

*National Network of Libraries for Health
Réseau national des bibliothèques pour la santé*

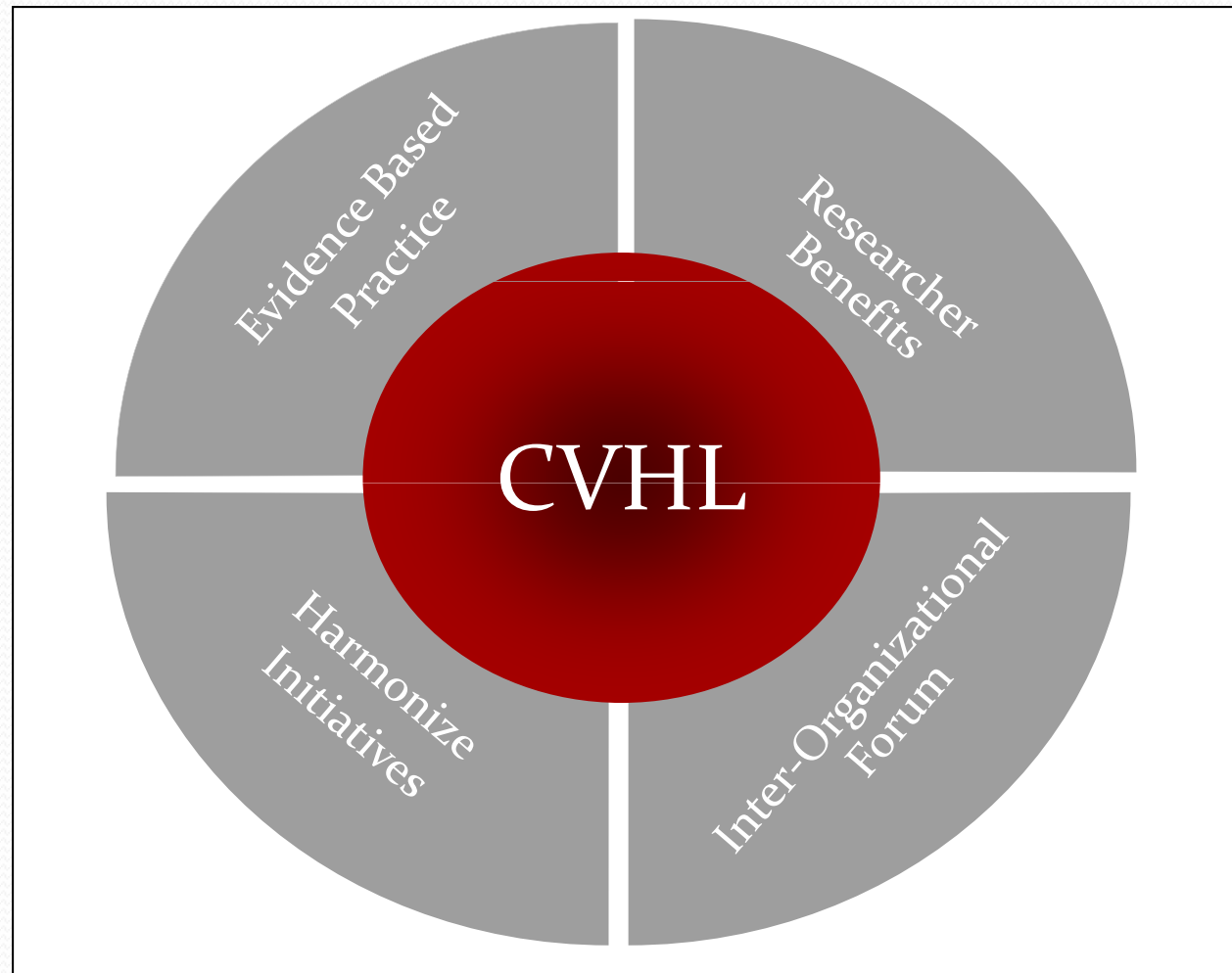
**Canadian Health Libraries Association /
Association des bibliothèques de la santé du
Canada (CHLA/ABSC)**

Canadian Virtual Health Library (CVHL)

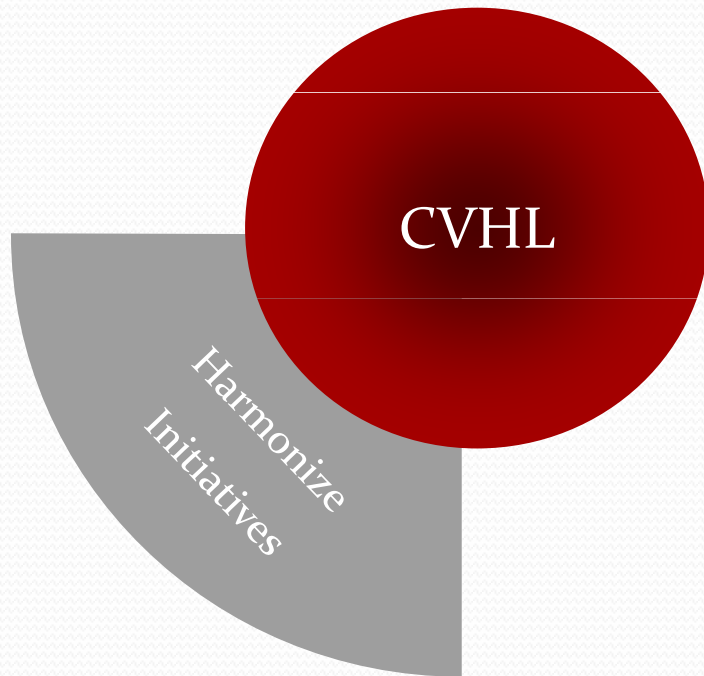
**Value Proposition
April 2009**



Value Propositions for a CVHL: 4 Quadrants



Value Proposition #1: Harmonize Initiatives



Efficiencies:

- Maximizes value for money
- Decreases duplicate licensing and leverages collective spending power
- Consolidates disparate initiatives and eliminates infrastructure redundancies
- Increases efficiencies by leveraging existing infrastructure
- Leverages and provides access to librarian expertise nationally

Sustainability:

- Ensures long term sustainability through national support and a national focus

Value Proposition #1: Harmonize Initiatives

Supporting Evidence

Cost Savings:

- CRKN was able to demonstrate a **cost reduction in journals from \$1500/title to \$417/title¹**
- Let us assume that, if they were aware of and wished to purchase the Cochrane Library of resources, 5% of all unaffiliated health professionals would do so. The cost to each of them would be \$310.00, resulting in a total collective cost of approximately \$5 million (5% of 328,204=16,410 x \$310). The Cochrane license being negotiated for Canada costs approximately \$600,000.00 to which all of the unaffiliated professionals would have access:

Total savings: \$4.4 million per year

Time Savings:

- Assuming that every health professional were able to save just one hour/month in unproductive search time as a result of access to library resources/librarians², a conservative total estimate of cost savings (based on 10% of unaffiliated providers, in 10 occupational groups) is close to **\$13M per year**.

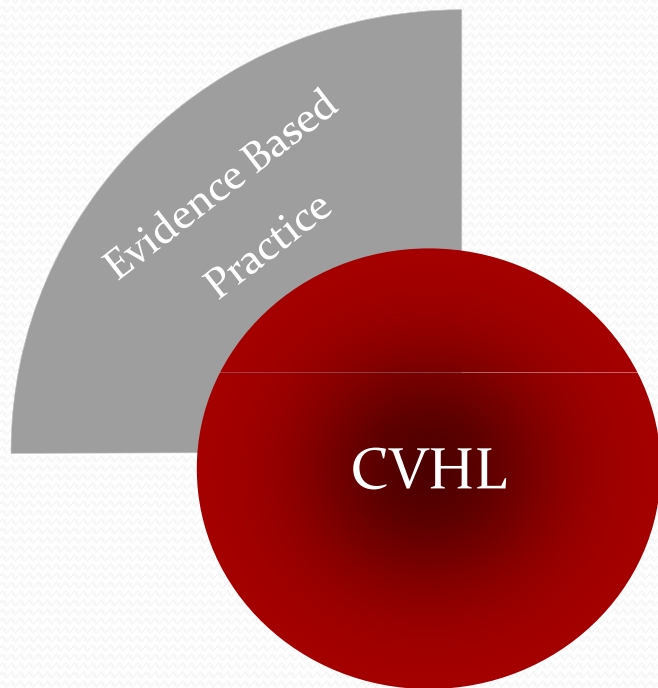
Provider Group	Number of Providers	Unaffiliated Providers	10% Unaffiliated Providers	Hourly Rate	Savings / person / year	Total Savings / year
Physicians	65,794	43,424	4,342	58	698	3,032,735
Nurse practitioners	1,303	860	86	37	444	38,183
Registered Nurses	252,948	166,946	16,695	29	354	5,901,864
Licensed Practical Nurses	67,300	44,418	4,442	21	254	1,127,862
Registered Psychiatric nurses	5,051	3,334	333	29	348	116,011
Physiotherapists	16,108	10,631	1,063	30	364	386,936
Dentist	18,925	12,491	1,249	63	756	944,282
Pharmacists	17,882	11,802	1,180	41	488	575,849
Occupational Therapists	11,786	7,779	778	31	369	287,130
Social Worker	30,970	20,440	2,044	21	252	515,093
Total	488,067	322,124	32,212	361	4,327	12,925,945

Sources

1. CNSLP Evaluation - Impact Study
2. Federal Science eLibrary - The Case for a Federal Science eLibrary, p. 5

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Value Proposition #2: Evidence Based Practice



Knowledge into Practice:

- *Right information, in the right format, in the right hands through the right channels*
- Key link in the knowledge value chain towards improved health and decision making
- Promotes evidence informed decisions through widespread access privileges
- Enables knowledge dissemination and knowledge translation between those creating the knowledge and those seeking to apply it through equal access to the same information
- Offers expert librarian-led knowledge brokering services
- Encourages use of research in the workplace through ease of access

Value Proposition #2: Evidence Based Practice

Supporting Evidence

Based on J. Marshall's 1992 landmark study (see Appendix for reference), respondents reported that:

- 11% were able to avoid hospital admission
- 19% were able to shorten the patient's hospital stay
- 19% were able to prevent a patient death

Based on these assumptions, the potential impact of the CVHL would be:

Reduction in Admissions:

- In Canada in 2004/05, there were approximately 2 million hospital admissions (see footnote 11). If we assume that only the "affiliated" physicians in Canada (i.e. 22,370) are able to both admit patients and access library resources, on average, each physician is admitting 89 patients/year. If 11% of those physicians were able to avoid a hospital admission, the result would be:

219,987 total admissions avoided per year

Shortened Length of Stay:

- In Canada in 2004/05, the national average length of stay in hospitals was 6.9 days and the total number of inpatient days was 14.9 million (see footnote 12). As above, if we assume that only the "affiliated" physicians are able to both admit patients and access library resources, and if 19% of those physicians were able to shorten the patient's hospital stay by just one day (see footnote 13), the result would be (see footnote 14):

1.6 million saved inpatient days per year

Bed Cost Savings:

- In Canada in 2005, the average cost per bed day for all hospitals is \$276.00 (see footnote 15). If 1.6 million inpatient days are saved as a result of physicians' changed behavior, total cost savings would be:

\$442 million in saved bed costs per year

Health Outcomes and Patient Safety:

- In Canada, between April 2004 and March 2007, just over 254,000 patients died in hospitals (see footnote 16) for an average of 86,000 deaths per year. Of total deaths per year, between 9,250 and 23,750 are the result of a "preventable" adverse event (see footnote 17). If 19% of "affiliated" physicians prevented just 1% fewer deaths:

There would be 81,827 annual hospital deaths per year and 4,173 deaths would have been prevented

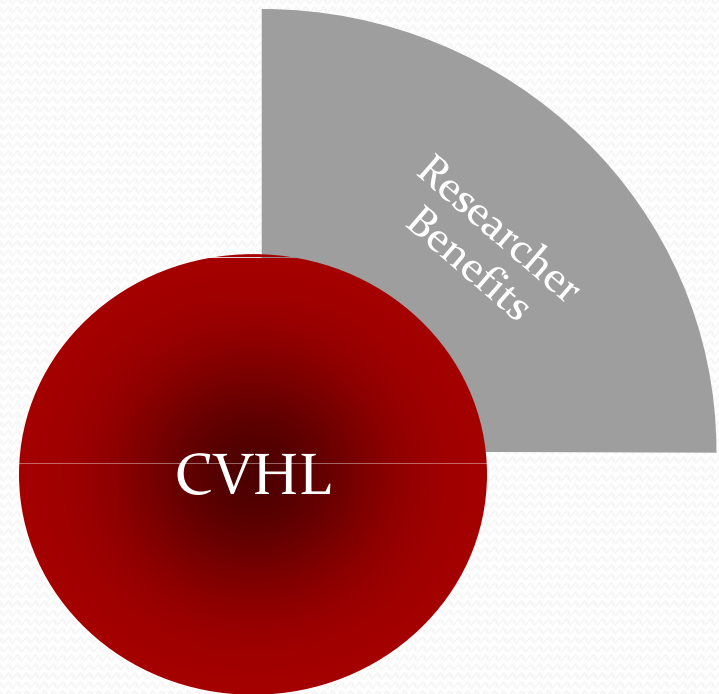
Value Proposition #3: Researcher Benefits

Data:

- Ensures consistency and quality of literature searches by providing an alternate database
- Increases access to journals or publications through collective spending power
- Increases validity of literature searches by providing another source of validation

Usability:

- Provides customized access for different population groups
- Saves time through one single access point
- Decreases unproductive search time through access to expert library staff in both official languages
- Leverages national expertise through greater access to librarians
- Enables national access to market and training support



Value Proposition #3: Researcher Benefits

Supporting Evidence

- Through CRKN alone, libraries have reported an **increase in holdings of up to 446%** ¹
- The elimination of unproductive search time by science, technology, and medicine professionals has been conservatively estimated at **\$96M over 4 years** ²

Sources

1. CNSLP Evaluation – Impact Study
2. Federal Science eLibrary – The Case for a Federal Science eLibrary

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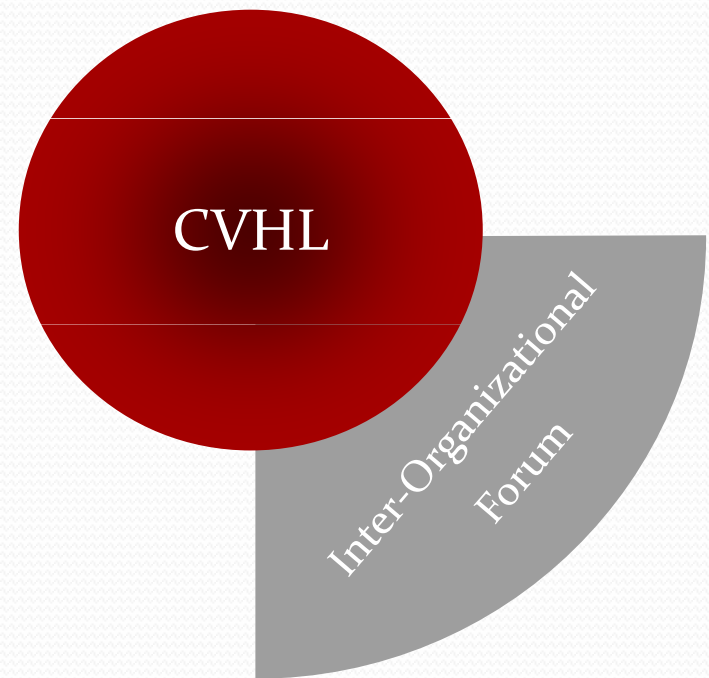
Value Proposition #4: Inter-Organizational Forum

Partnerships:

- Facilitates collaboration between researchers, decision makers and front line providers
- Forges stronger ties between existing partnerships by working towards a common goal
- Creates alliances where none existed through exposure to new organizations
- Provides a platform for moving forward with new partnerships
- Supports applied and community based research capacity

Exposure:

- Increases networking opportunities through greater access to diverse stakeholder groups
- Creates new promotion opportunities through exposure to a large subset of health care agencies
- Increases possibility for investment opportunities through exposure to new agencies
- Supports international research competitiveness and collaboration



Value Proposition #4: Inter-organizational Forum *Supporting Evidence*

- Through CRKN, 82% of researchers surveyed at undergraduate (small) universities reported that they either strongly or somewhat agreed with the statement that “(their) university is now more competitive because of the greater access to electronic journals”.¹
- Through CRKN, approx. 1/3 of researchers surveyed strongly agreed that electronic journal access allows them to:
 - “expand (their) research network (36%)”¹
 - “better identify new research opportunities (32%)”¹

Source

1. CNSLP Evaluation – Impact Study

Appendix

- Number of providers refers to total provider count in Canada (see source footnotes).
- Unaffiliated providers assumes that 66% of all providers are unaffiliated (*CHLA/Environmental Scan. Canada Health Infoway Phase 0 Report*. March 2008 p.26-7 “66% of physicians are “unaffiliated” i.e. work in settings that are highly unlikely to provide access to information resources (e.g. private/community office/clinic; community hospital). The “situation is similar (if not worse) for other health professionals that work in private offices, contract for services or are itinerant...”
- Based on other studies (C. Urquhart/*National Electronic Library for Health (NeLH). Pilot Evaluation Project. Final Report*. September, 2001), we know that uptake by clinicians (ibid. section 1.4.5.1) and researchers (The Impact Group. *Impact of the Canadian National Site Licensing Project. A Report to Partners and Stakeholders*. April 2004 p. 8) previously without access but institutionally-based to services and resources such as would be offered by the CVHL is high while for those without institutional affiliation usage initially is relatively low (~12%) (Urquhart. “The most likely reasons for the relatively low take-up ... (~12%) in many studies is the lack of familiarity with such services”). We have based our calculations on an even lower 10% up-take by previously unaffiliated providers.
- Joanne Marshall’s famous Rochester study studied the impact on physician practice patterns (n=448) as a result of information provided to them by the library. (Marshall, Joanne. *The impact of the hospital library on clinical decision making: the Rochester study*. Bull Med Library Assoc 1992 v.80(2): 169-178)

Footnotes

Supporting footnotes:

1. *CMA Master File January 2008, Canadian Medical Association*
www.cma.ca/multimedia/CMA/Content/Images/Inside_cma/Statistics/02SpecAge.pdf
General Practitioners and Family Physicians - Canada Salary and Wage Guide <http://www.livingin-canada.com/salaries-for-general-practitioners-and-family-physicians.html>
2. CIHI. *Number of Active Registered Nurse Practitioners by Province/Territory, Canada, 2003 to 2006.*
http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=hpdb_nps_e#
Nurse practitioner, CFNU Contract Comparison document, Dec 2007, pp. 16
3. *Number of Employed Active Registered Nurses by Province/Territory, Canada, 1997 to 2006*
http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=hpdb_registered_nurses_e#
General duty registered nurse, CFNU Contract Comparison document, Dec 2007, pp. 1
4. *Number of Licensed Practical Nurses by Province/Territory, Canada, 1997 to 2006*
http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=hpdb_lpn_e
Licensed practical nurse, CFNU Contract Comparison document, Dec 2007, pp. 3
5. *Number of Registered Psychiatric Nurses by Province, Western Canada, 1997 to 2006*
http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=hpdb_rpn_e
General duty registered nurse, CFNU Contract Comparison document, Dec 2007, pp. 1
6. *Number of Active Registered Physiotherapists by Province/Territory, Canada, 1997 to 2006*
http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=hpdb_physio_e
Physiotherapists - Canada Salary and Wage Guide, <http://www.livingin-canada.com/salaries-for-physiotherapists.html>
7. *Number of Active Registered Dentists by Province/Territory, Canada, 1997 to 2006*
http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=hpdb_dentists_e
<http://www12.statcan.ca/english/census06/data/topics/index.cfm?Temporal=2006&APATH=3>

Footnotes

8. *Number of Pharmacists by Province/Territory, Canada, 1997 to 2006*
http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=hpdb_pharmacists_e
Pharmacists - Canada Salary and Wage Guide <http://www.livingin-canada.com/salaries-for-pharmacists.html>
9. *Number of Occupational Therapists by Province/Territory, Canada, 1997 to 2006*
http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=hpdb_ots_e
Occupational Therapists - Canada Salary and Wage Guide <http://www.livingin-canada.com/salaries-for-occupational-therapists.html>
10. *Number of Registered Social Workers by Province/Territory, Canada, 1997 to 2006*
http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=hpdb_sw_e
<http://www12.statcan.ca/english/censuso6/data/topics/index.cfm?Temporal=2006&APATH=3>
11. CIHI. *Inpatient hospitalizations and average length of stay trends in Canada, 2003-2004 and 2004-2005*. November 30, 2005. P.2
12. CIHI. *Inpatient hospitalizations and average length of stay trends in Canada, 2003-2004 and 2004-2005*. November 30, 2005. P.5
13. One study suggests a reduction of 2 days may be more accurate (Banks, D., et al/*Decreased hospital length of stay associated with presentation of cases at morning report with librarian support*. J Med Lib Assoc 2007 v.94(4): 381-7)
14. 19% of physicians would admit 2.2M patients @5.9 days per stay (i.e. reduction of one day); 81% of physicians would admit 11.1M patients @6.9 days per stay; $2.2 + 11.1=13.3M$; $14.9 - 13.3=1.6M$.
15. <http://www.who.int/choice/country/can/cost/en/index.html>
16. CIHI. *HSMR: A New Approach for Measuring Hospital Mortality Trends in Canada*. 2007
17. Baker G.R., Norton P.G., et al. *The Canadian Adverse Events Study: The Incidence of Adverse Events among Hospital Patients in Canada*. *Canadian Medical Association Journal*. 2004;170(11):1678-1686