Chapter Six

Discovery of the Health Sciences Collection

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When librarians building health sciences collections are making purchasing decisions, they have to imagine how new resources will fit into their existing collections and how they will be found. No one wants to buy materials that get no use, and budget and space constraints make it imperative that selectors buy materials that will get significant usage. It is impossible to accurately predict which materials will get use and which will not, which is why collection managers are constantly evaluating their collections and gathering usage data to help them make decisions. Librarians sometimes forget, however, that they have the power to influence and drive usage. Decisions they make both prior to and after purchasing have a significant impact on how easily users can find and use the resources.

For health sciences libraries these days, the library websites are more important presences than their physical footprints. Downsizing space is a trend for health sciences libraries in hospitals and academic medical centers (Freiburger 2010). Some have maintained their space but repurposed much of it away from collections toward other needs. Libraries have traditionally used their physical spaces to highlight parts of their collection or advertise new materials. Without a physical space as a place to promote resources, librarians will want to invest quite a bit of time and energy into their websites as the most powerful tools for promoting use of the collection. In smaller organizations, there may be one librarian wearing many hats as collection management librarian, cataloger, website developer and maintainer, and outreach librarian. In larger organizations, the collection management librarian might work with a team of librarians from different departments: acquisitions, cataloging, website maintenance, and outreach to promote collections

on the website. Some of these departments might not be in the health sciences library but might be shared with other subject areas across a whole university library system. In those cases, the health sciences collection librarian might have more of a challenge because decisions about what is promoted on the website will allow for a large range of needs. Knowing how a resource might appear to users on the website should affect collections decisions, and being able to work with librarians in these other departments to ensure the best discoverability of the health sciences collection will benefit the health sciences collection librarian.

Librarians are often disappointed to find that studies of information-seeking behavior reveal that potential health sciences library users are unaware of what their library has to offer, tend not to explore offerings outside their few favorite known resources, and prefer to use Google rather than the library website to find and access resources (De Groote, Shultz, and Blecic 2014; Haines et al. 2010). Rather than lament this, librarians should take note of how their users are finding resources and use that information to make their collections easier to discover. Warnings that librarians ignore marketing at their own peril are plentiful, from a series of articles about a 2012 *Library Journal* survey of public libraries to articles encouraging academic libraries to develop a marketing orientation (Almquist 2014; Delawska-Elliott, Grinstead, and Martin 2015; Dowd 2013). A marketing orientation, discussed in more depth in chapter 4, is more than just providing publicity for collections and services; it is a long-term approach of identifying user needs and working to meet those needs. One recurring need underlying information-seeking behavior studies is for library users to be able to find things without having to think like a librarian, know beforehand what resources are available, use advanced searching techniques, and navigate complicated library websites and catalogs. Unfortunately, collection management librarians know that the landscape of their collections *is* complicated, although it is not their fault. There is overlapping content on multiple platforms, there are separate individual and institutional versions of electronic books (e-books), and, of course, not everything is "free on the internet." While librarians have the freedom to design their services to directly meet user needs they have identified, they do not quite have the same level of control over the resources they purchase. Users want to seamlessly move among resources without regard to publisher, platform, firewalls, copyright restrictions, or subscription limitations. Vendors and publishers, on the other hand, naturally want to protect their intellectual property from theft and promote their own resources rather than other publishers' resources. Their goals can be at odds with user goals. Librarians are caught in the middle trying to meet user expectations within limits. One of the biggest challenges for them in the primarily electronic environment of current collections is that the resources they are purchasing come from multiple publishers and vendors. In the printed world, books and

journals from multiple publishers interacted very nicely. They used the same paper and print technology—they even came in standardized sizes—and could sit side-by-side on the shelf in any configuration or classification the librarian chose. Records for items in the library catalog or in an indexing service were the same from resource to resource and publisher to publisher. There was no difference between how well books and journals "worked," whether they were from small publishers or large publishers. On the other hand, in the electronic environment, books and journals from multiple publishers are not "housed" together; they are on completely separate platforms. Books and journals from one publisher may have completely different functionality than books and journals from another publisher. More and more librarians must make collections decisions and present their holdings to users based on the publisher or platform rather than the content, resulting in the dreaded "silos" of information that are uniformly disparaged. Interaction of electronic resources across publishers is a "holy grail" sought by librarians and being worked on by some vendors, but that ideal has yet to be realized. Health sciences collection management librarians often find themselves forced to purchase products for the sake of the content despite serious functionality problems, or they must decide between two products, each of which has both good and bad aspects. Whenever possible, however, collection management librarians can use their power of purchasing to choose products designed for better functionality and interaction and thereby reward publishers and vendors who adhere to new industry standards for interoperability. A good knowledge of finding tools for resources and the discoverability of resources should be an important piece of the collection management librarian's evaluation process for new materials.

LEVELS OF ACCESS

Libraries have always been about searching for and discovering information, and they have employed multiple means of putting users in touch with resources. Cataloging and indexing have been primary tools for collating similar materials and employing the use of controlled vocabulary to aid the finding process. Because librarians know that the best, most relevant content for any particular search comes from a variety of sources and publishers, they have tended to emphasize the use of publisher-neutral library catalogs and literature indexes such as PubMed. Unfortunately, library users tend to find these methods clumsy and confusing for getting into full-text content. Lately, the landscape of access points for library resources has opened up tremendously. Someone might access any given journal article, for instance, by following links from a Google search, the library list of e-journals, the journal in the library catalog, PubMed or another index, the references list of an

e-book chapter or another article, a LibGuide, the electronic health record, or a course management system. A lot of the time users have no idea how they got into a specific resource and aren't even sure if they are in a book, a journal article, or something else. More access points mean more opportunities for the collection to be discovered and used, which is a good thing. People will use different methods at different times. Librarians do have a challenge, though, in that they have control over the presentation of some of these access points and no control over others.

At the point of electronic resource purchase, the collection management librarian will want to think about three potential levels of access to the product: the whole resource/database level, the individual book or journal title level, or the article and chapter level. Different finding tools will take the user to different levels. The first thing the librarian might think about would be at which of these levels, or some combination of these, the resource is able to be linked or accessed. Second, the librarian would want to decide the level of access that best meets their library users' needs. Third, the librarian would need to put the answers to the above questions in context of their limitations in tools or staff time needed to provide the chosen level of access. If a librarian is trying to decide between two good products, but one allows the librarian to provide better access for less effort than the other, that may be the deciding factor about which one to purchase.

PROVIDING RESOURCE-LEVEL ACCESS

Resource-level access is the easiest and most straightforward and works well for certain types of resources and certain types of libraries. A link to a database on the library website or in the library catalog is an example. For some very small libraries, resource-level listing is the only access they are reasonably able to provide for most things, and that will influence their collections decisions. For them, purchasing the most content in the simplest packages makes sense. Librarians might seek out self-contained, full-text e-book packages from one publisher or subscribe to an aggregating service, such as Ovid or EBSCO, which provides access to books and journals from multiple publishers through one portal. Because they only have a few resources, small libraries can easily direct users to their collections, and users will quickly get familiar with what is available.

Larger hospital and academic health sciences libraries will also want to provide resource-level access for some of their collections. The types of databases for which simple resource-level access makes the most sense are point-of-care tools, drug information databases, indexes to the literature, and data sets. All of these operate as stand-alone portals without individual journals or books that need to be found as separate entities. Services have recent-

ly become available to help libraries track databases at the resource level, and larger academic libraries trying to manage many subjects, including the health sciences, are taking advantage of these services to streamline the way they provide access on their websites. Springshare is partnering with ProQuest Serial Solutions to enable libraries to create A–Z and subject-classified database lists for library websites, and the subject groupings of databases can be customized for a particular library's needs.

Vendors tend to focus on access to their products at the resource level. Many invest a lot of time into creating information portals for searching across multiple types of content that they produce. The unstated assumption of some of them is that their content should be sufficient for users. Linking outside their own content is maybe only grudgingly enabled. Some of these are enormous, like Elsevier's ClinicalKey, which contains all of that company's medical content. Others are subject-specific, like McGraw-Hill's Access products and Lippincott Williams & Wilkins's Health Libraries. Still others, like EBSCO, Ovid, and Rittenhouse, aggregate content like e-books or journals from multiple publishers onto one platform. While users do sometimes get used to one of these portals as a favorite place to visit when they need information on a topic, there are other times in which simple portal access is less useful. Librarians know that no one publisher has a monopoly on all the important information and that they need to provide a way for people to get into books and journals by title without regard to the portal or platform.

PROVIDING TITLE-LEVEL ACCESS

Compared with resource-level access, providing title-level access is a much bigger challenge but very necessary. Larger libraries are purchasing resources from a wide range of sources and publishers, some small and some large, and these resources can often include multiple parts and material types, such as journals, books, and videos. Providing access to the individual titles within large databases is the key to preventing users from having to guess which database contains the book they want. Despite promoting their web portals for keyword searching of content, the vast majority of publishers do provide title-level access with stable links to individual books or journals housed on their platforms if asked. Providing access to the titles of journals and books can happen through a library catalog, the library website, or both. A study from 2006 looked at the websites of libraries for the top-twenty-ranked research-oriented medical schools to determine how they were providing access to their collections of medical textbooks, particularly the Brandon-Hill listed medical textbooks, a set of books still thought to be some of the most important for each medical subject area (MacCall 2006). Almost every library provided access in at least two different ways—through a cata-

log and through a list. These lists were alphabetical, subject classified, or both. This is an example of libraries maximizing the options for users, allowing searching or browsing by topic or by title, and indicates that librarians find their users to be looking for e-books, for instance, just as they looked for physical books. Because the research for the study was done purely by inspection of publicly available websites, there was no evaluation or discussion of exactly how librarians were creating the access to e-books by title on their web pages and how much time was involved in cataloging or creating the lists.

The study noted above is now over ten years old and has not been updated, but, anecdotally, it appears that much remains the same for e-book access. A perusal of health sciences library websites from both large and small institutions shows that many are still presenting e-book title lists (alphabetically or by subject) as well as title access through a catalog. While there were a lot of e-books in 2006, there are so many more now that the organization and presentation of e-books on health sciences library pages is increasingly a challenge. A 2012 post on the Krafty Librarian blog about organizing e-books generated much discussion among health sciences librarians about how difficult it is to present them in a way that makes sense for library users (Kraft 2012). Most agreed that patrons do not like to use a library catalog, but most also agreed that the catalog is still one of the best, most comprehensive ways for librarians to keep track of their e-book holdings. Quite a few indicated that they created manual lists of e-books on their library websites despite the time-consuming nature of that activity and the burgeoning number of e-book titles—in one library's case, over six thousand of them. Many used a service like EBSCO A-to-Z or ProQuest Serial Solutions to track their e-books, automatically add MARC records and links to their catalogs, and automatically generate A–Z subject lists of e-books for the website. Using services like these is essential for most libraries and removes the need for a lot of manual link updating in catalogs or on websites. They allow a library to maintain a list of the e-book packages or individual e-books they subscribe to or have purchased individually in a knowledge base. In turn, that knowledge base is continually updated by publishers with stable URLs at the title level. Libraries can regularly receive MARC records based on the knowledge base and librarians can upload these into their catalogs. Title lists can be generated for library web pages by subject area or by title, although it appears that many health sciences libraries have given up on lists of e-books due to the sheer numbers of them. Collection management librarians expect when purchasing e-book packages that they will be able to track the titles using one of these services, and, very occasionally, they might come across a small (often society) publisher that is not familiar with working with a third-party e-book tracking service. The number of publishers like that should diminish over time, and librarians should pressure publishers to keep up with industry

standards. Finally, some health sciences libraries have combined several approaches to tracking and presenting their e-books to library users. They list e-book packages at the resource level for users looking for databases by name; they encourage users to search their catalogs for access to the complete collection of e-books by title or subject; and they have created manual lists of important e-books because users still love and demand lists even if they are impractical and incomplete. Librarians may believe that a manual list is worth the work because it promotes their collection in ways that the catalog can never do.

Compared with e-books, organizing and providing title-level access to electronic journal collections is much easier. The services mentioned above from EBSCO or ProQuest have existed even longer for managing serials than they have for e-books, and libraries have been using them to upload MARC records for journals into their catalogs and create A–Z and subject lists of journals for their library websites. While libraries differ on whether they provide title lists of e-books, most libraries seem to provide title lists for journals, and these title lists are often favored by health sciences library users over the catalog for finding and accessing journals (De Groote, Shultz, and Blecic 2014). It should be noted that libraries do not have control over the subject categorization of journals within these services and they cannot customize the lists; nevertheless, they seem to do a good enough job. A newer method of providing access to journals at the title level, and one that may serve to showcase the collection even better, is through a service that pulls library-subscribed journals into a uniform platform like BrowZine, which is available for library subscription. BrowZine's web and app versions allow users to create easily accessible, browsable bookshelves of favorite library-subscribed journals for which current issues can be accessed in full text with authentication through the library (Swogger and Linares 2016). The web service allows librarians to create subject lists of electronic journals on their websites. The advantage of BrowZine's lists over subject lists created by the EBSCO or Serial Solutions services mentioned above is visual. BrowZine shows thumbnail images of journal covers and provides a consistent platform for reading journals from different publishers. The disadvantage of BrowZine is that not all journals are available through that service, and the lists will not be comprehensive. Users also lose any special features that would be available on the publishers' websites. There are a few free app competitors to BrowZine for the physician audience, such as Docwise or QxMD's Read, and it will be interesting to follow their reach into the market. QxMD's Read may, for instance, work better for hospitals. It is likely that these types of resources will continue to be developed as vendors see the need libraries have for promoting their collections in more visually accessible ways.

PROVIDING ARTICLE-LEVEL ACCESS

Moving up another level of complexity, librarians will want to think about access to information sources at the article or chapter level. Traditionally this has been done using indexes, which, for the health sciences, have been primarily for the journal literature, but also for some monographic series and other types of resources. Even in the age of Google and Google Scholar, PubMed, CINAHL, and Embase, among many other indexes, remain important means of article-level finding and access of the literature, particularly for researchers. Librarians may use indexing in one of these databases as reassurance that a resource will be findable and more likely to be used. But librarians must assume their library users are coming into articles from a variety of online portals and search engines. The end goal for users is the full text of the article or book chapter, not just an abstract, and link resolvers using the OpenURL standard make that possible. Librarians are familiar with link resolvers by now, and they are a crucial tool that allows linking across platforms, between resources from different publishers, and between indexes and full-text articles. Several vendors have their versions, and libraries generally choose a link resolver as part of a package for resource management along with an integrated library system, a serials management system, and possibly a discovery system (see below). For academic health sciences libraries, many of these decisions are made at the whole university library level. The health sciences collection management librarian may not have a final say in which product is chosen but should remain informed and understand how it will affect the presentation of the collection. While link resolvers can lead to dead ends and errors more than one would like, collection management librarians still want to make sure that subscribed databases allow this kind of linking and that the resources they purchase are in the knowledge bases of these systems. The more links and opportunities for users to move around from one resource to another, the more likely patrons are to actually use library resources online, so the key is maximum interoperability among systems. Fortunately, standards in that area are constantly being evaluated and updated as systems become more and more complex (Lagace, Kaplan, and Leffler 2015).

A recent trend for libraries is the addition of a web-scale discovery layer on top of the library's catalog and other resources. These discovery layers are designed to provide users the ease of a "Google-like" one-box search interface for navigating all of the library's collections at once, from print holdings to electronic articles and book chapters from multiple publishers and platforms, combining the functionality of a library catalog, article indexes, and full-text databases all in one (Hoy 2012). The idea is that users will not have to think about what resources are available from which publishers or figure out which index would be more appropriate to use. Search results can be

refined after the fact, allowing users to tell the system whether they want to limit by date, material type, subject, or other customizable facets.

Such discovery systems dig down to search the full text of articles and can drive user access toward resources that may have remained more hidden in the traditional access modes of the library catalog and indexes. Implementation of these discovery layers is not an easy or quick task. Whole books have been written for academic libraries on the topic of evaluating different discovery layers and implementing them (Popp and Dallis 2012). How well the discovery tool works with the library's existing resources is a consideration since each tool is designed to work maximally with that company's own products, such as link resolvers, electronic resource management systems, and indexes and databases. During implementation, librarians must make decisions such as how many databases and resources to include in the discovery search, how many facets to show for search refinement, and how to display results. They have to balance the desire for a comprehensive search with concerns about users being frustrated with irrelevant results. Collection management librarians are ideally involved at many points of these decisions, as they will affect which resources will get used and future purchasing decisions.

Sommer Browning from the University of Colorado points out the necessity for collection management librarians to consider discovery of content as one of the collection development criteria (Browning 2015). At her institution, two collaborative teams of librarians were created once their discovery layer had been implemented: one to maintain and oversee the discovery layer and one to troubleshoot problems. Collection development librarians were included in both teams, working alongside technical services and electronic access librarians to keep the discovery layer working well and to bring information back to other librarians in the collection development department. A new electronic resources trial workflow was established to test how any proposed new purchase might work with the discovery layer, an idea that other libraries may also want to adopt. It's clear that collection development librarians bring an important voice to institutional discussions about and maintenance of discovery layers, and collaboration and communication between them and technical services, public services, and access services librarians should be promoted.

But how well do discovery layers work for health sciences libraries? A lot of the articles on web-scale discovery systems discuss implementation across a whole university library system. Health sciences libraries are sometimes part of a larger university system but sometimes completely separate. In either case, health sciences libraries have begun investigating the pros and cons of implementing such a system for their own user groups. Discovery layers are not yet the norm for health sciences libraries. A 2014 visual survey of the websites of 144 libraries affiliated with the Association of Academic

Health Sciences Libraries revealed that less than 40 percent had implemented a discovery tool, and even those that had one tended not to emphasize it (Kronenfeld and Bright 2015). Some had chosen not to employ the discovery tool that their own university library had implemented for other subject areas.

Kronenfeld and Bright suggest that perhaps health sciences librarians have found that the way their university libraries have customized the tool for other types of users does not work well for health sciences users. For instance, they note that the tools do not do a good job of answering clinical questions. The more different types of databases that are searched by a discovery tool, the higher the likelihood of health topic searches picking up results from magazines, newspaper articles, and general databases geared toward a non-health professional user. Even results from scholarly journals or textbooks can be much more information than a clinician needs. This is the opposite of the goal of dedicated point-of-care tools, which are set up to provide a fast, best, fairly short answer for a busy clinician, not comprehensive search results from multiple platforms and databases.

Possibly web-scale discovery systems work better for health sciences research and education than for clinical questions. Ketterman and Inman at East Carolina University compared one of the discovery tools, ProQuest's Summon Discovery Service, with PubMed for searches on "health information management," "medical information," and "electronic health records" (Ketterman and Inman 2014). They were pleased with the results from the discovery layer search and recommended it, at least for students, as a supplement to PubMed. They liked the fact that it reached deeper into the collection by finding book chapters and searching the full text of articles.

A 2016 article compared three popular web-scale discovery systems for health sciences research and found they were all similarly effective in returning relevant results for searches in the disciplines of applied health sciences, dentistry, medicine, nursing, public health, and pharmacy (Hanneke and O'Brien 2016). They limited their results to scholarly journal articles, which likely was important for focusing the search to professional health sciences literature. The value of the discovery layer search for health sciences researchers was that a significant amount of literature was found that was not picked up by a similar PubMed search. This highlights the value of a discovery layer for being able to search full text at the article level, similar to Google Scholar.

Health sciences libraries that have the ability to set up a discovery layer on their own to meet the needs of their unique users can build a system that is more focused. Two papers discuss the implementation of EBSCO's Discovery Service in academic health sciences libraries and their decisions about which databases to include in the search (Pinkas et al. 2014; Thompson, Obrig, and Abate 2013). Unlike some others, EBSCO's Discovery Service allows one to provide an option for the user to try the same search they have

just run in the discovery search directly in other individual databases. This gives health sciences librarians the best of both worlds: a one-box search plus the option to point users to a list of specialized databases like PubMed, CINAHL, Micromedex, ClinicalKey, or whatever is deemed useful for that library's clientele. Discovery services can be quite expensive, but even hospital libraries have begun to experiment with them as their budgets allow. Some have found that none of them yet really meet their needs, but others have taken the plunge of implementation (Brigham et al. 2016; Magnan, Duffy, and Mackes 2015). Most seem to promote searching of point-of-care databases separately on their web pages.

The landscape of discovery services is rapidly changing, and it will be important for collection management librarians to reevaluate their decisions regarding them as time goes along. Librarians should work with vendors to let them know how discovery tools can be optimized and developed for different user groups and to encourage metadata sharing among vendors, an important key to allowing databases to work with each other and with discovery systems. Perhaps a tool focused on health care professionals will develop over time. As discovery systems mature, more health sciences libraries may find that they are able to customize them to meet their needs and that they are worth promoting on their websites. What is certain is that whether a resource will be effectively searched through the discovery layer will be an important consideration for collection managers.

PUBLICIZING THE COLLECTION

After choosing resources for the collection, taking into account the level of access the library will be able to provide and ensuring the resource is listed on the website and discoverable through a library search engine or catalog, the health sciences collection management librarian's work is not necessarily done. Highly motivated library users, like researchers looking for access to their favorite journals, will manage to find the library website and perhaps the resource they were looking for (although they could probably benefit from learning about unfamiliar resources as well).

Other groups of users may need to be led to appropriate library resources: undergraduates who may only have experience using Google to find information, professional school students still unfamiliar with resources in their field, students in online programs not even aware they have access to a library, and busy clinicians needing fast access to information who may find the library website too time consuming to navigate. For these users, the library can best compete with easy, ubiquitous, freely accessible, but possibly lower-quality resources by putting the quality resources in front of the users' eyes in spaces that are targeted for them. Collection management librarians have to start

thinking like advertisers for their collections, creating portals that are attractive because the resources are easy to find and use and targeted to a specific need. Collaborating with outreach, liaison, and instruction librarians will help with this.

A library's website offers multiple opportunities for advertising the collection. Many libraries employ features spaces to highlight new larger purchases, but this more traditional advertising technique is necessarily limited to promotion of a few new databases. Creating subject-specific guides for specific user groups, using a product like Springshare's LibGuides, is very popular and a way for librarians to create spaces on the web targeted for specific users. Libraries of all types—from community colleges to large academic libraries to hospital libraries—are using LibGuides to organize and promote their resources. Some choose to organize resources into subject categories, creating guides to highlight resources for dentistry, nursing, global health, drug information, genetics, or orthopedics. Others have created guides targeted to the needs of users in specific programs or classes, such as a guide for surgery residents or a guide for students in the "Nursing 480" class.

Essentially, librarians are acknowledging that, for many of their users, the collection is overwhelming. By curating subcollections of resources around a topic or for specific needs, librarians make the collection more manageable and understandable. These guides act as alternative portals for users, as tools for self-guided instruction, or as reinforcement after an in-person instructional session on finding resources (Gerberi, Hawthorne, and Larsen 2012; Neves and Dooley 2011).

Collection development librarians who are also liaisons to their users are in a strong position to promote library resources and guides to resources in day-to-day interactions, instruction sessions, orientations, or the like. Many health sciences libraries, however, do not necessarily follow this model. Health sciences librarian position postings have shown a trend for hiring embedded librarians, informationists, and other librarians doing liaison or instruction work without also being responsible for a collection (Cooper and Crum 2013). This makes sense, as there is a push to get librarians out of libraries and more directly involved in curriculum, research, and clinical care. All of these new activities leave little room for multiple librarians doing collection management. Communication between the collection development librarian and librarians in these other positions is crucial, however, to developing a collection that is marketed to the users by identifying and meeting their needs. There are many ways in which liaisons can help promote resources to users, from one-on-one interactions to group communication. Liaisons should be familiar with current awareness tools and be able to help users set themselves up with electronic table of contents delivery, alerts, or RSS feeds, all of which are usually available directly from journal websites (Kramer et al. 2011).

A study in 2012 showed that most health sciences journals had RSS and other social media features and a large number had social bookmarking tools to allow users to share and promote content to their friends (De Groote 2012). Of course, users will typically promote and request current awareness alerts from resources they already know about, so strategic input from librarians can help users learn about unfamiliar resources. Librarians can communicate with library users as a group using email, blog posts, or various types of social media. Being engaged on social media and using it to the best advantage to advertise collections and services requires a time commitment.

It is easy for librarians to become excited about new methods of communication, but if there is not enough time to keep up a blog, for instance, it is better not to have one at all. There are ways to save time by automatically sending out the same information on multiple social media platforms, but these efforts will probably be less successful than if librarians put in the time and effort to optimize their content for each platform, such as using hashtags to best advantage in Twitter (Cuddy, Graham, and Morton-Owens 2010). Twitter and Facebook require interested users to "follow" the library to get the information that is posted, so these may end up reaching only those that already have a strong interest.

The collection management librarian will need to thoughtfully consider which modes of communication make sense for which users and types of information. A 2012 study looked at academic health sciences libraries on Facebook. Only a few provided library resource links, such as links to recent articles in the *New England Journal of Medicine*. Most often the content on Facebook tended to promote library events rather than collections. There was a direct correlation between library popularity (in numbers of fans) and the presence of photo and video content (Garcia-Milian, Norton, and Tennant 2012). Only a few of these libraries had more than two hundred Facebook fans.

The Lister Hill Library of the Health Sciences set out to try multiple social media platforms and evaluate which ones worked the best for them. They created a presence on Facebook, Twitter, Pinterest, and YouTube, and they had six active library blogs. Facebook was their major outlet but was used primarily to promote events. Blogs were more often used to promote library resources and were linked to emails that liaison librarians sent. A YouTube channel contained videos about using such resources as PubMed, CINAHL, and the Cochrane Library, and users were directed to these videos through LibGuides or in virtual reference encounters.

These librarians noted that the number of users reached through Facebook had begun to decline slightly in the fall of 2012. At that point they created a Pinterest account to advertise resources and made a more concerted effort to incorporate hashtags in their use of Twitter (Vucovich et al. 2013). Their conclusion was that each social media platform reached a different set of

users and served a different purpose and that they reached enough people that it was worth their time investment. The ever-changing landscape of social media means that librarians wanting to reach their users will need to be nimble and keep up with the platforms as they wax and wane in popularity.

EMBEDDING THE COLLECTION

While publicizing the collection has the goal of getting users to come to the library website, or some portion of it, and discover the wealth of resources there, the next logical step to meeting user needs is delivering the collection to them at their point of need where they already are on the web. Decentralization of library functions is already taking place in the form of embedded librarians in departments and research and clinical teams. Librarians should also think about embedding collections. This can be especially crucial when trying to reach users that are physically distant from the library. Even though everyone may be primarily using the library online, distance students and remote users especially tend to forget that they have access to a library online.

Since most courses, at community colleges and all the way up to medical schools, involve at least some online delivery, many libraries have moved reference and instruction services into the course management system with instructional modules and "ask a librarian" widgets. Information resources from the collection similarly have been embedded in course management systems as direct links or links in guides so students stumble across them when accessing lecture or assignment materials (Blevins and Inman 2014).

Calls for educational reform have proposed the "flipped classroom" approach that is now currently being implemented in many undergraduate, graduate, and health professional programs. Unfortunately, the discussion taking place about these changes in professional, non-library literature never mentions the role the librarians can play in this educational approach, despite the fact that librarians would be able to help identify and purchase online instructional materials and deal with copyright considerations (Critz and Knight 2013; McLaughlin et al. 2014; Prober and Khan 2013). Interestingly, discussion in the library literature also seems focused on flipped information literacy instruction as a method and tends not to mention collection issues (Youngkin 2014).

Similarly, in the clinical environment, librarians are embedding resources into electronic health records to be available at the point of need for health care professionals. For both of these embedded examples, librarians must carefully select the most appropriate resources to promote, or they lose the value of the opportunity. In 2009 the Association of Academic Health Sciences Libraries convened a symposium on "Electronic Health Records

(EHR) and Knowledge-Based Information: State-of-the-Art and Roles for Libraries in Health Information Technology," and papers from that symposium were published in the July 2010 issue of *Journal of the Medical Library Association* (Curtis 2010).

Some library directors cautioned librarians against simply embedding a library toolbar or a tab for library resources, encouraging librarians to consider their clinicians' needs for fast point-of-care information. One library created a custom clinical information tool that used several licensed library databases in subject search tabs covering diagnosis, diseases, drugs, evidence-based medicine, and patient education (Epstein et al. 2010).

Similar to the process of implementing and customizing a discovery layer for a library's users, customizing this clinical information tool for searching multiple databases at once was very time consuming. Other libraries have also reported that a lot of time and effort are needed to choose appropriate resources and customize them where possible to successfully integrate decision support systems into electronic health records. Simple implementation of basic diagnostic tools tended to give diagnoses that were too broad and not useful. Physicians appreciated when the tools were set up to generate automatic searches of multiple databases based on their own diagnoses and keywords (Fowler et al. 2014).

When health sciences librarians have been invited to collaborate with physicians, hospital administration, and information technologists on these projects, the outcome is usually more satisfying than cases where the hospital administration chooses to integrate one resource into the electronic health record without consulting the library. On the other hand, librarians will have the challenge of deciding how much staff time they devote to such projects because they are so much more involved than the strategy of just putting "the library" in front of the users.

While electronic health record integration of information resources at the point of need for physicians and nurses is still being developed, it is far ahead of such information integration for practitioners in other health sciences fields such as veterinary medicine or public health (Alpi et al. 2011; Revere et al. 2007). Infrastructure development and interoperability of different kinds of resources is something librarians in these fields can push vendors to work on.

Embedding collections is in the early stages. Library administrations already struggle with the scalability of embedded librarians, as the ratio of librarians to students, clinicians, research faculty, or whatever user group is being served is usually very small (Guillot, Stahr, and Meeker 2010). The concept of embedded collections—for instance, in the electronic health record example above—can similarly involve a whole new workflow and workload that some libraries may not be able to handle. But the idea is worth exploring. It makes sense that embedded collections accompany embedded

librarians. Academic library managers have discussed sustainability primarily in the context of embedding librarians (and presumably collections, too) into course management systems, posing such questions as how many courses one librarian can realistically be involved in at one time (Burke and Tumbleson 2013).

Wu and Mi present a five-level working model for embedded librarianship, demonstrating that librarians can approach the concept of embedding themselves at different levels of depth as staff time allows (Wu and Mi 2013). At many of the levels they describe, embedded librarians are creating curated subcollections to support the users they are working with. At the highest level of embedding (level 5), librarians collaborate with users in decision making and reaching strategic goals such as helping to develop a curriculum for a program rather than merely supporting existing curricula.

An SLA-funded research project on embedded librarians recommended that librarians move toward strategic engagement (similar to Wu and Mi's level 5) for the best chance of long-term success (Shumaker and Makins 2012). How would the collection management librarian who is not necessarily the one who is embedded fit into this picture? Wu and Mi place the "resource purchaser," developing the collection to support a course or curriculum, at level 1 on their scale of embedded librarianship. However, the collection development librarian who collaborates closely with faculty to help shape a curriculum by choosing and integrating resources is actually operating at a higher level of embedded librarianship and is taking a strategic proactive approach to collection development rather than a reactive one. Collection management librarians, like embedded librarians, may need to get out of the library and become more involved with their users.

CONCLUSION

If health sciences libraries are truly to be user-centric, librarians have to meet the needs of those users with collections that not only have the content users want but also the functionality, interoperability, and discoverability that bring that content to the users' attention where and when they need it. Collection management librarians will find themselves needing to keep informed about many other areas of librarianship, from technical services and web systems to instructional needs and social media. It can be daunting but exciting to be involved in promoting access and usage of the collection at all these different levels, and, far from acting solely in the background, collection management librarians may find themselves front and center in their libraries, helping to develop and improve systems of access for users or embedding content in user spaces. All the knowledge they get from being involved

in these projects will come back to inform their choices and creativity in collection building, bringing the story full circle.

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