

## Electronic Resources in Medical Libraries

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### Key Points

- Readers will receive a brief overview of medical libraries and medical librarianship.
- The path from print to electronic resources to offering mobile access will be described.
- Readers will learn about platform determination for mobile resources.
- Selection criteria for mobile electronic resources will be provided.
- Gauging use of mobile electronic resources will be discussed.
- Conclusions and future trends will be shared.

### OVERVIEW

Selecting electronic resources in libraries today is a lot like trying to hit a moving target. Beyond that, securing mobile access to electronic resources can be like trying to hit a moving target while riding on a Ferris wheel. Building a library collection today is more challenging than it used to be. The process for building a print collection changed slowly over the twentieth century, and standards were put in place gradually (Gregory and Hanson 2006). However, user needs have changed quickly, and the introduction of electronic resources has revolutionized the process of resource selection. The vendor-library negotiation process was turned upside-down with the introduction of electronic access to resources, and libraries also had software and hardware issues with which to contend. Electronic resources bring another layer of complexity because of access costs. The availability of electronic resources and access in libraries changes, often with budget reductions (or with rare dollar increases in budgets) as well as with needs from the stakeholders who use them. Another issue is the fluctuating prices given to libraries by vendors during the negotiation process. As we enter the second decade of

the twenty-first century, yet another radical change has emerged that affects how information is delivered to the patron—the mobile device.

Before mobile devices became ubiquitous in our society, access to electronic resources might have only meant the ability to read a book or journal on a computer screen rather than using a print copy. This has been a boon for the library industry as well as a headache. The ability to increase the size of the collection and to not have to take up extra shelf space has enabled more access to information for today's patron. "Mobile devices now allow users to take the library with them wherever they go" (Hallerberg et al. 2011). However, negotiating with vendors can be a vexing experience for print subscriptions, let alone for access to electronic versions. While some database vendors have developed specific mobile interfaces, others have been slow to adopt mobile platforms. The author speculates that it might be related to difficulties with authentication of users. Institutions or individuals usually have to pay for access to electronic resources. Up to now, vendors and publishers have figured out ways to be gatekeepers of information. For example, libraries can pay a subscription fee that allows a limited number of accesses during a time period or a limited number of concurrent users. Mobile technology has brought some challenges to this model. It is challenging for publishers and libraries alike to figure out ways to keep track of who is accessing a resource and how they are doing it. It may also be simply a matter of finding the right developers to create either a mobile application (app) or website and to keep up with the quickly evolving world of mobile access.

Unlike print journals, electronic resources sometimes have a time limit—some contracts with vendors stipulate that if the library decides not to renew a journal, the library loses access to the electronic version of the journal. In other instances, the library can keep the years for which they have paid. Libraries can purchase both the electronic and the physical formats at the same time—and again it depends on the negotiation process with the vendor whether this is even an option. While budget reductions have hit academic health science libraries quite hard, hospital libraries are often the biggest losers. In 2010 the author visited a hospital library in central Wisconsin. The library had been essentially shut down and was staffed by the continuing medical education coordinator, who was not a degreed librarian. This staff member said that the budget for journals—physical or otherwise—was literally zero. She made the number zero with her hand to emphasize the point. In this particular hospital, the doctors use continuing medical education funds to purchase their own access to electronic resources like UpToDate. Mobile adds some challenges to the mix for librarians. "With rapid and continuous improvements in mobile technology, medical institutions and libraries are challenged to adapt and respond accordingly" (Burnette 2010). Librarians use their skills to investigate the best methods of access to the best resources for the people they serve and support.

This chapter attempts to summarize how medical librarians make electronic resources available to their patrons, whether it is an electronic book or journal, or if it concerns recommending particular mobile apps. The focus is on academic medical libraries and hospital libraries.

## **MEDICAL LIBRARIES AND HEALTH SCIENCES LIBRARIANSHIP**

Health sciences librarians come from a wide variety of educational backgrounds that do not necessarily include the sciences. As with any library degree, it can be useful to

have related subject-matter expertise. Also, health sciences librarians do not necessarily work for medical schools or hospitals. The field is as wide open as any other in librarianship. Medical libraries have a wide variety of settings that include academic institutions (and the library may be in a stand-alone building or may be a part of a particular school like medicine or nursing), hospitals, and also other types such as area health education centers (AHECs), Veterans Affairs medical libraries, patient education libraries, and so forth. Patrons in academic medical libraries might include doctors, nurses, and students in public health or pharmacy. Patrons in hospitals might include health professionals on staff or even the public if the library is open to nonstaff. Mobile devices are on the rise in the medical field. “The results of a 2009 survey by the American Academy of Nurse Practitioners [*sic*] further confirms that mobile device usage is rising among those in the health care field. The study shows that the majority of nurse practitioners use mobile devices to access drug resources, diagnostic studies, and reference books” (Havelka 2011). Students in a health sciences program are more likely to be expected to have a mobile device, which means that librarians will need to be able to teach information literacy skills to them. Some medical schools issue mobile devices to their first-year residents. Librarians are also somewhat more likely to have access to different mobile devices so they can test the resources they suggest to patrons. “To serve as an access point for mobile resources, the hospital library must keep these various devices and the programs and applications that are accessible on them in mind. Not all programs will work on all devices” (Klatt 2011). This need to stay current on mobile technology is the same for other types of libraries, not just hospital libraries.

## ELECTRONIC RESOURCES

Electronic resources is a not a narrow topic area in and of itself. It includes a wide variety of materials including indexing and abstracting services, electronic books, serials and textbooks, electronic databases offered by information aggregators, document delivery services, and websites (Gregory and Hanson 2006). Due to the explosive growth in mobile technology, we can add mobile apps and websites to this list. Two sticking points with traditional electronic resources like e-journals and e-books are digital rights management (DRM) and intellectual property issues. Good resources for understanding these particular issues are the Association of Research Libraries DRM policies<sup>1</sup> and the Medical Library Association (MLA) Collection Development Section—Professional Resources for Librarians.<sup>2</sup> These two topics in particular merit their own examination and are not discussed in depth here. Some academic medical and hospital libraries offer downloadable e-books. Patrons can download these e-books and read them on their smartphone, tablet, or e-reader (Havelka 2011). Again, because of the capacity to serve multiple users, e-books are more readily available and accessible, and so more highly used. There are studies that indicate that e-books are more popular than the print version of the same title (Ugaz and Resnick 2008.) Ugaz and Resnick supply a table that shows total electronic and print use by package in 2005 and 2006. For example, using vendor-supplied data, AccessMedicine e-books were used 8,658 times compared to 76 for the same titles in print.

Academic health science libraries typically have to support many study areas of the institution. For example, the Charlotte Edwards Maguire Medical Library located at Florida State University supports nursing, psychology, human sciences, and biology as well as other life sciences (Shearer et al. 2009). Hospital libraries function similarly

as they have to be able to support different departments of the hospital (or hospitals, if they support more than one physical location). As Havelka (2011) describes in her article, more and more health science practitioners are using mobile devices.

To access electronic resources, users should ideally be able to view them no matter where they are located. This leads to authentication issues. When a subscription is set up, the library typically provides some way for the vendor to authenticate its users. One way is via Internet Protocol (IP) address. The IP addresses are those from the library's computers or via some other authentication method. If a user is offsite and using their own technology for accessing the electronic resource, there are other ways to authenticate users. Some of these include authentication by user name and password, proxy servers (like EZproxy<sup>3</sup>), or via virtual private networks (VPNs). A problem with ever-popular mobile devices is that they do not have IP addresses. There are sometimes complex instructions on how to access a resource on a mobile device, whether access is made available via an app or a website.

Here is an example of how to obtain access to an electronic resource for a mobile device. DynaMed,<sup>4</sup> a clinical reference tool, is available as a mobile app for most of the predominant mobile platforms. A DynaMed serial number is required to download the app to a mobile device. In some cases, health science libraries that have subscribed to this resource are keeping track of these serial numbers and issuing them to patrons as needed. Otherwise, patrons can be directed to the vendor's technical support pages for DynaMed to obtain access.

Many libraries have created guides of electronic resources available to users, and now guides of suggested apps and mobile websites are starting to appear. New questions emerge: Do the users use the Android platform on their smartphones or tablets? Do they have an iPhone or an iPad? What about Windows phones or Blackberry devices? How do you determine what platform/operating system your users have on their mobile devices? Does it matter? In suggesting mobile apps to library users, it does matter. The DynaMed app that you can download to your iDevice, for example, is not the same app that you download to an Android smartphone or tablet. The health science library itself might have a mobile app or website. A bit of investigation is necessary to determine what platforms are predominantly used by users.

## MOBILE PLATFORM DETERMINATION

Viewing electronic resources such as e-books and e-journals on a standard computer screen is usually not a problem for most users. It does not matter if you are using a Windows-based PC or a Mac. However, if you have users who are viewing certain resources via a smartphone or tablet device, it can become an issue. For example, Unbound Medicine is a health care knowledge company that creates mobile products in multiple platforms. One of their products, Taber's Medical Dictionary for Mobile and Web, can be used on a full-screen browser and can also be viewed on a smartphone like the iPhone.

It is not only determining platforms that are being used by the patrons that is important, but also what will be supported by the institution's Information Technology (IT) department. Knowing which platform is most widely used will help determine what is created and possibly supported. Apps for the various platforms are made in different computer languages. Developing an app is usually more complicated than creating a mobile website.

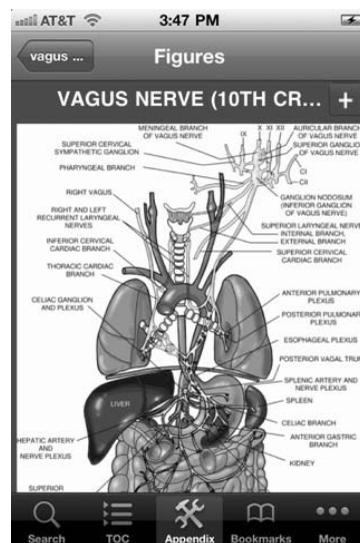
A questionnaire went out to MEDLIB-L,<sup>5</sup> an email list for medical librarians, in November 2011 asking health sciences librarians how they determine the platforms that are being used at their institutions, as well as how they select and promote appropriate

resources for use with mobile devices. Here are some of the responses in regard to platform determination.

- Christina Seeger, University of the Incarnate Word, Feik School of Pharmacy, replied, “IT is forthcoming with that information; however we have had to push the envelope in the library in explaining why we needed to explore the non-supported platforms as well.” Regarding policies for mobile resources, Seeger said, “We do not have a separate policy for mobile resources, they must fall into our collection development philosophy to be considered.”
- Marie Ascher of the New York Medical College replied, “Officially supported by our institution? We reached out to our CIO at the time and were told the only officially supported platform was Blackberry, and the only web browser supported is IE. We went out on our own and developed a site based on the iPhone that works on all three major mobile platforms. We surveyed our users to see what they are currently using. More than half of mobile users use some sort of Apple mobile device (iPhone, iPad, iPod Touch).”
- Emily Vardell from the University of Miami, Calder Memorial Library, replied, “One year ago I went through our list of databases and individually explored each one to determine which mobile platforms were supported. I often found the information on the databases’ About Us section, but when not, I used my Android device or borrowed an iPhone to see if the database worked on those databases.”
- Peg Burnette from the University of Illinois at Chicago replied, “My institution does not officially support a specific platform. As a librarian I tried to identify the resources that were available for all platforms.”
- Chris Bishop from Community Health Network in Indiana said, “If I have question about what our organization supports I ask some people I know in IT. I personally have focused solely on Apple and Android. I think Blackberry is too far behind.”
- Sarah Jewell from Memorial Sloan Kettering replied, “We contacted the IT department to obtain purchasing statistics. We also took a survey of what devices employees were using.”
- Jill Boruff from McGill University said, “McGill IT does not provide any official support for mobile devices. The support is ad hoc—for example, our IT knowledgebase has an entry on Blackberrys [*sic*] only because someone in IT has one and decided to write an entry.”

In some cases, there is not a clearly supported platform at each institution, and in others the librarian has managed to be a part of the conversation with IT in determining support. From casual conversations with health science librarians, the author has found that in some instances it is just a matter of observing what the patrons are using. Some hospital librarians have described just going into the doctor’s lounge to see what devices they were using, which helped them determine what to promote or create.

Another method for viewing mobile resources is straight from a mobile-enabled website. The benefit of this is there is no platform with which to be concerned. It is simply a website that has been converted to be viewed on a mobile device. Sometimes it is a matter of creating a cascading style sheet that can do the converting for the viewer; other times it requires creating a mirror website—like Mobile MedlinePlus,<sup>6</sup> which can be viewed easily on a smaller screen.



**Figure 12.1**  
*Taber's Medical Dictionary* for iPhone.



**Figure 12.2**  
MobileMedlinePlus.

## ELECTRONIC RESOURCE SELECTION CRITERIA

The selection process for electronic resources involves an imperative need to understand the library's user community. The goals and mission of the institution should be considered as well as policies regarding the types and kinds of resources that will be offered to users. "The selection decisions a library must make therefore necessarily involve a form of intellectual triage" (Gregory and Hanson 2006). Conducting a needs assessment for mobile resources asks similar questions to the following:

- Who are the users?
- What resources have the patrons requested?
- *What resources are available in mobile format? Websites? Apps?*
- *What are the trends in which mobile platforms are being used?*
- *What apps are available for the various platforms?*

The last three points include new questions to be considered when investigating mobile resources. The book by Gregory and Hanson listed in the resources section gives some helpful information on selecting electronic resources. While this is not specifically

for mobile resources, the information gleaned about selection can be customized for the mobile environment. Selecting apps to promote to users depends on the platforms used. For vendor-supplied resources it depends on what the vendors can make available as well. With mobile websites, on the other hand, it is less important to know what platforms are used than it is to know how likely a mobile website will look similar on different platforms. Access to subscription-based resources is another question. There are many free health-related mobile websites available to promote to users. Some examples include CDC Mobile,<sup>7</sup> Mobile MedlinePlus,<sup>8</sup> and PubMed for Handhelds.<sup>9</sup>

Other free or low-cost apps include WISER,<sup>10</sup> Epocrates,<sup>11</sup> and Diagnosaurus.<sup>12</sup> Paid apps such as those that come from Unbound Medicine<sup>13</sup> are definitely worth investigating, and, because there is a cost involved, a review of the apps' applicability to your institution is suggested.

Another popular platform that is evolving is downloadable e-books. As of mid-2011, the Library of the Health Sciences at the University of Illinois at Chicago (UIC-LHS) had thousands of e-books in the health sciences with more being added regularly. The library has purchased e-books from Springer, Wiley, Ebrary, and others. Oxford University Press is another e-book supplier, and the collection from this publisher at the library focuses on public health, epidemiology, and neuroscience.

Some providers of e-books for academic libraries are starting to include options that allow for download to e-readers that have built-in expiration dates. Some of the chapters or sections in various platforms can be loaded onto mobile devices.

"Selection criteria for mobile resources" was a question asked of health science librarians in November 2011 on the MEDLIB-L email discussion list. Here are some of the responses:

- Christina Seeger replied in regards to selection criteria at her institution for mobile apps, "Again, we use our collection development philosophy. I maintain an 'app blog' (on our

Blackboard site) in the discipline that I serve to share apps of interest—not just healthcare-specific, but organizational tools, leisure, health and wellness, etc.”

- Marie Ascher said in regards to selection criteria, “We do not have official collection criteria for mobile resources. We are primarily linking to and listing on our mobile site those products we currently have that have mobile functionality. I’d be very happy to see others’ criteria and collection policies related to mobile resources.” And on the subject of updating mobile resource pages, she said, “We are also talking about adding mobile app/site recommendations to the academic department pages maintained by our librarian liaisons.”
- Emily Vardell replied, “We simply supply information about mobile resources that are available for our normal databases.” In regards to selection criteria for mobile apps, “Right now we only support mobile apps for the databases we already provide. We have not explored selecting additional apps for our patrons.”
- Susan Fowler from Washington University in St. Louis: “As far as e-books and e-journals go, we have a collections committee that has a set of criteria they use but I don’t know what the specifics are outside of what is posted to the public which is . . .

‘The Library welcomes recommendations for additions to its collection. A member of the Collection Management staff will evaluate your request.

The criteria for purchasing items is based on:

- the subject scope of the recommended item
- budgetary considerations
- the topic’s demand
- potential users
- electronic license terms
- availability (whether or not the item is in print)

Required and suggested textbooks and monographs for student class work are purchased for course reserves upon receipt of requests from faculty.

Duplicate copies of monographs are purchased only if the title is very heavily used and funds are available. Second copies of journals are not purchased.

Missing/lost/damaged books are not automatically replaced, even when the library is reimbursed for these items. The decision to replace an item is based on use, subject matter and relevance to the needs of faculty and students, date, cost, and availability.’

On selection criteria for mobile apps, Fowler said, “Mobile applications do not fit into out [*sic*] current collection development policy or work flow. I have built our collection based on what comes as part of our licenses and subscriptions, what is recommended by patrons, online reviews, and what I discover myself.”

- Bille Anne Gebbs from Frontier Nursing University said, “[We] don’t really have selection criteria, basically just keep in mind what is available with our existing electronic resources.” And about mobile apps, she said, “Preferably downloadable (i.e. doesn’t require an Internet connection to use) and available on Apple platform.”



**Figure 12.3**  
Johns Hopkins HIV Guide App for the iPad.



**Figure 12.4**

Guide to icons used in the mobile resource guide.

- Jill Boruff: “We do not select specifically for mobile electronic resources. Currently, we decide which mobile resources (from the electronic resources that we already have access to) we are going to promote depending on how well they work and how well they serve our population. We have created a mobile subject guide to promote the mobile-optimized sites and mobile applications for resources requiring McGill authentication. Most of these have been chosen for their usefulness as point-of-care tools.”
- Peg Burnette said, “The mobile applications that we promote are generally available as part of an institutional subscription to an electronic, web-based resource. The selection criteria for content would be the same as for any medical resource: scope and quality, authorship, up to date, etc. For mobile apps it is also important that the product is easy to get onto the device and easy to use; readability & navigation are also important.” Selection criteria for apps include “Scope & quality, evidence-based, current with frequent updates, easy to procure and easy to use, and comfortable to read on a small device.”
- Xan Goodman replied, “The following mobile apps we use are a part of our electronic resource offerings, Micromedex, Clinical Pharmacology, MD Consult, Facts & Comparisons and such. Selection criteria is not based on the mobile function instead if a resource meets our goals and fits within our collection development guidelines we purchase the resource—and if a mobile app is available we then market that app to our student and faculty population.”

- Chris Bishop stated, “I have not selected any mobile e-resources specifically. I have only provided instruction and links for the mobile resources that free—case in point the NEJM mobile app or items that come in combination like say Micromedix.”
- Sarah Jewell said, “We limited our list to mobile apps for Android, Blackberry, iPhone, and iPad devices. We also included selected mobile websites, which can include journals and databases.” Memorial Sloan-Kettering Cancer Center Library has a Mobile Resources Collection Development Policy.<sup>14</sup>

Besides looking at what resources other libraries include in their collections, you can review the contents of the Apple iTunes Store, which has a “medical” apps category.<sup>15</sup> Some of the apps may be questionable as to their appropriateness for your institution, so librarians should do a proper review of the resource, just as they have done for years for Internet resources. Another resource example is Skyscape.<sup>16</sup> While the app itself is free, the hundreds of resources available through Skyscape are not.

## PROMOTING ELECTRONIC RESOURCES TO USERS

Librarians are known for making information guides for patrons and sometimes even for their fellow librarians. A visit to most any library website will bring you to webpages with database and subject guides. Hospital library websites are usually behind strict firewalls, so it was difficult for the author to gain access to see how they promote electronic resources. As an academic health science library example, the UIC-LHS staff has created a “Mobile Medicine @ UIC” guide using LibGuide software. In fact, they have created two guides. One is formatted for a desktop computer, and another one is formatted for

mobile devices. Along the sidebar of the desktop formatted guide, they have included a list with icons showing the various devices they refer to for each resource.

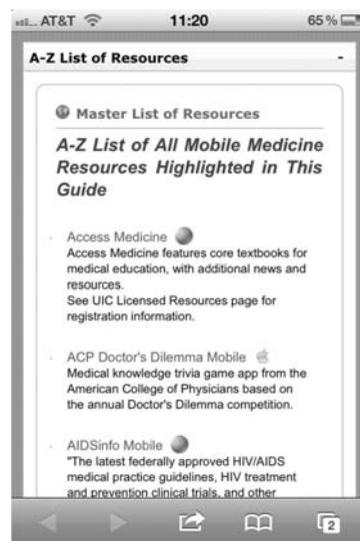
In UIC-LHS's mobile resource guide, they include tabs of lists popular tools, an A–Z list of resources, UIC Mobile services, UIC licensed services, an FYI, and a “Need Help?” tab. In particular, under the tab for licensed resources, a description is given as to how to access a particular resource: “Some UIC licensed resources require registration. This is sometimes simply a matter of knowing your netid and password at UIC, but other times it is more complicated with special codes, keys, etc. The following links will take you to the registration page, download page, or to a page with details about the registration process. Please do not hesitate to contact us if you need any assistance.”<sup>17</sup> UIC has promoted its subscriptions to electronic resources as well as mobile apps and websites to users via word of mouth, flyers, table tents, and its Facebook page.<sup>18</sup> Other promotional methods include Twitter, blogs, and widgets on webpages. Refer to Appendix A to see examples of mobile resource guides created by libraries, including the one for UIC.

Conferences are a venue for librarians to talk about their mobile electronic resources as a poster session or as a presentation. Medical librarian Bohyun Kim has a presentation<sup>19</sup> on SlideShare about mobile access to licensed databases as yet another example of innovative ways to promote mobile electronic resources. And finally, participants at a Mobile Technologies for Medical Librarians roundtable<sup>20</sup> at the Medical Library Association 2011 meeting suggested the importance of discussing medical apps during orientation for new students. Some medical librarians reported having a “clinical skills” day where mobile resources were integrated into the curriculum. Consider creating either formal or ad hoc training sessions to assist users with accessing mobile resources, and promote these sessions as much as possible, using some of the methods described here.

## GAUGING USAGE OF ELECTRONIC RESOURCES

Determining how resources have been used in a library used to be fairly easy. Since library systems have been automated, it is simple to pull up counts of checkouts for print resources in the library. With electronic resources, whether they be journals, books, or even the library's own mobile app, determining usage is a lot more difficult. A question related to this was asked in the same questionnaire discussed earlier, and here are some of the responses for gauging usage of mobile resources.

- Christina Seeger: “Vendor stats, google [sic] analytics on the pages with download links.”
- Marie Ascher: “Varies. Can't get download stats for Dynamed from EBSCO. Boo. But for most mobile sites, yes, I believe stats are available.”
- Emily Vardell: “We have not yet explored this. I will say that the blog posts I write on our mobile databases are the ones that receive the largest number of views.”



**Figure 12.5**

UIC-LHS A–Z List of Resources as it appears on an iPhone.



**Figure 12.6**

Facebook page for UIC-LHS promoting mobile electronic resources.



remain relevant. As an example, in mid-2011 the South Central Chapter of the Medical Library Association held an online free introduction to mobile resources<sup>21</sup> in health science libraries. Some of the topics included mobile trends and issues in academic and hospital library environments and promoting mobile resources. As another example, a wiki of best practices on a variety of topics called “Library Success”<sup>22</sup> includes a set of pages about “M-Libraries.”<sup>23</sup> This section is not specific to medical libraries or electronic resources but does include a section on vendors and publishers.

Mobile technology is evolving at an amazing pace and is here to stay for the foreseeable future (until the next new shiny technology is introduced). By the time this book is published, it is likely some of the information will be outdated. However, as Burnette points out in her article, “it falls to librarians to do what we have always done: provide our users not only with information but with the tools they need to find and evaluate information in support of education, research, clinical practice, and life-long learning.” The author of this chapter interprets this to mean staying on top of the technological changes and applying them as best as possible to your environment.

## **APPENDIX A: EXAMPLES OF MOBILE RESOURCE GUIDES AND WEBPAGES**

This is a short list of what guides and webpages have been created and is not meant to be comprehensive.

- Duke University Medical Center: <http://guides.mclibrary.duke.edu/mobile>
- Florida International University Medical Library (mobile site): <http://medlib.fiu.edu/m/>
- Johns Hopkins Welch Medical Library: <http://www.welch.jhu.edu/internet/mobile.html>
- McGill University (mobile site): <http://m.library.mcgill.ca/touch/healthsciguide/>
- Medical College of Wisconsin, <http://www.mcw.edu/mcwlibraries/mobileresources.htm>
- Memorial Sloan-Kettering Cancer Center Library: <http://libguides.mskcc.org/mobile>
- New York Medical College: <http://library.nymc.edu/informatics/pda.cfm>
- New York Medical College (mobile site): <http://library.nymc.edu/m/>
- Oregon Health & Science University: <http://www.ohsu.edu/xd/education/library/research-assistance/handheld-pda-resources.cfm>
- Roseman University of Health Sciences: <http://usn.libguides.com/content.php?pid=123788>
- University of Illinois at Chicago, Library of the Health Sciences: <http://researchguides.uic.edu/MobileMed>
- University of Miami, Louis Calder Memorial Library: [http://calder.med.miami.edu/electronic\\_databases.html](http://calder.med.miami.edu/electronic_databases.html) (includes handy icons for supported devices)
- University of Nebraska Medical Center (mobile site): <http://www.unmc.edu/library/m/index.html>
- University of Virginia Claude Moore Health Sciences Library: <http://mobile.hsl.virginia.edu/>
- Washington University School of Medicine in St. Louis: <http://beckerguides.wustl.edu/mobileresources>
- Yale Cushing/Whitney Medical Library (mobile site): <http://doc.med.yale.edu/m/>

Most hospital library websites are behind strict firewalls so including URLs of their resources was not permitted.

## NOTES

1. Association of Research Libraries DRM Policies, [http://colldev.mlanet.org/resources/professional\\_resources.htm](http://colldev.mlanet.org/resources/professional_resources.htm)
2. Medical Library Association Collection Development Section—Professional Resources for Librarians, [http://colldev.mlanet.org/resources/professional\\_resources.htm](http://colldev.mlanet.org/resources/professional_resources.htm)
3. EZProxy, <http://www.oclc.org/ezproxy>
4. DynaMed, <http://dynamed.ebscohost.com/access/mobile>
5. MEDLIB-L, <http://www.mlanet.org/discussion/medlibl.html>
6. Mobile MedlinePlus, <http://m.medlineplus.gov/>
7. CDC Mobile, <http://m.cdc.gov/>
8. Mobile MedlinePlus, <http://m.medlineplus.gov/>
9. PubMed for Handhelds, <http://pubmedhh.nlm.nih.gov/>
10. WISER, <http://itunes.apple.com/us/app/wiser-for-iphone-ipod-touch/id375185381?mt=8>
11. Epocrates, <http://www.epocrates.com/products/android/>
12. Diagnosaurus, <http://books.mcgraw-hill.com/medical/diagnosaurus/>
13. Unbound Medicine, <http://www.unboundmedicine.com/>
14. Memorial Sloan-Kettering Cancer Center Library, Mobile Resources Collection Development Policy, <http://libguides.mskcc.org/content.php?pid=220316&sid=1829269>
15. Apple iTunes Medical Apps, <http://itunes.apple.com/us/genre/ios-medical/id6020?mt=8>
16. Skyscape, <http://www.skyscape.com/intro/iPhoneIntro.aspx>
17. UIC Licensed Resources—Mobile Medicine @ UIC, <http://researchguides.uic.edu/content.php?pid=195898&sid=1667236>
18. Library of the Health Sciences—UIC, <https://www.facebook.com/LHSCChicago>
19. SlideShare—Mobile Access to Licensed Database in Medicine & Other Subject Areas, <http://www.slideshare.net/bohyunkim/mobile-access-to-licensed-databases-in-medicine-and-other-subject-areas>
20. Chapter Council Report, [http://www.chaptercouncil.mlanet.org/roundtables/2011/19\\_Mobile\\_Technologies.pdf](http://www.chaptercouncil.mlanet.org/roundtables/2011/19_Mobile_Technologies.pdf)
21. Get Mobilized, <http://sites.google.com/site/getmobilizedmla/>
22. Library Success Wiki, [http://www.libsuccess.org/index.php?title=Main\\_Page](http://www.libsuccess.org/index.php?title=Main_Page)
23. M-Libraries, [http://www.libsuccess.org/index.php?title=Main\\_Page](http://www.libsuccess.org/index.php?title=Main_Page)

## REFERENCES

- Burnette, Peg. 2010. "Mobile Technology and Medical Libraries: Worlds Collide." *Reference Librarian* 52(1/2): 98–105.
- Gregory, Vicki L., and Ardis Hanson. 2006. *Selecting and Managing Electronic Resources*. New York: Neal-Schuman.
- Hallerberg, Gretchen, et al. 2011. "Collection Technical Management," in *The Medical Library Association Guide to Managing Health Care Libraries*, edited by Margaret Moylan Bandy and Rosalind Farnam Dudden, 157–184. Chicago: Neal-Schuman.
- Havelka, Stefanie. 2011. "Mobile Resources for Nursing Students and Nursing Faculty." *Journal of Electronic Resources in Medical Libraries* 8(2): 194–199.
- Klatt, Carolyn. 2011. "Going Mobile: Free and Easy." *Medical Reference Services Quarterly* 30(1): 56–73.

- Shearer, Barbara S., Carolyn Klatt, and Suzanne P. Nagy. 2009. "Development of a New Academic Digital Library: A Study of Usage Data of a Core Medical Electronic Journal Collection." *Journal of the Medical Library Association* 97(2): 93–101.
- Ugaz, Ana G., and Taryn Resnick. 2008. "Assessing Print and Electronic Use of Reference/Core Medical Textbooks." *Journal of the Medical Library Association* 96(2): 145–147.

### FURTHER READING

- Blecic, Deborah. 2011. "E-books in the Health Sciences." *E-ppendix: Online Newsletter of the UIC-Library of the Health Sciences* 2(2). <http://ojphi.org/htbin/cgiwrap/bin/ojs/index.php/eppendix/article/viewFile/3784/3063>.
- Ennis, Lisa A., and Nicole Mitchell. 2010. *The Accidental Health Sciences Librarian*. Medford, NJ: Information Today.
- Kim, Bohyun, and Marissa Ball. 2011. "Mobile Use in Medicine: Taking a Cue from Specialized Resources and Devices." *Reference Librarian* 52(1/2): 57–67.

