

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

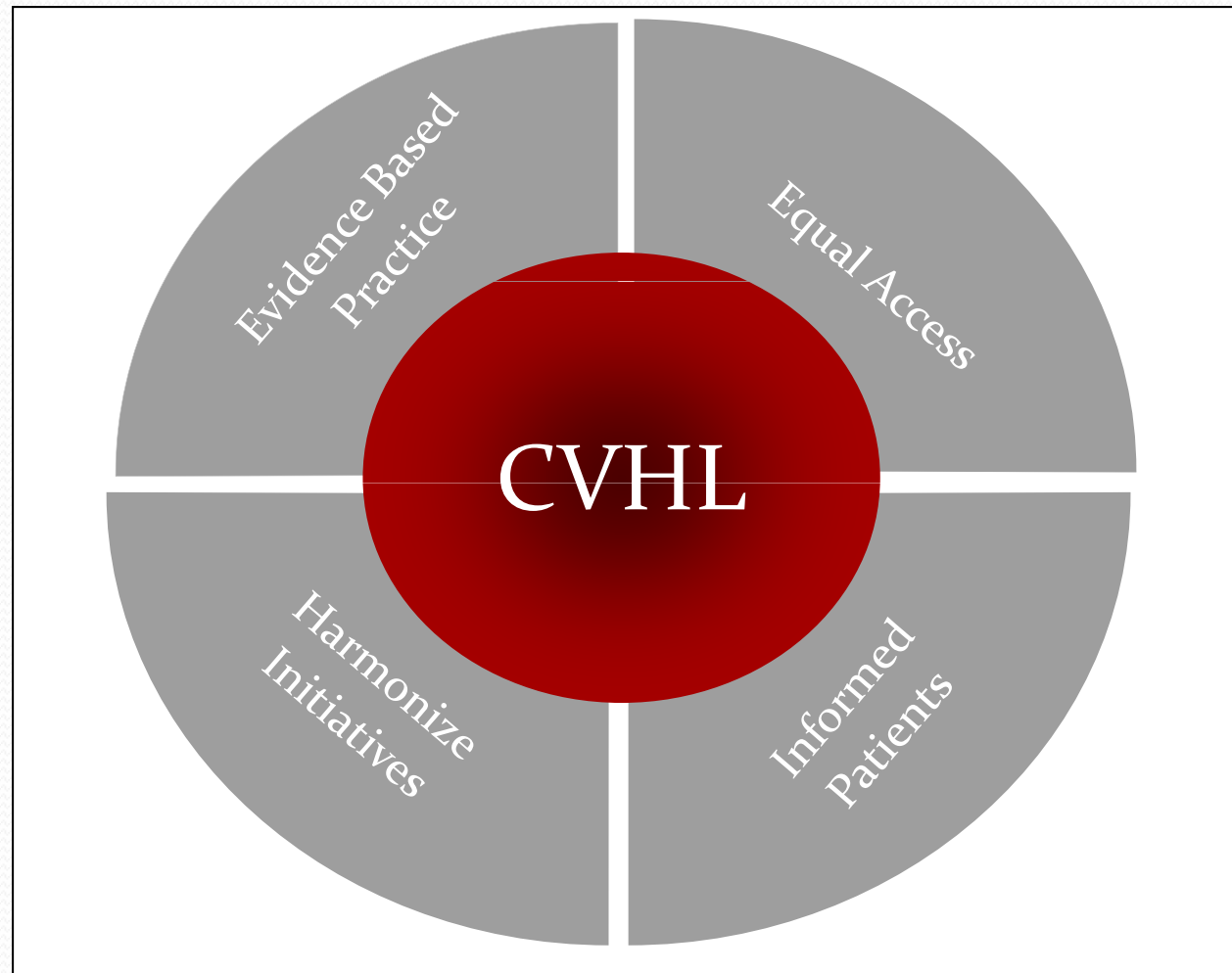
**Canadian Health Libraries Association /  
Association des bibliothèques de la santé du  
Canada (CHLA/ABSC)**

**Canadian Virtual Health Library (CVHL)  
Value Proposition**

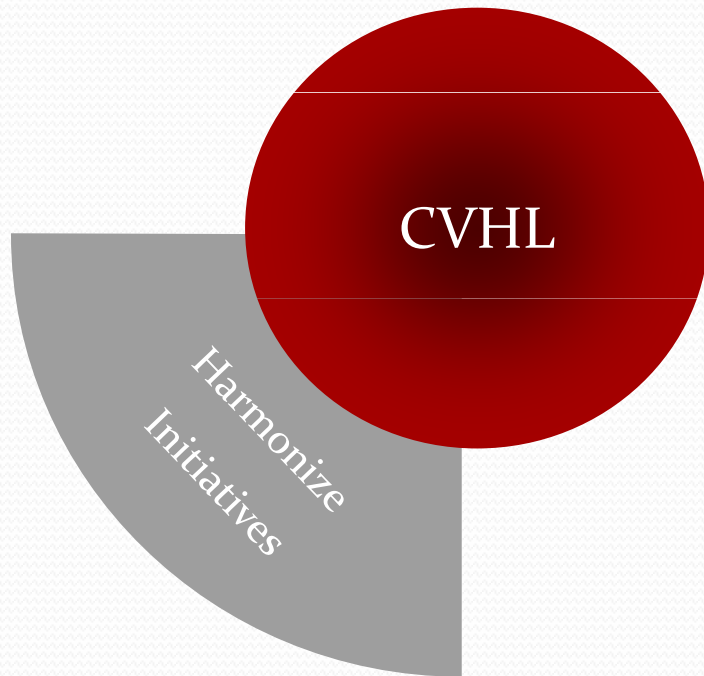
April 2009



# Value Propositions for a CVHL: 4 Quadrants



# Value Proposition #1: Harmonize Initiatives



## **Efficiencies:**

- Decreases duplicate licensing and leverages collective spending power
- Maximizes value for money
- Saves time through one single access point
- Leverages and provides access to librarian expertise nationally

## **Long Term Benefits:**

- Sets the stage for future linkages with EHR/EMR and integration into the electronic environment
- Promotes information sharing and collaboration between partner and member agencies on both a federal and provincial level
- Creates new linkages and strengthens existing linkages between member agencies and users

# Value Proposition #1: Harmonize Initiatives

## *Supporting Evidence*

### Cost Savings:

- CRKN was able to demonstrate a **cost reduction in journals from \$1500/title to \$417/title<sup>1</sup>**
- 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/librarians<sup>2</sup>, a conservative total estimate of cost savings (based on 10% of unaffiliated providers, in 10 occupational groups) is close to **\$13M per year**.

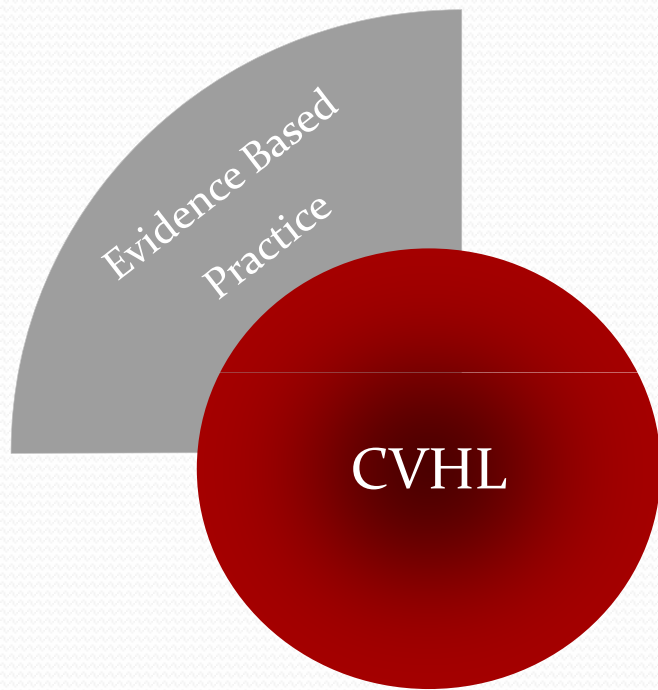
Provider Group	Number of Providers	Unaffiliated Providers	10% Unaffiliated Providers	Hourly Rate	Savings / person / year	Total Savings / year
Physicians	65,794	43,424	4,342	58	698	3,032,735
Nurse practitioners	1,303	860	86	37	444	38,183
Registered Nurses	252,948	166,946	16,695	29	354	5,901,864
Licensed 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
<b>Total</b>	<b>488,067</b>	<b>322,124</b>	<b>32,212</b>	<b>361</b>	<b>4,327</b>	<b>12,925,945</b>

### 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



## Professional Development:

- Supports continuing competency through the provision of quality information
- Promotes adherence to new and emerging standards of practice
- Promotes provider autonomy by enabling self directed learning

## Knowledge into Practice:

- *Provides the Right* information to the *right* provider at the *right* time
- Supports evidence based decision making
- Accelerates implementation of existing knowledge into practice
- Promotes knowledge dissemination

## Health Outcomes:

- Positively impacts health outcomes
- Increases access to timely and quality assured health information

# 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**

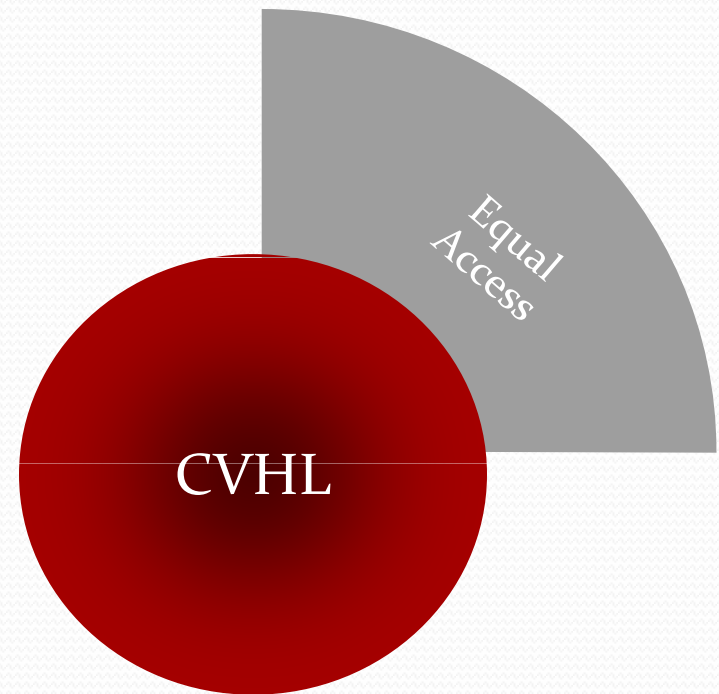
# Value Proposition #3: Equal Access

## Equality:

- Serves needs of historically underserved groups (e.g. rural, special populations, Inuit and First Nations)
- Increases equality between provinces through a Pan Canadian initiative
- Available in both official languages

## Information Exchange:

- Increases access to quality information
- Strengthens current knowledge base through easy access to information
- Simplifies the exchange of information through ease of system use



# Value Proposition #3: Equal Access

## *Supporting Evidence*

- If we assume that 66% of providers are unaffiliated and would likely not have access to literature<sup>1</sup>. Based on figures from just 10 provider groups, this could result in **access for 322,000 providers**.
- Through CRKN alone, libraries have reported an **increase in holdings of up to 446%**<sup>2</sup>

Provider Group	Number of Providers	Unaffiliated Providers
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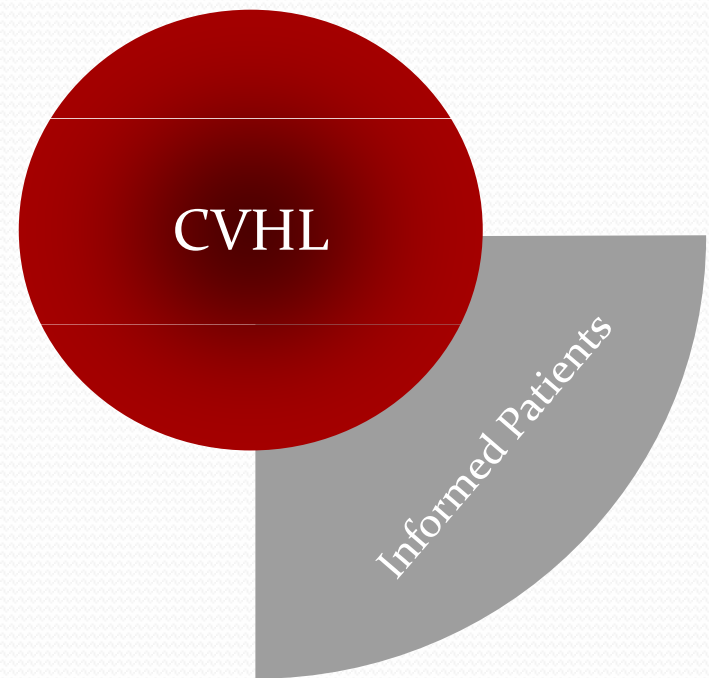
### Sources

1. CHLA/ABSC. *Environmental Scan. Canada Health Infoway Phase 0 Report*. March 2008. P.26-27.
2. CNSLP Evaluation – Impact Study

# Value Proposition #4: Informed Patients

## Patient Benefits:

- Facilitates patient education through the use of relevant and timely information
- Supports knowledge transfer from providers to patients
- Facilitates health promotion
- Improves population health status
- Increases access to reliable and trustworthy health information sites for patient use



# 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/o2SpecAge.pdf](http://www.cma.ca/multimedia/CMA/Content/Images/Inside_cma/Statistics/o2SpecAge.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#](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#](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](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](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](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://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=hpdb_dentists_e)  
<http://www12.statcan.ca/english/censuso6/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](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](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://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;  $2.2 + 11.1=13.3\text{M}$ ;  $14.9 - 13.3=1.6\text{M}$ .
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