

B.C. Ministry of Health Library Business Case

Does the Ministry of Health Planning/Services Need a Library Service?

A Zero-Base Business Approach

Are MOHP/S managers, researchers, and professional staff able to fairly allocate resources to a \$9.5 billion health system without effective access to the 40,000 health sciences articles published each month? Ninety percent of this new knowledge is fee-based and is not available via search engines on the Internet.

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Presented to

**Gordon Butterfield
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and to

**Key Ministry of Health Planning/Services
Stakeholders**

**Victoria, British Columbia
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Executive Summary

The Ministry of Health Library was set up in 1976 and since 1988 has been staffed by 6-7 FTE's. With the current downsizing, it appears that the Library may need to be financed by a cost recovery process. This report demonstrates the cost-effectiveness of a centralized service offering volume purchases and coordinated purchase, licensing, and distribution of resources.

MOH Library is the only health administration/public health library serving BC, a unique collection not duplicated elsewhere. Public health is featured on the cover of:

**PATIENTS FIRST:
Renewal and Reform of British Columbia's
Health Care System
Select Standing Committee on Health
December 2001**

"We could prevent up to 60 to 70 per cent of all cancers, up to 90 per cent of all heart disease, up to 60 per cent of all strokes, up to 90 per cent of all cases of chronic lung disease, up to 90 per cent of all diabetes - all the things that are filling up our hospitals, and our doctor's offices and our graveyards.

I am deeply concerned that the entire focus of the general public, the current government and the health care system as a whole is to pull drowning people out of the river. I implore you to ensure we devote adequate time and resources to making sure people don't fall into the river in the first place."

Dr. Andrew Larder, Medical Health Officer, East Kootenay Region

It would appear from this quotation that public/preventive health is to be a cornerstone of the New Era health policy. The Ministry of Health Library mandate is to support resource allocation decisions and public health.

It may be thought that such information is readily available on the Internet. In fact,

"the Deep Web is a vast reservoir of Internet content that is 500 times larger than the known surface World Wide Web. The Deep Web contains billions of high-quality documents in about 350,000 specialty databases -- all hidden from view from standard search engines... Surface Web sites are fraught with quality problems." (Ref. *White Paper: The Deep Web: Surfacing Hidden Value* by Michael K. Bergman, University of Michigan Press, August 2001. <http://www.press.umich.edu/jep/07-01/bergman.html>)

Libraries keep regular statistics of use. MOH Library has monthly client use statistics going back to 1978. This report is based on those statistics.

TABLE 1: Return on Investment for Ministry of Health Library

Mandate

To provide decision-support knowledge to a \$9.5 billion health system from a published knowledge base of 0.5 million new peer-reviewed health articles annually (Appendix A)

Key Clientele

Management, Public Health Officers, HQ and Regional/Rural offices, Ministers of Health (Appendix B)

Subject Focus

Health administration, public/preventive/community health, community mental health, continuing care, addictions treatment (Appendix A)

Table 1. Return on Investment (Expenditure Analysis)

Existing Library Service		Appendix
Professional User Base	4050	B
Annual Library Budget	\$0.513 million (7 staff)	E
Annual Cost per User	\$126.63	
Service Transactions (2001)	64,821	C
Cost per transaction	\$7.91	
No Library Service		
Cost of meeting demand for Library services on an ad hoc basis	\$1.325 million	D
Cost per transaction (ad hoc scenario)	\$20.45	

Return on Investment: \$1,325 million divided by \$0.512 million = 258%

TABLE 2: Value Added Analysis for Client Time Saved

Appendix

Unit costs:

\$7.91 per transaction (service event)

Cost per user per year (4050 users) = \$126.63

Average client wage/hr: \$40 (incl. salaries/benefits) E.1

Average time to obtain info without Library = 1-1/4 hour E.1

Library Value Added:

Library cost as a percentage of total user cost = 0.2%

(user cost = \$40/hr. x 1800 hours x 4000 users = \$288,000,000)

Library adds value after 12 minutes of time saved per client per service event

(\$7.91 divided by \$40/hr = .2 hour = 12 minutes)

Library adds value after 3.16 hours of time saved per client per year

(\$126.63 divided by \$40 = 3.16)

Benefit over Cost:

The Library provides a benefit of 4.74:1 over the cost to provide the service (Library cost per user per year is \$126.63. User benefit is 15 hours per year, a conservative estimate of time spent tracking information. $15 \times \$40/\text{hour} = \600 . $\$600 / \$126.63 = 4.74$)

To put it another way, \$1.00 spent on the Library yields \$4.74 of research value.

Conclusion:

Total Library benefit to Ministry/Regions is \$0.583 million x 4.74 = \$2.763 million versus actual expenditure.

TABLE 3. No Library: Zero-Base Unit Expenditures

Does MOHP/S Need a Library Service?

Are MOHP/S managers, researchers, and professional staff able to fairly allocate resources to a \$9.5 billion health system without effective access to the 40,000 health sciences articles published each month? Ninety percent of this new knowledge is fee-based and is not available via search engines on the Internet.

- for identification of key stakeholders, see *Appendix B, Clientele*
- for measures of client demand, see *Appendix C, Demand*
- for statements of necessity by key clientele, see *Appendix K*

Without coordination of volume purchase, licensing and distribution of published print and electronic resources, the costs below will impact the organization as a whole. (See also *Appendix D, "No Library" Scenario*)

Service	Unit	Library Cost	No-Library Cost	Reference
Journal Contents Service	1	\$3.00	\$20.80	Appendix D-1
Journal Article Copied	1	8.50	35.00	Appendix D-1
Access to Book/Report	1	11.75	50.00 (to buy it)	Table 4
Interlibrary Loan	1	15.00	not available	
Librarian Search	1	20.00	40.00+	Appendix D-1
CINAHL Nursing Search	1	3.87	40.00+	Appendix D-1
Cochrane Evidence Search	1	\$1000/site license	\$500/user account	Appendix E
MD Consult Search	1	4.17	34.22	Appendix D
MOH e-Library Session	1	3.00	not available	
New Report Alerts	1	2.50	not available	
Librarian Consultation	1		not available	

TABLE 4: Relative Costs by Type of Service, 2001

- includes Library time (est.) and expenditures
- does not include server costs
- does not include management, administrative or cataloguing costs (20-25% of total costs)

Service Transactions 2001	No.	Cost per Item
CINAHL client searches (includes client search time)	775	\$30.00
Librarian searches	600	20.00
Circulation Books/Journals (0.5 fte + est. book price)	3,458	11.75
ILL's incoming (0.33 fte + cost of loan + postage)	1,300	15.00
ILL's outgoing (0.33 fte + postage)	2,498	8.50
Monthly journal contents routed to 1000 people (0.2 fte)	12,000	3.00
Articles supplied from inhouse journal service (0.6 fte)	10,366	6.00
Articles copied by users (client time est. 15 minutes)	3,750	13.50
Faxed services	1,029	6.00
Internet health information trainees	160	50.00
MD Consult sessions	2,400	5.00
e-Library Intranet page requests (1fte, Appendix E.1)	20,125	3.00
Client contacts	4,860	4.00
Regular "health reports in the news" e-mail alerts (est. 5% use from 300 recipients)	1,500	2.50
Total service interactions/costs	64,821	\$375,175.00

TABLE 5. Relative Demand, by Client Category and Location

Client	Service	Location	% of total
Victoria HQ	Journal articles	Victoria	33.3%
Health Authorities	Journal articles	Regions	66.6%
Victoria HQ	Book circulation	Victoria	48%
Health Authorities	Book circulation	Regions	52%
Victoria HQ	Interlibrary Loans	Victoria	47%
Health Authorities	Interlibrary Loans	Regions	53%
Health Authority Clients	Service		% of total articles copied
Public Health Nurses	Journal articles	Regions	35.0%
Community Nutritionists	Journal articles	Regions	6.2%
Dental Hygienists	Journal articles	Regions	5.6%
Continuing Care Nurses	Journal articles	Regions	5.5%
Environmental Health	Journal articles	Regions	4.9%
Mental Health staff	Journal articles	Regions	3.2%
Medical Health Officers	Journal articles	Regions	3.1%
Occupational Health	Journal articles	Regions	1.6%
Physiotherapy	Journal articles	Regions	1.3%
Addictions Treatment Clinics (starts 2002)	Journal articles	Regions	will add 40% to total

APPENDIX A: What is a Special Library?

A special library is a workplace library which "provides information to advance the goals of commercial and government organizations" (Spiller, 1999).

Characteristics of Special Libraries: A Special Library should not be confused with or compared to the other common types of libraries (public libraries and university libraries). Special Libraries are characterized by the following attributes (adapted from Porter, 1997):

- Reside inside organizations rather than an institution in their own right
- Work closely with corporate staff to provide decision support literature and support the goals of the organization
- Focus on published information / knowledge management
- Supply specialized subject matter with limited scope
- Require specialized professional librarians
- Anticipate knowledge requirements / supply timely response

Health Libraries in British Columbia

There are three kinds (excepting Woodward Library, UBC):

- *Hospital* libraries in large hospitals supply *clinical* diagnostic and therapeutic information to health professionals
- *Association* libraries (RNABC, College of Physicians and Surgeons, HABC) supply *professional* information to remote members
- *Special* libraries within BC Cancer Agency, Workmen's Compensation Board, Health Association of BC, and Ministry of Health Planning/Services supply *goal-supporting* information to their organizations

The Ministry of Health Library is the ***only public health/health administration*** library serving BC, and is a unique, well-used resource, ***because it is 50% e-Library based***. The print collection was started in 1976 and is worth about \$5 million.

*****BC health librarians meet regularly, network via discussion lists, and exchange interlibrary loans to avoid duplication between their collections.*****

APPENDIX B: Clientele

Number of Managers / Professionals Served, 2001

Ministry of Health Planning/Services Victoria staff of 1700* (recorded 50% of staff use Library)	680
Medical Health Officers in Health Authorities	30
Public Health Nurses in HA's	1000
Environmental Health Officers in HA's	200
Community Nutritionists	90
Community Dental, Speech/hearing, Community Care in HA's	200
Community Mental Health staff	1100
BC Centre for Disease Control**	250
Other public/community health stakeholders: BC ministries, contractors, health libraries, health sciences students, etc.	500
Total client base:	4050[†]
Estimated regular users (6x per year or more)	1500

*In Victoria, program areas will have responsibility to develop and/or implement the Liberal's New Era strategic ten-year plan for health (see http://www.bcliberals.com/Campaign_2001/Platform/New_Era_Healthcare.shtml). These processes will require robust information support. The Library has already agreed to host the forthcoming MOH/UBC research documents/bibliographies on its e-Library.

**BCCDC has no Library onsite. Its subject areas include Epidemiology, TB Control, STD/AIDS, Pharmacy, and Laboratory staff. MOH Library finances their journals and provides e-Library services to subject specialties.

[†]This figure *does not include* the 250 MOH-funded Addictions Treatment Clinics which will be transferred to MOHP/S from MCF, along with their Library budget, in January 2002. These clinics, with 1335 staff, have no other Library service.

APPENDIX C: Demand

Total Service Transactions, 2001

CINAHL client searches	775
Librarian searches	600
Circulation Books/Journals	3,458
Interlibrary Loans	3,798
Monthly journal contents routed to 1000 people	12,000
Articles requested from in-house journal service	10,366
Articles copied by users (est.)	3,750
Faxed services	1,029
Internet trainees	160
MD Consult sessions	2,400
e-Library Intranet page requests (Appendix E.1)	20,125
Client contacts	4,860
Regular "health literature in the news" e-mail alerts (est. 5% use from 300 recipients)	1,500
Total service interactions	64,821

Table includes client hits on StatsMaster intranet e-Library

Table does not include:

- Visits to Library's Online catalog
- QP LegalEze hits on site license (estimate 600)
- Cochrane Library database hits (cannot track)
- 91,677 public/client hits on Library's World Wide Website

APPENDIX D: "No Library" Scenario Expenditure Costs of Meeting Demand

(Costs below are based on the commercial vendor prices in Appendix D-1)

Effects of client staff time spent in obtaining published materials:

- Database searching will require individual subscriptions at hourly rates
- Articles will be purchased by individuals from commercial vendors by credit card
- Books (if in print) will be purchased by individuals from commercial vendors with credit card. (*Interlibrary loans will not be an option.*)
- Each transaction will require authorized credit card user (or cheque voucher or money order), individual account, and time to process
- Duplication of resources will be unknown/uncontrolled

Demand transferred to vendors	Number	Unit Cost	Total
Medline searches (Appendix D)	600	\$12.00	\$ 7,200
CINAHL vendor searches (App. D-1)	775	40.00	31,000
Journal Table of Contents Service from CISTI Source @ \$250/yr, for 1000 clients	12,000	20.83	250,000
Articles requested from in-house journal service (= purchase from CISTI Source)	10,366	10.00	103,660
Articles copied from collection by clients (= purchase from CISTI Source)	3,750	10.00	37,500
Circulation books/journals (= purchase item)	3,458	45.00	155,610
Interlibrary Loans (= purchase book)	3,798	50.00	189,900
Faxed requests (= purchase from CISTI or buy book)	1,029	30.00	30,870
Internet trainees (= commercial training)	160	100.00	16,000
MD Consult sessions (= 250 accounts @ \$328.50/year)	2,400	34.22	82,125
Intranet e-Library hits (= locate Web item or purchase)	20,125	15.00	301,875
"Reports in the news" e-mail Alerts	1,500	15.00	22,500
Client consultations (= cost to visit another Library)	4,860	20.00	97,200
Total transactions	64,821		\$1,325,440

APPENDIX D-1. Database Searching/Article Delivery Charges for Individual Accounts (copyright charge must be paid)

<i>Document Delivery plus Copyright Charges</i>			
Infotrieve			
Journal Name	Document Delivery Base Charge	Copyright Charge	Delivery Service
Acta Otologica	\$10.75	\$19.30	
Aging and Mental Health	\$10.75	\$14.30	
American Journal of Family Therapy	\$10.75	\$14.30	
Learning Disabilities : Research and Practice	\$10.75	\$10.30	
Journal of Advanced Nursing	\$10.75	\$16.30	
Neuropsychology Review	\$10.75	\$19.80	
	\$10.75 US [\$16.99 CDN average]	\$94.30/6 = \$15.70 US [\$24.81 CDN average]]	\$41.80 CDN av.
CISTI Articles, National Library, Ottawa	\$10.00 [CDN] + database charge	nil	\$35.00 CDN av.
Ingenta			
Publisher Name	Document Delivery Base Charge	Copyright Charge	Delivery Service
Academic Press	\$10.00	\$38.00	
Blackwell Publishers	\$10.00	L13.00 = \$18.85 [L x 1.45 = \$US or L x 2.28 = \$CDN]	
Blackwell Science	\$10.00	L 7.50 = \$10.88	
BMJ Publishing Group	\$10.00	L 5.00 = \$7.25	
John Wiley & Sons	\$10.00	L16.00 = \$23.20	
Oxford University Pres	\$10.00	L11.00 = \$15.95	
SAGE	\$10.00	L 8.00 = \$11.60	
Taylor and Francis	\$10.00	L14.00 = \$20.30	
	\$10.00 US [\$15.79 CDN]	\$146.03/8 = \$18.25 US [\$28.84 CDN]	\$44.63 CDN av.
<i>Database Access for Citations Only</i>			
Journals@Ovid (Citation Service not DocDel)			
Database Name	Database Access / hour	Cost / each full record	
CINAHL	\$56.00	\$0.88	
Medline	\$14.00	\$0.22	
PsycInfo	\$34.00	\$0.72	
	\$104.00/3 = \$35 US [\$55.30 CDN]	\$1.82/3 = \$0.61 US [\$0.96 CDN]	

DataStar (Citation Service not DocDel)		
Database Name	Database Access / hour	Cost / each full record
CINAHL	\$87.00	\$1.24
Cochrane	\$21.50	\$0.32
Lancet	\$87.00	\$5.80
Medline	\$21.50	\$0.32
PsycInfo	\$43.00	\$1.45
	\$260.00/5 = \$52 US [\$82.16 CDN]	\$9.13/5 = \$1.83 US [\$2.89 CDN]
CISTI Source, Ottawa	\$250/yr. for access [CDN]	

APPENDIX E: Operating Costs 2001-2002

Service	Cost
7 Library staff salaries/benefits	\$362,850
Collection/Databases	
Print Journals, including 10% online	80,000
Books	20,000
Interlibrary Loans	10,000
Audiovisuals	5,000
MD Consult e-Library	9,000
CINAHL Nursing Database	3,000
Cochrane Evidence Database	1,000
QP LegalEze, Zoomerang Licenses	2,000
Addictions Journals (being transferred from MCF)	20,000
Subtotal	\$150,000
Total	\$512,850

APPENDIX E.1: How Calculations Were Made

Calculating Overall Cost

Both Library staff time and client time include salaries and benefits. Neither library or client costs include overheads such as computers, telephones, fax machines, floor space, heating, and light -- and are thus parallel for purposes of comparison.

Calculating Journal Article Cost

The Library's journal table of contents service (TOC) reaches 1000 people, out of 1500 regular users, out of a total client base of 4050 health and management professionals.

Many of these people are rural public health staff without desktop access to online systems or the time to learn how to use these.

There are 40,000 new peer-reviewed health science articles published each month. To keep abreast of developments, decision-makers use an inhouse journal table of contents (TOC) service. Without a Library, people would have to purchase individual database access and article delivery from commercial vendors at prohibitive prices -- see Appendix D.1. Another option is to set up *CISTI Source* accounts for exposure to current articles, at \$250/yr. per subscriber, plus \$10 per delivered article, averaging about \$35/article. Current MOH Library article costs include both the Library's TOC alerting service and the cost per article delivered -- working out to \$8.50/article total.

Calculating Interlibrary Loan Costs

Loans *from* other US and Canadian libraries bring expensive books into MOHP/S and Health Authorities at a fraction of the cost of purchase. Costs average \$11.60/loan, based on 0.33 FTE salary/benefits.

Loans *to* other BC libraries extend MOH Library's public health collection and prevent duplication in other tax-supported health libraries. Clients include Ministry of Children and Family Development, Vancouver Island Health Authority, Vancouver Coastal Health Authority, and northern/interior HA's. The average cost per outgoing loan is \$5.60 based on 0.33 FTE salary/benefits.

Calculating Web Visits

These calculations are approximate and must be separated from the gross *intranet* figures. We used the "successful requests for pages" figure, which excludes automatic counting for graphics, etc. We subtracted the number of IP address-based visits that Library staff made to the pages in their maintenance work, from the successful requests for pages.

Average Time to Obtain Published Information without a Special Library: 1 1/4 hr

Tracking down information involves phoning colleagues, locating references, searching the Internet, setting up document delivery accounts, visiting university libraries, and losing work time...and in the end there are doubts about systematic information quality and comprehensiveness.

"People can no longer develop effective personal strategies for managing information. Faced with an onslaught of information and information channels, they have become unable to develop simple routines for managing information...technologies for managing information are often the problem, not the solution. They can create the "M25 effect": more lanes just means more traffic." *Waddington, 1996*

"Thirty-eight per cent of managers waste substantial amounts of time trying to locate the right information." *Waddington, 1996*

"Part of the great appeal of a digital library is its flexibility. Hypertext and other dynamic linking methods allow libraries to be works in progress, always drawing on the best and newest information sources and not relying heavily on old news or static data. Librarians can offer top-of-the-line information, transparently switching sources as new services become available and user needs change." *CIO Magazine, January 15, 1997*

APPENDIX F: Central Purchase Policy and Volume Savings

1. Central Purchase Policy

To avoid costly duplication, the *Financial Administration and Policy Manual* requires centralized purchase of published materials, coordinated through the Library:

Chapter 7.6:18. SUBSCRIPTIONS, BOOKS, AND INTERNET/CD-ROM PUBLISHED MATERIALS

- 18.01 Hard-Copy and Electronic Subscriptions (including databases), and
- 18.02 Books, Reports, Conference Proceedings, Government Documents

2. Volume Purchases

Multiple online licenses to the subscriptions below have been arranged by the Library in response to client demand. New services are becoming available on a regular basis, and need coordination in an ongoing manner.

- *MD Consult full-text online medical reference collection*: Individual costs are \$328.50 CDN x 250 subscribers = \$82,125. Volume cost is \$10,000 CDN for 250 subscribers. The Library coordinates online access through IP/password authentication. *Savings: \$72,125*
- *QP LegalEze full-text online BC Statutes/Regs update alerting service*: Individual subscriptions are \$295/yr. x 22 subscribers = \$6490. Library has arranged Concurrent Multi-User Licenses for 22 people for \$1200. *Savings: \$5290.*
- *Cochrane Collaboration of full-text online evidence-based systematic reviews*: Individual cost is \$352.50 x 6 subscons. = \$2,115 CDN. Library has arranged CD Base Multi-User License for \$660 CDN. *Savings: \$1,455*
- *Zoomerang Professional Automated Online Survey subscription*: Individual cost is \$900 CDN x 20 surveyors/yr. = \$18,000. Library has arranged 3 concurrent licenses for \$1600 CDN and coordinates use. *Savings: \$16,400*

Total savings on volume subscription licenses: \$95,270

APPENDIX G: e-Library on the Cutting Edge

"By the year 2002 enterprises lacking formal infrastructure and technology for knowledge management will experience productivity losses in excess of 10% as a result of "Infoglut." Gartner Group, circa 2000.

In 1999, under the executive directorship of Lee Denny, now CIO for BC Government, the Library created its intranet-based e-Library program, customized to bring strategic information to MOHP/S decision-makers at the critical time. Accessible from the client's desktop, this service is visited over 20,000 times annually, averaging 80 times daily.

- 1. Client-based e-Library Program:** Customized e-libraries for all program areas, and broad Ministry topics such as Management/Public Administration, are updated as developments occur. Each e-Library links to publications in the news, preformatted customized literature searches performed in real time, hotlinks to legislation and statistics in BC and in parallel jurisdictions across Canada and the world, references to print materials held in the Library, and links to full-text online articles and journals. *Most full-text online resources are **fee-based** and require IP access coordination for clients.*
- 2. Hot Topics e-Library Program:** Customized e-libraries for strategic MOHP/S concerns are managed daily by the professional librarians. Issues such as waiting lists, nursing shortages, physician supply to rural areas, resource allocation, bioterrorism, and many others are supported by authoritative references at <http://admin.moh.hnet.bc.ca/libinfo/hottopics/index.html>
- 3. Reports in the News Alerts:** As a daily current awareness service, the librarians search the media summaries for new health reports, then forward the print or electronic sources to MOHP/S programs.
- 4. StatsMaster: A Master Index of Health-Related Data Sources Residing in the British Columbia Ministries of Health:** This online database describes, indexes, and points to health statistics sources on a *table by table basis*. It includes local, national and international data, with emphasis on MOHP/S databases. Retrospective print sources are available from the Library and current sources are available through online links embedded in the database. StatsMaster is accessed tens of thousands of times annually, both on the *intranet* and on the World Wide Web, and is considered an indexing prototype in Canada.

Library Databases and Online Catalog: A list of *fee-based* Library-mediated online search tools includes the Sirsi online book catalog, the serials holdings list, the CINAHL nursing and allied health index, the Cochrane evidence-based medicine database, and the MD Consult full-text medical library online.

Appendix H: Required Print Resources

Though e-Library development is well advanced within MOHP/S, there are several obstacles to its exclusive use:

- 1. Retrospective resources**, including historical data sources, Royal Commission and other classical reports and studies, MOHP/S archival documents, and a unique public health collection, are not available online for research and comparative purposes, nor are back issues of cited journals.
- 2. Online journals are largely fee-based.** With a few notable exceptions (British Medical Journal, Canadian Medical Association Journal, American Journal of Nursing, and others), most peer-reviewed authoritative journal literature must be purchased online and made accessible to users by IP authentication. For many remote users IP addresses are a moving target, and until this technological problem is solved by the publishing industry, print often remains MOH Library's most practical and economical option for information delivery.
- 3. Health Authority electronic infrastructure is unevenly distributed**, leading to access obstacles in remote and rural areas.
- 4. Computer literacy within MOHP/S and Health Authorities is unevenly developed**, because many people (including executives and health professionals) are too busy with their jobs to develop cost-effective information-tracking skills, and these people depend upon print resources to support their work.
- 5. The Reference Collection** of directories, dictionaries, yearbooks, almanacs, statistics, medical textbooks, toxicology texts, pharmacopoeias, and other resources, is still consulted regularly by walk-in clients.

In light of barriers to exclusive e-library service, the most valued print services the Library provides are ranked below according to volume of demand:

1. Journal Table of Contents/Photocopy Service (1.25 FTE)
2. Book/Report/Journal Circulation (0.66 FTE)
3. Interlibrary Loans Service (0.66 FTE)

APPENDIX I. Administration Costs (Included in Return on Investment Analysis)

Administration costs account for 20-25% of the total Library budget of \$0.513. (These costs are included in the cost per transaction in the Return on Investment Analysis, but are excluded from Table 4, Relative Costs by Type of Service.)

1. Manager of Library Services (administration is 60% of FTE)
 - strategic planning of information delivery
 - selection/review of acquisitions/licenses
 - fiscal management, delegated Purchasing Commission Authority
 - personnel management, supervision
 - MOHP/S committee work to support organizational goals
 - work-smart liaison with BC Health Library network

2. Office Manager/Acquisitions Technician (administration is 100% of FTE)
 - locates sources for publications and arrange discounts for volume purchases
 - processes orders for books/reports/journals
 - signs for goods received and process invoices
 - files claims for missing journal issues
 - supervises Table of Contents/photocopy service
 - orders Library/office supplies

3. Cataloguing/Technical Services (requires 20% of Assistant Librarian FTE)
 - catalogues 600 new publications per year
 - supports clients re online publication site licenses
 - liaises with vendor/TIPS re Library's software management system
 - supervises book processing

4. Web Administration, Interlibrary Loans/Circulation Services (requires 20% of Assistant Librarian FTE)
 - *intranet*/World Wide Web administration
 - supervises ILL and Circulation services
 - assists with strategic planning of information delivery

APPENDIX J. Anecdotal Statements from Key Clientele

Victoria Headquarters:

On the Library's undertaking to collect and catalogue all Health Transition Fund reports:

"We are EXTREMELY appreciative that the library is doing this—these documents represent several years and \$150 million worth of taxpayer-funded research and evaluation. Cataloguing this information for future decision-makers is exactly what we need to do to complete the loop. At the end of the day we hope that the reports will be easily accessible to those who need them."

Alan Cassels, Health Consultant, Strategic Planning and Reports, MOH, 21 March 2001

"We simply have to define a better leadership role with the Health Authorities. The work that you and your people have done in the area is spectacular."

To: Elizabeth Woodworth

Lee Denny, Director, Information and Technology Services, March 30, 2000

On literature search performed by Library staff in preparation for MOH report on mortality rates of children in care:

"Hi, just to let you know that your efforts paid off. The UK study turned out to be unsuitable, but the California study was right on! Therefore it is the only other similar study available, & without your help we would not have known about it.....many thx!!!"

Dr Robert Fisk, Epidemiology Consultant, Public & Preventive Health Division, MOH, 8 March 2000

On Library Client Pages:

"Great innovation in getting info out to the HAs!!"

"Thank you very much...!! This looks great and should be a welcome addition to the field staff. Well done!!!"

Andy Hazlewood, ADM, Regional Programs Policy and Strategic Initiatives, July 1999

"It has been a pleasure working with all of you at the Ministry library. I have enjoyed both your professionalism and warm approach. No request has been too ill defined or too fuzzy for you to deal with. I will be moving over to Ministry of Small Business next week and will bring with me a greatly expanded view of what a library staff can do. Thank you all."

Barbara Clough, Professional Support Branch, MOH, 8 December 1999

"The friendly service from everyone in your group has been appreciated by all of us on many many occasions, & is essential for our functioning."

Dr Robert Fisk, Epidemiology Consultant, Public & Preventive Health Division, MOH, 14 December 1999

"Re: SFU measles epidemic, I was in need of information/evidence on the likelihood of measles spreading from one campus to another – Bob Fisk, in cooperation with the MOH Library staff was able to quickly run a search and come up with a number of highly relevant reports from the US showing that spread from campus to campus was quite likely to happen. This was the basis of the policy to conduct a measles immunization campaign throughout post-secondary institutions in BC – this appears to have been an effective intervention as the outbreak at SFU has now been declared ended, although cases continue to occur elsewhere in the province."

Dr John Millar, Provincial Health Officer, MOH, 17 March 1997

On Library 's HIV/AIDS Hot Topics Page linked from Library's Addictions Page:

"It's actually a very good website. I would recommend keeping it."

Dr Diane Rotheron, Provincial Medical Advisor, Addictions Services, MOHS, 14 December 2001

Regional/Rural:

“I really appreciate your putting together the public health pages. I expect that I will be using them frequently. Thanks, great service!!”

Dr. Brian Emerson, Medical Health Officer, Upper Island/Central Coast CHSS, 14 July 1999

“I am most appreciative of the articles you have provided for me. Having no access to the Internet for abstracts from scientific journals, and with a limited budget for professional resources, access to journal articles via the Ministry of Health Library is an important vehicle to keeping abreast of current research.”

Denise Code, Community Dietitian, Central Vancouver Island Health Region, 27 August 1998

“I just wanted to take the time to tell you how much the library has meant to me in providing public health nursing services to families in Campbell River. I was so happy to hear this service will continue. It was one of my greatest fears that we would lose this wonderful resource.”

Sylvia Paulson, Public Health Nurse, Upper Island Health Unit, Campbell River, 12 May 1997

“As the previous chair of the Communicable Disease Scientific Committee, I found the assistance of the library to be invaluable. One particular incident was in helping to determine whether to immunize the whole province against Meningococcal Disease. The literature provided by the library was important in assisting in deciding not to do a mass program. Another more recent help has been with regards to providing guidance to a local school board about indoor air pollution due to furniture and carpets brought from home. Thanks to the literature review and abstracts done by Andy Buhler I was able to provide a well-supported recommendation for School District Policy. Your assistance in rapidly retrieving literature on public health issues is a vital support for us in doing our jobs, and I would support any proposal that strengthens that support. Thanks.”

Dr. Brian Emerson, Medical Health Officer, Upper Island/Central Coast CHSS, 14 April 1997

“The helpfulness of the Ministry Library in pulling numerous papers on the biological and epidemiological studies of nitrate in drinking water provided the support for putting a warning to pregnant women on the Health File on nitrate in drinking water. Another large supply of papers on the effectiveness of influenza vaccine, documented that whole cell vaccine had not been demonstrated to have an advantage over split cell vaccine in the elderly, allowing us to simplify our influenza vaccination program by going to all split vaccine.”

Dr Gillian Arsenault, Medical Health Officer, East Kootenay Health Unit, 14 March 1997

“The MOH Library has been instrumental in providing the research background for the development of several initiatives at the health unit/regional level. ... The library also provides me with information within minutes sometimes, on topics that arise from local queries from citizens and the media, and require an immediate and well-informed answer. The service you provide is one of the most important avenues I have as a regional medical officers to do a good job.”

Dr Lorna Medd, Medical Health Officer, Northern Interior Health Unit, Prince George, 14 March 1997

“I wanted to thank you for your continued support and efforts of your staff. I do not think there is a month that goes by or sometimes a week that I ask for a piece of information to help a member of the public, a professional colleague or a patient needing care. Your response is always quick and in more times than enough, much more extensive than I would expect. In this age of decentralization it is so easy to forget these support structures. Structures that aid us in the field to respond to people and communities. In past ages of restraint we give up ordering a lot of local resources depending more and more on the Ministry of Health Library. This has proved to be a very efficient and cost effective way for the Ministry to support our endeavors. ... It is important this resource remain a very important part of a smaller Ministry of Health centrally. It is a resource and asset that is irreplaceable.”

Dr William P. Moorehead, Medical Health Officer & Director, South Okanagan Health Unit, 30 August 1995

"If we didn't have the service, we would have to subscribe to more journals here as would other places (more money, less variety), or else just sacrifice staying on top of our knowledge. We have to respond to the media regularly and need to know that we are up to date."

Cathy Richards, Community Nutritionist, South Okanagan Health Unit, Kelowna, 28 April 1995

Lower Mainland:

"If we didn't have the Ministry of Health Library, we'd all have to develop our own libraries, which wouldn't have the depth, and would be far more expensive."

Dr John Blatherwick, Vancouver Medical Health Officer, Health Officers Council, Vernon, October 2001

On the Library's Radiation Protection Page:

"This is an extremely powerful and valuable tool that the library is providing for us. It can save us a lot of time and keep us up to date on the latest research information."

Randy Ross, Radiation Protection Branch, MOH, Burnaby, 24 August 1999

"Thank you very much for the valuable assistance in providing education material to us. We appreciate very much what you do and are truly thankful that regionalization did not eliminate your services. ... Your work indirectly helps to provide good care to the seniors we serve."

Ban Yen Chong & LTC Staff, South Fraser Health Region, Ladner, 1998

"Our staff use the MOH Library services regularly, and I am hoping that this excellent service will continue to be available to us after April 1. ... Having access to the most recent data on programs, etc. saves thousands in misspent effort at the local health unit level."

Maureen Smith, Dental Program, Boundary Health Unit, 26 March 1997

"As a community nutritionist in Port Coquitlam, I am a regular customer of the MOH Library Table of Contents Service. I also regularly request their help with literature searches. I use these services to respond to requests from other health professionals and members of the public, and to keep up to date with current nutrition research. ... I was so pleased with the service they provide to me and my colleagues that I wanted to let you know how much the library enhances my ability to provide accurate and timely service to other health unit staff and the public."

Catherine Atchison, Community Nutritionist, Simon Fraser Health Unit, 31 May 1996

APPENDIX K. Bibliography

Blagden, John and John Harrington. *How Good is Your Library? A Review of Approaches to the Evaluation of Library and Information Services*. London: Aslib, 1990. 59p.

British Council. *Government Libraries*. 1999.

<http://www.britishcouncil.org/infoexch/lisuk/govlibs.htm>

The National Health Service (NHS), which celebrated its 50th anniversary in 1998, has more than 500 libraries, employing around 2,000 staff. Around half of these have professional library or information qualifications. The NHS currently spends about £22 million each year on library services, but provision between regions is far from even. The current emphasis on evidence-based health care and the publication of Information for Health, the UK Government's ambitious information strategy for the NHS for the period 1998 - 2005 are placing new demands on the libraries and information services of the NHS.

Brophy, Peter, and Peter M. Wynne. *Management Information Systems and Performance*

Measurement for the Electronic Library: eLib Supporting Study: Final Report. University of Central Lancashire, Centre for Research in Library & Information Management, June 1997.

CIO Magazine. *Knowledge Management: Out of the Stacks*. January 15, 1997.
http://www.cio.com/archive/011597_stack.html

Daniel, Emil. *The eBook Library: A Partnership between 100 Federal Government Libraries Sharing Resources across 40 Departments and Agencies: PowerPoint Presentation*. Council of Federal Libraries, Ottawa, September 2001.

Davenport, Thomas H. and Laurence Prusak. *Working Knowledge: How Organizations Manage What They Know*. Harvard Business School Press, 2000.

Donald, Roslyn. *Valuing Library Services*. Information Access Company, 1999.

Canada. Government on the Net '01: Workshop, April 25, 2001

Metadata and Other Standards for Resource Discovery and Resource Description
Paul Miller, Interoperability Focus, UK Office for Library and Networking
Nancy Brodie, Information Management Advisor, Information Management Division, Treasury Board of Canada Secretariat

This workshop will identify and show how government information and the holdings of government libraries which are accessible over the Internet can be made more visible and accessible with the use of Metadata, standards such as Z39.50 and profiles like the Bath Profile. (MOH Library uses Unicorn, its Z39.50 catalogue, to show holdings on the World Wide Web, where it receives 100,000 hits per year.)

Factiva (Company). *Information Online 2001: Internal and External Information: Knowledge Sharing and Opportunities for the Enterprise*. Presentation by Clare Hart, President and CEO, January 2001.

Harris, G., and Marshall, J.G. "Building a model business case: Current awareness service in a special library." *Special Libraries*, 1996, 87:181-194.

Henderson, Rebecca . "Managing innovation in the information age," *Harvard Business Review*, 1994, 72(1):100-105.

The pharmaceutical industry is facing the enormous urgency of successfully competing in the new health care environment. As one of the classic types of industries that has dominated our economy, can it stand the challenge of competitors and technologies that other industries have seen? The author's research shows that pharmaceutical leaders have fostered the unique managerial capability of developing a high level of specialized knowledge within an organization that allows it to stay on top.

Keyes, Alison M. "The Value of the Special Library: Review and Analysis." *Special Libraries*, Summer 1995:172-187.

Kingma, Bruce. R. *Economics of Information: A Guide to Economic and Cost-Benefit Analysis for Information Professionals*. 2d ed. Library and Information Sci. Text, 2001.

Manning, Helen. "The Corporate Librarian: Great Return on Investment." In: Matarazzo, James M. et al. *President's task Force on the Value of the Information Professional. Final Report. Preliminary Study*. Washington, DC: Special Libraries Association, 1987, pp. 23-24.

This study attempts to determine the value of library services and the librarians at the Houston Site Library of Texas Instruments, Inc. Users were asked what impact the library services had on their ability to perform their job, how many hours the library services had saved them, and how many hours the librarian had saved them. The impact responses were assigned monetary values, and the time saved was also given values based on the average wage of engineering staff. The total savings to TI were estimated at \$959,000 per annum, versus library operating costs of \$186,000 per annum, which gives a return on investment of 515%.

Parker, Art. A.D. Parker & Associates, Toronto. "Demonstrating the Value of Libraries". Presentation to National Library of Canada, April 2, 1996.
<http://www.nlc-bnc.ca/cfl-cbgl/liaison/1996/96-5/value.htm>

Porter, Cathy A., et al. *Special Libraries: A Guide for Management*. 4th ed. Washington, D.C.: Special Libraries Association, 1997. 152 p.

Portugal, Frank. *Valuating information intangibles: measuring the bottom line contribution of librarians and information professionals*. Washington, DC: Special Libraries Association, 2000.

Portugal, Frank. *Assessing the Impact of Information Service on the Bottom Line*.
Presentation to Special Libraries Assn. Conference, June 12, 2001, San Antonio.

Roberts, Bill. "Solving the Value Equation." *Knowledge Management*, Jan. 2001. 30-34.

Spiller, David. "Libraries in the workplace: the UK special library statistics experience,"
INSPEL 33(1999)2:63-72.

United States. Army Corps of Engineers. *Value of Library Services, 1995*.
<http://www.usace.army.mil/library/usace/value.html>

United States. Federal Highway Administration. *Value of Information and Information Services. Appendix B: Interviews and Case Studies*. 1999.
<http://www.fhwa.dot.gov/reports/viisb.htm>

Minnesota Department of Transport recently implemented a pilot project that assigned librarians to research projects needing in-depth information. These efforts were successful. The librarian sits in on all team meetings, prepares literature reviews, and assists with other project-related information needs.

Minnesota DOT looked at its expenditures for library services in terms of actual on-line costs and staff time. It analyzed the benefits of having its librarians conduct on-line literature searches when TRIS first became available in the 1970s. The study results showed a benefit-cost ratio of between 9 and 10 to 1 over end-users finding similar information on their own. The study emphasized the competitive advantages that a professional librarian brings by reducing search times, minimizing search costs, and freeing time to conduct other activities for researchers, staff professionals, and managers.

Waddington, Paul. *Dying for Information? An Investigation into the Effects of Information Overload Worldwide*. Reuters Research Study, 1996.

Woodworth, Elizabeth. *A Proposal to Bring 24/7 Full-text Online Health Knowledge to all BC Health Clinicians at Point of Care*. BC Ministry of Health Library, Victoria, 2001. (ppt slide presentation)

This proposal is based on the existing model in New South Wales where the Ministry of Health brings 24/7 e-based clinical information to the point of patient care for 75,000 library-mediated per-item delivery. This proposal is not intended to replace health libraries but to add a centralized web access point to their management activities and to extend their outreach to rural caregivers at health clinicians (many in remote rural locations) throughout NSW. The cost is \$.37/hit This compares to the \$20.45/item cost for clinicians to find the same information without a library in BC MOH/Regions, and to the cost of \$7.91 for Health brings a cost-effective price. The UK Information for Health Plan 1998-2005 includes a similar initiative:

<http://www.nhsia.nhs.uk/def/pages/info4health/contents.asp>

