Using the results of a satisfaction survey to demonstrate the impact of a new
library service model.

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Abstract

Background

In 2005, the University of Calgary entered into a contract to provide library services to the staff and physicians of Alberta Health Services Calgary Zone (AHS CZ), creating the Health Information Network Calgary (HINC).

Objectives

A user satisfaction survey was contractually required to determine if the new library service model created through the agreement with the University of Calgary was successful. Our additional objective was to determine if information and resources provided through the HINC were making an impact on patient care.

Methods

A user satisfaction survey of 18 questions was created in collaboration with AHS CZ contract partners and distributed using the snowball or convenience sample method.

Results

694 surveys were returned. 75% of respondents use the HINC library services. More importantly, 71% of respondents indicated that search results provided by library staff had a direct impact on patient care decisions.

Conclusions

Alberta Health Services Calgary Zone staff are satisfied with the new service delivery model,

they are taking advantage of the services offered and using library provided information to

improve patient care.

Key Messages

For Policy

Contracting with a university library can create capacity for hospital library staff to focus
primarily on client services

Virtual library services, including electronic resources, and library staff available by telephone,
fax and email, can eliminate information access disparities between rural and urban
practitioners.

For Practice

Library and Instruction services provided by librarians have a positive impact on patient care
decisions.

Introduction

The Health Information Network Calgary (HINC) was established in 2005 when the University of

Calgary (UCalgary) assumed responsibility for library services to the Calgary Health Region, now

known as Alberta Health Services Calgary Zone (AHS CZ). AHS CZ has 25,000 employees spread

across 39,000 sq km. In Calgary there are four acute care hospitals. The largest of these, with

700 plus beds, is in the same complex as the UCalgary Health Sciences Library. When the contract was signed, AHS CZ had five libraries, staffed by library technicians. There was a 0.5 FTE professional librarian manager. Library staff were responsible for acquisitions, cataloguing, serials ordering, renewal, check-in, circulation, reference, instruction and research. The volume of technical services tasks left staff little time to be available for the more direct client services of reference, instruction and research.

AHS CZ and UCalgary had been in discussions since 1997 to create a joint library service model. Hospital staff in the same complex as the UCalgary Health Sciences Library had historically been given access to the Health Sciences Library but staff from other sites did not have privileges. This created a system of information have and have-nots based on location within the health region.

In 2003, AHS CZ hired a library consultant to develop a user needs assessment which formed the basis for the library service delivery model and the contract. The new model emphasized linking healthcare professionals with the information they need, when they need it, to make informed decisions critical for patient care and improved health outcomes. To achieve this AHS CZ needed staff focussed on providing reference, instruction and research.

With the implementation of the contract, all technical services were transferred to UCalgary. Collections were rationalized and many of the print journal subscriptions were converted to electronic so that they would be available anywhere in the region, at any time. A library webpage was created that provided access to library resources, and staff. The UCalgary integrated library system was used to create a catalog, a user database and to circulate

materials.   AHS CZ staff were set up to be able to borrow not only from their own print collections but from those of the University.   Remote access to AHS CZ electronic resources was created through the UCalgary ezproxy server and patron library registration.

All library staff positions were moved from AHS CZ to UCalgary and with that move, the staff mix was changed to be able to deliver on the enhanced service principles of the new model. Existing AHS CZ library staff applied for the new U Calgary positions, three librarians, six support staff, and a network manager. Two existing libraries were closed, the one in the same complex as the UCalgary Health Sciences Library, and one in the AHS administrative building. The remaining three libraries were expanded, renovated, and renamed Knowledge Centres to make the connection between library services and resources and knowledge translation. These Knowledge Centres became branch UCalgary libraries and provide access, where licensing permitted, to almost all the UCalgary electronic resources. The UCalgary Health Sciences Library formally assumed the responsibility of serving as the Knowledge Centre for the hospital in the same complex. With the closures and staff mix changes, the overall cost of this new model was not significantly greater.

To ensure that needs were being met by this new arrangement, AHS CZ negotiated service level agreements and required that a user satisfaction survey be conducted.   These service level agreements require compliance 95% of the time, and include:

1. Users must be contacted with 24 hours of submitting a non rush request to the library

2. New books and materials must be available to AHS CZ users within 10 days of receipt in UCalgary Technical services

3. New users must have remote resource access within 24 hours of registering for system access

The survey would determine if AHS CZ staff, and physicians were satisfied with this new model. This paper discusses the results of that user satisfaction survey, which presented a unique opportunity to determine health practitioner satisfaction with a new library service delivery model implemented for an entire health region by outsourcing the library service to the local university and allowed us to determine if library services were impacting patient care.

Literature Review

The value of library services has been well documented in the literature.[1-3] Studies have focussed on the efficiency of providing services, determining information needs, and describing information seeking behaviours.[4] Cuddy and Marshall found that library usage directly impacted patient care.[4-6] However, only Medernach evaluated the impact of new library services across an entire healthcare system.[4]

User satisfaction is generally considered an indicator of system success. However, satisfaction is subjective and influenced by a variety of factors, including long-term and short-term perceptions built up over a number of transactions. Al-Maskari's study proves that users were more satisfied with a better system.[7] Urquhart assessed satisfaction with an existing service with a view to future improvements for a primary care trust.[8] Truccolo looked at consumer satisfaction with a cancer information service.[9]

Our study adds to the literature by describing the use of a satisfaction survey to determine the impact of a new library service model created through a contract between a health region and a university, emphasizing reference, research and instruction supported by professional librarians.

Objectives

The aim of the satisfaction survey was to determine if the new library service delivery model was satisfying AHS CZ health practitioners and physicians and additionally having an impact on patient care.   The objectives included determining how users were accessing services, if they were satisfied with those services and what the service impacts are.

Method

An 18 question paper based survey was developed in close collaboration with Alberta Health Services and pretested with a small group of library users. (Appendix 1) The final survey was approved by the joint Alberta Health Services/University of Calgary Health Information Resource Management Committee. Ethics approval was provided through a satisfaction letter from the Office of Medical Bioethics, University of Calgary.

Survey Distribution

After much debate and discussion with the Management Committee, a hybrid survey distribution method was selected. Cost was a factor and convenience sampling is one of the most cost effective means of survey distribution. The survey was distributed to AHS CZ employees, physicians and contractors who have used HINC services, facilities or resources, or

attended a series of recent open houses. Surveys were also made available on the HINC website and at each Knowledge Centre. Respondents were encouraged to distribute the survey to colleagues. Email notices of the survey were sent to all AHS CZ employees. Targeted distribution of the survey to high information use groups was also implemented to ensure that potential or actual users of the service had an opportunity to respond to the survey. These groups included nursing, rehabilitation medicine, pharmacy, radiology, administration, mental health and research.

Consent was assumed through submission of a completed survey. The goal was to have as many surveys as possible returned.

Data Analysis

Data analysis used simple descriptive statistics, reporting proportions for responses to survey questions.

Results

The survey assessed awareness, access, knowledge of resources, usage patterns, satisfaction with spaces and collections, and impact. This paper will discuss awareness, access and most significantly, impact.

Table 1 shows the breakdown of survey responses. More detailed analysis of the other respondents revealed that of the 276, 12%(33) were Secretaries or Administrative Assistants, 11% (30) were Clerks.

Table 1. Respondents by self identified professional title

	N=694	%
Other	241	35
Nurse	206	30
Physician	48	7
Administrator	44	6
Physiotherapist	34	5
Social Worker	32	5
Psychologist	28	5
Pharmacist	24	3
Student	19	3
Occupational Therapist	18	3

Awareness   Table 2 shows that of the 694 surveys that were returned, 75% (518) of

respondents indicated that they used the HINC library services, including the online resources.

158 respondents indicated that they had not used HIN services and resources, and 17

respondents are not sure or do not recall using HIN services and resources.

Interestingly, 12% (83) indicated that they had heard of HINC through a colleague. Other

respondents had indicated they had heard of HINC by working at a hospital, through the

Alberta Health Services intranet, or through an in-service, educational session or orientation

session. Some respondents indicated that they have always known about library services while

others indicated that they have heard of HINC as a student, through their supervisor or

manager, through a library tour, or through a referral from Knowledge Centre staff.

Table 2. Number of respondents who have used library services and resources

	N=694	
Yes	518	75%

No	158	23%
Don't know	17	2%
No Response	1	

Access: Table 3 shows that clients overwhelming used remote or virtual means to contact the library. Given the size of Alberta Health Services Calgary zone, the geography and the number of staff, this is not surprising and has significant implications for how library services are promoted and presented.

In addition, when asked what resources they would like to see added, respondents requested more online journals and books.

Table 3 How respondents usually contact the Knowledge Centre for services

Method	n=694	
Email	250	36%
In Person	248	36%
Website	97	14%
Phone	93	13%
Fax	6	1%

We also wanted to learn how clients wanted to be contacted about new services, resources, or learning opportunities. Table 4 shows that respondents overwhelmingly denoted electronic mail as their preferred method: 500 respondents indicated that they would like to be included on an email listserv for any updates on services, resources, or learning opportunities. 103 respondents indicated that they would prefer receiving these updates through the "News You

Can Use" an internal online newsletter, and only 106 respondents preferred receiving their

updates through a print newsletter.

Table 4 How respondents like to get information about library services

Method	N=694	
Email	500	72%
News you can use	103	14%
Library Newsletter	62	9%
RSS	13	2%
Blog	16	2%

Web 2.0 technologies, such as RSS feeds and weblogs, are not as well received as other media:

13 respondents preferred RSS feeds as a means of receiving updates and 16 respondents

preferred weblogs (or commonly, blogs) for receiving updates. Other answers include team

meetings, the departmental secretary, or educational sessions at sites without libraries. The

library was not using blogs or feeds for promotion at the time. Their inclusion in the list was to

determine a baseline awareness and use.

Impact: Respondents were also asked for their opinions on library services. In Table 5, 43%

agreed/strongly agreed that search results provided by Knowledge Centre staff contribute to

better patient care decisions and 60% of the respondents agreed or strongly agreed that the

information obtain was valuable to their research. Admittedly 13% found it hard to decide if

the literature provided makes a difference and 39% did not respond to this question. As shown

in Table 1, demographic information gathered indicates that 35% of the respondents selected

Other from the list of professions. 64% (177) of the 276 Other respondents do not provide

direct patient care.   This supports our theory that the convenience sampling distribution

method gathered survey responses from individuals who were not in roles that required

information to support patient care. 19 in the Other category identified as researchers who

would have responded to the research impact as opposed to the patient care impact question.

136 respondents indicated that they had attended a training session offered by the HINC.

Significantly 84 (62%) are now more confident performing online searches and 76 (56%)

responded that they were able to use the skills learned when making health care decisions.

Table 5 Impact of library services

Satisfaction statement n=694	Strongly agree		Agree		Hard to decide		Disagree		Strongly disagree		No Response	
When I have Knowledge Centre staff do literature searches for me, the search results help me make better decisions around patient health	186	27%	115	16%	90	13%	7	1%	25	4%	271	39%
The services provided are useful to my research	264	38%	154	22%	43	6%	4	.5%	14	20%	225	32%

Discussion

Our findings demonstrate user satisfaction with the new service model. Users can find and use

information to help with patient care decisions and research.

The results prove that a virtual services model is effective. Because the majority of users do not actually come to the library (64% use telephone, fax and email), user location is irrelevant. Users phoning or emailing from rural locations receive the same level of services as users phoning and emailing from urban centres. Rural and urban staff have access to the same suite of electronic resources. Urban/rural disparities in access to evidence based information and library support are consequently minimized.

Based on the small percentage of users who turn to blogs and RSS feeds, the Health Information Network will not dedicate resources to using these tools for promotion. However, the survey identified a knowledge gap that we will address with training on the use of these Web 2.0 tools.

Our study also highlights the importance of training and the impact on patient care. By moving technical services to the University, front line library staff had greater capacity to develop and deliver training programs. Although our results do not make a strong case, a recent paper on clinical librarianship does.   Aitken found that 88% of the study participants reporting changing a treatment plan based on skills taught by the Clinical Librarian and 79% changed a treatment plan based on information provided by the Clinical Librarian.(10) A survey targeted specifically to direct patient care providers who would use information to support patient care decision making would produce clearer results and this is one of our study's limitations. In addition there were omissions from our list of professions, such as dieticians, respiratory therapists and researchers which also resulted in individuals reporting as Other.

Our study does have other limitations. Convenience sampling does not necessarily obtain the most reliable information. Medernach found that physicians sampled by convenience in 2002 reported a higher incidence of library use than did the randomly sampled physicians in 2006.(4) Stratified Random Sampling based on user roles would have provided more representative results.(11)

Impact of library services on patient care is self reported by the survey respondents. However the Donabedian model of quality of care predicts that an improved process will lead to improved care. In Donabedian's model of structure, process, outcomes, each component has an impact on the next.(12) We believe that region-wide access to professional library services and licensed information resources is an improvement in process that will have a positive impact on the outcome of patient care. (13) King(14), Marshall (6) Klein (15) and Aitken(10) have all reported a direct impact on patient care and length of stay.

Conclusion

Our survey provides a unique look at the results of implementing a new library service model, which created more opportunities for library staff to be available for research, reference and instruction. The survey demonstrates that AHS CZ staff are satisfied with the change in service delivery model. Based on the positive results library staff will continue to market and promote library services to reach a wider audience, concentrating efforts on electronic communication.

Acknowledgments

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Appendix 1

Library Services Satisfaction Survey

The Health Information Network (HIN) provides library services and access to **current** medical research to staff and patients. The **organizations formerly known as the** Calgary Health Region and **Alberta Cancer Board (South)** have each partnered with the University of Calgary Library to create this network of information services.

We need your thoughts on our services and hope you will help us by completing a survey. It should take about 5 minutes.

Section A: Health Information Network General Awareness

1. Have you ever used the Health Information Network (library) services, including online resources? If no, please indicate then skip to question 15.

Yes	No	Not sure/ don't recall
o	o	o

If yes, how did you learn about us? _____

2. How often do you use our library services (including online resource access)?

Every day	Once a week	Once a month	Not sure/ don't recall
o	o	o	o

3. How do you usually contact your Knowledge Centre/Library to request items or obtain assistance? (select all that apply):

In person	Phone	Email	Fax	Website
o	o	o	o	o

Section B: Access to the Physical and Virtual Library

The Health Information Network strives to provide a variety of easy-to-find and accessible physical and virtual spaces to support your work needs.

4. We recognize your need for 24/7 access to online resources and provide desktop access via hinc.ucalgary.ca or via Library Services on the iweb.

a. Have you visited our website from work?

Yes	No	Not sure/ don't recall
o	o	o

b. Have you visited our website from home using your library barcode and PIN number?

Yes	No	Not sure/ don't recall
o	o	o

c. If you answered 'yes' to either of the above questions, please indicate what resources you found to be useful:

Online database access	Online journals	E-books	Online catalogue	New book List	Links to library services
o	o	o	o	o	o

5. On a scale from 1 to 5, with 1 being 'very easy' and 5 being 'very difficult', please rate the Health Information Network website (excluding the databases like MEDLINE, CINAHL) on how difficult or easy it is to use:

Very Easy   **Very Difficult**

1	2	3	4	5
o	o	o	o	O

6. Please indicate your agreement with the following statements:

I find the Knowledge Centre/Library:	Strongly agree	Agree	Hard to decide	Disagree	Strongly disagree	Doesn't apply to me
Comfortable and inviting	o	o	o	o	o	o
A getaway for study, learning & research	o	o	o	o	o	o
Useful for personal computer/Internet access	o	o	o	o	o	o
Useful for access to U of Calgary's online resources	o	o	o	o	o	o
Is good for library group training sessions	o	o	o	o	o	o
Has up-to-date equipment that works well	o	o	o	o	o	o

Section C: Information Resources

*The Health Information Network seeks to provide **current** information **sources**, technologies and expert staff to support you in providing healthcare to patients**.***

7. Please indicate your agreement with the following statements.

	Strongly agree	Agree	Hard to decide	Disagree	Strongly disagree	Doesn't apply to me
I find the books and A/V materials I need via the Knowledge Centre	o	o	o	o	o	o
I find the print or online journals I need for my work via the Knowledge Centre	o	o	o	o	o	o
I find it helpful to refer patients and their families to the Consumer Health resources	o	o	o	o	o	o
Using the University of Calgary resources, available only in the Knowledge Centres, is a useful adjunct to the resources licensed for use at my desktop	o	o	o	o	o	o

8. Which of the online information resources listed below do you use (please select all that apply):

MEDLINE on Ovid or EBSCO	o	**UpToDate (worksite use only)**	o
PubMed	o	**e-Therapeutics+ (e-cps)**	o
CINAHL	o	**International Pharmaceutical Abstracts**	o
Cochrane Database of Systematic Reviews	o	**Natural Standard**	o
PsycINFO	o	**STAT!Ref**	o
EMBASE	o	**E-books e.g. Harrison's Principles of Internal Medicine online**	o
E-journals	o	**Not sure/ don't recall**	o
Free Internet sources or Google Scholar	o	**Other (please specify)** _____	o

9. What online resources would you like to see added?

_____

_____

_____

_____

10. Where do you access the online resources (please select all that apply):

Work desktop	From home	In the library	Via PDA	Other
o	o	o	o	O

Section D: Skills

The staff at the Health Information Network want to help you acquire the skills you need to identify, locate, retrieve and manipulate information to make good decisions around patient health.

11. Have you participated in one of our learning sessions? If no, skip to question 12.

Yes	No	Not sure/ don't recall
o	o	o

a. If yes, which kind of learning session did you participate in?

One-on-one in a Knowledge Centre	One-on-one at my worksite	Group session at the Knowledge Centre	Group session at my workplace	As part of rounds	Other
o	o	o	o	O	O

b. Did the session(s) help you feel more confident in searching?

Yes	No	Somewhat	Not sure/ don't recall
o	o	o	o

c. Were you able to put those skills to use in making health care decisions?

Yes	No	Somewhat	Not sure/ don't recall
o	o	o	o

Section E: Support

The Health Information Network strives to support and enhance the use of information resources for practitioners, staff and patients. We aim to provide a responsive, approachable, effective service.

12. Please indicate which of the following services you have used

(please select all that apply):

I have Knowledge Centre staff do literature searches for me	o	I ask Knowledge Centre staff to obtain articles and books for me	o
I have had a library staff member come to my work area to help me use resources or solve a problem	o	I use my CHR badge with the HIN library barcode to borrow from University of Calgary campus libraries	o
Library staff helped me set up a current awareness profile (e.g. electronic table of contents, automatic search updates)	o	I have worked with the librarians on a special teaching or research project	o
Not sure/ don't recall	o	Other (please specify) _____	o

13. Please indicate your level of agreement with the following statements.

	Strongly agree	Agree	Hard to decide	Disagree	Strongly disagree
Staff at the Knowledge Centres express readiness to respond to my questions	o	o	o	o	o
Staff at the Knowledge Centres communicate with me in a caring manner	o	o	o	o	o
Staff at the Knowledge Centres instill confidence	o	o	o	o	o
The delivery of articles and books is fast and convenient for me	o	o	o	o	o
When I have Knowledge Centre staff do literature searches for me, the search results help me make better decisions around patient health	o	o	o	o	o
The services provided are useful to my research	o	o	o	o	o

14. Do you have any additional comments about our resources or services? Suggestions?

_____

_____

_____

_____

Section F: Tell Us About Yourself

15. Please indicate your professional title:

Nurse	o	Physician	o
Pharmacist	o	Dentist	o
Administrator	o	Occupational Therapist	o
Psychologist	o	Physiotherapist	o
Social Worker	o	Other _____	o
Student What program: _____	o		

16. Please indicate your current Calgary worksite if applicable (select all that apply):

Alberta Children's Hospital	o	Southport	o
Foothills Medical Centre	o	Sheldon Chumir Centre	o
Peter Lougheed Centre	o	Centre 15	o
Rockyview General Hospital	o	A Community Health Centre please specify: _____	o
Tom Baker Cancer Centre	o	Richmond Road Diagnostic & Treatment Centre	o
Other site in Calgary, please specify: _____	o	Women's Health Centre	o

17. Please indicate your current rural worksite if applicable (select all that apply):

Airdrie	o	**Cochrane**	o
Banff	o	**Didsbury**	o
Black Diamond	o	**Nanton**	o
Canmore	o	**Okotoks**	o
Carmangay	o	**High River**	o
Claresholm	o	**Strathmore**	o
Chestermere	o	**Vulcan**	o
Other rural site, please specify: _____	o		

We'd like to let you know about any new services, resources, or learning opportunities.

18. What would be the best way to include you? (select all which apply)

Email listserv	**News You Can Use**	**A newsletter**	**RSS feed (really simple syndication)**	**Blog**
o	o	o	O	O

Other (please specify) _____

You have completed the HIN Library Services Satisfaction Survey!

Thank you very much for taking the time to give us feedback. This will be a great help in making our services and resources better.