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Information Takeout and Delivery: A Case Study Exploring Different Library Service Delivery Models

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This article explores the transformation from the traditional service delivery model of a hospital library (patrons come to the library to request materials and information) to a more dynamic service delivery model where library staff deliver all services on clinical floors, participate in clinical rounds, and teach in staff and physician offices. This model is similar to the “informationist role.” The article discusses the “Information Takeout and Delivery Service” model and includes usage statistics comparing 2005 to 2008. It also shows that data from a questionnaire of 50 library users who were identified as “active library users” illustrate that this change in service had a positive effect on staff, physicians, and on patient care.

KEYWORDS case studies, community hospitals, marketing, medical libraries, outreach, service delivery

INTRODUCTION

With ongoing budget cuts resulting in a general decline of resources, health sciences library staff are overextended at both ends. It is an uphill

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battle for the typical Health Sciences Library working in a small community hospital. The only appropriate space allotted may be a basement corner or a spare room retrofitted (poorly) to resemble a library. Competing with other departments in a hospital, it is difficult for the Health Sciences Librarian to raise the library's profile. If hospital administration does not support its value, it becomes challenging for the library to capture its intended users and evolve.

The Health Sciences Library represents the knowledge hub of the hospital. In the world of Google, Wikipedia, and Facebook, it is essential for hospital librarians to provide the highest quality information to its users. Hospital libraries should be at the forefront in providing high-quality, evidence-based resources to support patient care.

This article explores the transformation of a hospital library from the established service delivery model in which physicians and hospital staff come to the library with a request for a mediated literature search, to order journal articles, and request library instruction as well as requesting materials by phone or e-mail. It explores Hospital H's *Information Take-out and Delivery Service*, a service delivery model that commenced in the summer of 2006. It provides background information on the hospital, its libraries, staffing, and the steps involved in shifting from the traditional service delivery model to a more dynamic, proactive model for delivering library services. Delivering services became part of the outreach strategy for Hospital H. Library staff "took out" information on behalf of library patrons and "delivered" services to staff offices, clinical floors, in clinical rounds, as well as in the intensive care unit (ICU) and emergency departments. They trained in staff and physician offices and in various departments in the hospital. Library users were no longer required to visit the library. The slogan used to market our new delivery model method was "Information Take Out and Delivery: the Library Comes to you."

This strategy of delivering library services at the point of care is not unique in the literature, as this method of service somewhat resembles the Informationist role in that the Informationist is a Clinical Medical librarian who is a member of the clinical team who works outside the library (1). This model may be restrictive to library staff who are confined to a physical library.

To measure the effectiveness of this model, a questionnaire to measure the manner in which the change in service delivery impacted staff and physicians was prepared in April of 2009. It was distributed to a list of "active library users" generated from the library's Microsoft Access usage database. An active library user can be identified as someone who visits the library on a regular basis, who is recognized by name, and who is a consistent user of the library. In addition, an "active library user" has been defined as using the library between one to four times per month.

Fifty respondents completed the online questionnaire, administered by e-mail by the manager of the Health Sciences Library. The results of

this questionnaire indicate that this new service delivery model had a positive impact on the professional lives of staff and had a positive effect on patient care.

BACKGROUND

Hospital H is a three-site, partial teaching community hospital located in Northwest Toronto, Ontario, Canada. It is comprised of approximately 540 beds with over 635 physicians and 3300 staff. It was founded in 1997 as the result of the merger of three hospitals in the Greater Toronto Area. It is a community hospital that specializes in dialysis, pediatrics, and mental health care. Although not a fully teaching hospital, Hospital H does host nursing, allied health, and medical students who are working on practicums while attending classes. Some medical students working on various projects with physicians are affiliated with the University of Toronto's medical school.

Hospital H has two Health Sciences Libraries across the three sites, which are located in the basement of each site and are only accessible by staff and physicians by the use of a swipe card. There are also three Consumer Health Libraries that were not included in this research.

There are five library staff: one manager who oversees both the Health Sciences Libraries and the Consumer Health Libraries, one full-time professional librarian who coordinates all activities in the Health Sciences Libraries, and three full-time Library Technicians who assist the librarian. Library Technicians are paraprofessionals with a Library Technician community college diploma. The Health Sciences Libraries are open 24/7 for physicians, and from Monday to Friday, 8:30 AM to 4:30 PM for other hospital staff. If staff would like access after hours, they can obtain permission from the Health Sciences Librarian, and security can alter the permissions on their staff card.

Library instruction is publicized on the Corporate Education Annual Calendar that advertises all workshops and classes for staff and physicians. The calendar circulates at the start of the academic year and classes and workshops run until the end of the summer. Some workshops included in the calendar include, stress management, project management, time management, how to cope with an abusive colleague, customer service, and a suite of over 20 library instruction classes that are scheduled and require reservation and approval from a department manager. After the Information Takeout and Delivery Service was implemented in the summer of 2006, registering for library instruction became seamless, library instruction was offered year round, and strict scheduled times were removed. Staff were no longer required to register for library instruction through a manager. Library instruction was offered "at the point of care" and the prescheduled classes were removed. Staff could give as little as 48 hours

notice and the librarian could develop a tailored, individualized library instruction class for the individual, for a small group, or for the entire department.

The Health Sciences Library has an annual budget of \$500,000 Canadian dollars. This includes salaries of the five library employees; \$120,000 Canadian dollars is earmarked for services and resources. \$45,000 is the annual budget for medical and health journals, \$53,000 is allocated to electronic resources (databases), and \$2000 is budgeted for Interlibrary Loan and Document Delivery. \$11,000 is the annual budget for monographs. \$1500 is allotted for office supplies and \$4000 is budgeted for membership fees and professional development conferences.

There are 2700 monographs in the Health Sciences Library collection and approximately 100 print journals, 20 health databases (16 of which are full text), and 15,000 electronic journals. The two Health Sciences Libraries comprise a total square foot area of approximately 2000 square feet. The three Consumer Health Libraries comprise (in total) approximately 1200 square feet. All have their own Web presence. The Consumer Health Library has an external Web site hosted by Hospital H and the Health Sciences Library has an internal Intranet Web site that is only accessible to staff and physicians.

The Health Sciences Library is a member of a consortium of hospital libraries in the Greater Toronto Area. With consortium membership, each member library shares resources at less expensive subscription costs. As well, they have entered into a reciprocal borrowing agreement when they use Docline, the automated Interlibrary Loan and Document Delivery requesting system. Consortium fees are calculated based on the number of full time library staff in the organization. Hospital H's consortium fees are \$2200 Canadian dollars per year.

Each site library at Hospital H provides research assistance, article retrieval and delivery services, and mediated literature searching. In addition, each site library is equipped for staff to check in journals, check out and check in materials, catalogue materials, process interlibrary loan, and document delivery requests. Each site library has two computer workstations for patrons to do research and to study. Group study tables and carrels are also available for group study and personal work. Facebook, MySpace, YouTube, and Flickr are blocked from all Library workstations and staff computers. There is a network printer at each site library permitting free printing for all staff and physicians.

In the past, few users visited either library because of their locations in the hospital. Due to poor signage and insufficient marketing and promotion, the Health Sciences Libraries at Hospital H were so underused and invisible that some staff who had been working there for years had never visited the library. The "Information Takeout and Delivery Service" was developed so that staff and physicians who were very busy and did not have the time to

visit the library could utilize library services because the library would come to them and deliver whatever services they needed.

Another change occurred in the summer of 2006 that assisted the libraries' outreach initiatives. The Corporate Education department granted Library staff a few hours each month, to present the services offered at the Health Sciences Libraries and Consumer Health Libraries at the staff orientation for new employees. Approximately 45 minutes was devoted to the Consumer Health Library presentation and another 45 minutes was devoted to the Health Sciences Library. This represented the beginning of a 2-year process in which the Health Sciences Library reinvented itself as being exciting, mobile, flexible, and dynamic. When the Health Sciences Libraries presented each month, the theme was to focus on services, that the library is "more than just books," and that the library helps answer clinical questions.

LITERATURE REVIEW

Marketing in Medical Libraries

There is a gap in the literature on service delivery in hospital librarianship. Most of the literature delves into marketing strategies hospital librarians utilize to meet users' needs. As the literature suggests, library staff who immerse themselves in clinicians' workspace may help raise their profile and gain credibility. Some librarians deliver materials to their users and offer current awareness services similar to the Journal Table of Contents Alerts service or the Auto-Search alert service. Some librarians visit clinical departments and provide an in-service workshop or class. Although these services have existed in medical libraries for some time, there is little written relating to the method by which the service is delivered to the user.

Cuddy's 2008 article describes how the iPhone can be utilized as a tool to deliver information and services to clinical staff (2). Her article examines the technical details of the iPhone, its dimensions, and some of its features. She discusses some of the applications that are available on the iPhone, including a list of contacts, calendar, alarm clock, notepad, its Web browser, and most importantly, its phone. It is only at the end of the article where she briefly mentions medical Web applications that are supported by the iPhone. Cuddy lists various vendors that offer medical reference books online for the iPhone. Some titles include *Harrison's Manual of Medicine*, *McGraw Hill's Pocket Guide to Diagnostic Tests*, and Lippincott, Williams, and Wilkins' *5 Minute Clinical Consult*. There is also a version of MEDLINE for the iPhone entitled Unbound Medline. It resembles the traditional MEDLINE, but is less cluttered and has a cleaner interface. Drug databases (such as Epocrates) and Clinical Information Tools (such as UpToDate) are also accessible via the iPhone. It is important to note that because the iPhone is an apple product, all content is delivered via the Firefox Web

browser and not Internet Explorer. She emphasizes, though, that supporting this access may create a false expectation that all library staff are technosavvy and can provide technical support for other resources in the hospital. If medical libraries wish to “jump on the bandwagon,” they will need to be experts in these products and be able to train clinical staff how to use them, in addition to providing ongoing technical support.

Peterson’s 2004 article gives an example of how Health Sciences Librarians use technology to deliver services via hand-held computers (3). She illustrates how the personal digital assistant (PDA) can support the clinician in answering clinical questions. Peterson indicates that drug databases, prescribing aids, dictionaries, and textbooks are all accessible via the PDA. She notes that because physicians use mobile devices such as the PDA, database vendors have recognized this and offered PDA versions of the same Web-based tools accessible on the World Wide Web.

She states that the library is in an ideal position to support the requests of hospital staff. She discusses how libraries should adopt a proactive approach in providing assistance in using new technologies to access information resources. It is important for libraries to make PDA-friendly Web pages and offer technical support for the PDA. She also illustrates some of the problems relating to PDA technology, including synchronizing PDA software on a PC workstation. She also indicates that PDA software synchronization is not compliant with multiple devices. Docking stations must be enabled to be utilized by multiple devices without problems.

Peterson concludes that the PDA will become as much a part of the clinicians’ armory as the stethoscope. She argues that the library is well positioned to ensure access to the highest-quality information and that they also can offer technical support.

Peterson and Cuddy both conclude that Health Sciences Librarians have the time to offer information technology (IT) support and guidance. Many institutions already have an IT department that offers hardware and software support. It does seem potentially dangerous for librarians to position themselves in a domain in which we are not experts. It may be an excellent outreach strategy; however, it may create an unrealistic expectation of the Health Sciences Librarian as technical guru and IT specialist and that we may be spreading ourselves too thin.

Schwing and Coldsmith’s 2005 study (4) illustrates how Clinical Medical Librarians can provide outreach and market their images by participating in resident physician activities and supporting them as part of the hospital’s clinical education program. They discuss how the clinical medical librarian at the Pinnacle Health System participated in the Morning Report, a daily meeting coordinated by the Residency program director. Sometimes the librarians would provide the literature search “in real time” and in other cases, they conducted a search and provided the answer within 24 hours or on the library’s intranet Web site. The “Morning Report” follow up Web

page listed the search as well as links to the full text article for physician residents to access. Clinical Medical Librarians were also invited to participate in the Internal Medicine Residency Academic Program. The Web page had a section devoted to library services where librarians would post PubMed tutorials, links to e-Journals, and a form to request full text articles or a literature search.

The authors developed a survey with 21 respondents who were asked if the presence of a librarian had a positive effect on their learning. Respondents were also asked if librarians improved access for them, and if they found librarians helpful. One hundred percent of respondents replied that the presence of a librarian had a positive effect on their learning; 85% of respondents felt that librarians helped improve access to information resources; 91% of respondents thought that librarians were accessible; and 86% found them very helpful.

The residency program director also asked librarians to assist resident physicians in research, writing, publishing, and presentation development. This relates to the annual medical education day where resident physicians present their research. This strategy is beneficial for librarians to build strong relationships within the hospital and it helps raise their profile.

Mani's 2008 article illustrates how Health Sciences Librarians adopted a "Library-On-The-Go" project, a mobile cart that could be moved within clinical units to provide services (1). They used their institution's internal marketing department to create a logo, flyers, pamphlets, a newsletter, and a training brochure. Health Sciences Library staff began to publicize this new service to department chairs, program directors, and the nursing development office.

Bunyan and Lutz's 1991 article entitled "Marketing the Hospital Library to Nurses" discusses how hospital librarians can meet the needs of nurses by entering their work zone and immersing themselves in their culture (5). Bunyan and Lutz illustrate that there are some marketing strategies that could be employed to raise the profile of the library and to promote it to nurses. They discuss a monthly newsletter for nurses with a column written by a librarian. The librarian also attended nurses' "change of shift" meetings to gain more understanding of their roles. Bunyan and Lutz's article illustrates an early effort by librarians to reach out to library users through various creative methods.

Enyeart and Weaver's 2005 article entitled "Relationship Marketing in a Hospital Library" discusses how librarians should be developing relationships with their users by "reaching out" to their users (6). They illustrate that relationship marketing involves getting and keeping customers and argues that it is in the best interest of the service provider to "connect" with customers and maintain good relationships. Because the product of a Health Sciences Library is "information service," the Health Sciences Librarian attempts to promote the product to the potential users. She also notes that

Health Sciences Librarians help fulfill the mission of the larger institution through supporting staff and physicians and that is accomplished through identifying the customer's needs and then influencing them to use your services.

Wakeham's article discusses how medical libraries employ marketing to connect with their users (7). He identifies the range of library services as a "marketing mix." This "mix" represents the balance of the four "P's" of marketing: product, price, place, and promotion. Wakeham defines marketing as strategies involved to develop a relationship with existing or potential users. In the literature on marketing in libraries, it is often optimal for medical libraries to collaborate with its institution's marketing or communications department in order to develop materials such as posters, newsletters, a logo, brochures, and even a Web site presence. He emphasizes that the marketing mix needs to be balanced according to each library's specific needs. According to Wakeham, the product represents the services and resources of the library. It also represents the staff as well as the books, databases, and physical space (study space, computers, reading areas). He argues that marketing should be at the center of library service and that library patrons or customers represent the driving force of the library. He states that marketing represents "the right offerings in the right place at the right time at the right price." Marketing examines customer needs and tailors their services and resources to meet their needs. Marketing is not limited to books, furniture, the physical building, and electronic resources. Because marketing revolves around promoting services and resources to potential customers, it is important to recognize that library staff are a resource and should be promoted. We must develop ways to market ourselves, our expertise, skills, and talents.

The Informationist Role: An Updated Clinical Medical Librarian?

There is a body of literature that illustrates how clinical medical librarians revamp their roles into the role of the Clinical Informationist. Davidoff and Florance discussed this emerging new health profession in *Annals of Internal Medicine* in 2000 (8). They provide an explanation of the new Informationist role using three criteria: informationists must have a clear and solid understanding of information science and the essentials of clinical work; must acquire the conceptual knowledge and learn the practical skills of retrieving, synthesizing, appraising, and presenting medical information; and, lastly, must complete their education from an accredited program.

Although Florance is a librarian, she and Davidoff may not be fully aware of the diverse workload and job roles of current clinical medical librarians. They write, "For decades, when physicians wanted information from the published literature, they relied heavily on medical librarians or office assistants to do the searches." This statement illustrates how physicians

equate office assistants with medical librarians, thus not understanding the librarian's skill set. They also argue that physicians are very proud of their knowledge and they are reluctant to seek help from medical librarians.

Davidoff and Florance propose that the Informationist be a permanent member of the clinical staff team, act as a consultant with clinicians and physicians, be a leader in accessing and filtering the highest quality information, and read and summarize articles into short reports. This would empower a Clinical Medical Librarian. It would help raise the profile, and help legitimize their value in the clinical setting. Davidoff and Florance's proposal for the new health professional entitled "Informationist" already exists. Their in-depth description closely matches that of a Clinical Medical Librarian.

Michael Kronenfeld criticizes Davidoff and Florance's proposal, arguing that the Informationist is not a new health professional (9). He claims that Medical Librarians have always performed those duties that Davidoff and Florance cite. He concludes that Davidoff and Florance's article illustrates the marketing and promotion Clinical Medical Librarians fail to do with their users. He believes that Clinical Medical Librarians have not been proactive in asserting their roles in their institutions. Some are very comfortable in the library, whereas others do not receive any support from the larger institution's public relations or communications departments. Some may need to develop their own marketing or outreach plans.

The first part of Kronenfeld's piece is defensive and forceful. Kronenfeld is angered by Davidoff and Florance's analysis and believes that our profession has been overlooked and ignored. He then has a change of heart, noting that Davidoff and Florance's ignorance illustrates a very important point: that Clinical Medical Librarians need to get out of the library and become more involved members of the clinical team.

Giuse et al.'s 2005 article "Evolution of a Mature Clinical Informationist Model" illustrates that the Clinical Medical Librarian represents a surrogate when the clinician is not available (10). They argue that because there is so much information, the clinician does not have the time to sift, evaluate, and select what is relevant for a particular patient. At Vanderbilt University Medical Center's Eskind Biomedical Library, the Clinical Informationist is a permanent member of the health care team. The clinical informationist model combines both medical librarianship and medical informatics knowledge. Giuse et al. state that the Clinical Informationist can evaluate a patient's medical record and then match the clinical problem with the appropriate evidence-based resources needed to support patient care. The Clinical Informationist focuses on the intersection between clinical care and the provision of the evidence in the literature. The Clinical Informationist is an expert in locating, identifying, and meeting the information needs of the clinical team.

Before the clinical informationist model was established, the Clinical Medical Librarian represented the intermediary between the vast amounts of

information and the clinical team. Now the Clinical Informationist is a part of the clinical team and is more involved in clinical decisions and is less “out of the loop.” They no longer support patient care; rather they are active members of the patient care team. Giuse et al.’s article suggests that the main difference between a Clinical Medical Librarian and a Clinical Informationist is the level of involvement. Clinical Informationists not only retrieve and select the highest and most relevant information for the clinical team, but they read, analyze, and make summaries of the articles. They also have access to the patient record, so they can attach notes or reports (electronically). They have subject knowledge, and possess medical informatics expertise. With these new skills, the Clinical Informationist can be a member of the health care team and help answer clinical questions, instead of acting as an intermediary.

Brown compares the traditional Clinical Medical Librarian with the revamped Clinical Informationist, noting that the only main difference is that the Clinical Informationist is a permanent member of the health care team and is salaried as a health care professional (11). Brown traces her career and illustrates the evolution of her role from Clinical Medical Librarian to Clinical Informationist.

Both Giuse et al. and Brown illustrate that the Clinical Informationist has access to the patient record and that they are able to append evidence-based information to respond to clinical questions. The description Giuse et al. and Brown provide (of the Clinical Informationist) does not appear to differ from that Clinical Medical Librarian from the past.

At Hospital H, Health Sciences Library staff conduct thorough mediated literature searches, provide articles, and provide a list of bibliographic citations (books, articles, governmental reports) for clinicians to review. They evaluate material but they do not read, analyze, and summarize the literature. There appears to be more accountability on the Clinical Informationists described in Brown’s and Giuse et al.’s articles (10, 11). It is important to note that many Health Sciences Librarians may have limited clinical knowledge and that they are information experts and providers first and foremost, not health care professionals.

METHODS

Due to low library usage in the Health Sciences Libraries, the author felt it was necessary to find ways to raise the profile of the libraries. He decided that bringing the services to users’ clinical work spaces would best suit users’ research and information needs. It would also help raise the profile of the libraries and provide an identity for the Health Sciences Libraries. This proposed change of service would benefit both the library user and the Health Sciences Libraries twofold. If staff delivered services in clinicians’

offices and on clinical floors, it would serve as an excellent example of outreach. In addition, it would help increase the libraries' visibility. This proposed "mobile" library service might also help change the perception of the library as a static and stagnant place. The Health Sciences Libraries wished to be perceived as efficient and dynamic, not simply a place to access books, medical journals, and to study. It could also be argued that the libraries support patient care by providing services in a more proactive way. The Health Sciences Libraries remained "under the radar" and "hidden" for years. Underutilized and invisible, they were not a priority for hospital administration. There was a need to improve this image and deliver services in a more mobile, flexible, and efficient manner.

Because there was no budget to renovate library space, there was a need to be creative in order to revitalize the image of the Health Sciences Libraries. One of the problems was poor signage to the physical location. The author felt there were too many obstacles (red tape and politics) to revising signage, so he decided that the service delivery model would be examined and revised.

Traditionally, library users came to the library to order articles, request a mediated literature search, and to request library instruction or research assistance. Materials would either be faxed or e-mailed to the library user, but when materials were only available in print, users were required to visit the library to pick them up. When the librarian made online forms available on the library Web site and staff and physicians could easily request materials online without visiting the library, the number of requests increased; however, there still existed a problem in visibility and usage. The Libraries were still invisible within the greater organization and there was a need to bring them out of the basement and into the various units of the hospital.

The author believed that revising the current model would help improve visibility, and meet library users' needs. The newly proposed "Information Takeout and Delivery: The Library Comes To You" model is not an original or unique approach to delivering services. The model involves the librarian as a receiver of an information request. He/she then processes the query, selects the appropriate information sources while in ongoing communication with the user, retrieves and evaluates what has been found, and then delivers the materials to the library user. During this time, the librarian is also attempting to build positive and ongoing working relationships with staff and physicians by meeting with them to discuss their research and information seeking needs.

The physical library remains the permanent hub for library staff, but when library staff leave the library to provide service, this "mobile" service promotes the library, its staff, and most importantly, its services. Library services are viewed as more dynamic, mobile, and flexible. Figure 1 is a flowchart of the model.

Information Takeout and Delivery: The Library Comes To You

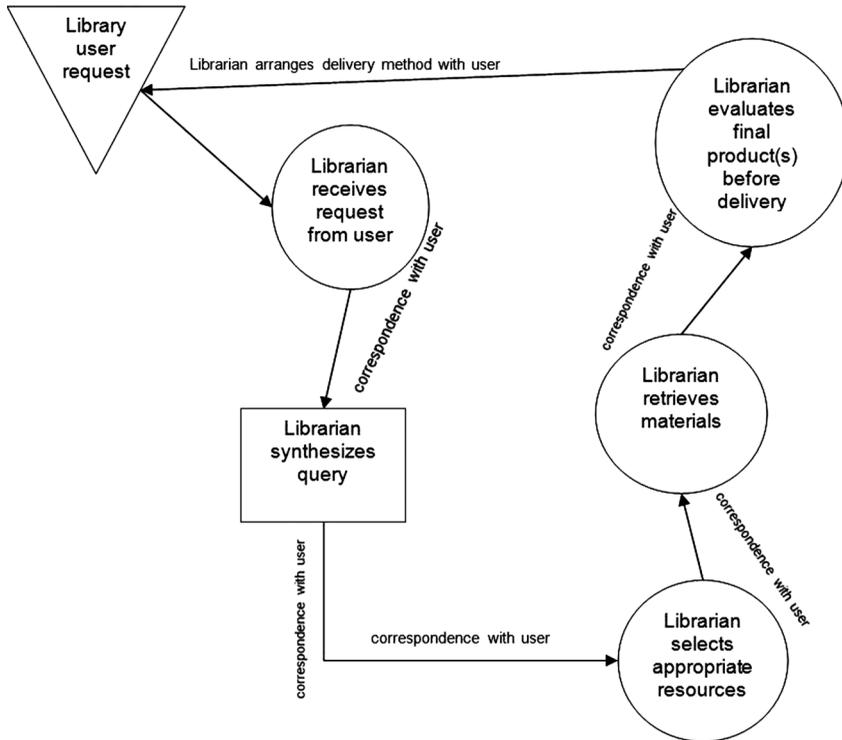


FIGURE 1 Flowchart of the “Information Takeout and Delivery: The Library Comes To You” model.

The Information Takeout and Delivery Service was implemented in the summer of 2006 with no official planning or research involved. It was initially created as a pilot project and then feedback was solicited to users to determine if they preferred this new service delivery model. For many years, the Corporate Education Calendar offered library instruction classes with firm dates that were not flexible to staff and physicians’ busy schedules. Due to the strict schedule, library instruction enrollment saw a steady decline and in many cases, classes were canceled because of no participants. As part of the Information Takeout and Delivery Service initiative, the author opened all library instruction classes with “open dates.” This allowed the librarian and the clinician to negotiate a date and time to fit both their schedules. This new initiative of the Library Instruction program was favored by staff and physicians alike. Statistics illustrated that over a 3 year period, library instruction enrollment steadily increased, due to this more flexible scheduling method.

In order to measure the efficacy of the Information Takeout and Delivery service, the author analyzed usage statistics from data sets from

3 fiscal years; 2005–2006, 2006–2007, and 2007–2008. The author then compared data when the “Information Takeout and Delivery Service” was first launched (in the summer of 2006) and a year later to evaluate its progress. In addition, a short questionnaire was administered in April of 2009. The manager of the Health Sciences Libraries sent an e-mail to a preselected list of 75 “active library users.” They were selected randomly from the Microsoft Access database based on the frequency of their requests using no algorithm or pattern. The recruitment e-mail was sent to physicians, nurse clinicians, clinical nurse specialists, social workers, pharmacists, unit managers, administrative managers, nurse educators, and professional practice leaders. The author is unaware of the identities of the respondents because the Health Sciences Libraries agreed to respect the confidentiality of the subjects, developing the questionnaire in such a manner that any data gathered would never uncover the identity of the subject.

From the group of 75 subjects, 50 respondents completed the questionnaire. It is unknown if respondents completed the questionnaire more than once or if they forwarded the questionnaire to other colleagues who may identify as “nonusers” or “occasional users.” The sample size did not contain an equal number of physicians, nurses, nurse educators, nurse clinicians, clinical nurse specialists, and allied health professionals. The breakdown is as follows:

- 30 physicians
- 8 nurse educators
- 6 unit managers
- 1 nurse
- 2 dietitians
- 2 corporate educators
- 8 allied health professionals
- 3 directors
- 1 consultant
- 4 infection control coordinators
- 2 pharmacists
- 1 clinical ethicist
- 1 psychologist
- 1 patient safety specialist
- 2 occupational health and safety nurses

The questionnaire comprised six questions. The author sought to identify the type of employee, the type of library service used most frequently, the effect(s) of the “Information Takeout and Delivery Service,” and whether this new model of delivery had an effect on patient care. It is acknowledged that the “happiness” staff and physicians exhibited with library staff is very superficial and is difficult to measure because happiness is a very subjective emotion and depends on the individual. This study was interested in how this change in service had an effect on patient care. As the Health Sciences Libraries’ mandate is to support patient care through the provision of high quality resources, it was the author’s hope that the “Information Takeout and Delivery Service” had a positive influence on patient care.

RESULTS AND DISCUSSION

Usage Statistics

The author was granted access to usage statistics from the last 3 fiscal years. The following statistics illustrate a comparison across 3 fiscal years relating to Tables 1 to 6:

Table 1: Number of library instruction classes and participants

Table 2: Percentage of information request by user type

Table 3: Total Number of information requests

Table 4: Total Number of mediated literature searches

Table 5: Percentage of requests by communication method

Table 6: Interlibrary Loan and Document Delivery- Supplying and Requesting

It can be noted that the number of mediated literature searches decreased over the last 3 fiscal years. This could be due to the increase in the classes

TABLE 1 Library Instruction Classes—Participants and Number of Classes

Fiscal year	Number of participants	Number of classes
April 1, 2005–March 31, 2006	31	11 classes
April 1, 2006–March 31, 2007	100	34 classes
April 1, 2007–March 31, 2008	147	50 classes

TABLE 2 Percent of Requests by User Type

	Apr. 1, 2005–March 31, 2006	Apr. 1, 2006–March 31, 2007	Apr. 1, 2007–March 31, 2008
Nurse	13.2%	17%	7%
Nurse Educator	10.5%	7%	6%
Physician	43%	42%	49%
Administrative	11.7%	9%	9%
Allied Health	16%	21%	18%
Other	5.6%	4%	11%

TABLE 3 Total Number of Information Requests

Fiscal year	Total number of information requests
April 1, 2005–March 31, 2006	1034
April 1, 2006–March 31, 2007	1605
April 1, 2007–March 31, 2008	2035

TABLE 4 Total Number of Mediated Literature Searches

Fiscal year	Number of mediated literature searches
April 1, 2005–March 31, 2006	309
April 1, 2006–March 31, 2007	215
April 1, 2007–March 31, 2008	250

TABLE 5 Percent of Requests by Communication Method

Fiscal year	E-mail	Phone	In person	Other
April 1, 2005–March 31, 2006	30%	22%	44%	4%
April 1, 2006–March 31, 2007	32%	22%	40%	4%
April 1, 2007–March 31, 2008	82%	7%	10%	1%

TABLE 6 Interlibrary Loan and Document Delivery—Lending and Borrowing

Fiscal year	ILL lending	ILL borrowing
April 1, 2005–March 31, 2006	695	632
April 1, 2006–March 31, 2007	823	641
April 1, 2007–March 31, 2008	806	932

taught on the use of MEDLINE and CINAHL. This decline may suggest that staff and physicians feel more independent and may conduct their own searches. The number of information requests, which include research assistance, article requests, citing references, has steadily increased over the last 3 fiscal years. This could be the result of more aggressive marketing and outreach. With the “Information Takeout and Delivery Service,” librarians became more exposed and visible. This may have lead to a general increase in library use.

It is evident that the communication method has changed over the years. In 2005–2006, only 30% of requests arrived via e-mail; currently this has increased to over 80%. This may result from the electronic forms for requesting mediated literature searches, articles, and requesting to subscribe to the library’s journal table of contents alerts service, and a feedback form launched in mid-2006. Meanwhile, in-person requests declined from more than 40% to 10%. Phone requests have also declined (from over 20% to 7%) over the last 3 fiscal years. This could be the result of the perception that e-mail responses are faster than the telephone. When library staff deliver articles, they attach business cards and circle their e-mail addresses. Because library staff are not often in the library, the telephone may not be the most efficient communication method.

The number of library instruction classes has risen from 11 classes in 2005–2006 to 50 classes in 2007–2008. In addition, the number of attendees

has risen from 31 to 147. After the launch of “Information Takeout and Delivery,” library staff customized individualized instructional classes to be delivered “one on one,” in classrooms, staff offices, or on the clinical floors. Staff was impressed with librarians’ flexibility and the numbers indicate an increase in the number of classes and the number of participants, and an increase in awareness of the hospital library’s library instruction program.

It can also be noted that over the last 3 fiscal years, the percentage of physicians who used the library has been relatively stable (from 43% to 49%). Nurse educators have seen a steady decline and this occurred due to internal staff changes. During 2006, there was an influx of newly hired nurse educators. As well, during the same period, there was a large exodus of nurse educators who left the organization. There has been a steady decline in library use from nurses, who represent the majority of the hospital’s staff. Because the nurses in the organization generally work different shifts, it has been difficult to reach this user group. Health Sciences Librarians usually promote their services via the Unit manager or Nurse Educator as they are more accessible via e-mail.

Questionnaire Data

The recruitment e-mail announcing the questionnaire was distributed in April of 2009 to a preselected list of approximately 75 “active” library users. Of that 75, 50 responded to the questionnaire. Approximately 40% of respondents were physicians, 30% allied health professionals, 11% nurse educators, 2% nurses, 6% clinical nurse specialists, 2% nurses, 4% corporate educators, 2% unit managers, and 2% clinicians. Over 25% of respondents use the Health Sciences Library more than once per week, 21% twice per month, 16% once per week, and 37% once per month.

Forty-four respondents use the Health Sciences library for article requests, 30 for mediated literature searching, 30 for borrowing books or journals, and 18 for research assistance; 12 respondents have used the library Interlibrary Loan, and 13 respondents have used the library for the Journal Table of Contents Alerts service.

Approximately 90% of respondents were of the opinion that this delivery service model has made a positive impact on their professional lives, whereas 2% responded that the new model of service had no effect. Nine percent of respondents responded with “I don’t know.”

Approximately 50% of respondents asserted that this model of service had significantly improved the patient care experience, whereas 40% of respondents mentioned that this model of service has improved the patient care experience. Two percent responded that this new model of service had not had any effect on patient care and 12% said they did not know if it improved patient care.

Themes emerged from respondents’ comments. Respondents appreciated librarians’ flexibility and promptness. They also commented that when ser-

vices became more user friendly, staff tended to use the library more frequently. Many commented that the model of delivering library services to clinical units made it user-centered and customer focused. Many commented that it helped them during their busy times when they did not have time to visit the Health Sciences Library to pick up materials.

Feedback From Library Users

One respondent stated, "It really improved my practise to have house calls implemented by library staff. It made my job a bit easier," whereas another commented, "Evidence based care is the mantram of healthcare providers and payors. Finding the time to ensure all decisions include effective, up-to-date literature review can be a daunting task. Having librarians you can trust to support effective searches and ensure you have expedited access to articles is absolutely critical to meeting the demands of emerging trends. This change definitely made it easier to provide excellent evidence-based care and get policies updated on time."

"As a Professional Practice Leader, I was able to arrange inservices to the Occupational Therapy staff on library services of which staff afforded themselves of. [sic] Having this new model of service delivery made it easy to do research when our time constraints are increasing and often 'best practice' searching and review is not always a priority. I also think it greatly benefits students who come here for placements. It helps expand their knowledge of what is available and how to access services in their practise. I appreciate the enthusiasm of the librarian who demonstrates a commitment and dedication and love for the work they are doing."

"Each request for articles has enhanced my professional growth with the ultimate goal of improving patient care by myself and those whom I teach." "This improved library service enabled us to conduct patient care more efficiently."

"Flexibility and prompt assistance are always welcome and appreciated."

"It would have been very difficult for me to have had to visit the library each time I needed help or wanted an article."

"Library staff demonstrate a commitment and dedication and love for the work they're doing."

LIMITATIONS AND CONCLUSION

For the purpose of this study, convenience sampling was employed to ensure that we reached frequent library users. It is evident that the data could be distorted because our sample comprised participants who were generally supportive of the Health Sciences Libraries. The author did not select a randomized sample of hospital staff and physicians, but a sample of

specific staff and physicians who use the Health Sciences Libraries. The recruitment list was selected by the manager in consultation with the Health Sciences Librarian, based on the frequency of their visits. The sample of 75 “active” library users is not representative of the staff and physicians of Hospital H. The list of potential respondents was selected based on how frequently they visit the libraries and use our services. The questionnaire was anonymous, thus the author could not identify who completed the questionnaire. Because some respondents forwarded the link to their colleagues, this breakdown above is not completely accurate. They were sent one initial e-mail asking them to participate in a voluntary anonymous questionnaire, then, in 30 days, they were sent a reminder e-mail to complete the questionnaire if they were still interested. There was no coercion to complete the questionnaire and there was no incentive or reward upon completion. The response rate was 66%, surprisingly high for a small sample. However, some completed the questionnaire after receiving the reminder e-mail that was distributed 1 month later. It can also be assumed that some respondents forwarded the questionnaire to colleagues.

In the future, it would be interesting to study data from the questionnaire using newly hired hospital staff (within 1 year) and compare their responses with hospital staff who have been with the organization for a longer period of time. It would be interesting to identify whether the “Information Takeout and Delivery” service impacted staff at different hospital locations in a different way. At present, the questionnaire data do not indicate the hospital location where the staff person works. Perhaps nonusers could participate in the questionnaire in order to understand their needs and compare how they perceive the Health Sciences Libraries with “active” library users who already take advantage of its services and resources. It would also be interesting to contrast and compare “active” versus “occasional” versus “nonusers” of the library. Perhaps, Health Sciences Libraries staff should further analyze usage statistics and investigate some underused departments in the hospital and explore the reasons why they are not using the Health Sciences Libraries. It may be beneficial to target low-use groups, such as nurses, since they represent the majority of the hospital’s potential library users. Usage statistics indicate that because they are a low-use group, they may be unaware of the “Information Takeout and Delivery” service. It may be useful for library staff to target user groups such as nurses, to better understand their information seeking behaviors and how library staff can meet their patient care needs.

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APPENDIX 1

Questionnaire

1. Type of staff member

- Physician
- Director
- Clinical Nurse Specialist
- Clinician
- Nurse
- Nurse Educators
- Professional Practice Leader
- Unit Manager
- Administrative Manager
- Corporate Educator
- Allied Health Professional
- Other (please specify)

2. How often do you use the Health Sciences Library?

- More than once a week
- Once a week
- Twice a month
- Once a month
- Other (please specify)

3. What type of service did you use?
 - Literature search (mediated)
 - Article request
 - Interlibrary Loan
 - Borrow books or journals
 - Research assistance
 - Library instruction
 - Journal Table of Contents service
 - Medical Journal Club
 - Citing your references
 - Other (please specify)

4. In the last 2 years, the library changed the way they delivered library services. Users had to visit the library to get materials, get help, order articles and books. In the last 3 years, library staff now make “house calls” and visit clinical units. How has this affected you?
 - Positive change
 - No change
 - Negative change
 - I don't know
 - Other (please specify)

5. Has this change (in service delivery) improved the patient care experience?
 - Significantly improved
 - Improved
 - Has not had an effect
 - Has not improved
 - I don't know
 - Other (please specify)

6. Any more comments would be greatly appreciated.

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