. For a time most people saw it as just a carriage without a horse, which nevertheless had to rely on a horse whenever it slipped off the high-crowned roads into the ditch. In the beginning few could imagine that within fifty years the horseless carriage would have transformed a nation into a neighbourhood.

The harnessing of increasingly sophisticated technologies is an aspect of far-reaching change in today's health sciences libraries on the cutting edge, over twenty-five years ago, or ten years ago, or even last year. What guesses can one hazard for continuing technological change in the future?

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1. Thompson, J.S., "Medical Education; the Facts and Figures of Canadian Medical Education". Canadian Medical Association Journal 86:605-8 (April 7, 1962), as quoted in The Simon Report, p. 7.

2. Comparisons calculated chiefly from various tables in Canadian Medical Education Statistics 1986. Ottawa: ACMC.

3. Matheson, Nina W. and John A.D. Cooper, Academic Information in the Academic Health Sciences Centre: Roles for the Library in Information Management. Washington: the Association of American Medical Colleges, 1982, p. 1.

IV – FURTHER INFORMATION ON THE CURRENT SCENE

This section seeks to present, in somewhat greater detail, a picture of various aspects of the situation of health sciences libraries across Canada today.

I - Teaching Hospital Libraries

The Canadian Hospital Directory 1986[1] gives the number of public hospitals in operation in Canada in 1984-85 as 1,029. Eighty-five of them were listed as Active Members of the Association of Canadian Teaching Hospitals, and another twenty-three as Associate Members. A qualification required for either type of membership is that there be a formal affiliation agreement between the hospital and a university faculty of medicine. In the case of Active Members, the agreement is to participate in the teaching of undergraduate students in medicine, as well as residency medical training programs in designated specialties. Associate Membership involves residency programs only. Not every teaching hospital appears to have been listed. In some cases affiliation is for clinical work in other fields as well as medicine.

The great majority of hospitals of any size have a health sciences library. Some are small, a few large. Dr. Anitra Laycock, Director of the Health Services Library at the Halifax Infirmary, writes,

> Hospital libraries, more often than not, are low budget departments with a small staff in cost-conscious institutions, and have developed a reliance on external sources, within and without the hospital, to expand their range of services.[2]

A search of the literature reveals relatively little in the way of published formal study of teaching hospital libraries in Canada.

Table XVI (p. 117) provides some data on 29 teaching hospital libraries as teased out by Beryl Anderson of the National Library of Canada from a larger survey she conducted in 1985. At p. 119 data are presented similarly gleaned from a CHLA study for another purpose by Carol Morrison and Mary Conchelos (1985), providing a glimpse of the teaching hospital libraries in which 80 of their respondents were located. Regulations for accreditation have encouraged teaching hospitals to establish libraries and furnish them with trained professionals.

In her travels for the present study, the Project Officer had direct contact with librarians (and sometimes others in addition) from 48 teaching hospitals, of whom 22 supplied written materials as well. Much of what follows is based on those 48 teaching hospital libraries.

Certain characteristics distinguish hospital libraries from academic libraries even though they may be serving the same clientele in the sophisticated setting of a major teaching hospital. For one thing the collection is smaller and mainly clinical. Although it serves physicians who usually have access to other libraries as well, it may be the only resource for the allied health personnel who work with them. The staff complement of a hospital library is smaller, but in addition to searching Medline and responding to inquiries, the same individuals may also deal with all the backroom details of ordering, cataloguing, and kardexing which are usually managed separately in the more complex academic setting.

One activity which demands much energy of the hospital library manager is the status of the library in the institution. Marketing of library services to the hospital community is an on-going demand. It may be rendered easier if the appropriate reporting structure provides clear access to the administration and sources of funding in the hospital, but justification of its existence is always central to the

effectiveness of the library. This is not true in academic halls where the library is accepted as an essential resource for teaching and research, whereas the strenuous effort required of the hospital library staff can change the enterprise completely.

Another hospital characteristic lies in the circumstance that a great deal of the information seeking which comes to the library is directly related to patient care, and this contributes an imperative quality which requires a prompt response. Hospital librarians are as conscious of working against time as are their health care patrons.

The quality of teaching hospital libraries varies greatly from one institution to another. Space allotted in the hospitals viewed by the Project Officer ranged from 7200 sq. ft. with seating capacity for 65 people down to 480 sq. ft. with seating for three. Standards for Canadian hospital libraries,[3] which were established in 1975, indicate that a library cannot serve even a 200-bed acute care community hospital with a plant of less than 500 sq. ft. A committee to update and upgrade standards for hospital libraries has recently been appointed by the CHLA.

A Branch of the university library system such as the library in Vancouver General Hospital may have a book stock in its collection of nearly 28,000 volumes. Another type of institution such as l’Hô'pital Sainte-Justine in Montreal may have over 11,000 volumes. However, the median for the majority of teaching hospital libraries across Canada would seem to be about 2700 monographs. Standards suggest a starting collection of 1,000 monographs plus a purchasing policy of at least 150 volumes per year. A library which has been serving a teaching hospital for ten years should, therefore, have accumulated a minimum of close to 2500 monographs over that time even without any effort at serving special needs, and allowing for periodic weeding of the collection.

As for journals, the critical element in any health collection, standards suggest for teaching hospitals a minimum current subscription list of 290 titles. The median of actual subscriptions in Canadian teaching hospitals today seems to be about 245 titles, and going down. Some highly specialized services require as few as 60 titles, whereas the teaching hospitals at the upper end of the scale, either because of size or because of the extent of their services to research institutes, require 400, 500 or even 900 titles.

One characteristic of hospital libraries is an attempt in the more efficient ones to control the spread of small departmental collections throughout the hospital by ordering and processing their requirements. This often means that the time spent in processing books and journals outside the library collection is not compensated by the departmental budget that purchases them; but it does permit the library to identify the location of these items, so that, at the very least, they can be used as an extra reference resource. The number of journals handled in such transactions may be as many as 200 titles, many of them duplicates. The number of monographs does not usually exceed 100 titles in any given year. This visible diversion of funds which should accrue to the hospital library budget is something these librarians tend to avoid discussing. The dichotomy between the need for working materials on every desk, and the need to organize all materials in the hospital so that they are available to the whole institution, will probably not be resolved until we develop a mechanism for genuinely instant retrieval.

This tendency to spawn independent bibliographic resources throughout large institutions is based on a number of factors. The time it takes to get to the library from the office or the cafeteria is one. The disposition of the library system to be inflexible or overloaded is another. The complexity of cooperative action which may be necessary to work out satisfactory arrangements between jurisdictions is a third.

Administration of a library in a hospital has its hazards. Staffing in most teaching hospital libraries tends to run from one to five FTE, and the services which can be offered depend on the number of qualified staff available. Another factor is the freedom that the head librarian may or may not have to instigate new programs. Standards have suggested that a library should be considered an administrative function, and the librarian should report to a senior administrator of the hospital. This directive is frequently overlooked, however, and there are a great many variations in administrative structure which may seem more functional to hospital management. One popular pattern incorporates the library into the Department of Educational Services, in which case the librarian reports at one or more removes from a senior administrator. If the library is considered one of a number of Support Services, the librarian may or may not report to the Vice President of Human Resources. If a librarian is considered a Department Head, as she should be, she is more likely to find herself reporting to senior management, but she can also find herself reporting to the Executive Director of the hospital at four removes. The farther down the ladder she is, the less control she has over her own budget, and the less likely she is to be able to negotiate such a thing as a one-time bail-out when the library is damaged by across-the-board financial cuts. Not all the intermediaries who may come between the library and the sources of funding are favourably disposed toward the library, nor even understanding of its dynamics. Some hospital librarians, even in teaching hospitals, never see their budgets at all, but only hand in requisitions until they are told the money is all gone.

Most teaching hospitals in Canada now provide Medline searches for hospital patrons. The majority of large hospital libraries have their own terminals. From a slow start in the 1970's the number of MEDLARS codes in Canada has now risen to 355, of which 30% are assigned to hospitals. However, in some health sciences centres there are other arrangements. McMaster University has a funding arrangement

to allow their Network Librarian to provide computer services an library consultation to all member institutions of the Hamilton Wentworth District Health Library Network. In various locations where the teaching hospital libraries are still small enough to be run by one individual manually, Medline and other online services at provided by the university's health sciences library. In some centres, such as Memorial, Saskatchewan and Sherbrooke, there is no separate library in the teaching hospital attached as part of the health sciences complex, and library services for it are provided directly by the medical school library. In communities where a great many teaching hospitals are affiliated with the university, such as the l'Université de Montréal and the University of Toronto, some hospitals have their own terminals, and others depend on the university for this service. And this only begins to indicate the variety of cooperative arrangements which have developed in the sixteen medical centres across Canada in recent years.

2. Medical School Libraries

Much has happened in Canada's medical school libraries since Simon wrote her report in 1962. For one thing, the collections are larger. This is borne out by the most rudimentary of library statistics, the annual book count. There are also more health sciences libraries today. Four new medical schools were established in the late 1960's: those at Memorial University in Newfoundland, Université de Sherbrooke in Québec, McMaster University in Ontario and the University of Calgary in Alberta. The last two schools, in particular, have launched a new era in medical education.

In the 60's and 70's all Canadian universities expanded rapidly to prepare for the influx of students expected from the post-WWII baby boom, and there were funds available to respond to Simon's call for better health sciences collections for the medical schools. These were expanding for another reason. The inauguration of universal

medicare in Canada was expected to require many more medical practitioners than had formerly been trained to serve the Canadian population. Inflation accompanied this affluence, however, and although libraries were able to hire more staff to handle larger collections, the salaries of their personnel skyrocketed, as did the cost of acquisitions. When the economy faltered and funding began to shrink in the 80's these high salary costs remained. Today the collections and collection policies of most health sciences libraries are in some jeopardy, and a serious re-evaluation of user needs is underway.

There is a certain amount of good-natured rivalry among the sixteen Canadian medical school libraries, each of which is a major resource in its own geographical area. Each one has developed in accordance with the teaching requirements and departmental specialties of its own particular institution, and provincial grants and private donations have not always gone to the most needy. Some universities customarily draw major research grants because of their facilities or their expertise, but the libraries which serve their researchers do not necessarily receive the support they need to meet the demand. An older university such as McGill may rightly be proud of the depth of its historical resources, whereas many universities are still scrambling to provide basic general coverage. Institutions such as l'Université de Montréal or the University of Saskatchewan, with extensive responsibility to serve a considerable variety of health professions, must seek to develop very broad collections. Whereas the Woodward Biomedical Library at the University of British Columbia serves as a back-up for all the province, the University of Toronto has some difficulty responding just to its twenty-five affiliated teaching hospitals and additional suburban hospitals. Dalhousie serves the three Provinces of Nova Scotia, New Brunswick, and Prince Edward Island.

There are no universally accepted standards by which the Canadian

medical school libraries can measure themselves with any degree of confidence. For many years members of the SRCMSL have tried to develop comparable statistics which would indicate the value of their collections, but problems of definition and variances in the organization of their institutions have made meaningful comparisons hard to identify. Over the past ten years the Association of Academic Health Sciences Library Directors (AAHSLD) has developed a more rigorous instrument describing health sciences libraries, on over 130 variables, with progressive clarification of definitions. These data have always emphasized service measures, moving away as far as possible from value judgements based on size. The recently published 1985-86 Annual Statistics of Medical School Libraries in the United States and Canada [4] introduces a new categorization of libraries, to take into account the number of programs the library supports, and the amount of research funding the library's institution receives. Data are reported in 78 Tables: 41 Summary Tables, 6 Library Characteristic Tables, 2 Salary Tables, but still 29 Rank Order Tables. The judgement of quality remains elusive.

The Canadian Association of Research Libraries (CARL) has recently made the decision to explore the Conspectus Study being conducted across North America by the Association of Research Libraries (ARL). Since some SRCMSL members may participate in this collection analysis, the study may provide enough details of the depth and extent of subject resources to identify some pockets of excellence.

Considerable variety exists among medical school libraries in their administrative position within the university. There is no single organizational model. Canadian medical school libraries are all academic libraries, but that does not mean that they stand in the same position in relation to the total pattern of library services for the university. Some have been free-standing from the beginning, established as a separate library and reporting to the Dean of Medicine. This is true of Memorial, where the medical library is in a

health sciences complex and is considered as a separate functional entity, akin to a department in other faculties of medicine. At McMaster the library is also in the Health Sciences Centre, and reports to the Vice President, Health Sciences, of the University. At the University of Ottawa the original Medical Library on campus evolved into a Science/Medical Library. In 1982 the Faculty of Health Sciences moved off campus to a location adjacent to four major teaching hospitals. Medical and nursing collections moved there as well, forming the basis for the current Health Sciences Library. Administratively this library is part of the University library system. The Kellogg Library at Dalhousie for many years reported to the Dean of Medicine, but in 1982 it became more directly a part of the University's central library administration, while maintaining a separate budget envelope.

The pattern where the medical sciences library is an integral part of the faculty of medicine is widely accepted in the United States. Approximately 85% of U.S. Medical School Libraries report at some level within a health sciences centre, rather than within a library system. Proponents of that pattern suggest that it may help to foster appreciation for the library within the faculty: it is easier for it to become “our” library rather than "the” library. Similarly the library may become more closely identified with the objectives being pursued in the health sciences faculties, sometimes with financial advantage for the library. However, such an arrangement is not the common pattern in Canada.

The more usual Canadian configuration is a university library system which is partially centralized and partially decentralized. The health sciences library may be off campus in a health sciences complex, but its budget comes from the main library and some of its technical services may be centralized with those of other campus libraries. The universities of British Columbia, Alberta, Calgary, Saskatchewan, Queen's, Ottawa, McGill, Montreal, and Sherbrooke all fit

into this category with variations. At the University of Manitoba the Medical Library is part of the campus system, but the Medical Librarian is also appointed as a professor in the Faculty of Medicine.

In the centralized/decentralized formula a number of stresses can arise. There are alleged economies of scale when technical services are centralized, but there may also be delays due to volume, and difficulties in tracing needed items. High serials budgets for the health sciences are sometimes a bone of contention, and the strong working relationships which health sciences libraries maintain with off-campus teaching hospitals do not fit into the normal self-sufficiency of the academic community.

The main problem, however, is the frequent inability of the health sciences libraries to move independently into such things as automation. It is often easier to find funding for the smaller unit, and it is often politic to move with the rest of the health sciences community and to install compatible equipment. The larger academic library system takes longer to move, and may have different priorities. In addition, the increased funding required may delay the project unduly.

The other administrative pattern which can be found in Canadian health sciences libraries creates even greater stresses. Those medical or health sciences collections which are amalgamated in one location with the academic science collections have very little flexibility to meet particular needs of the health sciences faculties. The University of Western Ontario is an example. The health sciences collection was originally a separate collection serving the medical school, but in 1981 it was folded into the science collection as an economy measure. This has reduced staff requirements, but lack of space has now become a major problem. Statistics are gathered centrally for purposes other than health concerns, and there seems to

be little opportunity for further innovations in a library which has in the past made major contributions of outreach in health sciences. At Laval the medical library has similarly been merged with the sciences library as an economy measure. The medical collection has now been assembled to occupy a separate floor of the science library, but the subject specialists there have little autonomy to interact independently with the off-campus health sciences community.

The Science and Medicine Library at the University of Toronto contains one of the largest collections in the country. It is housed in an old building where the collections and staff are so congested as to hinder the efficient functioning of both information and lending service. The library system at the University of Toronto has been firmly centralized for many years, and it is a large and hierarchical entity. The Medical Reading Room, as it was called for a generation, was a meeting place where faculty and librarians used the collection together. When the current Medical Sciences Building was built nearby, however, faculty found it less convenient to visit the library and this vital link between the faculty and library staff was weakened. The Library Committee of the Faculty of Medicine Council now meets infrequently and has little ability, despite the ex-officio membership of the Head of the Science and Medicine Library, to influence the central library system.

3. Links Between Libraries

Interaction with the teaching hospitals where health sciences faculty members and students spend more than half their time is an important part of the daily routine in any medical school library in any section of Canada. After their first couple of years medical students move out of the academic atmosphere of lectures and notes into the clinical atmosphere of the hospitals, where they encounter real patients, and observe the diagnostic skills of their professors in action. This is the time in their training when bibliographic

back-up begins to become an integral part of their learning. The hospital collections are designed primarily for patient care support, with theoretical back-up in the medical school collections. The necessary exchange of materials is facilitated in most locations by a daily delivery truck funded either by the hospitals or by the academic library, or both.

Research has also moved into the hospitals where students have the opportunity to experience the stimulation of scientific inquiry. A perennial scarcity of trained researchers fuels the hope that some students will be attracted to the field. At most Canadian universities the medical faculties tend to account for the largest percentage of the research grants that come to the campus. Grants to the teaching hospitals have tended to be somewhat less formalized. In the last five years, however, a movement to consolidate the research activities in the larger hospitals has resulted in the establishment of Research Institutes, often accompanied by construction of additional buildings to house them. In a large medical complex there may be two or three of these Institutes dedicated to different areas of inquiry. They are frequently supported by voluntary health foundations and other health organizations. Research priorities related to long term goals are usually interdisciplinary and common to most disease categories.[5] These include genetic factors, slow viruses, and disturbances of the immune mechanism. Epidemiological studies of environmental pollutants is another area of long term concern. Whatever the outcome of current controversies concerning government funding of the National Research Council of Canada, these interests will continue to be pursued by medical researchers in some form.

A major component of library cooperation to support the flow of faculty and students to the teaching hospitals and back to the university is the existence of a local union list of serials. In order to know who carries which journals, this is a basic tool. It is

also a major effort to compile, especially since, even now, most hospitals do not manage their journals on a computer. Nevertheless, most health sciences centres in Canada had put together their first union list, and sometimes more than one issue, before online catalogues were available. Some included only the hospitals' lists; some the medical school list as well.

The Health Library Network at McMaster produced one of the first. In the early 1970's the Toronto Medical Libraries Group and the McGill Medical and Health Libraries Association put together union lists of serials, which they stored in a computer, and so did the Manitoba Health Libraries Association. In the year 1987 every teaching hospital group in Canada either has a union list of serials or is developing one. The next obvious project, and some groups have tackled it, is a union catalogue of monographs.

A problem with union lists is the laborious task of cross-checking titles which may take several forms for the same journal. Even the Union List of Scientific Serials in Canadian Libraries, maintained and published by CISTI, does not entirely overcome that problem. This is a master list which provides locations all across Canada. Over 300 major libraries report their holdings regularly to keep it up to date. Currency is, naturally, the other major problem with union lists. The CISTI database has now been downloaded into Dobis, where it is available to anyone across the country who wants to log on rather than to buy the hard copy. It has been suggested by members of the health sciences library community that CISTI might go one step further to develop a software package so that local union lists could be spun off for use in the various centres. This is certainly one possible solution.

On the other hand, the matter may be resolved locally, if plans which are being developed in some centres come to fruition. McGill, Manitoba and McMaster are already working toward integrated

information systems in which plans are projected to include hospital holdings in their databases, and to provide online access from remote stations. Interlibrary borrowing would be handled by an electronic mail module. The Science and Medicine Library at the University of Toronto, though less advanced in automation, in the spring of 1987 is developing a proposal for a medical information network which will include the teaching hospitals as well as the medical faculty. Queen's, Alberta and several other centres are beginning to discuss the possibilities also.

At the moment cooperation between the medical school library and its satellite teaching hospitals takes many forms across Canada. Much depends on your definition of "cooperation". The hospital libraries associated with Laval find it faster to go to CISTI. At the University of Saskatchewan service for teaching hospitals is not a priority. The library's collection is relatively small, and it is strapped for space and staff, but it does serve as the library for the University Hospital down the hall in the same complex, although it receives no financial return for doing so. At Sherbrooke, where there is a similar complex, the hospital contributes $20,000 a year to cover interlibrary loan transactions. Sherbrooke is one of the heaviest health sciences academic library users of CISTI interlibrary loans.

Memorial provides direct lending service to borrowers throughout Newfoundland, and offers training sessions for library attendants for small hospitals. At both Memorial and Manitoba there is a strong sense of responsibility for outreach which translates into extra response when it is necessary. At McGill librarians in the largest teaching hospitals meet with the academic librarians periodically for consultation.

At Western and McMaster cooperation is good, but the hospital libraries are clearly dependent, and the comprehensive collection is considered an academic responsibility. This is also true in Kingston, but the scale is smaller. At the University of Ottawa the Health

Sciences Library is located close to four major teaching hospitals, all of which have extensive collections to serve their clinical needs. They rely heavily on the university's library, however, for interlibrary loans, with direct access online to the university's catalogue. Each hospital has a representative on the Health Sciences Library Committee. A fifth major teaching hospital, the Ottawa Civic Hospital, tends to function as a separate nucleus in itself, though also relying on the university library for interlibrary loans.

In Toronto the Science and Medicine Library has a book delivery section and an interlibrary loan operation which combined handle approximately the same number of requests for health sciences materials annually as does CISTI. (See Table XI and Notes, pp. 109-111) Twenty-five of the hospitals affiliated with the Medical Faculty at the University of Toronto generate the bulk of Science and Medicine's interlibrary loan requests, and are not charged for them. However, as a direct result of Science and Medicine's inability to cope with additional requests, a two-tier system has developed. Newer suburban hospitals, many of which have recently become affiliated with the university, are charged for their interlibrary loans. A second resource has resulted in which the large downtown hospital libraries, all managed by experienced health sciences librarians, try to serve outlying ones without charge. This is a major burden without compensation, for which these librarians sometimes feel unappreciated. The complicated internal administrative structure at Science and Medicine also contributes to delays in delivery service and messaging, which seem to add a sense of urban stress to the whole procedure.

In Alberta, Calgary and Edmonton divide responsibility for the province, and both have well organized delivery services and good relations with their associated teaching hospitals. In Halifax, the Kellogg Library has a long history of service throughout the Maritimes, and a warm personal interaction with the three teaching

hospitals on its doorstep.

In British Columbia there is a different pattern. Three affiliated off-campus teaching hospitals have strong working collections (Vancouver General Hospital, St. Paul's Hospital, and the Shaughnessy, Grace, Children's Hospital Complex). On the campus, the Woodward Biomedical Library serves the University of British Columbia's Health Sciences Centre Hospital and provides a strong central collection. This configuration forms the Health Sciences Library Network which has operated since 1983. It was designed to ensure that the strong central facility would be shared advantageously, and that jurisdictional and financial problems which might accompany other types of cooperative efforts between hospital and academic units be avoided. The delivery system is provided by the university, and telefacsimile machines have been installed this year to facilitate interlibrary loan messaging. Collections are extensively rationalized between the four locations, and transferring units of material may readily be accomplished if demands from user groups warrant it.

The only other institution which is fostering in-depth cooperation is l'Université de Montréal. La Bibliothèque de la Santé in the centre of the campus has a major collection which is augmented by la Bibliothèque Para-médicale nearby. In a sense l'Université de Montréal is the heart of the francophone medical community. It is a back-up resource for both Laval and Sherbrooke, with some support from McGill, and for many of the hospitals throughout the Province. There are eighteen francophone hospitals in the Montreal area which are affiliated with the university, and they are all members of ABSAUM (l'Association des Bibliothèques de la Santé affiliées a l'Université de Montréal). ABSAUM was incorporated as a non-profit organization in 1984. It has a formal constitution, and the president is elected annually. Staff at the university library act as a secretariat. There are numerous committees, the most important of which is le Comité des

périodiques. This committee meets every fall to discuss cancellations and subscriptions for the global collection. Every library is committed to maintain those journals for which it is responsible, and the attempt is to keep two copies in the system.

ABSAUM also is working toward a cooperative catalogue of monographs. Other committees are formed to deal with topics such as electronic mail and standards for hospital libraries. This spreads the workload around to two or three people at a time, and when the topic has been dealt with the committee is disbanded. The sense of community among these librarians is remarkable.

4. The Health Sciences Resource Centre at CISTI

Fortunately there was a decade stretching from the late 1960's into the 1970's when the Canadian economy was expanding, post-secondary education was stretching to accommodate the post-war baby boom, and the health sector was growing rapidly. There was money for building, and even for books. Today there are sixteen medical schools instead of twelve. Some of them are situated off-campus in health sciences complexes. Regulations for accreditation have encouraged teaching hospitals to establish libraries and furnish them with trained professionals. The number of librarians working now in health sciences settings is large enough to support a national association of close to 400 members. Established in 1976, it is called the Canadian Health Libraries Association (CHLA).

The CHLA, as an organization for health sciences librarians in hospitals, universities, government, or associations, exists for the joint pursuit of mutual professional interests. For francophone Canadians there is also le Section de la santé of l'Association pour l'avancement des sciences et des techniques de la documentation (ASTED). For many years leadership for the whole community has been achieved by the ACMC's Special Resource Committee on Medical School

Libraries (SRCMSL). In this Committee, which has been convening now for over twenty years, directors of the Canadian medical school libraries have wrestled with the national issues which had to be addressed.

One major issue which Simon articulated for them was the need for a national resource centre in medical literature, and a central clearinghouse which could serve all the provinces. This proposal precipitated an extended debate which the medical college librarians attempted to resolve in 1966 by sponsoring with ACMC a report under the chairmanship of John B. Firstbrook entitled A National Library Resource Centre for the Health Sciences in Canada.[6] In 1967, the Health Sciences Resource Centre was established at the National Science Library, as it was then called.

Since then the HSRC has had a checkered career. Staff allotments have been limited, and since medicine is only one of the science communities served by CISTI, the role of HSRC has sometimes been ambiguous. And yet the health sciences library community in Canada could not function today without the HSRC. It provides many services which would be nearly impossible to replicate, or to do without. First and foremost, it now administers the national MEDLARS network and acts as a MEDLARS training centre. With its mandate to back up MEDLARS services comes a role in developing CISTI's collection as well.

The second most visible role played by HSRC is as the primary access point for the biomedical community into the extensive services and expertise available at CISTI. In this role the Head of HSRC often acts as a liaison for the caller. Someone in CISTI, or someone elsewhere in the country, may be working in the same area. HSRC puts them in touch. This involves becoming aware of library issues which may be under discussion in various parts of Canada. Conversely, when the National Library of Medicine (NLM) develops a new product, such as

GratefulMed, it is HSRC; staff who should monitor the Canadian market for its acceptance. HSRC also acts as a biomedical information service, providing answers to questions from institutions all over Canada which do not have reference services of their own. There may be requests from small hospitals, small businesses, small pharmaceutical houses, freelance individuals, inquiring patients, occasionally even school children. Organizations which do not have access to a Medline terminal call on HSRC for Medline searches as well as these other reference services. In 1985-86 there was a 21% increase in these demands over the previous year.

A good index of health sciences libraries is published biennially, titled Health Sciences Information in Canada: Libraries. This is not the only CISTI publication designed for the biomedical community, which does not always purchase copies in the numbers anticipated. A real dilemma develops when demand for a publication such as Canadian Locations of Journals Indexed for Medline drops off. This is a spin-off from the Union list of Scientific Serials in Canadian Libraries which is part of the support for MEDLARS in Canada. More active marketing might help overcome the difficulties. The No Canadian Locations supplement is beginning to need distribution.

With a collection which has reached 450,000 volumes in 1986, with 45,000 serial titles and 2,000,000 reports on microfiche, CISTI has become one of the most active lenders in North America. The Lending and Photocopy section processed 271,389 requests in 1985-86. Circulation at CISTI alone totalled 37,313 items, while branch libraries added another 54,034.[7] Acquisition of conference proceedings and technical reports is of particular interest for this library. These activities clearly conform with CISTI's mandate to develop and maintain a national resource in scientific and technical information, and to provide and maintain scientific and technical information services for the people and the Government of Canada.

Innovations in automation have been on-going at CISTI. It has been important to streamline interlibrary loan processes, for instance, in order to keep up with the increasing workload. The script for the electronic transmission of structured messages used on ENVOY 100 was refined in the early 1980's with cooperation from CISTI. There is now a designated form for CISTI's interlibrary loans, and each requested item which is in their collection is automatically marked with the call number as it is received.

CISTI has also contributed to the evolution of the Inet 2000 intelligent network which is operated by Telecom Canada. It has been able to do so because of the considerable expertise gained by the development at CISTI of CAN/OLE (the Canadian Online Enquiry System). This information retrieval system provides access to literally millions of references in science and technology, and can be accessed from anywhere in the country. It is growing rapidly: in 1985-86 alone six additional databases were added, and 254 new subscribers.

Facsimile transmission is another concept which has received a certain amount of attention at CISTI, where improvements in document delivery must always be considered. Bulk airmail to university sites across Canada and a number of courier services are currently routine methods of delivery.

Such activities are examples of CISTI's emphasis on research and development in the electronic handling of information. Industry especially has turned to CISTI, and CISTI can well be proud of the success of projects entered into through cooperative contracts with private industry.

Meanwhile library automation in the health care sector is just beginning to come together. Long-range, inter-institutional planning is necessary. Knowledge of systems and their interfaces is far from universal across the country; many academic and health care institutions are considering installations without fully adequate

information. Perhaps this is a case where the expertise at CISTI could make a major contribution. Research in library science at this time is worth a long look; the health sciences sector could be a first-rate laboratory.

In reporting to the Third International Congress on Medical Librarianship in Amsterdam in 1969, George Ember commented on the situation in which the newly established HSRC and CISTI (then the National Science Library) would find themselves:[8]

> From a purely managerial angle, the objectives of the Firstbrook Report can be grouped into two distinct fields of duties. First, the medical resource centre should become a national supply depot of materials, able to fill in regional gaps in literature coverage and, also, to act occasionally as an emergency power source to carry part of the load of heavily engaged libraries. Second, it should constantly increase the overall efficiency of regional and local information services by reinforcing their strength through a network of many-leveled service channels. To fulfill the first duty, we need a very good collection; to fulfull the second, we need a very good system.

Needed, a very good collection; and needed: a very good system. HSRC and CISTI have moved a long way toward both. Can the health sciences library sector capitalize even further on the possibilities?

5. The Environment: Changing Academic Programs

The primary enviornment in which Canadian health sciences libraries operate today is change. Not only change in the way they manage their activities, but change also in the educational approaches of the professional schools they serve. In medicine, as the Report on the General Professional Education of the Physician (GPEP) observes, the rapid advances that are being made in biomedical knowledge and technology are rendering obsolete the traditional information intensive approach to the education of medical students. This means, or should mean, frequent changes in teaching, research and clinical

practice based on the new knowledge. There are currently four patterns of preclinical instruction.[9]

a) each basic science department teaches a course in its discipline;

b) in the second year an interdisciplinary course is added to correlate basic sciences concepts with the principles and manifestations of disease;

c) the curriculum is organized around body organ systems and taught by interdisciplinary groups of basic scientists and clinicians;

d) clinically based problems are presented to students who are required to seek our information and take primary responsibility for formulating solutions.

In every Canadian medical school today there is debate about alternatives to the concentrated lecture form of transmission of factual information. That there is a core of essential information, especially in the basic sciences, which must be the base on which further learning is built is well understood. However, as the volume of memory work increases, it becomes self-defeating. There seems to be little consensus concerning the remedy, unless the computer can provide part of the answer. The mission of academic medical centres needs to be redefined, however, particularly in terms of undergraduate medical education.[10] In general it is thought that more emphasis might be placed on the understanding of environmental and societal factors which influence health, and on the promotion of self-care.

What is interesting in travelling from one medical centre to another across Canada is the enthusiasm now evident for computers and their many possible applications. In most centres they are used at least for office management. Researchers who have adopted computers for statistical manipulation tend to be the most enthusiastic users. Many keep their reprint files on floppy discs, and use software packages to rearrange bibliographic formats as necessary. These researchers are the most impatient in waiting for public access

to online library catalogues, and the most enthusiastic about the potential of future applications of computer technology. The possibilities of computer-assisted learning are being explored in a number of centres as well.

At the University of Western Ontario funding has been arranged to phase in computers gradually. It is considered important to make them part of the curriculum, and to begin to develop teaching programs and search skills. In Manitoba clinical skills laboratories and simulations for clinical evaluation of students are part of a pervasive commitment to self-education. At the University of Alberta fairly extensive software for undergraduate computer-assisted instruction, as well as PLATO programs and the accompanying video discs, are available in the Media Services Centre in the library.

Canadians are aware of the pioneering "learning by inquiry" curriculum which was introduced when McMaster University inaugurated its medical school in 1966. In this approach medical students are given health care problems to solve, and they must discover what is important to know. From a wide variety of resources they must learn to extract the facts, and then apply a critical appraisal to the evidence. This type of problem-based learning is predicated on the assumption that the knowledge base in health care is constantly changing, and therefore the ability to process and appraise information is vital.

The more recently established medical schools in Canada, like McMaster, have been willing to experiment with teaching methods. At Memorial University the undergraduate program has been divided into three multi-disciplinary streams: community health, basic science and clinical science. Courses are taught in small group tutorials. The University of Sherbrooke is beginning to move in a similar direction. The University of Calgary offers what they term a "de-structured" course organized around body organ systems. It is planned and staffed

by interdisciplinary teams of basic scientists and clinicians, with , multimedia Learning Resource Centre as a self-learning back-up. The more traditional schools are more reluctant to move so far beyond teaching methods which have proved reliable over the years, but they too consider that their goal is to produce an independent practitioner who can "formulate and solve problems" and "assess data critically".

As the debate over methods of teaching in the health care field continues, a new discipline is beginning to emerge. Called "medical informatics", it is generally seen as the application of computer, information and decision sciences to solve problems in biology, medicine, and health care delivery.[11] Its roots are in computer and information science on one side, and in experimental medicine on the other. The principles and theories of information management and decision making are applied to medical research, clinical practice and education. In time this should result in new approaches to medical education, but at the moment neither current methods of medical teaching nor the storage of clinical information are consistent with the methods of electronic management of information which are beginning to emerge. As sophisticated computing systems and clinical decision support systems become available, medical students will need the information management skills to acquire fundamental knowledge and basic learning techniques, as well as mastering clinical skills and the ability to make critical appraisals and to use the research literature effectively. As a result of the general discussion throughout the medical profession, these needs are being recognized, and the new concepts are gradually being incorporated into parts of the curriculum. In the long run this is likely to have a profound effect, not only on teaching, but also on research and the delivery of health care.

The question which must be addressed at the moment is, what impact this change in emphasis will have on the materials and services demanded of the health sciences libraries which serve teachers,

clinicians and researchers in the various disciplines. Will these skills be learned in library workstations and end-user clinics, or elsewhere?

Physicians are not alone in modifying their teaching programs. Other health care professions are undergoing fundamental changes as well. Canadian nurses are a strong force in the health care system, and their aim is to increase their impact. Primary care, long term care and community health are areas they consider most appropriate to their skills. Much of their professional interest centres on family health in these settings. In the hospital, medical technology is a major responsibility for nurses who are faced increasingly with high technology equipment which must be monitored, and which sometimes breaks down. Medical Information Systems (MIS) being installed in many hospitals also require a change in pace for nurses, and an acquaintance with computers. All these realities call for changing emphasis in nursing curriculae. A great deal of current nursing research is centered on clarifying basic concepts and principles for nursing practice which can be incorporated into undergraduate programs.

Most academic nursing schools are moving into graduate work with the target of the Year 2000 ahead of them, designated as the year when entry into the nursing profession will require a university degree. This is still a controversial issue engendering much discussion. Although several Canadian schools are only now establishing their Masters programs, three are engaged in considerable research, and are well into graduate work. At the University of Alberta the Faculty of Nursing has a high profile, an expanding program and a burgeoning student body. Their proposal for a doctoral program has been approved by the university, and only awaits funding. In Montreal the nursing schools at McGill University and l'Université de Montréal have developed a plan to mount a joint doctoral program. This plan too is acceptable to the universities, but undergoing funding difficulties.

When these two programs come onstream, they will be the first in Canada. An indication of the impact which the increased emphasis of the nursing profession on research will have on the health sciences libraries that serve them, is the decision by la Bibliothèque Para-médicale at l'Université de Montréal to purchase an in-depth nursing collection from the United States in anticipation.

It has not been possible in this study to explore in any depth changes such as these which are occuring not only in faculties of medicine and nursing, but also in dentistry, pharmacy, physiotherapy, occupational therapy and other health sciences fields. Revisions in curriculum and in approaches to teaching in all these fields represent profound changes in clinical practice, and in research goals. What this shift in emphasis will mean to health sciences libraries that provide the intellectual background resources is still to be determined, and should be the subject of separate inquiry. It seems probable, for instance, that the interdisciplinary nature of much of the restructuring may require some adjustment in the location of information resources for some subject fields such as social sciences and psychology. It might also mean that collections developed for professional associations should be integrated more closely into the networks of information services for advanced studies in certain fields.

6. The Environment: Other Health Science Libraries

It would be a mistake to assume that academic and hospital libraries are the only libraries serving the health care community in Canada. There are a number of professional associations which provide information services for their members. There are also some government agencies which contribute information services to health care practitioners outside their own departments, if called upon. These are all part of the health sciences library environment, an should be taken into account.

Two are particularly important because they have a long history of service, and because they provide an important adjunct to the information services in their own provinces. In British Columbia the B.C. Medical Library Service maintained by the College of Physicians and Surgeons is an active partner with the Woodward Library at the University of British Columbia in serving the information needs of the medical profession and the hospitals throughout the Province. Established in 1960 it acts as a back-up resource for hospitals all over British Columbia. It provides them with selection lists, and buys and processes the books they choose, as well as ordering their journal subscriptions. The B.C. Medical Library Service carries on an active interlibrary loan exchange with the academic collections at the University of British Columbia for the benefit of medical practitioners away from the Lower Mainland. It also does Medline searches for those hospitals which do not have librarians to do their own. Those hospitals which do have librarians to conduct Medline searches have usually been persuaded to do so through regular advisory visits from the Chief Librarian of the B.C. Medical Library Service.

In Ontario the Academy of Medicine (Toronto) maintains a distinguished clinical collection to serve its Fellows. The Academy library has for many years maintained a reciprocal arrangement with the Science and Medicine Library at the University of Toronto to serve the medical community in the Greater Metropolitan area. In the last ten years financial support for the Academy library has deteriorated, and the collection and staffing have been severely curtailed. This is a specialized library, however, which offers more than delivery service. Considered by many users to be experts in the literature, the staff adds to individualized service the value of their professional judgement.

Two other professional associations should be mentioned for the added dimensions which they contribute to information resources available to the health care community across Canaa. Both maintain headquarters in Ottawa. The library at the Canadian Nurses

Association contains one of the most comprehensive nursing collections in the country, and serves its members in all the provinces. Known for an outstanding body of international nursing journals, it is also a comprehensive resource on history and legislation concerning Canadian nursing, as well as on the issues which are paramount in the nursing field. Its interlibrary loan fees are comparable with those of other services. Secondly, after several years' hiatus, the Canadian Dental Association is again offering an information service including Medline searches, in answer to requests from all across the country. The service is free to members, but it is not yet adequately coordinated with regional services in such a way as to effectively supplement local resources that are already available.

These two services illustrate one of the basic problems in access which seems to be a recurrent theme virtually everywhere: namely delays in document delivery. It is our contention that access is not adequate if the required document cannot be delivered within 48 hours, and the technology must be found to facilitate that.

The Canadian College of Family Physicians also provides a library service for its members. The College has stationed a librarian in that Sciences Library at the University of Western Ontario to use that collection as a basis for an information service by mail and telephone to family physicians anywhere in Canada. One of the accomplishments of this service has been the development of the Famili Index to pinpoint the literature of most interest to the general practitioner. This index uses the same format as Index Medicus, although it covers additional journals. It has become one of the recurrent indexes connected with the group sponsored by the National Library of Medicine, but it is still published by the Canadian College.

The National Cancer Institute provides another kind of information service which is located in the Cancer Clinics established in teaching hospitals across the country. These information resources usually

consist of a set of specialty journals and an individual, who may be trained or untrained, to monitor them. The service is maintained as a freestanding service to the clinic, with no formal relation to whatever health sciences information services may be stationed elsewhere in the complex. Some are more effective than others. In the Cancer Clinic at Ottawa Civic Hospital two librarians have assembled several microcomputers and a printer to access the specialized database which is known as PDQ (Protocol Data Query). PDQ is associated with MEDLARS and the National Library of Medicine, and is designed for physicians who are actively treating cancer patients. There is a good clinical collection in oncology as a back-up. Four of the computers are dedicated to end-user training, and are programmed for automatic dial-up. Although it represents the fragmentation of information resources which can develop in a health sciences complex, this highly publicized service is interesting because it demonstrates how the new technology can be used to offer a creative service in information, and it has caught the imagination of other librarians.

The Canadian Hospital Association (CHA) is another organization which has a strong presence in the Canadian health environment. As in other professional associations, the national body acts as an umbrella for the provincial associations. Each hospital is a member of the provincial body, which provides continuing education opportunities for their allied health personnel. The national body establishes policy, guidelines and manuals. The Management Information Systems (M1S) for instance, which many hospitals are adopting, have been worked out by the national association with nineteen manuals to cover various hospital departments.

One of the most recent projects of the Canadian Hospital Association was a study titled "Health Promotion in Canadian Hospitals". (12) Health promotion is one of the priorities of Health and Welfare Canada, as part of its effort to reduce health care costs by promoting a better general understanding of the disease process and

of the health care system. According to the CHA study some Canada hospitals are beginning to develop programs aimed at the health of particular groups in the community, such as the elderly, employees and women. However, the promotion of community health is being considered a hospital project, and little connection has yet been made with health sciences library services.

In another study the Canadian Hospital Association has identified some of the environmental pressures which will affect Canada hospitals in the foreseeable future.[13] Financial restraint imposed by governments will be perceived, of course, to be primary factors in the development of hospital services, and in the evolution of multi-institutional systems. Alternatively, changing patterns of disease and the aging of the population may create the need for community care facilities outside the hospitals. At the same time information and communication technology could affect profoundly th regional distribution of such health care resources. Meanwhile inside the hospitals treatment options for some conditions will certainly change with advances in medical knowledge and technology. All these trends should be taken into account when we project a role for library services in teaching hospitals and academic health sciences centres. They could affect both the structure and the content of such libraries, as well as the form that regional information services might take.

Shock waves went through the health sciences library community when the Canadian Hospital Association suddenly closed its library in 1982 in order to concentrate on computer applications. The Info-Health package which is now being distributed is designed more for administrative requirements, and does not in any way replace the original health care information on which many allied health people in Canadian hospitals had depended. Shock waves went round again when Health and Welfare Canada suddenly closed its Departmental Library in 1985 for economic reasons.

The library had been an active part of the health sciences library community, and its librarians were active in national library association affairs. It is not as totally lost as the other has been. The collection has been dispersed among the remaining four libraries in the sprawling Department of National Health and Welfare. These libraries are designed to serve an interior clientele, and their extensive collections are difficult to access from the outside. The Health Services and Promotion Library (health promotion) and the Health Protecton Branch Library (toxicology) do respond to interlibrary loan requests, but their mandates do not include outward linking beyond government circles. Their role in a future of cooperative services among health sciences libraries across Canada remains ambiguous.

7. Patient Education

Patient education presents problems for many health sciences libraries. There has been a groundswell of demand for information on health matters from the public in both Canada and the United States. For some years now this public has been exhorted by the media to take control of its own health. Nevertheless, the quest for information starts for most people in the hospital when someone in the family is gravely ill, or is being prepared to go home with a regimen of pills, physiotherapy and diet, which must be followed until an acceptable balance has been restored. And the obvious place to look for such information is in the hospital library.

Unfortunately most hospital libraries (or medical school libraries) are not equipped to deal with these demands, and many health sciences librarians have reservations about frontline contact with patients and their families. Physicians and nurses also have a tendency to prefer to monitor the kinds of information that is provided for their particular patients, since there are sometimes problems of emotional stress or limited education. On the other hand, in-service education for nurses deals, among other things, with

nurse/patient relations, and many hospital libraries try to provide a certain amount of non-clinical material for this purpose. Physicians too, sometime wish there were a paperback which they could put in the hands of a particular patient.

In the U.S.A. requirements for consumer health information have often been managed through collaboration between health science librarians and public librarians. The public libraries try to carry a good selection of non-clinical health materials, and the health sciences librarians try to contribute their knowledge of the field the selection process. Similar projects have not been funded in Canada, but Memorial's Health Sciences Library works collaboratively with the St. John's Public Library System in this way. Some teaching hospitals have become aware of the need through the activities of clinical librarians who take their expertise out of the library on to the floor in Grand Rounds. Here they find themselves providing information for the patients as well as for their profession colleagues.

Administrators in at least two Canadian teaching hospitals are currently discussing the feasibility of setting up a patient information service which will meet health consumer needs, as a community resource. However, unlike the health sciences librarians who are thinking in the same direction, these administrators are considering separate services divorced from the professional library. The concept of patient equality still has a long way to grow.

8. Materials in French

Health sciences libraries in francophone universities, and in francophone hospitals in Canada, find themselves face to face with a particular set of difficulties. This applies for the University o Ottawa as well, with its health profession programs serving Franco-Ontarians. On the one hand, the clients are francophone; on the

other, the overwhelming proportion of up-to-date texts, other monographs and serials in the North American context in which we exist, is published in English rather than in French. Translations? Frequently what translations can be found are out of date almost before they appear. Materials in French from abroad? Yes - but at great cost, since materials in English also need to be in place in our North American context. Reference services? Special difficulties arise for library staff and users, since even standard tools are for the most part in English. L'Inserm has recently published a French translation of MESH (the National Library of Medicine's Medical Subject Headings). Though too expensive for purchase by many libraries where it would be useful, it is to be hoped that this French edition can be up-dated regularly.

This particular set of problems looms so large on the health sciences library scene in Canada that M. Bernard Bédard, of la Bibliothèque de la santé of l'Université de Montréal, was invited to prepare a special paper for this survey. His paper is attached as an important document in the current study. It is recommended for careful reading and thoughtful consideration. The questions which arise are stubborn ones, deserving further study and attention.

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V - USERS - AND LIBRARIANS - LOOK AT THEIR LIBRARIES

In the course of this survey the Project Officer did a good deal of listening in 150 interviews. Some of those interviews were with librarians directly involved in the management and operation of health sciences libraries. Others were with deans, researchers, teachers, clinicians: all persons with an active interest and involvement in libraries, but not librarians themselves. In a sense the second group could be characterized as users. A number of questions kept arising.

- Among librarians, problems of financing - or insufficient resources to meet needs as they saw them, were the most frequently expressed concern;

- Among users, though virtually all expressed themselves as strongly supportive of their libraries, the most frequently expressed concern was the sheer time apparently required to get their hands on what they needed in the library, or through the library; while

- The thinking of both users and librarians, as they looked ahead to desirable future developments in library operation and services, turned again and again to the differences technological advances could make.

This section of the report deals briefly with some questions growing out of the interviews.

1 - Information You Need, When You Need It

There are a great many people who find libraries irritating. Many of them are the people who depend on library resources the most. They tend to fall into two categories: those who have no time to fool around, and do not really understand the system anyway; and those who know exactly what they want, but do not wish to go through a lot of

rigamarole to get it. It is probably fair to label the first "practitioners" and the second "researchers". The complaints are relatively predictable, and often justified. They start with filling out forms.

The main issue for both is quick access to journals. Since practitioners are usually looking for clinical material, and researchers want new and expensive speciality journals, we have in this simple example a very good reason why health sciences libraries need to carry broad and comprehensive collections. Journal cancellations strike at the very heart of the reason the library is there. Now that microcomputers are available these people are anxious to benefit from this technology, which is more and more accessible. Many of them have microcomputers on their desks for office management or statistical analysis. Now they are impatient with the library because we are not ready to make the full transfer to electronic communication. No matter that this may be beyond our control; the litany tends to be the same!

The library, some suggest, should have an online catalogue which can be accessed from their office. It should be possible to identify the item required, find it in the collection, order it, and have it on their desk tomorrow. If it is necessary to go to another collection in another location, this should be possible from the office too. It should still be on their desk tomorrow at the latest.

If the library accepts this challenge, what does it involve?

3. Literature Gaps

As health sciences librarians we feel very well endowed with bibliographical retrieval indexes. The MEDLARS database is the envy of researchers in other fields for its controlled thesaurus and broad

coverage. It is available in many forms besides the printed indexes, which themselves are usually more up-to-date than other indexing services. Online the database is even more current. It is also available now in several software packages, such as PaperChase which can be downloaded into a local computer to avoid online charges for users. The most recent refinement is the CD-ROM version of Index Medicus.

Because MEDLARS in one form or another is our most rewarding resource, we tend to forget that there are gaps in its coverage; gaps which are not covered in other indexing services either. The journals chosen for indexing by the National Library of Medicine (NLM) are reviewed by subject specialists, and we are therefore confident that they are, for the most part, respected and reliable journals. There are other publications, however, which are just as respected, but which do not appear in the MEDLARS database for a number of reasons. Priorities go to American publications and what might be called mainline specialties. Publications which are Canadian or in peripheral fields may not come to the attention of the reviewers, or may be discarded as having too small an audience.

Unfortunately such journals frequently are not indexed anywhere else either, and the people who depend on them are faced with a struggle to access their own literature. In some such cases their professional associations are not well enough established to undertake an indexing program. As a final indignity, the health sciences library community is often unaware of the titles they need as a result of their invisibility.

This problem dogs several allied health professional groups, such as the physiotherapists, the occupational therapists, the speech therapists, and the pharmacists. Nurses are affected to a lesser extent. It is their newest journals that are hardest to retrieve.

Access to research and clinical literature on drugs apparently presents difficulties in some locations. Drug information centres take a number of forms, and specialize in a number of different aspects, depending on which agency is responsible for their formation. Sometimes it is a school of pharmacy; sometimes it is a hospital; sometimes it is a local association or a government agency. Drug interactions are a serious health care problem, often an emergency problem, and the literature is scattered and obscure.

Health sciences libraries are not noteworthy for their performance in this area, and pharmacists tend to try to deal with the difficulties themselves. The new Director of the School of Pharmacy at Memorial is considering the hiring of a pharmacist/librarian/drug information officer, basing this position in the Health Sciences Library. The duties of the appointee would include the provision of drug-related information service to regional pharmacists, as well as the bibliographic instruction of pharmacy students. With the installation of an In-Watts line, it is possible that such a position could form the basis of a drug information resource program for the whole Province of Newfoundland.

What is the responsibility of the health community in these sparse areas of the literature?

3. <u>Fragmentation</u>

There are some activities which health sciences libraries find it hard to combat: fragmentation, for example. There is a tendency for special collections to become established and operate apart from the library itself. This is a particular characteristic of hospitals, but academic faculties are not immune. Media Centres are a good example. It may seem logical that a unit which is producing videotapes should house them and lend them. Computer Centres are similar. Their business is programming and advising and planning computer

applications. Departmental collections also qualify. The need to have a few books or journals to hand gradually expands into a sizeable assortment. Or a unit with a special mission, such as a Palliative Care Unit, may want a little material for its self-help groups. All of these collections can function perfectly well on their own, and there is a certain logic to that pattern.

Such collections could equally well be incorporated into the library, however, which is designed to manage all forms of information. And they do represent funds. Someone has found enough money to set them up and keep them going. What is disturbing is that these scattered units often develop in an institution where the library is congenitally short of space, of staff, of content - of funds. In other words, where a health sciences library is unable, or unwilling, to meet the legitimate needs of its potential clientele, they do not do without; and they do not provide more resources for the library; they create an alternative.

When the administration at Laval centralized the medical collection in the Science Library, it was an economic decision, and it was successful to the extent that fewer staff were required to manage the consolidated collection. But the medical faculty found it inconvenient. They established a Resource Centre in their own building for their first and second year students. They stocked it with teaching materials that would normally have gone into a reserve collection in the library, and hired staff to look after it. As far as the university was concerned, staff salaries simply came out of a different pocket.

At the University of Saskatchewan, where the Faculty of Medicine is supported nearly 60% by clinical earnings, and the health sciences library is in great need of funds, space and staff, most faculty members will volunteer that the library deserves better; but there is a collection in nearly every department. In both cases long-range planning which took into account the real information needs that the

library should serve might have tunnelled the funding where it could arguably, have been more effective.

How can a health sciences library ensure that the planning for automation and long-range library services will be universal enough to provide an adequate funding base?

4. The Costs of Interlibrary Loans

One of the major changes in health sciences libraries, especially within the last ten years, has been the alteration in procedures brought about both by developments in computer applications and by the literature search capability of MEDLARS. When CISTI assumed responsibility for MEDLARS in Canada, it was genuinely difficult to search the database. A search strategy had to be worked out and sent off to the United States to be executed. Like original cataloguing, it was an intellectual exercise which many librarians found stimulating.

When Medline became available, providing easier access, the Health Sciences Resource Centre (HSRC) became the first Medline Centre in Canada, and the administrative point for the whole health sciences community. McGill was the second Medline user with the first academic access code, and Dalhousie came in third. However, online access to the MEDLARS databases proved to be so much more efficient than manual searches, that the other medical school libraries were all quick to follow suit. At first NLM did not release enough access codes to Canada to accommodate the hospital libraries, but by 1984-85 that had changed dramatically. Led by Sunnybrook Hospital in Toronto and the Royal Victoria Hospital in Montreal, some 30% of Canadian MEDLARS subscribers are now registered in the hospitals.

The immediate result of online searches is typically an increase in use of the collection, and ultimately of interlibrary loans. Long

lists of citations, which the individual would not have bothered to pull out of Index Medicus in a manual search, all look interesting in a print-out. Most medical school libraries had not anticipated the sudden expansion of interlibrary loans, and their staffing patterns were not planned to handle the rush.

Requests that the academic medical centres are now receiving, not only from their own patrons but from affiliated teaching hospitals, as well as institutions farther away, continue to increase. The reaction from the net lenders has become increasingly defensive. Understandably some of the major health sciences libraries finally imposed a fee per loan in addition to their photocopy charges. Cost accounting of staff time alone for searching, xeroxing, mailing and reshelving produced charges of as much as $8.00 to $10.00 or more for each transaction. These charges had the desired effect. Requests from outside the immediate health sciences complex, and from the smaller local hospitals, were either abandoned or were rerouted elsewhere. At least one academic library also deliberately slowed its response time as an added deterrent. For area teaching hospitals and some other regular users the fee was negotiated, or not applied. The net result is, of course, that information seekers who have no other access remain information poor in a two-tier system.

The imposition of fees for interlibrary loans is a volatile topic in Canada. The Resource Network Committee of the National Library Advisory Board debated the issue for months, according to Past Chairman Brian Land, without any resolution. University libraries carry such a tremendous load of interlibrary loans that they feel they must charge for making their material available to other libraries. They suspect that the alternative could be an inability to serve their primary clientele. There is, naturally, a certain amount of resentment across Canada when this practice is applied in the health sciences field, where sharing tends to be axiomatic. This is particularly so among the smaller hospital libraries with limited

resources, some of them actually in teaching hospitals. With small budgets and minimal collections, their efforts to provide their patrons with good service are often frustrated. There is also some dismay among those health sciences libraries, many in teaching hospitals, which do not apply a fee on principle, and tend therefore to be overwhelmed with the overflow of interlibrary loans.

At the provincial level there are a number of reciprocal borrowing arrangements which offset the damage the charges impose, and prove that cost recovery is not necessarily imperative. These tend to be put into practice regionally where there is already a system of document delivery in place. Quebec universities extend courtesy privileges among campuses. Ontario universities who use the Inter-University Transit System (IUTS) also share resources. Members of the Canadian Association of Research Libraries (CARL) are considering an arrangement to manage interprovincial interlibrary loan payments among themselves by billing only once a year. Payments are balanced out so that the net lender is reimbursed by the net borrowers. The Association of Atlantic Universities is exploring a similar system.

In Alberta the two universities in Edmonton and Calgary have worked out a 24-hour service between them for interlibrary loans. To this they have recently added experiments with telefacsimile equipment. Because of the amount of transmountain exchange they carry on with the University of British Columbia, however, discussions are being held which may result in an extension of the special agreement to Vancouver. The Woodward Library there has just installed telefacsimile equipment to expedite its interlibrary exchanges with the local teaching hospitals.

Meanwhile the National Library of Canada (NLC) is experimenting with an Open System interconnection (OSI) model for interlibrary loans. In April 1986 the Minister of Communications announced a $20M

grant over five years to develop the technology by which independent systems can interact across Canada. A test facility will be ready at NLC by the end of 1987. The National Library has also conducted an experiment recently to test the feasibility of current telefacsimile equipment. The University of Alberta in Edmonton and the Nova Scotia Provincial Library in Halifax cooperated in the six month trial. The conclusion seemed to be that it would require an exceptionally high volume of use to justify the cost of the equipment.[2]

At Carleton University nearby the Director of Libraries is interested in software development, particularly the messaging side of it. He is putting together the specifications which would be needed in an interlibrary loan system for ordering, tracking messages and developing a filing system, for the next annual meeting of CARL. The long-term aim is a better, faster document delivery system.

In the Midwestern United States there is already in operation a demonstration program called OCTANET. It uses an interlibrary loan telecommunications system based on a minicomputer, and an online serials control system, with a hierarchical routing system added to manage requests and to prevent any one lender from receiving more than its share.[3]

As collections continue to be pared in the current climate of fiscal restraint, and interlibrary loans become increasingly important, the barriers to efficient document delivery will have to be re-examined. Insofar as interlibrary loans are a genuine financial drain on the libraries which are net lenders, and insofar as the volume requires additional staffing to maintain acceptable turn-around times, the costs must be rationalised. Insofar as new electronic methods of document delivery emerge, the costs must be met. There is, perhaps, a typically Canadian solution: a federal/provincial formula. Federal funding for the development of electronic networking is

already in place. Interprovincial funding to support lending using that equipment might perhaps be negotiable.

5. Implications of Serials Cancellations

It is not true that every member of the SRCMSL is crying the blues over the serials budget. One or two librarians have managed to retain almost all of their buying power. The new library at the University of Alberta is still building its collection to accommodate its increased responsibilities, for instance. At Memorial, the collection is still expanding, and the library is responding actively to requirements of the new program in Pharmacy. However, since 1979 every medical school collection has been culled at least once for duplicates and low use titles for cancellation. In the Province of Quebec 1981-82 was the deficient year. In Nova Scotia where Dalhousie serves professionals throughout all three Maritime Provinces, and at the smaller medical facility in Saskatoon, repeated budget cuts have been devastating. 1987-88 is expected to become another "moment of truth" in several jurisdictions, with deletions worth up to another $50,000 being faced by individual libraries.

The usual process for this sad ritual is compilation of a list of possibilities based on such factors as documented low use and high cost, or availability in one of the teaching hospitals. Sometimes two lists are developed: a primary one and a possible one. These lists are offered to the faculties of the schools served by the library for their comments, and a compromise list for actual cancellation is ultimately agreed upon. The same process can be observed in the teaching hospitals.

Not all health sciences libraries have written collection policies, but most medical school libraries attach the word "comprehensive" to the sections of their collections which relate directly to specific teaching and research programs in their

faculties. The majority of teaching hospital collections are likely to be smaller working clinical collections with very little material which is not related to patient care or specific research in progress. Such is the impact of the computer which counts circulation transactions, however, that the most obvious way to judge the value of a journal seems to be a use count. Taken to extremes, this implies that only those journals which are used frequently are worth keeping in the collection. This confounds the idea of a comprehensive resource. If, at the same time that academic libraries are narrowing their collections, the collections in the teaching hospitals are also systematically reduced to their most active components, what have we left in the local network but duplicates?

It is clear, from talking to health sciences librarians across Canada, that use statistics have proven to be a way to meet budget restrictions which is understandable to academic and hospital staffs alarmed by the erosion they are witnessing in their collections. It is eminently logical. Unfortunately decisions made entirely on the basis of use, rather than potential use, can conceivably change collection policies in subtle, unauthorized ways. It is hard to identify how the informal balance of resources between academic and hospital libraries might be inadvertently altered. If this does happen, the regional capacity to respond to local information needs may deteriorate.

In most health care complexes there is an unwritten assumption, based on Canadian spatial realities and the vagaries of document delivery, that interlibrary loan requests should fall first on local resources. Turnaround time is likely to be shorter. The availability of CISTI's collection as an alternative is, nevertheless, becoming increasingly important. However, the capacity of the national back-up resource to absorb unique titles for use in Canada may have limitations in the current climate of federal government fiscal restraint even though this is a clear commitment. Certainly CISTI's

capacity to expand its staff is clearly restricted in this atmosphere. If the interlibrary loan requests that they receive continue to escalate at a rapid rate, their document delivery system will break down. The National Library of Medicine in Washington, D.C. has already demonstrated the vulnerability of the national centre to this kin d of overload. In both the United States and Canada intermediate regional resources are essential to help carry the national load.

Such regional resources, if they are to serve regional needs adequately, must be reasonably comprehensive. That in turn means funding beyond traditional levels. All too often it is hopefully assumed that the health sciences library of a university centre, while funded only to support the particular programs of that university, will somehow also be able to provide adequate back-up and specialized service for the entire area or region in which the university is located.

In a sense we have spiralled back to the position Canadian health library collections were in twenty-five years ago. At a different functional level health sciences bibliographic resources are once again in urgent need of attention from funding bodies.

6. The Library in the Middle

As soon as we begin to consider health sciences centres and large teaching hospitals across Canada, we discover two concepts which are an integral part of this study. One has been called "practical administration"; the other is ubiquitous in our time - computer applications. Computers are, of course, one of the mechanisms for achieving practical administration. Electronic linkages can minimize the disadvantages of size, space and multiplicity. So can compromises reached through administrative accommodation between realistic managers. We are witnessing this kind of thinking in the amalgamation of large institutions such as the Toronto General and Toronto Western

Hospitals. The health sciences centres which have evolved in recent years through cooperation between universities and health care institutions demonstrate more than one form of accommodation between two relatively rigid organizations. It is in this matrix that health sciences libraries must thrive and find their own form of administrative viability.

The rigidity in the hospital system is inherent in the nature of the institution. There is usually a formula for budget allocation which takes into account the performance of each unit. The Medical Information System (MIS) which is being installed gradually in most teaching hospitals is a freestanding operation designed to serve the internal procedures of the institution. Both of these are interior programs which normally have few links outside the organization.

A university also has a budget policy which is internal. Computer applications may not be universal across the campus, but may be adopted only by a single department. In a health sciences centre the need for these behemoths to accommodate each other to accomplish mutual goals is fairly apparent. There is friction when the fit is not achieved. In a health complex which is more scattered physically the possibilities for partnership may be less obvious.

A health science centre is a cooperative enterprise, and an integrated library should be the hub of it. When a university and a health care institution come together face-to-face in a health sciences centre, some ground rules are necessary. Roles need to be delineated. Since both institutions consider themselves to be responsible for the same three basic activities, some form of accommodation must be reached. Who has the primary responsibility for patient care? For education? For research? One solution which is being worked through in the West is based on an agreement that the hospital has primary responsibility for patient care and secondary responsibility for education and research. The university, on the

other hand, has primary responsibility for education and research and secondary responsibility for patient care. From this several other decisions can follow.

Since the university has primary responsibility for teaching and research, it also has primary responsibility for providing and maintaining information resources to support teaching and research: the major health sciences library. Similarly, since the hospitals have prime responsibility for patient care, they also have prime responsiblity for providing and maintaining information resources to support patient care: the hospital libraries.

However, since the university and the associated hospitals share active interest in the joint pursuit of all three functions, with only the locus for primary responsibility devolving on the one or the other, it is essential that their libraries plan and work closely together. One promising approach is to develop an electronic infrastructure which will provide easy access at both ends to the materials in the collections.

Once a central database is online in the health sciences library it will be accessible through office computers throughout the faculties and the local hospitals. This will lead to the need for workstations in the main library to train students and end-users in techniques for searching databases. Librarians become in fact teachers, far more than they have been in the past. The time- consuming new requirement is to guide users toward mastering the mysteries of locating and retrieving, in this electronic age, whatever information thay may need. In the Bracken Library at Queen's a special library position has been created for this purpose. Computer terminals should also be available at all library locations for library-assisted searches and for access to other online databases as required. And an electronic ordering and document delivery system should be installed.

Financial support for such an interactive information system should be cooperative. Since the academic library which is the central resource is part of the total academic library system, the health sciences applications should be integrated into the structure of campus computer services, and provided by the university as part of that system. However, the hospital is reponsible for supplementary funding in support of the services it receives. Responsibility for allocation of network funds to the operating budget should be managed by a Hospital/Faculty Liaison Committee, which would transfer such funds through the Faculty of Medicine to the Director of Libraries.

Administrative support for this interactive healt h sciences library service would require a series of committees with clear responsibilities. The network itself should have an Advisory Committee of librarians, and a Coordinator who is responsible for the functioning of the system. Hospitals participating in the network should appoint User Advisory Committees for their own libraries. A member of this group would sit on the Health Sciences Library Committee which acts as an advisory group for the whole library complex. The function of this committee would be to maintain the reliability of the system, so that all the libraries which take part could have confidence in the efficiency of the network. This is an important intervention particularly at the beginning of a cooperative venture such as this.

This is a composite picture of a library in a health sciences centre with its administrative links in order. Not many are as well situated. It is only one model. There are other models. How does yours work?

7. Continuing Education and Library Extension

Education is a career-long process for health sciences professionals. Graduation even from typically demanding preparation

programs, and initial licensing to practice, is only the beginning. The constant challenge for the individual is continuing education to keep up with new knowledge in the rapidly changing health sciences, lest one deal with the realities of today and tommorrow armed only with the frequently outmoded knowledge of yesterday. The health sciences professions, and medicine in particular, have long been conscious of the need for "continuous" education. Much has been - and is - happening.

A tried-and-true approach is the colloquium, where practitioners assemble for a day to participate in a program where current developments in some aspect of a field are presented and discussed. Often such colloquia are organized by a faculty of medicine, or by a professional organization; sometiriies, indeed, by a pharmaceutical house. Continuing education courses are also also offered: many for general practitioners, and some offering credits from such organizations as the Canadian College of Family Physicians. From even a superficial look at continuing education such as was possible in the present survey, at least three developments are obvious.

1) Just as the concept of self-directed learning looms larger and larger in pre-service preparation programs, so too is it the basis for a great deal of continuing education. In fact, to a considerable degree, continuing education can rightly be defined as self-directed learning. It would be appropriate to describe most continuing medical education as a kind of partnership between the practising physician and the provider unit. The emphasis is on learning, rather than on teaching: or on teaching, if you wish, but teaching defined as helping people learn to do better whatever may be required in their local practice.

2) Cable television, and teleconferencing, help to transcend previous limitations of time and space. Thus from l'Université de Montréal, for example, weekly programs reach many family

physicians and nurses in small towns and CLSC's throughout Quebec via television. In southern Alberta forty hospitals are linked twice a week for the further training of residents who cannot get away from their regular duties. In Ontario the University of Toronto has a contract with the federal government to present case studies to hospitals in northern Ontario every Saturday morning by satellite. In Newfoundland all the hospitals are part of a province-wide telecommunications system used both for continuing education programs and for teleconferencing. At the bilingual University of Ottawa, the Nursing School collaborates with Queen's and Western to beam regular classes to northern Ontario. At the University of British Columbia the Centre for Continuing Education offers a large outreach program throughout the province, and under the B.C. Department of Health a system called TeleHealth is being designed for distance education in the health care field, using the hospital network; as well there is the Knowledge Network, sponsored by the Ministry of Universities, which some suggest will become the most sophisticated satellite and cable transmission service in Canada. Canada is a pioneer in telecommunications satellites as an aid to cost effective health care communication over the vast distances. Frequently this kind of "continuing education" is firmly based on dealing with specific case problems faced by isolated practitioners in distant locations within Canada.

3. Continuing education has been recognized as of such importance that several Canadian medical schools have now appointed education specialists to undertake studies of needs more definitive than the usual mail survey, and to plan appropriate responses to those needs. Laval, for example, intends shortly to join some sister institutions in a program whereby individual practitioners will come to the university for an individually-planned period of time, to participate in faculty and hospital activities in some particular sub-field in which those individuals need up-dating;

freed, for the time involved, from the pressures of their regular practice. The individual can write off many of the expenses incurred as professional expenses, and will profit from the up-dating. The university and hospitals will profit from the presence of the individual, and indeed perhaps from fees payable.

The brute question for health sciences libraries, however, is what are the implications for libraries of all this continuing education and outreach on the part of the professions we serve?

First, health sciences libraries in many parts of Canada have moved over the years to serve health professionals well beyond the walls of their institutions. A brief summary, of what might be called "Phase One" developments, should be recorded. In several provinces library outreach appears to have begun with an arrangement between the university library and the College of Physicians and Surgeons for service to physicians beyond the immediate geographical location of the university library. Bibliotheca Medica Canadiana 7:2 (1985) contains a number of papers outlining outreach activities of health science libraries in various parts of this country: libraries serving as regional centres, in many cases beyond the specific immediate purpose for which they exist and are funded.

1) One of the most effective ways health sciences libraries have found to identify and provide for information needs in the districts which they serve has been to send a librarian out on regular visits to the smaller institutions. These extension librarians take their library with them. In order to provide information services for hospitals outside the main centre they travel a weekly circuit collecting reference questions and providing advice about managing small collections. Back at the medical school library they run Medline searches and collect articles for next week's trip. This is an outreach service which receives a great deal of response.

2) The first extension librarian in the West was installed at the Medical Library at the University of Manitoba, and an active interlibrary program was inaugurated. Lists of recommended books were followed by union lists of local resources. In due course the Winnipeg Health Information Network (WHINET) was developed and funded as a demonstration project to serve allied health personnel in outlying hospitals.

3) In Nova Scotia the W. K. Kellogg Library has a long history of serving physicians throughout the Maritime Provinces, and this has expanded to other health care professionals. Hospital libraries in New Brunswick and Prince Edward Island are served from Kellogg through a Regional Loan Service on which they depend heavily. Only recently an extension service for four hospitals in the Annapolis Valley has been put into place: Kellogg provides the librarian and the hospitals cover the costs. Plans for the future include the addition of similar programs in other areas of Nova Scotia.

4) Some teaching hospitals also provide extensive service in their catchment areas. A program is now being developed in the Ottawa Valley by the Williamson Library at Ottawa Civic Hospital. A spin-off from University Hospital in London is the Shared Services program in southwestern Ontario. Now established in South Huron Hospital in Exeter, the librarian still depends heavily on the health sciences collection at the University of Western Ontario for photocopies of requests.

5) The Science Library at the University of Western Ontario, has, in fact, played a unique role among medical school libraries in making its collection available to information brokers who are serving the Canadian medical field in a number of unconventional capacities. The ground-breaking service, which it has supported for over ten years, was inaugurated by the Canadian College of

Family Physicians to serve its national membership. More recently a Northern Outreach Program (NOP) has been developed with the financial support of the Ontario Department of Health. This began as a research project to identify the information needs of the health community in Northern Ontario. It now continues as a library service managed by a librarian based in the Sciences Library. Delivery is by courier.

6) The first extension librarian in Canada was installed at McMaster University, where health libraries in the Hamilton-Wentworth District have shared library resources for more than fifteen years. A network, which began as a group of hospital libraries cooperating with McMaster's Health Sciences Library, now also includes a community college, a public health unit and a home care/nursing agency. The Network Coordinator reports to the Health Sciences Librarian, and is a member of the Management Committee of the Health Sciences Library. The library manages the finances of the shared service, and provides office space and equipment for online searches. Salary expenses are shared by the hospitals in the network according to a formula approved by the District Health Council. For many years this was the Canadian prototype of the library consortia in the United States. The B.C. Medical Library Service in Vancouver, which predates it, has a different structure. It is a freestanding system which cooperates with the academic health sciences centre, rather than being based on it.

7) In Alberta, Saskatchewan and Newfoundland the health sciences centre libraries provide direct service by mail to borrowers outside the main urban centres, and the tradition of outreach remains as a background to plans for continuing education and distance learning promoted by physicians, nurses and other health workers.

So much for a very brief summary of Phase One - where our health sciences libraries are now in terms of extension beyond the immediate geographical location of the principal library. What of the future - of Phase Two?

Obviously, the nucleus of a functioning regional library system is in place in the sixteen medical school libraries across the country. Each is at the centre of an independent complex of academic and hospital institutions. It is important that each such complex should progress toward an electronic future by adopting a comprehensive plan for information management to fit the needs of the particular region, and should carry it through. This means that the key components of an institutional information network must be identified, so that priorities for development can be set appropriate to the particular region.

This is the essential point for the medical school libraries of Canada. To develop integrated information systems which can provide online access from remote stations anywhere in the region is the crucial watershed: the point at which everything else becomes possible. Most of the academic health sciences libraries in Canada have made some progress toward automation. Some began with their circulation systems. Other began by converting their catalogues to machine-readable form. Three libraries are now in the process of developing integrated systems. McGill has signed a contract for the NOTIS system from Northwestern University in Illinois. McMaster is considering a similar system. And Manitoba is in the middle of functional planning for a new health sciences library complex. Some other Canadian universities are beginning to develop proposals for part or all of a more advanced information system. The move forward is essential.

It is clear that Canada today has a well established pattern of health sciences library service. Each medical school library in

Canada is now a resource centre in its own geographical area, fostering interactions with affiliated teaching hospitals where clinical teaching is taking place. These regional clusters of health library services are not all the same. Each one conforms to local realities in differing provincial situations. Each has benefitted from different levels of administrative support and variable shares of creative vision.

Leadership is a key issue, and joint planning. Once the organizational infrastructure is in place for managing electronically the available information resources, those resources can be accessed from anywhere in the region. The sixteen regional health complexes will also be able to interact more readily among themselves. In June of 1986 an extensive report was issued by the AAMC's Steering Committee on the Evaluation of Medical Information Science in Medical Education. Among other things that report presents a state-of-the art review of medical informatics, and provides a useful basis for discussion in individual university health sciences centres as they look ahead to the future.[4]

In Canada any wholesale movement overnight to a Matheson/Cooper 21st Century scenario should not be expected. Movement will be slower. Our federal purse, for one thing, is not open nearly as wide as that in the United States. For another, health and education are provincial responsibilities in Canada, and a truly interactive health sciences library system will have to be developed region by region and province by province. But cooperation, within regions, within provinces, and within Canada as a whole, is well worth working toward hard and creatively; and the electronic revolution makes the achievement of that aim far more possible. For Canada, a library without walls - open to us all.

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1. "Small Things Sit Loose". National Library News 19:1 (January 1987), pp. 5-9.

2. “An Experiment in Telefacsimile". National Library News 18:10 (October 1986), pp. 5-7.

3. Johnson, Millard R. and Richard B. Price, "OCTANET - An Electronic Library Network: 1. Design and Development". Bulletin of the Medical Library Association 71:2 (April 1983), pp. 184-191.

4. "Evaluation of Medical Information Science in Medical Education". Report of an AAMC Committee, 1986. Journal of Medical Education 61 (June 1986), pp. 487-543.

VI - SUMMARY OF CONCLUSIONS

After discussion with so many capable and devoted librarians from coast to coast, and after pouring over so many documents and working papers, it is very apparent that Canada's health sciences libraries are in good hands. The SRCMSL of ACMC continues to function as a forceful forum for addressing library problems at the academic level. CHLA, and ASTED, are increasingly active. Librarians in teaching hospitals across the country have developed regional forums in which they too deal with professional affairs. And in a number of places creative solutions are developing. Whereas change has become a constant adjunct in the workplace along with technology, inter- dependence between academic facilities and clinical units has amplified. The progression is, however, clearly identified as a Canadian compromise. Funding is a major concern, but it is not likely to be resolved by a massive infusion of federal moneys. Regional disparities are evident, as they are in other segments of Canadian society; but local solutions to technological, financial and organizational problems in the provision of health sciences information will lead the way to a general resolution across Canada.

Major conclusions of the present ACMC/CHLA survey can be summarized as follows.

1. As might be expected of a wide-scale survey compressed into a brief six months, the principal value of the study lies in the questions it raises, more than in any precise answers to those questions. The evidence indicates that many stubborn problems are there: some small and precise, others long-term and far-reaching. Many of the questions are implicit, and some have been made explicit in the body of the report. The report's conclusions and recommendations can best be used in most cases as directions for planning and further systematic study. To reach a desirable future we need leadership and decision.

2. Health Sciences library collections and services today are vastly different from those depicted twenty-five years ago in The Simon Report. The most salient developments have been:

   a) Substantial growth: there are more medical school libraries with larger collections and more staff; there are five times as many professionally managed libraries in the teaching hospitals.

   b) The Health Sciences Resource Centre has been established at CISTI, and has become the MEDLARS Centre for Canada, and an access point for the national resources in science at CISTI.

   c) With access to online databases have come other applications of automation to library procedures.

3. Growth has trailed off markedly, however, Over the past five years operating expenses for health sciences libraries have not kept pace with expenditures elsewhere. For biomedical research in Canada covering a four-year period from 1980, increase in expenditures in constant dollars was 40%. The increase in total expenditures reported by medical school libraries for the five-year period 1980-1985 was only 4% in those same five years the subscription prices of typical medical journals increased - again in constant dollars - by over 52%. Funding is becoming a serious concern. In her conclusions Simon wrote, "Success or failure of the teaching and research programme is just as dependent on good medical information service as it is on good laboratories and equipment."[1] In our current Age of Information that remains abundantly true. Simon also concluded that there was "...a serious lack of library support..." in relation to the needs of the time. Plus ça change, plus c'est la même chose!

4. The imperative reality for health sciences libraries today is what Matheson calls "the rapidly evolving electronic information environment"[2]. As Canadian libraries move toward online

catalogues which are open to public access from computers in academic offices and hospital libraries, their walls recede, and they make what appears to be an irreversible transition into the electronic age. This seems to be the basic installation to which other technological applications can be linked. It is here that extension service and outreach to dispersed clientele begins. An urgent need now is for further study to find the most promising directions that this technology should take for the future.

The following arresting comments by Dr. Richard Janeway on health science libraries in the United States are equally applicable, and equally challenging, in the Canadian context:[3]

> It is unfortunately true that most bureaucracies think in incremental terms rather than in terms of fundamental change ... Incremental thinking results in bigger collections, larger staffs, more space - more of everything – without ever questioning the fundamental assumptions upon which we base our decisions and actions...Library emphasis has been more on having than on communicating, more on preserving old material than on quickly accessing new material ... Even the use of new technologies by most libraries so far has been oriented mainly towards facilitating existing functions rather than enhancing the means of access and communication of vital data to meet the needs of the health sciences community. This is equivalent to seeing the major purpose of steam power for ships to be in the use of steam winches to raise sails on sailing ships ...

5. As technology takes over the management of health sciences information, and the electronic links speed identification and location of needed materials, the single point of delay becomes more obvious. It is the delivery of the individual document where it is needed when it is needed that becomes crucial. Delays and deterrents in interlibrary loans require resolution, and the technicalities of electronic transmission need to be solved.

6. As online searching becomes more complex, health sciences

librarians move increasingly into a teaching role. In some academic settings they find themselves functioning as part of a research team, teaching the research assistants who once did their own searches manually. At the other end of the scale are students and end-users who need guidance in doing simple Medline searches. Computer assisted instruction packages also require some surveilance at the beginning. And faculty and clinicians who consider purchasing a computer for their desks often ask for guidance about models and modems. Health sciences librarians are known to have some expertise in these areas, and this is a growing part of their public service.

7. One subject which has not been addressed systematically in this study, but which follows logically out of the matrix of change in which health sciences librarians now work, is the subject of professional preparation and continuing education for librarians. For more than thirty years librarians who work in the health field have insisted that medical and health sciences libarianship is a specialty in the same way that dermatology is a medical speciality. It is a distinct refinement on a general professional education, and specific skills must be acquired in addition to the knowledge which is needed to enter the field of librarianship.

Some Canadian schools of library and information science do provide optional courses to fulfil this need. However, the whole topic should be re-evaluated in the light of the demands of technology which seem to be inevitable as we follow the professional schools into the future. As technology leads us into fully interactive information systems, it is obvious that an understanding of electronic installations, and familiarity with the use of computers, is essential. It also becomes paramount to have the ability to manage a complex organization which overlaps the management structures of both academic and health care institutions, while serving both.

Do our professional schools train us to cope with the realities we will encounter? Do we come away with the ability to solve problems, as medical students are meant to do? Is there, indeed a personality or a mind set which should be instilled to turn a individual into an efficient health sciences librarian, as there seems to be in the development of a physician? This is a topic which deserves earnest pursuit, if health sciences libraries of the future are to be well staffed. It is not a topic which has received much formal attention, since most schools consider that specialization in any particular field is simply an on-the-job variation on general librarianship.

8. Finally, a word about statistics. For this study the decision was made to rely largely on statistics already gathered and published for other purposes. But the resulting tables are sparse, and far from definitive. When a draft of those tables was circulated to the sixteen medical school libraries, no fewer than nine had corrections to offer in figures previously submitted and published - those figures being, they said, either wrong, submitted apparently with a different definition of what was required from those submitted by other medical school libraries, or simply misleading. As mentioned repeatedly in comments with the tables in this report, any comparisons they may invite among institutions, or even within the same institution over time, must be made with the greatest of caution.

It seems fair to conclude that statistics as currently gathered reflect at least three kinds of difficulties: (a) difficulties in finding time to report adequately and fully when invited to do so; (b) difficulties in definition or interpretation of precisely what is sought in a given item; and (c) the substantial differences in patterns of organization and responsibility among institutions that make the separation and counting of items on any reasonable basis of comparison extremely difficult.

These are problems, of course, which SRCMSL, among others, has been striving to overcome for years. It also seems fair to conclude, however, that if the effort to report statistics periodically is to be continued (and surely it should be: for the benefits are great), then once again special attention needs to be given now to improvement of the process. The Project Officer was happy to learn that this item is already on SRCMSL's current agenda.

Libraries in Canadian teaching hospitals have a different problem entirely. They have little opportunity to match and compare, since no organization compiles their statistics as discrete hospital units. Provincial health statistics do not identify libraries in health care institutions in their published figures. Such library statistics as are compiled in individual institutions seldom appear even in annual reports. This makes health sciences libraries in hospitals - even in teaching hospitals - statistically invisible. It means that a statistical profile of an average teaching hospital library cannot be drawn. This is an administrative anomaly which must soon be rectified.

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1. The Simon Report, p. 87,

2. Matheson, Nina W. and John A.D. Cooper, op. cit. p. 1.

3. Love, Erika, "Challenge to Action". Bulletin of the Medical Library Association 74:4 (October 1986), p-p. 378-379.

VII – RECOMMENDATIONS

Health sciences libraries across Canada today are riding the crest of opportunities for major change. It will not be good enough, tomorrow, merely to be doing what we are doing today, largely in the ways we are doing it today. It is high time, on several matters, for appropriate groups of informed people to be gathered to wrestle - no holds barred - with the future, and desirable ways to shape it.

A number of recommendations, growing out of the present study, are therefore offered.

1. As a matter of urgency, a task force on harnessing technology for health sciences information should be established.

It is suggested that CISTI, working closely with SRCMSL, be invited to assume leadership in this endeavour. The questions to be faced are legion: leading, eventually, to the design and functioning of a truly interactive integrated system spanning the country. What technology, what systems, are considered most promising? How can advances in some locations be capitalized upon for the whole? What steps ought to be taken - locally, regionally, nationally? What of costs, and a reasonable plan for meeting and sharing those costs?

a) The Task Force should study the configurations of health sciences centres in Canada and their links between academic and health care institutions, and seek to identify the technological applications which would best enhance their three-fold mission of teaching/service/research.

b) The Task Force should collect and evaluate current information on turnkey systems, interactive systems and

intelligent network services in terms of the requirements which have been identified for Canadian health sciences centres. It should prepare estimates of the economic dimensions of each system for comparison purposes.

c) The Task Force should test new protocols as they become available for their compatibility with and usefulness to the systems which are developing in the health sciences sector. Adaptations and innovations should be part of this evaluation, and new software packages should be developed where necessary.

d) The Task Force should assemble the information gathered in this manner at CISTI, highlight it, and disseminate it to the health sciences community through the Health Sciences Resource Centre.

There is no dearth of excellent members for this task force, and for its staff, in Canada: both librarians with vision, and information and systems specialists at CISTI and in several of the medical library complexes. Recommendation One, then, is to free appropriate people to undertake this most vital task of analysis and planning for health sciences libraries today. Budget for the Task Force itself? It is suggested that a major effort be made through CISTI. CISTI is already a leader in research and development in the location and provision of information, and could well use the well-defined health sciences sector as a laboratory for further breakthroughs.

2. In each health sciences an Information Management Council should be established.

The marshalling of information resources to support the teaching/learning process is bound to be an administrative concern for Deans of Medicine anywhere in Canada. This recommendation is therefore addressed to the Association of Canadian Medical Colleges.

The current budget crunch which is affecting collection policies in health sciences libraries is only one part of a larger realignment The interlibrary interaction between the universities and their cluster of teaching hospitals is just one manifestation of the increasing interactions among these large institutions. The mission of both is service/research/teaching. The differences are largely in the weighting differential from one department to another. In some health sciences centres administrators have begun to come to terms with internal frictions by establishing multi-institutional decision bodies to work out formal agreements, and to assign specific responsibilities. The development and financing of an interactive information system to serve the multiple needs of the group mission is a case in point.

It is therefore recommended that each Dean of Medicine be invited to establish an Information Management Council (IMC) to serve the university's health sciences centre. Membership of the IMC, and its actual responsibilities, would vary from centre to centre. However, the following suggestions are offered.

a) The Information Management Council (IMC) should be composed of senior representatives from each of the institutions which will participate in the functioning of the system. As architect of the system's requirements, the Director of the medical school library should be considered a member of the executive

committee of the Council. Where a sophisticated Computer Centre is available, its Director should be sought. Where the medical school library is an integral part of the university library system, the Director of Libraries should also be sought.

b) The IMC should be charged with responsibility for planning and coordinating computer and communications resources to support the management of information and the development of learning resources throughout the complex, with the health sciences library as the cornerstone.

c) The IMC should consider the medical school library and its satellite libraries in the hospitals as a decentralized unit to be funded jointly. These libraries are all serving essentially the same clientele, as faculty, students, and researchers move back and forth between the university and the hospitals. Since the library system is an essential part of the education mission, it should be considered to be the responsibility of the university. However, supplementary funds should come from the hospitals according to a realistic cost accounting formula for the services they receive. This would provide support for interlibrary loans as well as collection development and technical services.

d) The IMC should identify funding sources to support the installation and maintenance of the multi-institutional infrastructure, and the research for its enhancement.

e) Each of the sixteen medical school libraries has been increasingly called upon to act as a health sciences information centre for the entire region in which the medical school is located, though in most cases it is largely funded for the immediate local purposes of the teaching and research programs based in the university. A major concern of the IMC might well be consideration of more adequate bases of funding for the regional resource activities of the library.

3. A Joint SRCMSL/CHLA Committee should be established to study interlibrary loans in the health Sciences sector, and to make recommendations on a) ways to manage the volume; b) ways to rationalize costs; and c) ways to improve delivery time.

a) The advent of Medline has resulted in enormous pressure on an interlibrary loan system that was planned (we will not say designed) for far less volume. In recent years a great deal of work has gone into clarifying the rules and systematizing the routines. Now the time has come to find a better way. Document delivery has been identified in this study as one of the major bottlenecks in the exchange of information. Streamlining procedures may help. The development of a system to spread the load of interlibrary loans more evenly could make a difference. The goal should be not "out within 24 hours", but "there within 48 hours".

b) Interlibrary loans can be considered as either an extension of acquisitions or an outreach program, depending on whether you are a net borrower or a net lender. As such, however, they are a legitimate part of the library's function, and should be adequately

funded. High fees contribute to revenue, but they are a barrier to access. As electronic links bring us together such barriers become less acceptable. How can interlibrary loans be properly funded? Should they be subsidized? By whom?

4. It is recommended that a working party be struck to review and explore present and potential future sources of financing for health sciences libraries in Canada.

This recommendation is directed first to SRCMSL and CHLA, since librarians are the people who have to grapple directly with financial realities for health sciences libraries. The recommendation is also directed to Deans and Library Directors, and other fiscal officers who manage discretionary funds and capital allottments.

The questions of fiscal squeeze and underfunding have arisen again and again in this study. It is clear, of course, that operating expenditures for health libraries overall have not been keeping pace with expenditures in other aspects of the health enterprise. The time has come to face the reality that quality goods are rarely found in the bargain basement. Since it seems reasonable to assume that financial restraints will not ease in the immediate future, some creative initiatives must be found. Allocated budgets as they are now formulated can no longer assimilate all the changes in procedure which technology presents to management. What are the alternatives? Can we identigy other funding sources with potential interest in Health Sciences information? Can we document the costs in library support with flow from every research grant to our institution? Can we identify and justify the services which our libraries provide which merit fee charges?

Indeed, can a case be made, even in tight-money days for increased allocations? From what sources? It also seems comparatively certain that in the foreseeable future we will have to find new ways to use the money we have, as well as find new money. Are there ways in which the moneys we have now could be used in more cost-effective fashion by spanning the frequently rigid boundaries between acquisitions and interlibrary loans, public and technical services, even capital and operating funds?

The principal tasks of this working party would be to sharpen up issues and needs; to consider funding for information services from a new perspective; and to propose courses of action to meet recognized needs.

5. It is recommended that the Health Sciences Resource Centre at CISTI be maintained and strengthened.

HRSC has become a vital feature of the health sciences information scene in Canada today. To repeat a comment made earlier in this report, if it did not exist it would have to be invented.

It is easy to say that HSRC should be maintained and strengthened; the problem is how that might best be accomplished in today's climate of fiscal restraint. It would be presumptuous of the Project Officer to recommend a particular course of action, but there are several possibilities which seem worth bringing to the attention of CISTI's Director, and supporters of HSRC in the field.

a) It is not a reflection on the distinguished series of Heads at HSRC, beginning with the late George Ember, to point out that the director sets the tone for the entire operation. This is true particularly in a service organization where

the staff is small. In a sense the individual "carries" the job, rather than the job "carrying" the individual. What is needed, then, is a person of vision and of recognized stature in the health sciences information communities which HSRC seeks to serve. A person whose views will be respected. Once again the old truism of organizational theory applies: the single most important decision a board of directors ever makes is the selection of its chief staff officer. Sufficient resources in support of that person are also necessary, so that the minutiae of daily operation do not encroach on the time needed for building and expanding mutually helpful relationships between HSRC and the major segments of the field it is charged with serving.

b) Since these two requirements tend to be incompatible in the present government restraint program, the notion is put forward that instead of adding another senior professional staff member to HSRC's regular complement, an appointment might be arranged on strictly limited terms of a senior experienced health sciences librarian on secondment from a current post in a university or elsewhere. The secondment might be limited to a two-year period. From a practical point of view this might be easier to manage within NRC than a new permanent appointment; it could attract a high-quality individual who would be willing to serve for a limited time, but unwilling to exchange permanently present employment for Ottawa; it could certainly build bridges of understanding from both ends between HSRC and the field. In a sense HSRC at CISTI is in a position of isolation, since it is largely removed from the ordinary health sciences library swarming with clients. Secondments could supply some sense of the more personal involvements with clients which is the stuff of library service elsewhere. On the other hand, on completion of secondment, the individual would return to base with

a much better understanding of the realities of operating a national information resource centre. Perhaps this could be called the CISTI Fellowship Program?

c) As has been suggested elsewhere in this report, there exists a genuinely important opportunity for CISTI, through HSRC, to exert leadership in developments in health sciences information service in this country beyond what it has recently been able to do. There is the opportunity of entering into a research contract, or series of contracts, with an appropriate health sciences library centre or centres across Canada. Some relatively modest contracts have already been undertaken for testing technological applications coming from NLM, such as GratefulMed, but there will be more from other sources which require evaluation, such as CD-ROM. There are more fundamental issues which require resolution as well, such as delays in document delivery and rationalization of regional resources. Research is also needed concerning the type of training that will be required in the technologically based future for library and information science specialists in the health sciences.

d) Funding for research is not an unfamiliar issue at CISTI, nor at NRC where access to funding bodies is a constant requirement. CISTI has funded the present study through a contract with ACMC. Many of its projects are developed through contractual arrangements with industry. The progression to the development of a series of proposals jointly with an interested health sciences centre which can be used as an experimental laboratory should not be a major transition.

In any case, the heart of this final recommendation is that HSRC at CISTI must be maintained and strengthened. A vibrant and proactive HSRC is vital to the future of health sciences information in Canada.

TABLE I

Selected Statistics Re The 16 Canadian Medical Schools
1984-85 [1]

UNIVERSITY	UNDERGRADUATE ENROLMENT FACULTY OF MEDICINE (1985-86) [2]	GRADUATE MEDICAL ENROLMENT (MASTERS & DOCTORATE) [3]	POST M.D. TRAINEES UNDER THE JURISDICTION OF FACULTY OF MEDICINE [4]	FULL-TIME ACADEMIC STAFF [5]	PART-TIME ACADEMIC STAFF [5]	EXPENDITUF FOR BIOMEDICA RESEARCH [(000's)
GROUP I [1]						
ALBERTA	468 (6)	394 (4)	423 (8)	275 (9)	829 (6)	$24,416 (7)
CALGARY	215 (16)	85 (14)	310 (13)	219 (13)	468 (11)	24,543 (6)
DALHOUSIE	387 (9)	88 (13)	399 (9)	277 (12)	502 (10)	8,676 (13)
MANITOBA	382 (10)	124 (11)	354 (11)	340 (7)	697 (7)	16,456 (9)
McGILL	626 (3)	437 (2)	818 (2)	486 (2)	833 (5)	41,794 (2)
McMASTER	305 (12)	229 (6)	356 (10)	390 (3)	430 (12)	25,391 (5)
MEMORIAL	222 (15)	37 (16)	195 (16)	140 (16)	199 (15)	3,641 (16)
MONTREAL	916 (2)	437 (2)	736 (3)	349 (5)	1008 (3)	38,115 (3)
OTTAWA	323 (11)	148 (10)	430 (7)	288 (8)	528 (9)	10,036 (12)
QUEEN'S	291 (14)	155 (9)	226 (14)	265 (10)	142 (16)	10,932 (11)
SASKATCHEWAN	298 (13)	50 (15)	214 (15)	243 (11)	279 (14)	5,595 (15)
SHERBROOKE	409 (8)	112 (12)	236 (12)	178 (15)	293 (13)	8,367 (14)
GROUP II [7]						
BRITISH COLUMBIA	502 (5)	211 (8)	473 (4)	343 (6)	1258 (2)	22,500 (8)
LAVAL	601 (4)	271 (5)	438 (6)	185 (14)	949 (4)	14,088 (10)
TORONTO	989 (1)	753 (1)	1710 (1)	925 (1)	2266 (1)	53,658 (1)
WESTERN ONT	416 (7)	225 (7)	444 (5)	388 (4)	571 (8)	28,205 (4)
TOTALS	7350	3756	7762	5291	11252	$336,463
MEANS	459	235	485	331	703	$21,024

NOTES TO TABLE I

[1] Figures as reported by universities. Rank order (highest to lowest) shown in parentheses.

[2] From Table 23, p. 25, Canadian Medical Education Statistics 1986. Ottawa: ACMC.

[3] From Tables 39 and 40, pp. 49-50

[4] From Table 49, p. 60.

[5] From Table 67, p. 85.

[6] From Table 68, p. 88.

[7] Group I - The libraries for Group I are organized to serve health profession schools
Group II - The libraries for Group 2 serve science faculties in addition to health profession schools.

TABLE II

Selected Statistics Re the 16 Canadian Medical School Libraries

1985-86 [1]

	HOLDINGS				FINANCES			STAFF		HOURS OF SERVICE	
UNIVERSITY (AND YEAR MEDICAL LIBRARY ESTABLISHED)	Total Bound Volumes	Serial Titles currently received	Microform Units	A/V Units	Total Expenditures	Acquisition Expenditures	External Reveue	Professional Librarians	Total Staff Including Librarians	Hours Open Per Week	Hours staffed by a Professional Librarian
GROUP I [2]											
ALBERTA ** (1922)	153,704	2,052	2,230	1,530	$1,076,394	$591,911	$13,659	6	23.9	97	65.5
CALBARY (H)** (1969)	83,316	1,691	11,890	8,694	789,515	419,481	75,991	2.3	15.1	91.25	40
DALHOUSIE (1875)	141,840	2,797	15,812	4,900	1,321,615	423,661	94,263	7	33.5	87.5	58
MANITOBA (1899)	91,645	1,440	5,048	3,525	973,863	387,628	35,830	5.25	22.75	78	47.5
McGILL (H) [3] (1823)	216,150	2,315	396	16,095	NR	358,769	155,059	9	30.5	85.5	55
McMASTER (1966)	103,954	1,417	3,751	7,337	1,287,222	417,470	150,656	8.3	31.6	103.5	42.5
MEMORIAL (1969)	78,474	1,793	6,039	2,024	822,647	389,228	NR	4.57	23.43	91.5	40
MONTREAL (1920)	175,566	2,655	2,923	12,897	1,369,021	546,683	NR	7	32	77	57
OTTAWA ** (1945)	79,509	1,472	492	2,205	562,305	325,299	NR	3	11	95.5	54.5
QUEEN'S (1854)	95,009	1,183	1,768	1,314	724,601	339,072	23,5334	4	16.5	92.4	35
SASKATCHEWAN ** (1951)	77,005	1,424	-	-	NR	286,892	-	2	10.5	89	35
SHERBROOKE ** (1962)	78,375	1,208	3,099	1,969	330,289	324,530	38,538	1 [5]	6.3	78.5	NR
GROUP I MEANS	114,546	1,787	4,853	5,681	925,827	400,907	73,441	5.45	2.142	88.9	48.2
GROUP II [2]											
BRITISH COLUMBIA [4] (1950)	333,786	7,042	14,533	-	$2,570,036	$1,062,657	$35,000	17.5	61.96	81.2	70
LAVAL ** (1953)	NOT REPORTED										
TORONTO **(1890)	596,602	3,589	51,379	3,059	NR	NR	NR	12.5	51.85	78.5 [6]	59 [6]
WESTERN ONTARIO (1881)	397,029	5,075	24,436	9,931	2,134,645	1,241,084	4,605	6	4,605	90	NR

NOTES

[1] Developed in large measure from data collected and compiled for the ACMC Special Resources Committee on Medical School Libraries by Ms. Mrya Owen of the University of Ottawa and published in the ACMC FORUM XX:1 (Dec. 86 – Jan. 87) pp. 14-15. Hours staff per week by a Professiona Librarian are extracted from Table 40, pp. 80-81, 1985-86 Annual Statistics of Medical School Libraries in the United States and Canada.

[2] Group I libraries serve various health profession schools. (M) indicates those serving medical schools only. Group II libraries serve various other science faculties in addition to health profession schools.

[3] The Medical Library at McGill and the Osler Library.

[4] The Woodward Biomedical Library at the University of British Columbia and 3 hospital branches.

[5] Figures confirmed by Sherbrooke for this survey.

[6] Figures supplied by Toronto for this survey.

NR Not reported.

** These libraries do not carry a substantial range of their own technical services. Staff shown does not include technical service staff, nor is it the cost of the technical services involved included in total expenditures shown. Functions for which technical services are most frequently the responsibility of some other division of the university library system are cataloguing.

TABLE III

Bound Volumes in Canadian Medical School Libraries for Selected Years [1]

LIBRARY	1961-62	1975-76	1980-81	1985-86	%CHANGE 1985-86 FROM 1961-62	% CHANGE 1985-86 FROM 1975-76	% CHANGE 1985-86 FROM 1980-81
GROUP I [2]							
ALBERTA	23,416	107,362	136,721	153,704	+ 556%	+ 43.2%	+ 12.4%
CALGARY (M)		50,733	68,465	83,316		+ 64.2%	+ 21.7%
DALHOUSIE	30,000	115,674	124,711	141,840	+ 373%	+ 22.6%	+ 13.7%
MANITOBA	30,416	63,475	76,178	91,645	+ 201%	+ 44.4%	+ 20.3%
McGILL (M)	96,000	165,285	198,047	216,150	+ 125%	+ 30.8%	+ 9.1%
McMASTER		59,649	82,457	103,954		+ 74.3%	+ 58.8%
MEMORIAL		31,111	59,699	78,474		+ 152.2%	+ 31.4%
MONTREAL	27,750	134,900	138,285	175,566	+533%	+31.1%	+26.9%
OTTAWA	17,000	125,937	170,000	79,509	+ 368%		NOTE [3]
QUEEN'S	30,000	55,080	74,318	95,009	+ 217%	+ 72.5%	+ 27.8%
SASKATCHEWAN	15,380	53,338	67,318	77,005	+ 401%	+ 44.4%	+ 14.4%
SHERBROOKE		62,648	60,945	78,375		+ 25.1%	+ 28.6%
MEANS FOR GROUP I	33,745	81,750	98,831	114,546	+ 239%	+ 40.1%	+ 17.7%
GROUP II [2]							
BRITISH COLUMBIA	36,558	228,964	237,344	333,786	+ 813%	+ 45.8%	+ 40.6%
LAVAL	26,553	260,102	306,266	NR			
TORONTO	83,000	367,827	461,843	596,602 [4]	+ 619%	+ 62.2%	+ 29.2%
WESTERN ONTARIO	58,186	123,050	140,564	397,029	+ 582%		Note [5]
MEANS FOR GROUPS 1 & 2 COMBINED	39,552	125,321	150,198	271,767	+ 588%	+ 116.9%	+ 80.9%

NOTES TO TABLE III

[1] Data developed from figures compiled by the ACMC Special Resource Committee on Medical School Libraries, as published in the ACMC FORUM X:2 (Feb.-Mar. 1977) pp. 17-20, for 1975-76; XV:2 (Feb.-May. 1982) pp. 5-6, for 1980-81; XX:l (Dec-Jan 1987) pp. 14-15 for 1985-86.

[2) Group I libraries serve various health profession schools. (M) indicates those serving medical schools only. Group II libraries serve various other science faculties in addition to health profession schools.

[3] Ottawa figures for 1975-76 and 1980-81 reflect responsibility at the time beyond health profession schools, whereas the Ottawa figure for 1985-86 is for health profession schools only. % change 1985-86 from 1975-76 and from 1980-81 are therefore not indicated. For the same reason Ottawa figures are not included, except for 1985-86, in calculating the means shown for Group I. They are, however, included in the means for Groups I and II combined.

[4] This figure has been recalculated by Toronto as 773,000 in a report prepared for purposes of this study, as if for submission to 1985-86 Annual Statistics of Medical School Libraries in the United States and Canada.

[5) Western Ontario figures for 1985-86 reflect responsibility beyond health protection schools, though that was not the case for 1975-76 and 1980-81.

COMMENTS ON TABLE III

1) As would be expected, these data show substantial differences among and between institutions: both in the number of bound volumes in their collection, and in changes over time. Doubtless the most fruitful analyses are those undertaken by each library in the light of its own responsibilities and circumstances.

2) It seems fair to conclude, however, that the period from 1961-62 to 1975-76 was one of overall massive growth. By 1975-76 more than four times as many bound volumes were available in Canada's 16 medical school libraries as had been available in the 12 libraries fourteen years earlier.

3) Growth since 1975-76 has continued steadily for every medical school library reporting. That growth has proceeded, though with some outstanding exceptions, at a somewhat slower rate than previously. Means have been calculated for the libraries in Group 1: those whose prime responsibility is to serve health profession schools, rather than additional science programs as well. For Group I libraries the mean increase over the ten years from 1975-76 to 1985-86 was 40.1%, and 17.7% over the five years from 1980-81 to 1985-86. That works out to a growth rate of about 3 1/4% annually.

4) Holdings in bound volumes in Group 11 libraries have grown to remarkable size. It is difficult to deal with them on a comparable basis, for the extent to which their holdings reflect broader responsibilities than those typical of "medical school libraries" is not clear. Nonetheless, the combined holdings reported by British Columbia, Toronto and Western Ontario for 1985-86 were virtually equivalent in number to those of all the other twelve libraries reporting.

TABLE IV

Number of Serial Titles Currently Received by Canadian Medical School Libraries
1975-76, 1980-81, 1985-86 [1]

LIBRARY	1975-76	1980-81	1985-86	%CHANGE 1985-86 FROM 1975-76	%CHANGE 1985-86 FROM 1980-81
GROUP I [2]					
ALBERTA	2,167	1,998	2,052	- 5.3%	+ 2.7%
CALGARY [M]	1,548	1,572	1,691	+ 9.2%	+ 7.6%
DALHOUSIE	3,712	3,122	2,797	- 24.6%	- 10.4%
MANITOBA	1,428	1,346	1,440	+ 0.8%	+ 7.0%
McGILL [M]	2,291	2,282	2,315	+ 1.0%	+ 1.4%
McMASTER	1,173	1,385	1,417	+ 20.8%	+ 2.3%
MEMORIAL	1,270	1,785	1,793	+ 41.2%	+ 0.4%
MONTREAL	3,080	2,662	2,655	- 13.8%	- 0.73
OTTAWA	2,767	2,900	1,472	NOTE [3]	NOTE [3]
QUEEN'S	985	1,248	1,183	+ 20.1%	- 5.2%
SASKATCHEWAN	1,517	1,024	1,424	- 6.1%	+ 39.1%
SHERBROOKE	850	956	1,208	+ 42.1%	+ 26.5%
MEAN FOR GROUP I	1,820	1,762	1,787	-18.5	+ 1.4%
GROUP II [2]					
BRTITISH COLUMBIA	4,083	4,405	7,042	+ 72.5%	+ 60%
LAVAL	4,649	3,236	NR		
TORONTO	4,319	3,417	3,589 [4]	- 16.9%	+ 5.0%
WESTERN ONTARIO	1,884	2,328	5,075	Note [5]	Note [5]
MEANS FOR GROUPS I & II COMBINED	2,358	2,229	2,477	+ 5.0%	+ 11.1%

NOTES TO TABLE IV

[1] Data developed from figures compiled by the ACMC Special Resource Committee on Medical School Libraries, as published in the ACMC FORUM X:2 (Feb. - Mar 1977) pp. 17-20, for 1975-76; XV:2 (Feb. - Mar. 1982) pp. 5-6, for 1980-81; XX:l (Dec. - Jan. 1987) pp. 14-15, for 1985-86.

[2] Group I libraries serve various health profession schools. (M) indicates those serving medical schools only. Group 11 libraries serve various other science facilities in addition to health profession schools.

[3] Ottawa figures for 1975-76 and 1980-81 reflect responsibility at the time beyond health profession schools, whereas the Ottawa figure for 1985-86 is for health profession schools only. % change 1985-86 from 1975-76 and from 1980-81 are therefore not indicated. For the same reason Ottawa figures are not included, except for 1985-86, in calculating the means shown for Group 1. They are, however, included in the means for Groups I and 11 combined.

[4] Western Ontario figures for 1985-86 reflect responsibility beyond health profession schools, though that was not the case for 1975-76 and 1980-81.

[5] This figure has been recalculated by Toronto as 5,159 in a report prepared, for purposes of this study, as if for submission to 1985-86 Annual Statistics of Medical School Libraries in the United States and Canada.

COMMENTS

1) Again it would be dangerous to attempt any precise comparisons or conclusions from these data. The figures reported reflect differing responsibilities among and between libraries, and even within the same library over the years. Doubtless the most fruitful analyses are those undertaken by each library of its own current serial receipts and changes in that statistic.

2) Means have nevertheless been calculated as a matter of possible interest. The separate means for Group I libraries show very little change over the ten years and the five. On the other hand, substantial percentage reductions are reported by Dalhousie and Montreal. The largest percentage increases over the ten years are shown by Sherbooke, Memorial and McMaster; over the last five years by Saskatchewan and Sherbrooke.

3) Figures for British Columbia (Woodward Biomedical Library and three hospital branches) show very substantial increases over both ten years and five years to a total of 7,042 titles received in 1985-86. That total is nearly four times the mean for Group I libraries, though obviously the constituencies served are scarcely comparable. If British Columbia figures are omitted in calculating means for Groups I and 11 libraries combined, the mean for 1985-86 is 4.1% lower than that for 1975-76, 3.2% higher than that for 1980-81.

4) For further information concerning journals currently received, showing comparisons with 1961-62, see Table VI, Current Receipt by Universities of Journals Indexed in Index Medicus.

TABLE V

Microform and A/V Holdings in Canadian Medical School Libraries [1]

For Selected Years

LIBRARY	MICROFORM UNITS [2]		A/V UNITS [3]		
	1980-81	1985-86	1975-76	1980-81	1985-86
GROUP I					
ALBERTA	67	2,230	1,321	2,470	1,530
CALGARY	464	11,890	2,773	2,812	8,694
DALHOUSIE	16,922	15,812	2,677	3,859	4,900
MANITOBA	NR	5,048	1,257	2,923	3,525
McGILL	1,627	396	285	7,797	16,095
McMASTER	830	3,751	4,719	7,426	7,337
MEMORIAL	4,589	6,039	1,290	4,872	2,024
MONTREAL	1,030	2,923	185	8,337	12,897
OTTAWA	NR	492	NR	2,000	2,205
QUEEN'S	NR	1,768	528	NR	1,314
SASKATCHEWAN	NR	NR	99	NR	NR
SHERBROOKE	1,122	3,039	1,138	1,147	1,969
GROUP II					
BRITISH COLUMBIA	18,806	14,533	NR	NR	NR
LAVAL	NR	NR	NR	NR	NR
TORONTO	33,237	51,879	7	70	3,059
WESTERN ONTARIO	360	24,436	45	7,060	9,931

NOTES

[1] Figures for 1975-76 from the ACMC FORUM X:2 (Feb.-Mar. 1977), p. 20.
Figures for 1980-81 from the ACMC FORUM XV:2 (Feb.-Mar. 1982), p. 6
Figures for 1985-86 from the ACMC FORUM XX:l (Dec.-Jan. 1987), p. 15.

[2] Microform units comprise primarily microfilm reels and microfiche.

[3] A/V Units comprise principally motion picture films, film loops, slide sets, slide/tape sets, sound recordings, and video tapes.

NR = Not Reported

COMMENTS ON TABLE V

1) This table is included because of considerably increased interest in, and availability of, materials of these kinds over the past ten years.

2) The data should be interpreted with caution. While they cover actual library holdings, such materials (especially audio-visual items) are frequently housed in whole or in part in a separate unit, or within academic departments, and therefore are not reflected in holdings of the library itself.

TABLE VI

Current Receipt by Universities of Journals Indexed in Index Medicus

1986 and 1962

University	No. of Titles Currently Received 1986 [1]	% Received of the Total 2741 Journals Indexed in 1986	% of the 2261 Journals Indexed in 1962 Received at that Time [2]
ALBERTA	1738	63.4%	34.0%
BRITISH COLUMBIA	1722	62.8%	51.5%
CALGARY	1221	44.5%	-
DALHOUSIE	1120	40.9%	20.4%
LAVAL	789	28.8%	28.2%
MANITOBA	1207	44.0%	25.3%
McGILL	1222	44.6%	50.4%
McMASTER	1118	40.8%	-
MEMORIAL	1057	38.6%	-
MONTREAL	1472	53.7%	31.8%
OTTAWA	1167	42.6%	25.8%
QUEEN'S	904	33.0%	19.6%
SASKATCHEWAN	823	30.0%	26.5%
SHERBROOKE	873	31.8%	-
TORONTO	1904	69.5%	33.9%
WESTERN ONTARIO	1510	55.1%	26.8%
MEAN	1240	45.2%	31.2%

NOTES:[1] Data prepared and reported by request by medical school libraries as of December 1986.
[2] Calculated from Table V, pp. 88-89, of The Simon Report (1964)

COMMENTS ON TABLE VI

Index Medicus, produced by the National Library of Medicine, Washington, is widely used as a reference source, both in print version and online as MEDLARS. Recent years are now also available in CD-ROM. Serials selected for indexing are carefully vetted for quality. Although Canadian medical school libraries report annually on the total number of serial titles they currently receive, the ACMC/CHLA Project Committee on the present study considered that it would also be useful to obtain information as to which, and how many, journals indexed in Index Medicus are currently received by Canadian medical school libraries. Accordingly those libraries were requested to provide such a listing, as of December 1986. Returns are summarized in the above table. Comparisons are also made to 1962, the last occasion for which such data were gathered.

1) For the 16 universities in 1986, the number of titles currently received, from those indexed in Index Medicus, ranged from 789 titles to 1904 titles: from 28.8% of those indexed to 69.5%. The mean was 1240 titles, or 45.2%.

2) For the 12 universities with medical schools in 1962, holdings ranged from 19.6% of the titles then indexed in Index Medicus to 51.5%. The mean for the 12 universities at that time was 705 titles, or 31.2%.

3) Holdings as a percentage of titles indexed in Index Medicus have increased at all universities covered by Simon for 1962 except one (McGill, now at 44.6%). In the case of three universities the percentage of holdings has more than doubled (Toronto, now 69.5%, Western Ontario, now 55.1% and Dalhousie, now 40.9%).

4) If the assumption is made that increased holdings of current journals covered by Index Medicus, immediately available within the local university, is a desirable advance, then these data provide clear evidence of substantial improvement since 1962.

Simon also provided a figure for titles indexed in Index Medicus in 1962, but available that year in any of the 12 university libraries. This figure was 701, or 31% of the titles then indexed. A comparable figure for today's 16 medical school libraries has not been calculated. However, the Health Sciences Centre at CISTI indicates that a list currently under preparation (covering the more than 300 libraries participating in CISTI's Union List of Scientific Serials in Canadian Libraries) finds that only 340 titles today - 12% of the titles currently indexed in Index Medicus - are not available at any participating library in Canada.

TABLE VII

Total Expenditures of Canadian Medical School Libraries
1961-62, 1980-81, 1985-86

LIBRARY	1961-62 [1]	1980-81 [2]	1985-86 [3]	1980-81 EXPRESSED IN 1985-86 DOLLARS [4]	DIFFERENCE 1985-86 OVER 1981-82 IN 1985-86 DOLLARS
GROUP I					
ALBERTA	$39,486	$493,070	$1,076,394	$705,090	+$371,304 (+52.7%)
CALGARY	-	587,964	789,515	840,788	-$ 51,273 (- 6.2%)
DALHOUSIE	31,628	884,226	1,321,615	1,264,443	+$ 57,172 (+4.5%)
MANITOBA	36,900	567,036	973,863	810,861	+$163,002 (+20.1%)
McGILL	75,725	NR	NR	-	-
McMASTER	-	678,776	1,287,222	970,650	+$316,572 (+32.6%)
MEMORIAL	-	786,032	822,647	1,124,026	-$301,379 (-26.8%)
MONTREAL	53,300	1,147,997	1,369,821	1,641,636	-$271,815 (-16.6%)
OTTAWA	36,170	888,137	562,305	1,270,036	Note [5]
QUEENS	NR	477,519	724,601	682,852	+$41,749 (+ 6.1%)
SASKATCHEWAN	30,350	NR	NR	-	-
SHERBROOKE	-	NR	330,289	-	-
MEANS FOR 8 GROUP I LIBRARIES [6]		702,828	1045,710	1,005,044	+$ 40,666 (+ 4.0%)
GROUP II					
BRITISH COLUMBIA	69,118	1,630,483	2,570,036	2,331,591	+$238,445 (+10.2%)
LAVAL	35,630	NR	NR	-	-
TORONTO	NR	NR	NR	-	-
WESTERN ONTARIO	37,570	728,601	2,134,645	1,041,899	Note [7]
MEAN FOR THE 10 LIBRARIES REPORTING IN 1961-62	$44,588				

NOTES TO TABLE VII

[1] Figures for 1961-62 from Tables XIII and XIV, pp. 107-108, of The Simon Report (1964).
[2] Figures for 1980-81 from the ACMC FORUM XV: 2 (Feb.-Mar. 1982), p. 5.
[3] Figures for 1985-86 from the ACMC FORUM XXI: 1 (Dec.-Jan. 1987), p.15.
[4] Correction to constant dollars, using the Consumer Price Index: $1 in 1980 equals $1.43 in 1985 dollars.
[5] Difference 1985-86 over 1980-81 is not calculated for Ottawa, since in 1980-81 Ottawa was responsible for serving programs additional to health profession programs, which was not the case in 1985-86.
[6] In calculating these means the 3 libraries not reporting for one or both 1980-81 and 1985-86 are of course omitted, as was Ottawa in accordance with note [5] above.
[7] Difference 1985-86 over 1980-81 is not calculated for Western Ontario, since by 1985-86 Western had changed to serve other science programs in addition to health profession programs.

COMMENTS ON TABLE VII

1) Expenditure comparisons between institutions and over time are extremely slippery. Accounting practices differ among institutions, as do the responsibilities of and items charged to the medical libraries. It is easy to understand that the library heads find it difficult - and sometimes impossible - to provide expenditure figures with any confidence that they are doing so on a basis of reasonable comparability. In some cases, for example, it would appear that expenditure figures reported here may not include grants or income other than current allocations within a university's base budget; similarly revenues from expense recovery items may or may not have been taken into account.

2) Nonetheless, it is clear that substantially more moneys are spent on Canadian school libraries today than was the case in Simon's day. in 1961-62 average expenditure for the ten libraries reporting (of the twelve then existing) was $44,588. Corrected for inflation to 1985 dollars, that becomes $180,581. That corrected figure is only about one dollar for every six spent average in 1985-86 by eight current Group I libraries.

3) Real increase in expenditure on average over the five years from 1980-81 to 1985-86, however, appears to be minimal. Means were calculated for the eight libraries where comparison for 1985-86 over 1980-81 seemed possible. (Three of the twelve libraries had not reported for one or both of those years, and Ottawa was omitted because their figures for 1980-81 reflect responsibilities extending beyond health profession schools to other science programs, but not so in 1985-86). After correcting in accordance with the Consumer Price Index, a mean increase in total expenditures of only 4% is indicated.

4 Once again doubtless the most fruitful analyses would be those made by the individual library in the light of its responsibilities and circumstances over the years. The mean of plus 4% reflects (or obscures!) wide differences libraries, as shown:

Alberta	+ 52.7%	Memorial	- 26.8%
McMaster	+ 32.6%	Montreal	- 16.6%
Manitoba	+ 20.1%		

TABLE VIII

Acquisition Expenditures of Canadian Medical School Libraries
1980-81 and 1985-86

LIBRARY	REPORTED 1980-81 [1]	REPORTED 1985-86 [2]	1980-1 EXPRESSED IN 1985-86 DOLLARS [3]	DIFFERENCE 1985-86 OVER 1980-81 IN 1985-86 DOLLARS
GROUP I				
ALBERTA	$302,839	$ 591,911	$ 433,060	$ + 158,851 (+ 36.7%)
CALGARY	282,838	419,481	404,458	+ 15,023 (+ 3.7%)
DALHOUSIE	316,450	423,661	452,524	- 28,863 (- 6.4%)
MANITOBA	222,868	387,628	318,701	+ 68,927 (+ 21.6%)
McGILL	276,449	358,769	395,322	- 36,553 (- 9,2%)
McMASTER	222,409	417,740	318,045	+ 99,695 (+ 31.3%)
MEMORIAL	330,645	389,228	472,822	- 83,594 (- 17.7%)
MONTREAL	441,924	546,683	631,951	- 85,268 (- 13.5%)
OTTAWA	579,329	325,299	854,180	Note [4]
QUEEN'S	250,837	339,072	358,697	- 19,625 (- 5.6%)
SASKATCHEWAN	185,300	268,892	264,979	+ 21,913 (+ 8.3%)
SHERBROOKE	183,202	324,530	261,979	+ 62,551 (+ 23.9%)
MEAN FOR 11 GROUP I LIBRARIES [5]	274,160	407,781	392,049	+ 15,732 (+ 4.0%)
GROUP II				
BRTITISH COLUMBIA	774,048	1,062,657	1,063,989	- 1,332 (- 0.1%)
LAVAL	684,880	NR	979,378	
TORONTO	NR	NR		
WESTERN ONTARIO	368,312	1,241,084	526,686	Note [6]

Notes

[1] Figures for 1980-81 from <u>ACMC FORUM</u> XV:2 (Feb.-Mar. 1982), p. 6
[2] Figures for 1985-86 from <u>ACMC FORUM</u> XX:l (Dec.-Jan. 1987), p. 15.
[3] Correction to constant dollars, using the Consumer Prince Index: $1 in 1980 equals $1.43 in 1985 dollars.
[4] Difference not calculated for Ottawa, since in 1980-81 Ottawa was responsible for serving programs additional to health profession programs, which was not the case in 1985-86.
[5] Ottawa omitted in calculating the means, in accordance with note [4] above.
[6] Differences not calculated for Western Ontario, since reponsibilities for serving programs additional to health sciences programs have been added since 1980-81.

COMMENTS ON TABLE VIII

1) Reported expenditures for acquisitions, while still offering possibilities for some differences of definition and accounting between libraries and over time, would appear to be relatively reliable and comparable.

2) When correction is made for inflation according to the Consumer Price Index, the average real increase in acquisition expenditures from 1980-81 to 1985-86 for the 11 Group I libraries where comparison is possible works out to only 4%.

3) The overall 4% increase includes changes of plus 36.7% at Alberta and 31.3% at McMaster, through 23.9% at Sherbrooke, 21.6% at Manitoba, 8.3% at Saskatchewan, and 3.7% at Calgary. Actual reductions in constant dollars occured at five institutions: 17.7% at Memorial, 13.5% at Montreal, 9.2% at McGill, 6.4% at Dalhousie, and 5.6% at Queen's.

4) Concern arises that a real increase of only 4% for the five year period is seriously inadequate. Take the matter of serials, which are much used in health sciences teaching and research and frequently account for more than 70% of acquisitions expenditures.

   a) The 4% increase in constant dollars is calculated according to the Consumer Price index. but the "basket" on which the CPI is based certainly does not include medical serials according to the annual study of serial price changes in the United States,[1] the average price for the medical titles included was $137.92 US in 1985, compared to $73.37 US in 1980.

   b) Since those prices are in US dollars, a correction for currency exchange must be taken into account. Whereas in 1980 it took $1.17 Canadian to purchase $1 US, in 1985 it took $1.36 to do so. (Revenue Canada average conversion figures for the year.)

From the above a simple calculation covering the purchase price of a typical United States medical journal (US serials are central to medical library acquisitions) is as follows:

Year	Price in Current $ US	Price in Current $ Canadian	Price in 1985 $ Canadian (CPI factor of 1.43)
1980-81	$ 73.37	$ 85.84	$122.75
1985-86	$137.92	$187.57	$187.57
Increase	$ 64.55	$101.73	$ 64.82
% Increase	88.0%	118.5%	52.8%

Thus the percentage increase in real cost over the five years, even after allowing for the CPI adjustment for inflation, has been a massive 52.8%. That is some thirteen times the average increase in acquisitions expenditure of only 4% for the same period.

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1 Horn, Judith G. and Rebecca T. Lenzini, "Price Indexes for 1985: U.S. Periodicals”. Library Journal CX: 13 (August 1985), pp. 53-59.

Moreover increases in costs of journals show every sign of continuing and even accelerating. McGill reports selecting at random 100 serial titles in their Medical Library, and comparing actual costs for them in 1986 and 1987. The 1986 total was $32,555 Canadian; the 1987 total is $40,569, an increase of 24.6% in the single current year. Journals supported by Canada's Natural Sciences and Engineering Research Council have increased 20-27% in price from 1986 to 1987. An internal study at McMaster includes a model illustrative of the kind of acquisitons budget which would be required annually to buy only the same number of books they now purchase, and to maintain subscriptions only to those journals they now buy. Assuming an annual cost increase of 10% for books and 15% for journals, $3,000,000 in 1986-87 would need to be $4,277,812 three years later, and $5,432,799 five years later, an increase of 81% by 1991-92.

No wonder medical school libraries almost universally report they have been wrestling with the necessity to cut serial titles. Toronto indicates that over 200 medical and health science journal subscriptions have been cut since 1985. McGill reports they are seeking to effect another $50,000 reduction in journal subscriptions at the moment. Meanwhile knowledge, and the body of scientific/medical literature recording and reflecting that knowledge, grows at what appears to be almost an exponential rate. And demand for it increases.

It seems fair to conclude that, at least in terms of acquisitions, our medical school libraries on the whole are simply unable to keep up.

TABLE IX

Total Staff and Professional Librarians In Canadian Medical School Libraries
For Selected Years [1]

LIBRARY	1961-62 TOTAL	PROF.	1975-76 TOTAL	PROF.	1980-81 TOTAL	PROF.	1985-86 TOTAL	PROF.
GROUP I [2]								
ALBERTA	4	2	10.5	4.5	13	5.5	23.9	6
CALGARY (M)			16.8	4	17.6	3	15.1	2.3
DALHOUSIE	4	2	39	10	39	8	33.5	7
MANITOBA	8	3	30.3	4	21.9	5	22.75	5.25
McGILL (M)	14	5	40	15	36	14	30.5	9
McMASTER			28	5	29	5	31.6	8.3
MEMORIAL			21	4	21	4	23.43	4.57
MONTREAL	5	3	38	6	37	7	32	7
OTTAWA [3]	6.5	1.5	23.3	4	21.9	5	11	3
QUEEN'S	2.5	1	13.1	3	16.5	4	16.5	4
SASKATCHEWAN	4	2	8	2	9.5	1.5	10.5	2
SHERBROOKE			5.4	2	6.3	2	6.3	1 [4]
GROUP II [2]								
BRITISH COLUMBIA [5]	9	3	45	11.5	45.9	12.9	61.96	17.5
LAVAL	4	2	26	7	30	9	NR	
TORONTO	14	6	56.8	17	49.73	12	51.85	12.25
WESTERN ONTARIO	5.5	1.5	24.7	NR	23.57	5.14	38.04	6
TOTALS	80.5	32	415.9	99	417.9	103.4	408.93	95.17
MEANS	6.17	2.66	25.99	6.6	26.19	6.44	27.26	6.34

NOTES TO TABLE IX

[1] Data for 1961-62 from Table XII, p. 106, of The Simon Report (1964). Data for other years developed from figures compiled by the ACMC Special Resource Committee on Medical School Libraries, as published in the ACMC FORUM X: 2 (Feb. - Mar. 1977) pp. 17-20, for 1975-76; XV:2 (Feb. - Mar. 1982) pp. 5-6 for 1980-81, XX: l (Dec. - Jan. 1987) pp. 14-15, for 1985-86.

[2] Group I libraries serve various health profession schools. (M) indicates those serving medical schools only. Group 2 libraries, after some variation over the years, now serve various other science programs as well as health profession schools.

[3] Ottawa figures for 1985-76 and 1980-81 reflect responsibility at the time beyond health profession schools.

[4] Figure confirmed by Université de Sherbrooke for this study.

[5] Figures for the University of British Columbia for 1961-62 include their one branch library at the time. UBC figures for 1985-86 are for the Woodward Biomedical Library and their three hospital branches.

[6] Western Ontario figures for 1985-86 reflect responsibilities expanded beyond health profession schools.

NR = Not Reported.

COMMENTS ON TABLE IX

It would be dangerous to attempt any precise comparisons over the years from these data. Even on something as concrete as numbers of staff there are some omissions in the figures reported; moreover differing responsibilities carried by the reporting library vary from university to university, and even within the same university over time, with obvious implications for staffing. Yet at least three realities stand out:

a) Substantial growth in total number of staff occurred from Simon's day (1961-62) to 1975-76. Over those fourteen years twelve Canadian medical schools became sixteen, and the total number of library staff serving them increased more than five-fold.

b) In contrast, there was very little change in total number of library staff from 1975-76 to 1985-86. A curve drawn for the sixteen libraries combined would be a pretty flat one.

c) Nevertheless, there are marked differences, as might be expected, among and between libraries. Thus the median total staff for libraries reporting in 1980-81 was 26.19; five years later in 1985-86 that figure showed a marginal increase of about 4% to 27.26. Yet over those five years some of the reporting libraries had found it wise or necessary to reduce staff: McGill by 15.3%, Calgary by 14.2%, Dalhousie by 14.1%, Montreal by 13.5%. These reductions were largely offset in the mean figure by increases of 83.8% at Alberta, and 35% at British Columbia.

It may be of passing interest to note that the proportion of professional librarians in total medical school library staff across the country has been declining:

1961-62 - 39.8%	1980-81 – 24.7%
1975-76 - 25.3%	1985-86 - 23.3%

Table X
Hours Open Per Week, Canadian Medical School Libraries
1961-62, 1980-81, 1985-86

LIBRARY	1961-62 [1]	1980-81 [2]	1985-86 [3]	HOURS STAFFED BY A PROFESSIONAL LIBRARIAN [4]
GROUP I				
ALBERTA	80	91.75	97	65.5
CALGARY	-	NR	91.25	40
DALHOUSIE	80	91.5	87.5	58
MANITOBA	68.5	77	78	47.5
McGILL	75.5	87.5	85.5	55
McMASTER	-	112	103.5	42.5
MEMORIAL	-	95.5	91.5	40
MONTREAL	70	84	77	57
OTTAWA	82	105	95.5	54.5
QUEEN'S	77.5	92.5	92.5	35
SASKATCHEWAN	72	91	89	35
SHERBROOKE	-	83	78.5	NR
GROUP II				
BRITISH COLUMBIA	79	94	81.2	70
LAVAL	73	88.5	NR	NR
TORONTO	73	83	78.5 [5]	59 [5]
WESTERN ONTARIO	68	85	90	52 [5]
MEANS	74.9	90.8	87.8	50.8

NOTES

[1] Figures for 1961-62 calculated from Table XII, p. 106, of The Simon Report. (1962).
[2] Data for 1980-81 from the ACMC FORUM XV: 2 (Feb.-Mar. 1982) p. 5.
[3] Data for 1985-86 from the ACMC FORUM XXI: 1 (Dec.-Jan. 1987) p. 14.
[4] Data from Table 40, pp. 80-81, 1985-86 Annual Statistics of Medical School Libraries in the United States and Canada.
[5] Figures supplied by Toronto and Western Ontario for this survey.

COMMENTS ON TABLE X

1) On the average, hours of opening in Canadian medical school libraries were extended, between 1961-62 and 1980-81, by about 16 hours per week or over 20%.

2) Between 1980-81 and 1985-86 average weekly hours of opening declined by 3, or over 3%. Ten libraries reported reduced hours of opening over that five-year period, while 3 reported extended hours of opening.

3) On average, in 1985-86 the services of a professional librarian were m available in the library for 50.7 hours per week, or 58% of the time the library was open. The range was wide, however: from 35 hours a week at two libraries to 70 at another.

TABLE XI

Interlibrary Loan Activity, Canadian Medical School Libraries [1]
1978-79, 1983-84, 1985-86

	1978-79			1983-84			1985-86		
LIBRARY	ITEMS BORROWED	REQUESTS RECEIVED	REQUESTS FILLED	ITEMS BORROWED	REQUESTS RECEIVED	REQUESTS FILLED	ITEMS BORROWED	REQUESTS RECEIVED	REQUESTS FILLED
ALBERTA	454	1,105	1,100				2,215	3,558	2,579
BRITISH COLUMBIA	1,763	1,282	1,180	2,850	5,029		3,953	3,863	3,443
CALGARY				2,082	3,992	3,421	1,792	6,267	5,098
DALHOUSIE	1,298	10,636	10,542	2,263	20,168	18,151	1,946	12,694	11,021
MANITOBA	941	950	928	1,357	6,800	6,735	1,183	6,981	6,950
McGILL	536	16,816	13,445	452	15,228	12,619	411	17,765	14,441
McMASTER	1,293		4,492	2,962	61,151	2,157	3,944	8,489	7,833
MEMORIAL				1,151	5,715	5,502	1,217	6,158	5,528
MONTREAL		3,924	3,924						10,968
OTTAWA	1,806	12,043	9,769	856	9,636	9,204	587	12,578 [2]	11,859 [2]
QUEEN'S	1,488		1,771	1,857		2,597	2,071		3,590
SASKATCHEWAN				1,135	2,900	2,329	2,167	3,156	2,484
TORONTO	1,461	5,295	4,324				1,592 [3]	69,222 [3]	58,074 [3]
WESTERN ONTARIO	592	2,292	2,206	1,577	6,568	5,902	1,597	7,722	6,847

NOTES

[1] Data from Annual Statistics of Medical School Libraries in the United States and Canada: the 1978-79 Edition, Table 13, pp. 49-50; the 1983-84 Edition, Table 37, pp. 73-74; the 1985-86 Edition, Table 43, pp. 85-86. Blanks indicate data were not reported.
[2] Figures submitted directly for the current study by Ottawa.
[3] Figures submitted directly for the current study by Toronto. Figures for 1978-79 did not include items loaned to teaching hospitals.
[4] 1983-84 and 1985-86 figures for Western Ontario were submitted specifically for the current study.

COMMENTS ON TABLE XI

1) This table covers only those medical school libraries which submitted returns for the volume Annual Statistics of Medical School Libraries in the United States and Canada, published since 1977-78. Nonetheless some general conclusions can be drawn.

2) ILL is big business.

3) In almost all instances the medical school libraries are net lenders in ILL activity: that is, they lend more than they borrow. This is only to be expected, since medical school libraries tend to serve as a central health information resource for other libraries in the area. Doubtless the relatively low number of ILL requests now received at British Columbia reflects the fact that three major hospital libraries there are actually branch libraries of the university library system, so that their borrowing from the main Woodward Library would not be classified as interlibrary loan.

4) Requests for ILL to some institutions, however, are shown to be substantially larger than to others. Thus for 1985-86:
   - Toronto reported in excess of 69,000 requests, of which 58,074 were filled
   - McGill reported 17,765 requests, of which 14,441 were filled.
   - Dalhousie reported 12,694 requests, of which 11,021 were filled.

   On the receiving side (items borrowed by ILL), the British Columbia total was highest at 3953, followed by McMaster at 3944. McGill reported 411, for a remarkably low ratio of borrowing to lending of 1:35.

5) Heavy ILL activity can be a significant drain on a library's resources. In response to ILL load, and toward covering the overhead costs, university libraries (including medical libraries) have increasingly instituted ILL fees, beyond copying and transmission charges. Typically ILLs to associated teaching hospitals are exempted. While such "protective" charges are understandable, they do serve to de-emphasize inter-library cooperation.

A Survey of ILLS at CISTI

Ms. Ann D. Manning of Dalhousie and Mr. David S. Crawford of McGill undertook, for the ACMC/CHLA Committee on the current survey, to analyze requests for ILLs received by CISTI. For a three-week period in November-December 1986 CISTI staff separated out requests for health sciences material from the total of requests received by CISTI. Ms. Manning and Mr. Crawford found:

a) Requests for health sciences material totalled 4021. That would be at an annual rate of nearly 70,000.

b) The 17% of those requests which were not filled by CISTI included a high proportion of items CISTI did not hold, but for which they provided other locations

c) Over 80% of the requests were for photocopies of journal articles.

d) Requests to CISTI originated as follows:

From government libraries	33.3%
From industrial libraries	26.4%
From hospital libraries	25.4%
From medical school or other academic libraries	13.1%
From other libraries	1.7%

e) An estimated 85% of industrial requests were from pharmaceutical houses: almost all of these being requests for recent journal articles.

f) The overwhelming proportion of requests from hospital libraries was from large hospitals, including many teaching hospitals. Very few requests originated from small hospitals.

g) An estimated 85% of the requests were received by Envoy or CAN/DOC, rather than by ordinary mail.

h) Geographical distribution of requests received:

Nfld.	0.8%	Ont.	47.3
N.S.	3.2	Man.	3.7
N.B.	1.6	Sask.	1.7
P.E.I.	0.1	Alta.	3.7
Que.	28.8	B.C.	8.9
N.W.T.	0.1		

i) When requests are received for "English/French abstract only" of a foreign language article, if CISTI does not find such an abstract included with the original article a helpful service would be further check of Excerpta Medica or other abstracting services.

TABLE XII

Reference Transactions, Canadian Medical School Libraries

1978-79, 1983-84, 1985-86 [1]

LIBRARY	1978-79	1983-84	1985-86
ALBERTA	19,748		22,112
BRITISH COLUMBIA	36,431	50,455	70,006
CALGARY		860	8,832
DALHOUSIE	15,035	16,170	6,512 [2]
MANITOBA		5,063	5,157
McGILL	12,268	18,107	31,914
McMASTER	4,050	9,846	10,123
MEMORIAL			2,097
MONTREAL	4,047	4,902	7,947
OTTAWA		6,362	3,208 [2]
QUEEN'S	1,768	8,437	8,453
TORONTO	34,802		72,547 [3]
WESTERN ONTARIO	10,898	15,103 [4]	20,209 [4]

NOTES

[1] Data from Annual Statistics of Medical School Libraries in the United States and Canada: the 1978-79 Edition, Table 15, pp. 54-60; the 1983-84 Edition, Table 35, pp. 75-76; the 1985-86 Edition, Table 44, pp. 87-88. Blanks indicate data were not reported.

[2] These figures reflect a changed basis for reporting.

[3] This figure is from a Toronto return prepared as if for the 1985-86 Edition referred to in Note 1, for purposes of the current study.

[4] Figures for Western Ontario were submitted separately for the current study.

COMMENTS ON TABLE XII

1) This table has been included in an effort to provide something of an activity measure for reference service.

2) A Reference Transaction is defined, in the instrument for returns for the 1985-86 Annual Statistics of Medical Libraries in the United States and Canada as "... an information contact that requires knowledge, use, recommendation, interpretation, or instruction in the use of one or more information sources ..." The instructions further indicate that database search interviews should be included, but not database accesses. Similarly Directional Transactions are excluded from this count: they being information contacts that simply "facilitate the use of the library and its environs, and which may involve the use of sources describing that library ..." The design and refinement of instruments, to provide comparable responses, was never easy!.

3) The figures should be read with caution. It is extremely difficult systematically to keep score on items such as this. And some of the differences which can be noted are likely due, at least in part, to differing interpretations of definition.

TABLE XIII

Computerized Search Services, Canadian Medical School Libraries [1]
1985-86

LIBRARY	MEDLINE SEARCHES	SDILINE SEARCHES	CATLINE SEARCHES	OTHER [2]	TOTAL SEARCHES
GROUP I [2]	[3]				[3]
ALBERTA	865 (624)	347	-	173	1325 (1006)
CALGARY (M)	1481 (1148)	257	40	65	1841 (2650)
DALHOUSIE	1148 (1015)	928	-	110	2186 (2060)
MANITOBA	2029 (2555)	199	6	118	2352 (2803)
McGILL (M)	618 (618)	427	126	507	1678 (1529)
McMASTER	2825 (2190)	168	17	302	3312 (2597)
MEMORIAL	830 (478)	101	-	88	1019 (610)
MONTREAL	1050 (764)	1	-	18	1069 (783)
OTTAWA	1209 (915)	327	38	337	1911 (1369)
QUEEN'S	1150 (1083)	420	1914	38	3522 (3354)
SASKATCHEWAN	898 (1957E)	-	-	230	1128 (2458)
SHERBROOKE	-	-	-	293	293 (221)
GROUP II [2]					
BRITISH COLUMBIA [5]	7949 (8040)	-	58	2137	10,144 (11,810)
LAVAL	NOT REPORTED				
TORONTO	2225 (2815)	-	3	818	3046 (3940)
WESTERN ONTARIO	1091 (976)	312	5	364	1722 (1683)

NOTES

[l] Data from annual returns to the ACMC Special Resource Committee of Medical School Libraries.

[2] Among other data bases most frequently mentioned were BIOETHICS, BRSMEDL, CANCERL, CAN/OLE, DIALOG, ERIC, PSYCHINFO, SCISEARCH and UTLAS.

[3] Figures for the previous year (1984-85) shown in brackets.

TABLE XIV

Automated Functions in 12 Canadian Medical School Libraries 1985-86 [1]

LIBRARY	Acquisitions	Authority Control	Cataloguing	Circulation	Online Public Acccess Catalog	Public Access to Other Databases	Serials Check-in	Serials Control	ILL	Other
ALBERTA	X	X	X	X	X				X	
BRITISH COLUMBIA	X	X	X	X		X	X	X	X	
CALGARY	X	X	X	X	X	X				
DALHOUSIE		X	X	X					X	X
MANITOBA	X		X							X
McGILL		X	X							
McMASTER			X	X					X	
MEMORIAL			X	X					X	X
MONTREAL	X	X	X							
OTTAWA	X	X	X	X	X	X	X	X		
QUEEN'S			X	X	X				X	
SASKATCHEWAN				X	X					
TOTALS	6	7	11	10	5	3	2	2	6	3
Total Two Years Earlier [2]	4	3	9	8	3	1	1	1	2	2

NOTES

[1] Source: Table 2, p. 4, 1985-86 Annual Statistics of Medical School Libraries in the United States and Canada. Four Canadian medical school libraries did not submit returns.

[2] Calculated from Table 2, p. 3, 1983-84 Annual Statistics of Medical School Libraries in the United States and Canada. Totals are for 11 libraries only, since Alberta was not included that year. The overall count of automated functions reported for 1985-86, omitting Alberta, is 48. Two years earlier it was 34.

[3] Though Western Ontario was unable to submit data for the 1985-86 Annual Statistics, it has subsequently reported automated prodcedures in place for all functions in the table other than "Other".

TABLE XV

HEALTH PROFESSION SCHOOLS SERVED BY CANADIAN MEDICAL SCHOOL LIBRARIES [1] 1984

	Alberta	U.B.C.	Calgary	Dalhousie	Laval	Manitoba	McGill	McMaster	Memorial	Montreal	Ottawa	Queen's	Saskatchewan	Sherbrooke	Toronto	U.W.O.
Medicine	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dentistry	X	X		X	X	X	X						X		X	X
Health Admin.	X	X		X				X			X		X		X	
Health Education				X									X		X	
Kinanthropology											X					
Nursing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Occupational & Environmental Health											X				X	
Occupational Therapy	X	X		X	X	X	X	X		X		X			X	X
Pharmacy	X	X		X	X	X		X	X	X	X		X		X	
Physical Ed./ Recreation	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Physiotherapy	X	X		X	X	X	X	X		X	X	X	X		X	X
Speech Pathology /Human Communications	X	X		X			X					X	X		X	X

NOTES

[1] From a survey by Ann D. Manning, Dalhousie University, 1984.
[2] The School of Pharmacy at Memorial University has been established since 1984.

TABLE XVI

Services Offered Dixectly by 90% or More of 29 Teaching Hospital Libraries by Size of Staff

TYPE OF SERVICE	UP TO 3 STAFF	MORE THAN 3 STAFF, LESS THAN 5	5 OR MORE STAFF
SPACE PROVISION			
Seating for users	X	X	X
Carrels for users			X
PROVISION OF MATERIALS			
Use of materials on the premises	X	X	X
Borrowing privileges	X	X	X
Interlibrary Loans (ILL)		X	X
Photocopying (other than for ILL)	X		X
PROVISION OF INFORMATION			
Simple reference questions	X	X	X
Complex reference questions	X	X	X
BIBLIOGRAPHIC ASSISTANCE			
Locating requested items within or outside the library	X	X	X
Verifying citations	X	X	X
Compiling bibliographies	X		X
Manual literature searches		X	
Automated literature searches			X
Informal instruction in methodology and bibliography	X	X	X
CURRENT AWARENESS			
Preparation of accessions lists		X	X
Informal current awareness		X	X
USER ORIENTATION			
Provision of guides to library collection and services			X
Instruction in use of library catalogues, services, tools, etc.		X	X
Promotion of library services	X	X	X
Number of Services Offered Directly by 90% or More of Libraries	11	14	18

NOTES TO TABLE XVI

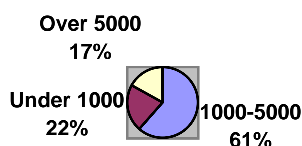
[1] From data collected by Dr. Beryl Anderson as part of a larger study seeking to analyze services offered by various types of special libraries. She reported on her study of hospital libraries in Bibliotheca Medica Canadiana 7:4 (1986), pp. 136-258, "Services Offered by Hospital Libraries in Canada: Report of a Survey Done in 1985". From her survey returns she has been able to provide this additional information for the 29 teaching hospital libraries in her survey. Eleven of the 29 libraries had a total staff of up to 3 FTE; 9 more than 3 but less than 5; and 9 a staff of 5 or more, with none more than 10.

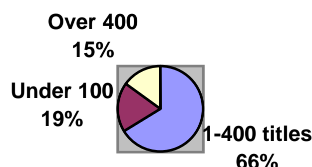
As for type of staff in the 29 teaching hospital libraries, Dr. Anderson's data indicate that:

- 23 had at least I professional librarian (2 had more than 1)
- 3 were in charge of a person with a subject degree but not a library degree
- 2 were in charge of graduate library technicians
- 1 was in charge of a member of clerical staff.

Data on Teaching Hospital Libraries from Responses to a CHLA Membership Survey, 1985

In 1985 Carol Morrison and Mary Conchelos undertook a CHLA membership survey and continuing education needs assessment for the CHLA. They reported results of their study in Bibliotheca Medica Canadiana 8:2 (1986), 54-61. However, 80 of the 237 respondents were located in teaching hospital libraries across the country. Further analysis of those 80 returns yields additional data as shown below. While of course no generalizations can be made for Canadian teaching hospitals as a whole, these data do provide a glimpse of the libraries in which the 80 respondents were located.





Acquisitions Budget

Under $50,000 – 77% $50-100K – 22% (1 library $100-150K)

Access to Electronic Mail
Yes – 32%   No – 68%

Respondents Personally Conduct Online Searches
Yes – 64%   No – 36%

Preferred Topic for Continuing Education Workshop
Related to new technologies – 58%   All other topics – 42%

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ASPECTS FRANCOPHONES DES BIBLIOTHEQUES DE LA SANTE AU CANADA

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1987

PREFACE

Ce texte se veut une réflexion sur la situation des bibliotèques médicales francophones du Canada liées à l'enseignement médicale. Cette réflexion n'est pas basée sur des données quantitatives, mais plutôt, elle est une somme de considérations sur le sujet.

Ces considérations ont été élaborées suite à une rencontre avec des biblio- thécaires médicaux que nous tenons à remercier pour les avis éclairés qu'ils nous ont fournis.

Nous soumettons donc ces réflexions au "Project Comittee on the Survey of Health Sciences Collections and Services in Canada".

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INTRODUCTION

Au Canada, les bibliothèques de la santé francophones ont leurs caractéristiques qui les distinguent des bibliothèques anglophones. L'examen de ces caractéristiques permet de les mieux connaître tant au niveau des responsabilités qu'elles doivent assumer dans leur propre milieu que des problèmes que leurs situations comportent. Satisfaire les besoins documentaires d'une clientèle francophone dans un contexte où la formation médicale est d'inspiration nord américaine, et où la documentation est majoritairement de langue anglaise, voilà la problématique de la bibliothèque francophone.

Cette problématique, aura des effets sur tous les aspects du fonctionnement général de la bibliothèque; ainsi nous analyserons dans les chapîtres subséquents son impact sur les aspects suivants;

1 - Le Développement de la Collection
2 – La Référence
3 – L’Audiovisuel
4 – Le Prêt entre Bibliothèques
5 – Le Traitement de la Documentation
6 – La Clientèle
7 – Le Personnel
8 – La Formation Professionnelle
9 – Les Réseaux
10 – Le Budget
11 – L’Evaluation

1- LE DEVELOPPEMENT DE COLLECTION

La collection doit répondre au besoin de l'enseignement et de la recherche en tenant compte de la clientele à laquelle la bibliothèques s'adresse. Or quand on s'adresse à une clientèle francophone on a comme imperative de fournir le maximun de document en français. Mais, comme la discipline médicale est beaucoup mieux couverte en documentation de langue anglaise il devient impérieux pour toutes les bibliothèques médicales d'avoir une très forte collection de langue anglaise

La literature médicale de langue anglaise a une telle importance pour la recherché et l'enseignment qu'il serait aberrant qu'une bibliothèques francophone puisse s'en dispenser alors qu'une bibliothèques anlgophone qui se passerait de revues francophones ne verrait sa valeur que partiellement diminuée. A titre d'exemple, la Bibliothèque de la Santé de l'Universiteé de Montréal a une collection médicale qui est très majoritairement de langue anglaise et, il en est de même pour les autres bibliothèques universitaires québécoises.

De plus, la responsabilité de desservir une clientele francophone oblige un bilbiothèque à avoir beaucoup de dictionnaire de traduction afin de faciliter l'utilisation des documents de langue anglaise, langue de la majorité de la collection.

Quant à la collection de référence, elle comprendra entre autres une très vaste collection de dictionnaires français, des dictionnaires de traduction et une bonne collection de dictionnaires anglais. Cependant, dans un bibliothèques anglophone on ne retrouve pas ce modèle, car la collection d'ourvrages en francais de reference sera minime et la collection de dictionnaire de traduction sera également plus réduite.

Les problèmes rencontrés pour développer une collection de volumes en français qui correspond bien à l'enseignement universitaire sont multiples. D'abord, la très grande majorité des volumes en français viennent de France, ils ne correspondent pas toujours bien à l'enseignenent nord américain surtout dans les sciences médicales de base. De plus, ils sont généralement plus chers que les volumes anglais. C'est donc un fardeau plus lourd à supporter pour les bibliothèques francophones. Quant aux publications universitaires francophones canadiennes, elles sont très intéressantes mais pas suffisament nombreuses.

Les traités médicaux de langue anglaise ne sont qu'en partie traduits. De plus, ces traductions quand elles existent ne sont disponibles que trop longtemps après la parution de 1'édition de langue anglaise. Egalement ces traités sont réédités régulièrement alors que les traductions ne suivent pas nécessairment le même rythme. Pourtant les étudiants qui débutent en médecine préfèrent utiliser des documents en franrçais même si les traductions disponibles sont anciennes.

II faudrait qu'un encouragement important soit fait pour augmenter au Canada les publications médicales francophones tant en nouveau texte qu'en traduction, surtout concernant les sciences de base.

II n'existe pas de listes récentes d'ouvrages de langue française qui signalent les collections de base qu'une bibliothèque devrait avoir. Cette lacune, ne favorise pas le développement harmonieux d'une collection. Ainsi, il faudrait encourager un groupe ou une institution à produire une telle liste et à la mettre à jour régulièrement.

Concernant les périodiques francophones, on observe que ces revues n'ont pas un impact très grand sur l'enseignement et la recherche. C'est en partie dû au fait que les francophones publient de plus en plus dans des revues anglophones pour être lues.

De plus, en fonction des critères mis de l'avant par la "National Library of Medicine" pour qu'un périodique figure dans "l'Index Médicus", il y a plusieurs revues francophones qui ne sont pas indexés et ainsi le repérage de cette informtion devient marginalisé.

Par contre, les bibliothèques francophones se doivent d'acquérir des périodiques francophones si elles veulent offrir à leur clientèle des revues dans leur langue. Mais, en période de rareté budgétaire quand il faut annuler des abonnements, il devient un cauchemar pour les responsables de bibliothèques médicales d'avoir à choisir d'annuler des périodiques francophones parce qu'ils sont peu indexés et qu'ils servent moins.

Une aide devrait être apportée pour que les bibliothèques francophones maintiennent leurs collections de périodiques en français, ce qui aurait comme effet, non seulement d'en permettre la consultation, mais aussi d'aider l'édition francophone à garder sa place comme véhicule de l'information biomédicale.

On observe un certain effort dans le monde francophone pour contrer l'anglisisation de la recherche biomédicale par exemple l'édition médicales français publie depuis peu "Med Express"; c'est un périodique qui emprunte la formule du "Current Content" pour dépouiller les périodiques de langue française. De plus, de nombreux périodiques francophones ajoutent des résumés en anglais aux articles publiés afin d'accroître la clientele et de faire, par ce biais, la promotion des articles publiès en français.

Un autre facteur qui oblige les bibliothèques francophones à bien développer la collection de documents en français est le mandat non officiel donné par les bibliothèques anglophones pour supporter leurs besoins occasionnels de publication francophones. Cette donnée n'a pas sa contrepartie pour la communauté anglophone.

Le livre ancien

Les livres médicaux francophones anciens posent un problème aux bibliothèques, car aucune institution n'en est le mandataire pour conserver cette documentation moins utilisée. De plus, il est fréquent de constater que dans les bibliothèques, ces livres sont non-catalogués et non-accessibles; plusieurs sont même élagués et jetés.

Cependant cette documentation a une assez grande importance sur le plan historique et on aurait avantage à la développer, à la conserver dans des conditions climatiques valables et surtout, à la rendre facilement accessible.

Il serait important de créer une collection en histoire de la médecine francophone qui pourrait prendre place dans l'une ou l'autre des universités francophones.

2) REFERENCE

Les principales bibliographies courantes étant utilisées par les bibliothécaires francophones sont de langue anglaise et le vocabulaire spécialisé qui donne accès à cette informtion étant également en anglais, il arrive donc fréquemment que le personnel doive consulter des dictionnaires spécialisés de traduction. II en est de même, pour les bases de données bibliographiques. Or les dictionnaires de traduction ne sont pas suffisament à jour ni suffisament nombreux.

Une lacune importante vient d'être comblée par la publication d'une traduction faite par l'Inserm du "Medical Subject Heading". Il faut espérer qu'une mise à jour de cet ouvrage se fasse régulièrement.

Le rôle du bibliothécaire de référence francophone dans un milieu médical est très particulier, car il lui faut aider les usagers francophones à utiliser une documentation qui est plus souvent anglophone.

Ainsi sa relation d’aide devient plus complexe et plus exigeante que celle d'un bibliothécaire anglophone qui dessert des usagers dans sa propre langue.

L'informatisation qui se développe, entraine encore un certain nombre de problèmes aux francophones car ce développement a un accent très anglais et ainsi il est courant que le personnel doive utiliser des logiciels anglais.

Maîtriser le vocabulaire biomédical dans une langue est déjà un exercice très exigeant et jamais terminé. Mais, avoir à le maîtriser dans deux langues c’est un véritable défi à relever.

Cette situation, occasionne souvent des imprécisions de termes et de la confusion dans le langage.

3- AUDIOVISUEL

Un constat général nous permet d'affirmer qu'au Canada, la documentation médicale audiovisuelle francophone est peu organisée et donc difficile à exploiter. En outre, il n'y a pas de catalogue collectif conplet des collections.

Quant à la production, elle est très morcellée entre plusieurs institutions qui éditent plus ou moins de documents. De plus, la production de documents est difficile à justifier car il y a peu de clientèle et donc peu de rentabilité.

Egalement, la diffusion des documents en est mal assurée et le manque de concertation entre les producteurs conduit à une moins grande diversité de sujets abordés.

Si on ajoute, que la documentation audiovisuelle médicale est vite périmée, on comprend facilement que les bibliothèques ou les centres audiovisuels hésitent à développer cette documentation.

II est à noter cependant, qu’il y a plusieurs documents qui sont produits pour 1'éducation médicale continue, par exemple à la Télévision Universitaire on présente régulièrement des émissions pour le perfectionnement des professionnels de la santé. De plus, la collection de cassette audio "Sonomed" est très vaste et faite spécialement pour la formation médicale continue.

Par contre, la medicine étant une science en grande partie basée sur l'observation, quoi de mieux que l' audiovisuel pour illustrer.

Pour donner à ce secteur decurnentaire la place qui lui revient, il faudrait que 1'enseigneamt fasse une place plus grande à l'utilisation de cette documentation, que les collections soient mieux developpées et qu'il y ait une milleure concertation concernant le développermnt de ce secteur documentaire.

De plus, il est important de pouvoir compter sur une milleure rationalisation de la production, pour obtenir un plus grand éventail de sujets et pour éviter la multiplicité des formats.

Enfin, comme la Bibliothéque Nationale du Canada recoit en dépôt tous les documents audiovisuels produits au Canada, il serait souhaitable qu'elle produise une liste des documents audiovisuels de langue française.

4- PRET-ENTRE-BIBLIOTHEQUES

Les problèms que rencontrent les bibliothèques francophones dans leur commication avec les bibliothéques anglophones sont surtout dûs au fait que le personnel de l'un ou de l'autre groupe n'est pas toujours bilingue, ce qui occasionne des inconpréhensions et des délais. On retrouve davantage ce problème en région.

On a déjà observé que l'ICIST avait parfois ce problème, il faudrait donc que cette dernière se fasse un point d'honneur, d'assurer au francophone un service sans défaillance.

5- TRAITEMENT DE LA DOCUMENTATION

Au niveau des instruments de travail pour faire le traitenient de la documentation biomédicale, les francophones utilisent en générale la version française des régles de catalogage AACRII, le Répertoire des vedettes-matière de l'Université de Laval et le schéma de classification en anglais de la "National Library of Medicine". Cependant, il existe une traduction française de la classification (NLM) qui date de 1970 mais depuis aucune autre traduction n’a été faite; c’est pourquoi, plusieurs bibliothèques utilisent 1'édition anglaise. II faudrait donc favoriser une nouvelle traduction et une mise à jour régulière de cet ouvrage.

Quant au Répertoire des vedettes-matière de l'Université de Laval, il est une traduction des vedettes-matière de la "Library of Congress", ce qui ne correspond pas exactement au répertoire utilisé par les bibliothèques de langue anglaise, soit le "Medical Subject Headings". Cependant, une première traduction du "Medical Subject Headings" vient de paraître en France, et s'il y a une mise à jour régulière, possiblement que les bibliothèques médicales francophones préfèreront utiliser ce répertoire pour le traitement de la documentation.

Le traitement de la documentation faite par les francophones est plus lourd et plus coûteux que celui réalisé par les anglophones. Cette affirmation découle du fait qu’une bibliothèque francophone ne peut dériver, de façon significative, des notices catalographiques sans y faire des modifications car, la majorité de sa documentation est en anglais et ainsi il doit presque toujours l'adapter en raison de la langue en ce qui a trait à: 1'entrée, les vedettes-matière et les notes. Cependant les bibliothèques anglophones ont l’avantage de pouvoir dériver la presque totalité de leur catalogage de différentes sources, sans aucnine modification.

Concernant les nouveautés, les éditeurs anglophones ont depuis de nombreuses années adoptés la pratique d'inclure dans leurs publications la notice "CIP" qui est un catalogage sinplifié, alors que chez les francophones cette orientation n'est pas encore généralisée. Il faut déplorer surtout les éditions de France où de gros éditeurs ne fournissent pas cette infor- mation. II faudrait donc qu'une action soit entreprise pour inciter les éditeurs francophones à inclure cette notice dans toutes leurs publications.

6- LA CLIENTELE

Les étudiants qui fréquentent les bibliothèques ont plus ou moins de problèms à utiliser la documentation à cause du fait qu'ils sont francophones. En effet on observe que les débutants vont insister davantage pour avoir de la documentation en français alors que ceux qui terminent insistent moins.

De plus, le phénomène varie selon les spécialités biomédicales par exemple, dans les sciences connexes comme la physiothérapie et l'ergothérapie, la clientèle insiste davantage pour utiliser une documentation francophone

7- LE PERSONNEL

Comme nous l'avons aentionné dans une autre partie de ce texte, le personnel doit être formé sur place à cause d'une preparation insuffisante.

De plus, chez le personnel la connaissance de la langue seconde n’est pas toujours suffisante pour se sentir à l'aise dans l'utilisation d’une documentation qui est le plus souvent en anglais. Cette situation cause parfois une certaine ambiguîtè. Les bibliothèques ont donc la responsabilité de faciliter à son personnel l'acces à des cours de formation en anglais.

Ce problème se présentera surtout en province, où il est plus difficile de trouver du personnel ayant une connaissance suffisante de l’anglais.

8- FORMATION PROFESSIONELLE

La formation académique des bibliothécaires se fait à travers la seule école francophone: 1'Ecole de Bibliothéconomie et des Sciences de l'Information de l'Université de Montréal. Dans la liste des matières enseignées on ne retrouve pas de cours sur les bibliothèques spécialisées, mis l'infor- mation spécialisée, comme la documentation bio-médicale, est abordée par le biais d'un cours sur la référence. Il en est de même pour le repérage auto- matisé dans le domaine de la santé, lequel fait partie d'un cours sur le repérage. La formation d'un bibliothécaire médical sera donc incomplète dans une telle structure.

Il serait donc souhaitable que 1'Ecole de Bibliothéconomie et des Sciences de l'Information manifeste davantage d'intértêt pour cette discipline surtout en regard de la formation continue.

Nous retrouvons une situation semblable au niveau de 1'enseignen-L-nt des techniques documentaires car la bibliothéconomie médicale et les sciences de l'information médicale sont peu abordées.

Les bibliothèques de la santé jouent donc un rôle important dans la formation du personnel de leurs bibliothèques à cause des lacunes de la formation.

Quant à la formation continue, elle est surtout assumée dans le milieu francophone Par le Groupe d'Intérêt Santé de l'ASTED. Ce groupenent organise au moins deux fois par année des activités de perfectionnenment pour le personnel des bibliothèques de la Santé. C'est un groupe très actif qu'il faut encourager pour lui permettre d'aller encore plus loin dans cette mission de représentation et de formation.

Dans le domine de l'utilisation des bases de données biomédicales, ce sont les serveurs qui s'occupent de la formation et la plupart le font en français. On observe cependant, qu'étant donné qu'il y a peu de francophone à former, il y a peu de session de formation et qu'en consequence les délais de formation sont longs. Nous pensons que l'ICIST qui assure un bon service de formation devrait assouplir davantage la notion du "Quand le nombre le justifie".

L'Association des Bibliothèques de la Santé, affiliées à l'Universitié de Montréal joue un rôle de formation surtout par son club de téléréference.

L'Association des Bibliothéques de la Santé du Canada (ABSC-CHLA) fait des efforts pour rejoindre la Communauté francophone, mais elle n'y parvient peu.

9- RESEAUX

Il existe trois réseaux de bibliothèques médicales francophones. A Montréal, on retrouve l'Association des Bibliothèques de la Santé affiliées à l'Université de Montréal (ABSAUM) qui regroupe la Bibliothèque de la Santé de l'Université de Montréal ainsi que toutes les bibliothèques des hôspitaux affiliés à l'Université de Montréal. Cette association est très active et a plusieurs projets à son actif entre autres: un catalogue collectif des abonnements des bibliothèques d'hôpitaux membres du groupe, la gestion d'un courrier électronique, la coordination des abonnements pris par tous les membres du groupe et un club de téléréférence. A Québec, il existe un réseau de bibliothèques d'hôpitaux qui est également assez actif et qui a réalisé entre autres un catalogue collectif des périodiques possédés par ce réseau. Au Lac St-Jean, un réseau des bibliothèques d'hôpitaux a été mis sur pied avec des moyens très limités. Concernant l'Outaouais, quelques bibliothèques d'hôpitaux francophones participant à l’association des bibliothèques médicales de la région d'Ottawa. Cette association est avant tout très anglophone dans le fonctionnement.

Les réseaux existants font un travail extrêmement important pour améliorer leurs conditions et pour permettre une meilleure diffusion de l'information biomédicale. Par contre, ces réseaux devraient échanger davantage entre eux. Ces expériences très prometteuses devraient être davantage appuyées surtout financièrement.

De plus, il faudrait que chaque région francophone ait son réseau et qu’en particulier les bibliothèques universitaires y participent.

Quant au réseau national qu’il serait souhaitable de créer, il faudrait que les réseaux francophones puissent y participer, en tenant compte de leurs spécificités linguistiques et de leurs besoins.

10- LE BUDGET

Tel que nous l'avons illustré à travers le contenu de ce document, nous pouvons en déduire qu'il en coûte plus cher à une bibliothèque francophone pour offrir un service de qualité dans le domaine biomédicale qu'il n'en coûte à une bibliothèque Anglophone.

Pourtant, les budgets qui sont alloués ne tiennent pas tellement compte de cette réalité. C'est pourquoi le secteur francophone peut paraître pour certains être moins bien pourvu et moins efficace surtout si on le compare au secteur anglophone.

Il faut qu'on prenne conscience de la problématique de la bibliothèque médicale francophone et qu'on lui alloue les ressources nécessaires pour qu'elle puisse atteindre des objectifs d'excellence.

11- EVALUATION

L'évaluation est une opération normale si on veut gérer convenablement les bibliothèques, cependant il faut pour qu'une comparaison soit valable qu'on compare des éléments qui sont comparables. Or de comparer une bibliothèque francophone à une bibliothèque anglophone dans le domaine médical sans apporter des nuances inportantes ceci peut fausser les résultats.

De plus, des répertoires nationaux et internationaux fournissent des données comparatives de 1'état des bibliothèques tant francophones qu'anglophones sans aucune mention des questions de langue, ce qui génère des évaluations érronées, Au Canada, pays officiellenent bilingue, on devrait être très averti de ces questions.

CONCLUSION

Les bibliothèques de la santé pour les francophones en Amérique du Nord vivent dans des conditions particulières soit pour le développement de leurs collections, pour la référence, pour le traitexmnt de la documentation, de même que pour tous les aspects de leur fonctionnement.

Cette réalité francophone des bibliothèques, est peu décrite et le fait d'en dégager quelques éléments pourra nous l'espèrons permettre une meilleure compréhension des problèmes vécus par les francophones et surtout de faire en sorte que les administrateurs intègrent ces données dans leurs décisions.

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INTERVIEW GUIDE
FOR
DIRECTORS OF MEDICAL SCHOOL LIBRARIES

It may seem that these questioins cover the same territory as do the statistics which have already been provided, but a discussion will clarify what those statistics mean in your particular library. If you could provide med with copies of any policy documents you may have, such as a statement of objectives, or a collection development policy, these could be most helpful. What is most important is your judgement of the possibilities, both positive and negative, which may be ahead for your library, in which your day-to-day decisions are based on the realities.

Collection

1. How has the financial crunch of the last five years affected your serials collection? Trimmed out the less important ones? Damage at the research level in any field? Have you had to eliminate any particular journals for which your collection was noteworthy?

2. Has the financial crunch affected the scope of your monographs at the study level in any field? At the research level? Have you at any time curtailed your monograph purchases to protect your serials?

3. Do collection decisions take into account the holdings of affiliated teaching hospitals? Other institutions in the region? Does this amount to a decentralized collection with multiple locations?

4. Does your collection have any longterm commitment to a particular discipline or subdisciple in the health sciences? Is ther any specialized topic about which you collect with some concentration?

Administration

5. What is the administrative structure through which your library is managed? Do you report to the Director of the university library system? To the Dean of Medicine? To another department? To a library committee? Does the line of reporting give you freedome to make budgetary decisions? Staffing decisions? Planning decisions?

6. Is the budget fro your department separately managed at your discretion? Part of a centrally administered total budget? Do you have acces to additional funding? Do the fees charged for some services cover the expenses of providing them?

<u>Adminstration</u> (cont'd)

7. How is your library organized? Is the health sciences collection in a separate location convenient to health sciences staff and students? Is it integrated with one or more campus collection? Is it part of a centralized collection? Do you manage your own technical services? Are they centrally managed, in whole or in part?

8. How has your staff been affected in recent years by funding cutbacks? Changes in procedures? Reorganization of departments?

<u>Automation</u>

9. What are your plans for automating procedures? Where did you start? Are you and your staff enthusiastic about further applications? What problems do you anticipate? Do you have support from the Faculty? The Library Director? What sources of funding do you expect to call upon?

10. Which teaching hospitals are most closely affiliated with your Faculty of Medicine? How well developed are their libraries? Do they offer computer services? Does your library have a formal/informal relationship with theirs? Is there a union list? A delivery service? Catalog access? Are there any financial commitments between you? Online communications?

<u>Users</u>

11. Who are you funded to serve on campus? How do they use the library? Does this extend to students and staff outside your own Faculties? Does it extend to the teaching hospitals? Does your library have a mandate to serve extramural health care personnel? Through direct service? Extension services? Telecommunications?

12. Can you identify any ongoing research projects in your institution for which you have been providing back-up services over a period of time? Are there individual staff members who attract research funding on a regular basis? What is their field? Have you enriched your collection in that area?

13. Can you identify any outstanding teachers in your Faculty who attract students to the university? What do they teach? Do they require enriched curriculum materials?

14. It has become standard policy not to lend health sciences journals, but to photocopy single articles instead. Does your library adhere to this policy? Does this practice really preserve the journals for in-house use? What percentage of material is withdrawn for repair? How long is it likely to be unavailable? Can any of it be made available locally at another location or through ILLS?

Services

15. What do you consider the role of a reference librarian in a health sciences setting? Is your reference department adequately staffed to provide the services you think appropriate? What is the role of an extension librarian? A clinical librarian? Do the last two belong in your library? Are they different degrees of the same role?

16. We have statistics on searches, ILLS, reference and photocopying, but do you offer extended services of any kind? Do you deliver requested material outside the library in the building? Outside the building? Do you put together packages of information? Evaluate bibliographies? Package your reference services in any way?

17. What services-do you provide for affiliated teaching hospitals? Is a request to their library the same as a request to yours?

18. What is your critical analysis of the direction library service should take in the light of the advent of computer technology, the explosion of medical information, and the information requirements of health care practitioners? What likely roadblocks do you see ahead, and what ways do you see to get around them?

INTERVIEW GUIDE
FOR
TEACHING HOSPITAL LIBRARIES

This set of questions overlaps with the Interview Guide being used for medical school libraries in this series of travelling interviews. Responses to both sets should be compatible enough to afford a general consensus of what is and what might be in the delivery of health sciences information services across Canada. If you normally submit an Annual Report, a copy of the latest one would be a considerable aid to the study. Policy statements of such things as library objectives or collection development strategy would also be most welcome.

Collection

1. Has your collection budget suffered cutbacks in the current financial crunch? Have you lead to eliminate any really important journals? Have you had to curtail monograph purchases to protect your serials?

2. Do your collection decisions leave certain subjects to the academic health sciences library in your area? To another teaching hospital? Does the result amount to a decentralized collection with multiple locations?

3. Is your collection noteworthy for any particular discipline or topic? Could you say that your concentration in this specialty is an outstanding resource?

Administration

4. How does your library fit into the administrative structure of the hospital? Do you report to the Administrator or the Assistant Administrator? To another department? To a library committee? Does the line of reporting give you freedom to make budgetary decisions? Staffing decisions? Planning decisions?

5. Is the budget for your department separately managed at your discretion? Part of a departmental budget? Partly derived from the global budget? Do you have access to additional funding? Do the fees charged for some services cover the expense of providing them?

6. Do you collect any library statistics on a regular basis? Are they available in any published form? Could you furnish copies of the most recent set? Could you furnish copies of the most recent set? Could you furnish copies of the most recent set? Could you furnish comparative figures for five years ago and ten years ago?

Automation

7. Do you manage your own technical services? Have changes in procedures, such as online cataloguing or the installation of Medline, affected the duties of your staff? The number of your staff?

8. What are your plans for automating procedures? Where did you start? Are you and your staff enthusiastic about further applications? What problems do you anticipate? Do you have support from the administration? What sources of funding do you expect to call upon?

Users

9. Who uses your library? Do they study, or borrow? Do you serve all the health sciences? Do Faculty members from the university use your collection or services when they are in the hospital? Do students photocopy as heavily in the hospital as they do on campus?

10. Are there any stars on the hospital staff that all the Residents want to work with? What is their field? Have you enriched your collection in that area?

11. Is there a Research Institute attached to the hospital? Do the research assistants use your library? Do you need to augment your collection to serve them?

Services

12. What do you consider the role of a reference librarian in a hospital? What is the role of an extension librarian? A clinical librarian? Are they all different degrees of the same role? Do you offer extended services of any kind outside the library? Do you package your reference services in any way?

13. Does your library have a formal/informal relationship with the academic health sciences library in your area? Is there a union list? A delivery service? Catalog access? Are there any financial commitments between you? Online communications? How heavily do you depend on the academic library as a resource for materials? For cancelled journals? For quick reference? Catalog information?

14. What is your critical analysis of the direction hospital library service should take in the light of the advent of computer technology, the expansion of medical information, and the information requirements of hospital staff? What likely roadblocks do you see ahead, and what ways do you see to get around them?

GLOSSARY OF ACRONYMS

Acronyms abound in the health sciences library field. Among those most frequently used, and referred to in this report, are:

AAHSLD	-	Association of Academic Health Sciences Library Directors
AAMC	-	Association of American Medical Colleges
ABSALM	-	l'Association des Bibliothèques de la Santé affiliées à l'Université de Montréal
ACMC	-	Association of Canadian Medical Colleges
ARL	-	Association of Research Libraries
ASTED	-	l'Association pour l'Avancement des Sciences et des Techniques de Documentation
CAN/OLE	-	Canadian Online Enquiry System
CARL	-	Canadian Association of Research Libraries
CD-ROM	-	Compact Disk - Read Only Memory
CHA	-	Canadian Hospital Association
CHLA	-	Canadian Health Libraries Association
CISTI	-	Canada Institute for Scientific and Technical Information
CLSC	-	Centre local de services communautaires
HSRC	-	Health Sciences Resource Centre
ILL	-	Interlibrary loans
MEDLARS	-	Medical Literature Analysis and Retrieval System
Medline	-	MEDLARS online
MeSH	-	Medical Subject Headings (National Library of Medicine)
MIS	-	Medical Information Systems
MLA	-	Medical Library Association
NLC	-	National Library of Canada
NLM	-	National Library of Medicine, Washington, D.C.
NRC	-	National Research Council of Canada
OSI	-	Open Systems Interconnection for interlibrary loans
SRCMSL	-	Special Resource Committee on Medical School Libraries, ACMC