NN/LM National Network of Libraries of Medicine
MidContinental Region
Colorado ★ Kansas ★ Missouri ★ Nebraska ★ Utah ★ Wyoming

Plains to Peaks Post

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SAVE March 7, 2016: Using Data to Improve Clinical Patient Outcomes

When you hear "Big Data" what comes to mind? Research? That's where the NN/LM focus has been–introducing health sciences librarians to the role they can play in managing and curating research data, introducing health sciences librarians to training resources and tools to teach students and researchers what should be considered when they produce data.

Big data does not just exist in the research setting. There is a lot of patient data that exists in each of our hospitals, medical centers, and healthcare systems. Doesn't this quantity of patient data qualify it as big data too? Some of us say the answer is, "Yes."

On March 7, 2016 the National Network of Libraries of Medicine, MidContinental (MCR) and Pacific Northwest Regions (PNR) are sponsoring an event that will provide an overview of current and potential uses of patient data to improve patient safety, quality of care and evidence-based practice.

Librarian participants will have the opportunity to explore how they can contribute to the use of clinical data as evidence and the skills they can develop to support health care organizations in the use of data.

Who should attend this symposium? Health sciences librarians who work in a clinical setting. We encourage librarians to bring along their CEO, chief medical officer, or quality assurance person who want to learn more about what other institutions are doing with clinical data in order to plan what can be done within their own institutions. The objectives will make this event of interest to others beyond the librarian audience:

- Participants will gain increased awareness of the role of data to improve healthcare delivery; and
- Participants will gain knowledge about emerging uses of clinical data mining to improve evidence-based practice.

The event will take place in Seattle at the University of Washington and in Salt Lake City at the University of Utah. It will be a shared broadcast between the two universities. Presenters and audience members will be located at both sites and will interact with each other. We have an exciting line up of individuals from major medical centers who have been investigating how to turn patient data into evidence for patient safety and improved quality of care.

NN/LM MCR Professional Development Awards have been designated to bring in members from other parts of the region to attend the Using Data to Improve Clinical Patient Outcomes. Instructions and criteria for applying are available on the NN/LM MCR web site (http://nnlm.gov/mcr/funding/profdev.html).

More information will be distributed through the MidContinental Region News blog (http://nnlm.gov/mcr/news_blog/). Watch your emails on Tuesday for our weekly compilation of these postings.

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Introducing Annette Parde-Maass

Annette Parde-Maass is the new Nebraska/Health Information Literacy Coordinator for the National Network of Libraries of Medicine, MidContinental Region. She is located at Creighton University in Omaha, Nebraska. She earned her BA in History from the University of Nebraska-Lincoln and MA in Information Science and Learning Technologies (emphasis in Library Science) from the University of Missouri in partnership with the University of Nebraska Omaha. She previously worked at Midland University as the Librarian, Nebraska Wesleyan University in the library, Historical Studies, and National History Day: Nebraska, and at museums in Nebraska, Kentucky, and Ohio.

She lives in the Omaha area with her husband and two sons. She loves to travel. Annette has visited all of the MCR states. In the past three years added nine more states to the list she has visited, for a total of thirty-one (not counting airports).
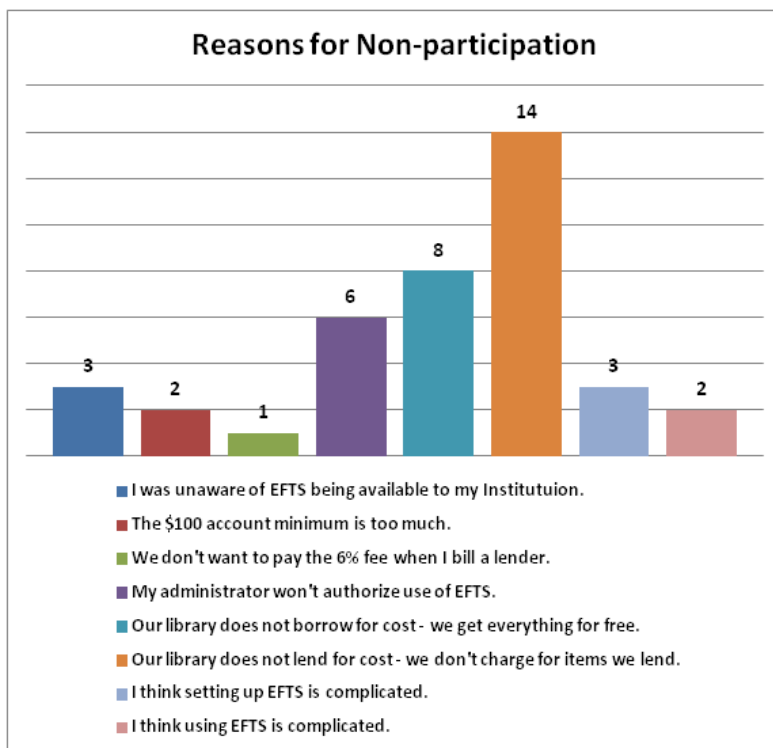
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EFTS Questionnaire

Many of our Full Network members do not participate in The Electronic Funds Transfer System (EFTS). It is a joint project of the Lyman Maynard Stowe Health Sciences Library, University of Connecticut and the National Library of Medicine (NLM) which allows participating libraries to electronically bill and pay for interlibrary loan items. In order to better understand the reasons for non-participation, we sent a questionnaire to those eligible for but not using the program in the spring of 2015.

EFTS Questionnaire

EFTS is an efficient and virtually error free method, used by many DOCLINE participants, for paying and receiving payment for interlibrary loans while eliminating most of the paperwork. As of the date of the questionnaire 71 (52 %) of eligible institutions in the region used EFTS, while 66 (48%) institutions did not participate. The non-participants were targeted for inclusion in the invitation to respond to the questionnaire. I revised a questionnaire that was sent to the same group in 2009 and integrated a couple of new questions. Six institutions were eliminated from the list of those receiving the questionnaire because they had no staff at the time. The questionnaire was initially emailed on April 30, 2015 with final responses due by May 12, 2015. Sixty institutions were invited to participate and 18 responded.

Results

There were five questions in the questionnaire. In the first question the respondents were presented with multiple statements and were asked to mark all that apply. Fifteen respondents answered this question; the responses are shown in the graph below. The two highest responses were for categories that indicated they didn't charge for items they lend and/or they borrow everything for free.

Reasons for Non-participation

- ■ I was unaware of EFTS being available to my Institutuion.
- ■ The $100 account minimum is too much.
- ■ We don't want to pay the 6% fee when I bill a lender.
- ■ My administrator won't authorize use of EFTS.
- ■ Our library does not borrow for cost - we get everything for free.
- ■ Our library does not lend for cost - we don't charge for items we lend.
- ■ I think setting up EFTS is complicated.
- ■ I think using EFTS is complicated.

The second question asked respondents to share other reasons for not using EFTS. There were five responses to this question. The common answers were that either they already had another system in place or institutional accounting barriers prevented using EFTS. In response to the next two questions, ten of 15 respondents indicated they were unaware that a start-up award was available for first-time EFTS applicants while eight of 15 respondents did not know that the NN/LM MCR provides training on EFTS. Finally, the respondents were given the opportunity to arrange for a consultation. Two requested received follow-up consultations.

Discussion and Conclusion

The responses indicate that many non-EFTS users do not charge for lending or pay to borrow articles. These libraries are likely members of Free Share or other DOCLINE lending groups and do not have a need for the EFTS service. Respondents also indicated that authorization for EFTS by administrators is an issue. Since responses were anonymous, we could not follow up with member whi did not know about start-up funds or training. It is unknown if knowledge of either would make a difference in enrollment numbers. The MCR offered an EFTS award of $100 in start-up funds for first time users in 2013. Only two libraries applied for and received the award. It seems improbable that non-participants can be persuaded to enroll in the program; however, occasional promotions will serve to remind DOCLINE users of the service availability.

If you would like more information on EFTS please contact me or your state coordinator.

– Jim Honour, Wyoming/Member Services Coordinator

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Engaging Faculty and Students with an NLM Traveling Exhibition

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Hosting a traveling exhibit from the National Library of Medicine is an affordable, easy way to bring the larger conversations about healthcare and medicine to your own library community. For the cost of shipping the exhibit to the next location (usually between $300-$700), you will be loaned six freestanding panels and

have access to a wealth of supplementary material on the exhibit's web site. Downloadable audio tours, lesson plans for teachers, online games, supplementary videos, and more are available with each exhibit. These online resources also make it possible to reach out to community partners to develop programming before the exhibit even arrives.

At the University of Saint Mary, we paired the display of the exhibit *Surviving & Thriving: AIDS, Politics, and Culture* with an interdisciplinary course on the topic. The course was co-taught by faculty from the Biology and Global Studies programs, with nine additional faculty participants representing a wide variety of academic disciplines coming together to explore the impact of the AIDS epidemic on American society. Since today's college students were born well after the initial AIDS discovery and ensuing panic, faculty members talked about their personal experiences as well as the impact of AIDS on their fields of research.

Surviving & Thriving exhibit panels

While relatively few students could directly enroll in the course, many of the presentations were open to the entire campus community and reflection journal assignments encouraged those enrolled in the course to discuss the exhibit content with their peers. During the final course session, students related material to their families, their chosen fields of study, and their view of how history impacts the present. They shared posters encouraging people to get tested, designed in conjunction with World AIDS Day. Students in the related course effectively acted as ambassadors for the exhibit, widening the impact throughout both our campus and the wider community (including raising $300 for the Good Samaritan Project, which provides advocacy, care, and education to those affected by HIV/AIDS and other sexually transmitted infections in the Kansas City area).

Exhibit presentation

To book a traveling exhibit, check out the NLM Book a Traveling Exhibition page (http://www.nlm.nih.gov /hmd/about/exhibition/booktraveling.html) to see which exhibits have available dates. As you mouse over each exhibit, you'll be shown two options: Book Now/Tour Itinerary and More Info. The latter will lead you to the exhibit's page, including a link to the accompanying web site, to further explore the content of the given exhibit. Book Now/Tour Itinerary will let you see the current tour schedule for that particular exhibit and which dates remain available to host the exhibit in your library. (This information is updated weekly.) Simply click on the "Book Now" link to send an email indicating your interest. If those dates are still available, you'll receive an email containing a confirmation letter including your hosting date and other general information.

The Exhibition Program Team at the National Library of Medicine makes hosting an exhibit a piece of cake. Each exhibit arrives a few days before the scheduled start of your hosting period, packed in sturdy,

well-organized plastic shipping containers. While the instructions for setting up the exhibit are also online, a color copy of the detailed step-by-step instructions can also be found in the shipping containers. Set aside 1-2 hours for setup with two people, though it can take significantly less time if the exhibit space is prepped and clean before starting. Taking down the exhibit is an equally quick and painless process.

After the success of *Surviving & Thriving* and a previous exhibition of *Life & Limb*, the University of Saint Mary is looking forward to hosting more National Library of Medicine traveling exhibitions in the future–two are already on the calendar!

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Whooo Says…

Dear Whooo,

I am new to the health sciences side of librarianship, and find the work fascinating. I love that my work has such a direct impact on the health of individuals.

I have just finished reading the MLA News from October 2015 and was shocked to read that 40% of the medical libraries in the United States were closed between 1989 and 2006. After doing further investigation, I read the article "Looking at MCR Library Closures: What's Happening and Why!" from the April 2015 Plains to Peaks Post which discussed the rate of health sciences library closures from 2011 through March 2015. In that time period, 613 NN/LM member libraries closed, for an average of 115 closings per year. I'm not sure what that does to the 40% closure rate listed above, but it certainly reflects a serious situation!

What is behind these closings, and why isn't there some regulation or governing body statement to ensure the presence and use of a medical library in the hospital setting?

Sincerely,
Puzzled

Dear Puzzled,

Welcome to the world of health sciences librarianship! I'm sure all of your colleagues are glad to hear from a new voice, and one that is so concerned with what is happening in the profession. I'm glad to see that you are taking the time to read the professional communications and learn about the landscape you have entered.

This issues you raise (library closures and mandated hospital libraries) are ones that have been debated for years. During several years of the last century, JCAHO (the accrediting body for hospitals) required that a hospital have a library to be accredited. By the mid-1990s, their philosophy changed from one of specific expectations for each discipline and department to one focused on the functions critical to patient care. This means that accreditation is now based on the evaluation of the hospital's performance of each of these functions in relation to the improvement of patient outcomes.[1] At the same time, electronic resources started to become easily available which impacted the perception of need for the librarian/library. Since that time, the health care sector has been complicated by the Affordable Care Act, health care reform, and reimbursement issues.

As you can imagine, closures, financial challenges, and vendor competition have caused a great stir in the health sciences library community. There have been and continue to be loud discussions and frustration with the lack of organizational requirements for hospital librarians. Unfortunately, in the current climate of reimbursement concerns and focus on process and outcomes, requiring hospital libraries is not going to happen.

Puzzled, I think many librarians have felt helpless in the onslaught of larger healthcare issues, and have looked for help from organizations outside of themselves. Unfortunately, this hasn't worked. The failure of this strategy is not surprising as our priorities and knowledge of library contributions to health care are not necessarily shared by hospital decision-makers. It is always easier to have help come from outside, but rarely are valuable accomplishments achieved without those directly concerned taking charge and making the needed changes.

Western and Middle Eastern civilizations are steeped in the value of the saying "God helps those who help themselves." According to Wikipedia, this sentiment appears in the Greek writings of Sophocles' Philoctetes ("No good e'er comes of leisure purposeless; And heaven ne'er helps the men who will not act.")[2] as well as the writings of Euripides, Ovid, Babrius, the Quran, and Aesop's Fables. In more modern times it has appeared in the writings of French author Jean de La Fountaine, George Herbert, Algernon Sidney, and Benjamin Franklin in Poor Richard's Almanac. I bring this up because this sentiment pertains directly to the problem that health sciences librarians face. We are the ones who understand the value that we bring to health care, and it is our responsibility to take charge of our future existence. We cannot expect "God" or any other authority figure to help us if we are unwilling to take action in our own behalf.

If we reframe this situation and look at it from the position of what opportunities are available to us, the situation looks much better. There really are a multitude of opportunities available to each of us to take charge of our individual and collective situations. We can choose to tell our story in different words, stop activities and services that are no longer relevant, and refocus our efforts to meet the new challenges of our organizations. So really the question for each of us is where to start.

My first suggestion is to read the Joint Commission standards relating to information management, knowledge-based information, and evidence-based care. As you read, think carefully about how your services apply to these standards. Are you focusing your efforts in ways that support the overall accreditation goal of your organization? Compare the standards with the mission and goals of your hospital. How does your program support these documents? Are there activities and services that you can eliminate as outdated, unfocused, or unnecessary? Talk with your manager about these ideas. Explore the ways you can apply your skills and knowledge to the overall goals of the hospital and accreditation. As you discuss the landscape of your organization, ideas for how to support the overall mission and accreditation process will emerge. As with any real-life challenge, there is no one solution that will work for everyone, but there are many, many ways for each of us to work toward the goal of a vital, engaged librarian in the hospital setting.

While you are negotiating your future goals and activities, remember to plan for the resources you will need and the ways that you will evaluate your program. Think about the areas you will impact and the ways you want to improve the overall goal of patient care. Also consider which stakeholders in your organization might be helpful to you, and how you can share your message with them. This is the beginning of telling your story – another part of your long-range plan to ensure a thriving library.

Another way you can work toward the success of health sciences librarianship is through our professional communities. There are numerous ways to work with the Medical Library Association and the Hospital Library Section and contribute to the effort to promote health sciences librarianship. Your regional and local groups are also good places to find like-minded librarians and add your contributions. You can volunteer to be a member of the MCMLA advocacy committee.

I'm not sure this is the answer you wanted to hear, Puzzled. However, it is one that I think is objective and realistic. Our profession is changing rapidly as is the larger industry we work to serve. It needs the efforts of all of us to forge the pathway forward. I encourage you to find the places you can work toward moving health sciences librarianship into a well-recognized place in the health care environment. I would love to hear from you as you explore these challenges!

Best wishes and encouragement,

Whooo

1. Kelvin JF, Houston K. "Improving organizational performance: an introduction to the 1995 Joint Commission on Accreditation of Healthcare Organizations Standard" Cancer Practice. 1966. March-April; 4(2): 88-95.
2. As translated by E. H. Plumptre in Sophocles: Tragedies and Fragments, volume 2, p. 165, fragment 288.

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Association for Information Science and Technology 2015 Annual Meeting

Information Science with Impact: Research in and for the Community

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Thanks to the generous professional development award presented by the MidContinental Region of the National Network of Libraries of Medicine, I attended the 2015 Association for Information Science and Technology (ASIS&T) Annual Meeting in November. I am grateful for the opportunity.

The meeting was not strictly a library event but rather a conference for all information professionals. The theme was "Information Science with Impact: Research in and for the Community." I chose this particular event because I hoped it would expand my understanding of information science as a field and provide inspiration for new and innovative research and programming directions within my own institution. I was not disappointed.

As part of the funding application process I met with an administrator placed organizationally above my department, namely the Vice Chair and Administrative Director of Graduate Medical Education, to discuss the potential benefits of the conference and how I might share or implement the things I learned from it when I returned. During our discussion I outlined several projects I had in mind that focused on health literacy and graduate medical education and how I thought the information I might gain at this conference could improve my ideas. The Vice Chair thought my proposals sounded promising and hoped the extra perspectives I sought to gain would enhance our efforts. She expressed support and offered to provide administrative backing if needed. She also requested that we meet after the conference to discuss how the information I gained at the event could be implemented to improve resident education.

The conference consisted of two days of pre-conference seminars and workshops followed by three days of panels, presentations, and networking events. I did not attend any of the pre-conference events this year, though after hearing the panelists and presenters discuss and promote them I intend to, should I attend this conference again in the future.

All of the presentations and panels were somehow related to information science, but the subject matter of each varied widely. Examples of presentations I attended included a discussion on teens' perceptions of eating disorders information in Yahoo! Answers, an examination of the genealogical information-seeking behavior of Australian indigenous youth, an investigation of health information perceptions of Hispanic female immigrants in America, and a panel exploration of the research implications of a wide variety of information behaviors including seeking, finding, organizing, creating, sharing, avoiding, disseminating, and more. As a clinical librarian at a pediatric hospital, I focused on attending the health- and youth-related events, but there was no shortage of variety. Examples of other presentations and panels that I was unable to attend included "Self-Presentation in Academia Today: From Peer-Reviewed Publications to Social Media," "Cultural Diversity in LIS Research: National and International Communities as Context for the Study of Ethics, Policy and Creation," "Breaking Traditional Barriers: Collaboration, Impact and Information Technology in the Humanities," "Envisioning How Fair Use and Fair Dealing Might Best Facilitate Scholarship," and "Library Assessment and Data Analytics in the Big Data Era: Practice and Policies." You can view the full program here: https://www.asist.org/events/annual-meeting/annual-meeting-2015/program/

When all was said and done, I had three major take-aways. First, there is more to information behavior than I realized. Before the conference I was focusing on understanding patients' and families' health information-seeking behaviors in order to find ways to improve resource awareness and accessibility, but now I understand there are a number of other information behavior areas that I should be taking into consideration. Second, I was inspired to incorporate more theory and evidence into my endeavors. Nearly every presentation I attended laid out an academic theory or model as the basis of the research or project, and it brought an increased sense of credibility to each. I support my projects with literature searches, but I know I could do a better job of incorporating models and theory with a little more education and practice. Third, I gathered some practical ideas for programs that I could implement immediately within my institution. For instance, after the presentation on teens' perceptions of eating disorders information in Yahoo! Answers, I realized that at my institution we focus the vast majority of our consumer health efforts towards the parents and families of patients. But our pediatric patients have a right to knowledge and empowerment, too! As such, we've teamed up with the Transition to Adulthood program to start offering courses in consumer health to teens with disabilities and chronic conditions. We're also in the process of brainstorming ways to partner with our Teen Clinic to make consumer health resources more accessible to our patients.

All in all, it was an enjoyable conference, and I do recommend it. Even more importantly, however, I would

recommend attending any conference that expands your professional viewpoints, encourages collaboration with other disciplines, and forces some critical thinking about how you can improve your services.
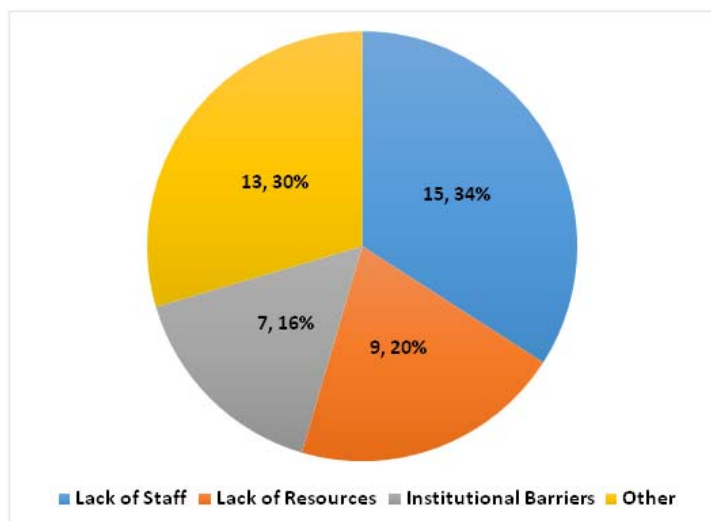
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Loansome Doc Questionnaire

Loansome Doc is a system supported by the National Library of Medicine that allows anyone to connect with participating DOCLINE libraries to order articles, at low or no cost. Providing this kind of service helps drive one mission of the NN/LM which is "providing all U.S. health professionals with equal access to biomedical information."

Only 26 (19%) of MCR DOCLINE participants provide Loansome Doc services to unaffiliated health professionals. A year ago a questionnaire was developed to determine why the other 81% of MCR DOCLINE participants aren't providing Loansome Doc services to unaffiliated health professionals. I devised a questionnaire in Survey Monkey and identified 101 suitable institutions. An invitation was sent on February 19, 2015 and a response was requested within nine days. Thirty-one (30.7%) of those invited responded. Most of the respondents (20) were from hospital libraries. Other respondents were from academic libraries (7) and other libraries (4).

Results

Participants were asked to indicate the reason(s) that their institution does not participate in Loansome Doc (respondents could select more than one reason). See the chart below for the responses.

Reasons listed in the "Other" category fell into two common themes. Licensing agreements are a barrier for seven respondents and six don't see a need to provide those services because they perceive that the unaffiliated have the access they need.

Respondents were asked to, "Please share what would help you decide to start your institution's participation as a Loansome Doc provider to unaffiliated health professionals." Most respondents said there wasn't anything that would help them decide to start services. Other notable responses were that they needed more information about Loansome Doc or that they hadn't had document requests from unaffiliated health professionals or that they needed more staffing in their libraries. Respondents were also asked to share any other thoughts or comments about providing the service. Licensing restrictions on serving the unaffiliated was mentioned most. One library stated that the scope of their collection (consumer health) does not attract unaffiliated health professionals.

Only one respondent indicated that they would like to start Loansome Doc service to unaffiliated health professionals.

Discussion and Conclusions

Clearly, there are various reasons Network members have for not providing Loansome Doc services to unaffiliated health professionals. We believe we should continue efforts to educate Network members so they can improve their understanding of how Loansome Doc works, along with the responsibilities of

Loansome Doc providers. It may be that the group that does not understand how the process works may find that a little more education will convince them to to be providers. Several respondents do not see any need to provide the service but would if there were inquiries from unaffiliated health professionals. The problem may be finding the unaffiliated in their communities, reaching out to them and offering this service. The RML can ask members to promote the program and its benefits for the health professionals in their institutions. Those health professionals, armed with that knowledge, could pass the word about Loansome Doc to the unaffiliated health professionals with whom they're acquainted. The RML produces free Loansome Doc promotional brochures that libraries can easily download and print for patrons and distribute them to departments in their institutions. It may be a reality that many libraries don't have the time or staffing to pursue the unaffiliated. But performing that service may benefit the library's good will in their institution later. Meanwhile, the RML is reaching out to unaffiliated health professionals at professional conferences to enroll them as Loansome Doc clients.

Finally, there are some insurmountable barriers in place. The first barrier is the licensing restrictions of many respondents. Some have barriers of lack of staffing or resources to provide the service. Others have institutional policies to prevent them from supplying ILLs to outsiders. It does not seem likely that these groups will be participating as Loansome Doc providers to unaffiliated health professionals.

If you'd like more information on Loansome Doc or becoming a Loansome Doc provider, please contact me or your state coordinator. We can provide a consultation to answer questions and/or find solutions to problems you may have. Learn more about Loansome Doc for Librarians here .

-Jim Honour, Wyoming/Member Services Coordinator

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Mobile App Experience Project – 2nd Quarter Reviews

This year is flying by quickly and the Quarter 2 mobile app reviews are now available. Our 19 participants reviewed a total of 20 apps this quarter, ranging from productivity to diagnosis to meditation and everything in between. To learn the context of this project plus see previous app reviews, you can click on the links below.

While our reviews ask for more detailed information, the summaries below will help you learn basic information (app name, operating system, sponsor/publisher/creator, cost, web links, etc.), who the primary user is (professional/layperson), creator's credentials, bias, currency of information, and ease of app's navigation/access, etc. We also asked the evaluators to rate the app from excellent all the way down to "not worth your time or money."

Take a look at the summary of the app evaluations below and perhaps it will help you select an app that is right for you or your clients. The full app reviews will be published on our web site in the future. Please note that the app evaluations submitted by the project participants are theirs alone and are not the evaluation of the National Network of Libraries of Medicine.

-Alicia Lillich, Kansas/Technology Coordinator

Previous Reviews:

Rank – Excellent:

BioStat Decision Tool | iOS, Android | $1.99
USER TYPE: Researchers, Anyone appraising literature
ABOUT: This is a maths-free decision making tool for statistical data analysis particularly aimed at biologists that have small n-number data sets, such as immunology.
APP CRED: Dr Siouxsie Wiles and Anne Bishop (PhD biologists)
CONTENT CRED: I'm familiar with basic stats. To my eye, the information is correct, but it doesn't explicitly cite sources, which is unfortunate. There's also no indication of peer review.
NOTES: Being able to make a quick decision on your smart phone is convenient.

Clear | iOS, Mac | $4.99 | Content Current: 2015
USER TYPE: Anyone, it's a task manager list type app.
ABOUT: Tasks, Reminders, and To-Do lists.
APP CRED: Realmac Software
CONTENT CRED: N/A
NOTES: I put this app on my phone because I don't carry around or use my Surface all the time, plus it's not available for the Surface, thinking it would help me stay on task and organized. I really like the ease of use of this app. It's clear and simple but alas, I don't use my phone at work to keep up with work and I tended to ignore the reminders. I'm just not so attached to my mobile device that I think list making on it is useful for me at this time.

Family Practice Notebook | iOS, Android, desktop and mobile browser | $1.99/month or $19.99/year | Content Current: 2015
USER TYPE: Heath Professionals
ABOUT: It is a point-of-care medical reference for primary care and emergency clinicians.
APP CRED: Scott Moses, MD, a board-certified Family Physician.
CONTENT CRED: Cited sources are familiar to the targeted audience for this information.
NOTES: The information is extremely well cross-referenced. For example you could start in Endocrinology and move to Geriatric Medicine or start in Geriatric Medicine and select the sub of Endocrinology. I was very happy to see that you could select "LATEST UPDATES" on the menu and see a list of the currently updated information for the months the update occurred and go directly to that update. For the last 3 months there were 31 topic areas updated in October 2015, 34 in September, and 26 in August. The search function is "zippy", bringing up relevant topics as you type. It is a large (6306 interlinked topic pages divided into a tree of 31 specialty books and 718 chapters) information database that is very easy to access on the go and worth the subscription price for continuous updating.

Patient Education Bundle (Spine) | iOS, Mac | $44.99 | Content Current: 2014
USER TYPE: Health Professionals, Students
ABOUT: Selection of 3D educational apps which includes hundreds of cutting edge animations describing condidtions, surgery, treatments, etc.
APP CRED: Physicans who provide content to animators who draw.
CONTENT CRED: Unkown
NOTES: Wonderful application that should be used by all medical students, physical therapy students, physicians, nurses, other ancillary therapists. Can pull up a condition and print off patient education materials for patients, can draw on the app to explain procedures.

SplashID | iOS, Android, Chrome extension, Mac, Windows and WindowsPhone | $1.99/mo or $19.99/year subscription | Content Current: 2015
USER TYPE: Laypersons
ABOUT: Password manager that can sync across the cloud and all of your devices.
APP CRED: SplashData
CONTENT CRED: N/A
NOTES: You can sort your entries by various fields – very handy! The app has a password generator, but the passwords are so secure that I would never remember them – I'd be forced to track them on this app (which is the purpose!) You can sync across multiple devices – home PC, work laptop, mobile device – very handy! Also, SplashID has never had a cloud or server breach or hack. It's very user-friendly, and there is a free version for various devices, but that version cannot be synced among devices. All you need to remember is the one master password to open this app and all of its securely encrypted data.

Stop Breathe & Think | iOS, Android, Firefox, Chrome | Free (but offers in-app purchases) | Content Current: Unknown
USER TYPE: Anyone
ABOUT: A friendly, simple tool to guide people of all ages and backgrounds through meditations for mindfulness and compassion.
APP CRED: The non-profit organization, Tools for Peace. Their mission is to inspire people of all ages to develop kindness and compassion in everyday life.

CONTENT CRED: The creativity and practicality of the app are evident when you use it. All features work very well, without any glitches.

NOTES: You can use the app without signing up to get a feel for it. It is inviting because its graphics and colors are welcoming. My physical therapist shared this with me and I have since shared it with Facebook friends and others. It elicits a positive response. In the healthcare setting, this is a wonderful tool to use with people who have a chronic illness or who are anxious.

Rank – Very Good:

ArchieMD 3D Health Essentials | iOS, Android | $29.99 | Content Current: 2014
USER TYPE: Health Professionals, Students
ABOUT: According to their own description, it states, "ArchieMD's 3D guide to the most common health conditions, procedures and anatomy. Visualize concepts with 100 stunning 3D animations and ArchieMD's real-time 3D interactive Human Body. Perfect for point-of-care patient education and a must-have health manual for the general consumer, students and anyone who wants the best in health visuals."
APP CRED: Robert Levine, M.D. is responsible for reviewing the content of the app, but the information is pulled together by a team of developers. Dr. Levine currently serves as the principal investigator for both National Institute of Health and National Science Foundation grants designed to create educational innovations and study their effectiveness.
CONTENT CRED: The anatomy information offered is very clear and accurate. It is straightforward and easy to maneuver around the interactive 3D human body. You can isolate anatomy parts so you can better understand their placement within the body.
NOTES: The app is organized into different sections for their videos, such as cancer, neurology, endocrine, skin, pulmonary, and urology. Each category includes a video that explains conditions and surgeries or procedures within the category. For example, within the digestive category, there is a video that explains the overall process of digestion, then a video on appendicitis, gastric ulcers, and hemorrhoids. LThey also include videos on procedures such as an appendectomy and colonoscopy. Most of the videos run under 1 ½ minutes and display things using computer imaging. They are easy to understand for the average layperson. I would suggest this app for students primarily for the interactive human body. It would be a better teaching tool if information about the particular anatomy part was included when it was selected so you could learn more about it. It is great as a visualization tool for students and for the general public so they can understand where certain body parts are and to help physicians explain to their patients what they may be doing as part of a procedure or surgery.

Buddhify | iOS, Android | $4.99 | Content Current: 2015
USER TYPE: Laypersons, Medical Students, Librarians
ABOUT: Mindfulness & meditation for modern life: 80+ meditations for all parts of your day. Made by experts in modern mindfulness. Stats & graphs to track your progress. Solo timer when you want to go it alone. Multiple voices to guide you along.
APP CRED: Mindfulness Everywhere and Rohan Gunatillake
CONTENT CRED: While this app promotes meditation as written by the author, it does not "influence" or present views that are outside of the guides for mindful meditation.
NOTES: Very easy to get started using this app. Has guided medication tracks and you can select by activity, time of day, etc. I really like the interface and the voices. I would recommend this to medical students as a way to relax.

Diagnosaurus DDX | iOS, Android | One year subscription: $4.99 | Content Current: 2015
USER TYPE: Health Professionals, Students
ABOUT: The version I reviewed is Diagnosaurus 4.0, copyright 2015, by Unbound Medicine. This app assists professionals and students to reach "accurate diagnoses" with over 1000 differential diagnoses.
APP CRED: Unbound Medicine is an established company that partners with most of the major medical publishers to move their information to a mobile platform http://www.unboundmedicine.com/partners.
CONTENT CRED: Author is listed as Roni F. Zeiger, MD. From the copyright information within the app: "Some of the material in this work has been derived from Papadakis MA, McPhee SJ (editors): CURRENT Consult Medicine 2014. McGraw-Hill Education, 2014." Unsure about how much information is derived from CURRENT Consult Medicine, though

that is an authoritative work.

NOTES: This DDx resource allows searching four ways: keyword, organ system, symptoms, and by diseases. For students, Diagnosaurus DDx may be the right choice, as it offers the additional search by diseases. For health professionals, Diagnosaurus DDx offers the newest copyright date, implying that the information is the freshest (although could still be lacking some topics), and the yearly subscription rate is not onerous. The $4.99 fee is for a one-year subscription and users have to pay for updates each year. The publisher doesn't delete the content already purchased, however.

Differential Diagnosis Pocket (DDX Pocket) | iOS, Android | $9.99 | Content Current: 2012

USER TYPE: Health Professionals, Students

ABOUT: This app, created by Borm Bruckmeier Publishing LLC, is designed to be used by health professionals or health professional students who are 'formulating a thorough list of differential diagnosis. [sic]' According to Merriam-Webster, differential diagnosis is defined as: the distinguishing of a disease or condition from others presenting with similar signs and symptoms. (http://www.merriam-webster.com/dictionary /differential%20diagnosis). A health professions student would use this app when presented with a patient (real or simulated). App users can search for the patient's symptoms to identify the underlying disease process.

APP CRED: App is developed by a German-based medical literature publishing company that has been around since 1992, best known for publishing pocket reference books used by health professions and health professions students. App lists two MD authors, Christian Sailer and Susanne Wasner.

CONTENT CRED: The app has imprint information, similar to what would be in a print reference book. Copyright is 2012 – that matches the latest update in the App store (December 2012). The prime source appears to be the print version of the DDX Pocket manual. In the disclaimer listed in the imprint, it states that the item should only be used as "a general guide and not as the ultimate source of information about the subject matter." It also says: "If you do not wish to be bound by the foregoing cautions and conditions, you may return this product to the publisher for a full refund." Makes me wonder if anyone ever has returned the mobile version. There are links to the other apps sold by the publisher, but the links are in a specific area that a user has to visit on purpose. The information doesn't show up in the reference material. Topic pages are concise, easy to read, and appear to be complete.

NOTES: The app has a graphical one-screen user guide that explains the button functions. Users can search a keyword, or use an alphabetical table of contents, or use the systems table of contents (where symptoms are arranged by laboratory values and body systems). The information would be useful for review, as well as direct patient care. Each section offers a place to write and save notes, and back them up on iCloud (for iOS – I did not test this on an Android device to see what backup is offered to them). Users can bookmark a symptom by marking it with a star. Bookmarks and notes can also be accessed directly through the homepage of the app. The publisher offers news and links to their other apps under the publisher's button on the home screen. I attempted to locate symptoms of Ebola to check for currency of information, but didn't locate a mention of that disease (probably due more to my own search limitations). I could not tell if users will be charged for new versions of this resource. For example, when there is a newer edition of the DDX Pocket volume released, will the DDX Pocket app be updated for current users, or will they have to purchase a newer copy?

MD on Call | iOS, Android | $4.99 | Content Current: 2012

USER TYPE: Medical Students, Interns, Residents

ABOUT: MD on Call is designed to provide quick and concise information about patient care questions that commonly arise during night shifts or other times when senior medical staff may not be present. The app includes a list of common issues (e.g., bleeding, chest pain), ECG values, lab values, info about placing lines and tubes, and a medical term glossary.

APP CRED: Marc-Emile Plourde and Benoit Essiambre. Plourde is a MD oncologist at Ottawa Hospital (Ottawa, Ontario). Essiambre appears to be the app designer with a M.A. in natural lanugage processing and machine learning.

CONTENT CRED: An older version of the app was reviewed by iMedicalapps.com in 2009 (http://www.imedicalapps.com/2009/10/md-on-call-app-hopes-to-make-your-call-nights-less-painful-review/). The app does include a reference list, but it is in a separate section in the app and there doesn't appear to be references for everything included in

the app (notably lab values). The app's authority would be a bit stronger if the references were tied more directly to the content (i.e. on the same page as the entries) and if there were references included for all sections.

NOTES: The app is fairly easy to navigate, but some users might be frustrated or disappointed with the amount of content. Searches within the app need to be fairly basic–it's probably easier to browse the topic list than search for a specific topic. Librarians who work in the clinical realm or will soon embark on going on clinical rounds may find this app to be useful. It is not as content-rich as something like UpToDate, but it does provide basic information that may make it easier to understand what physicians and residents are discussing during rounds.

PubMed On Tap | iOS | $2.99 | Content Current: 2015
USER TYPE: Health Professionals
ABOUT: PubMed On Tap is an application for your iPhone, iPod Touch, and iPad that lets you search PubMed and PubMed Central while on the go. Find, display, and import reference information and pdfs of the full article (if you have access privileges). You can search your personal reference library, organize your references in groups (static and smart), and email references from your device to yourself or others in a form suitable for reading or importing into desktop reference management applications. Many features are optimized for reference retrieval and management (advanced boolean searches, search for full text or free full text, recall recent searches, etc.).
APP CRED: Developer is listed as "References On Tap" and seller is listed as Serhiy Duminskyy.
CONTENT CRED: The app is just a search platform for PubMed, and therefore does not provide any original content which could be subject to bias, authority, or accuracy concerns. Currently on version 2.8.1, last updated on July 30, 2015.
NOTES: You can add your library's EZ Proxy link to tap into your journal subscriptions and access full text articles via the app. I have found this app to be much easier to use than the PubMed for Handhelds app produced by NLM. I use it frequently on my iPad while on inpatient care rounds with physicians. I can access the full text of an article with one click (if my library subscribes to the journal) then email the abstract or pdf to myself. I have not used this feature, but the app also allows you to save articles, create article groups, and add personal notes and ratings to articles.

RH Medical Labs | iOS | $2.99 | Content Current: 2014
USER TYPE: Health Professionals, Anyone who deals with lab results
ABOUT: RH Medical Labs integrates the latest sophisticated technologies into an elegant, intuitive, and highly customizable graphical interface that presents both pediatric and adult lab info in US or SI units along with monographs with clinical significance, pearls, and other essential information.
APP CRED: ResidentHelper.com
CONTENT CRED: computer and medical professionals.

SoundNote | iOS, Can transfer documents to a Mac or PC | $4.99 | Content Current: 2013
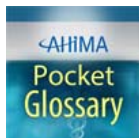USER TYPE: Anyone
ABOUT: SoundNote is a way to take notes in meetings, lectures and interviews. It tracks what you type and draw while recording audio, so you'll never worry about missing an important detail. During playback, just tap a word and SoundNote will jump tight to the proper time in the audio.
APP CRED: David Estes – Apple software developer
CONTENT CRED: N/A
NOTES: One drawback is that, while the app can send a document and audio file to email or Dropbox, it can only send a PDF. It is easy enough to cut and paste into a word document, but it is an extra step that inhibits the efficiency of this app. On the upside, sound quality is good and the support web site claims that one hour of high quality audio is only 25MB.

Rank – Fairly Good:

AHIMA Pocket Glossary | iOS, Android | $7.99 | Content Current: 2014
USER TYPE: Health Information Management Professionals or Students (Possibly others working in healthcare)
ABOUT: This app is meant to provide quick and easy access to the definitions of more than 3,800 Health Information Management (HIM) terms.
APP CRED: American Health Information Management Association (AHIMA)
CONTENT CRED: The list of cited sources is extensive, including numerous federal agencies and federal law. Many, but not all, of the definitions for terms provide in-text citations linking to the references list.
NOTES: Regarding the app's currency, it is mostly up to date, I believe, but some sections (particularly those relating to ICD-10) could use a refresh. Some of ICD-10 related definitions refer to the transition from ICD-9 occurring on October 1, 2014 (rather than 2015). The app was published in January 2014, so this material was out of date before the app was even published. Most of the terms would likely be useful to the target audience, but some seem too elementary to be of use (e.g. blogs). Other terms seem overly simple, but the definition provided is actually HIM specific and thus may be useful (e.g. Birth certificate = "Paperwork that must be filed for every live birth regardless of where it occurred).

GoodReader | iOS | $4.99 | Content Current: 2015
USER TYPE: Anyone
ABOUT: GoodReader is the super-robust PDF reader app that Mashable describes as "a Swiss Army knife of awesome!" With GoodReader on your iPad or iPhone, you can read virtually anything, anywhere: documents, books, movies, maps,and pictures.
APP CRED: Good.iWare
CONTENT CRED: N/A
NOTES: The app was originally created in 2009 and has been updated several times since. The app is fairly well organized and has a lot of functionality. Also links to iCloud to make adding pdfs and other document types easy.

mySymptoms | iOSAndroid | $2.99 | Content Current: Unknown
USER TYPE: Laypersons
ABOUT: mySymptoms enables you to conveniently record what you eat and drink along with any symptoms you experience. This information can then be analyzed in an attempt to identify any correlations (possible links) between what you ate and drank and the symptoms you experienced.
APP CRED: SkyGazer Labs
CONTENT CRED: The blog and social media accounts for the app link to some not particularly credible popular web sites. Other parts of the SkyGazer Labs site link to the nonprofit Allergy UK. They don't refer to any sources intended for health care professionals – which is understandable given the intended audience – but they also fail to reference reliable consumer health sources like MedlinePlus or Health Canada.
NOTES: This is a well-organized symptom tracking app, which makes it easy to record symptoms and view trends.

Outliner | iOS | $4.99 | Content Current: 2014
USER TYPE: Professionals
ABOUT: CarbonFin Outliner allows you to organize your thoughts, tasks, and projects. Easily create a todo list for today, or track an entire project anywhere you are. Share your outlines, edit them online, and collaborate with other Outliner users.
APP CRED: CarbonFin
CONTENT CRED: N/A
NOTES: I am in the early stages of a special collections/archive project. This is a very large project with numerous steps and multiple people involved. I was looking for a tool that would allow me to organize and share the plan and progress. It also has a desktop component that would be helpful. But after starting some outlines and 'to dos' I'm not sure there is much advantage over a more old school method, such as paper and just emailing lists to the others involved.

RN Cheat Sheet | iOS | $0.99 | Content Current: 2014
USER TYPE: Nurses, Nursing Students
ABOUT: "If you're a nurse, student nurse, nursing assistant, medical assistant, or someone thinking about nursing school then this app is a must download."
APP CRED: Terri-Ann Kelly

CONTENT CRED: The most troubling part of the app is that there are no references for any of the medical information. Again, a very basic medical reference app but I would be worried the content is outdated or inaccurate. The app developer's other apps are not health related but rather entertainment apps. No credentials listed.

NOTES: I think it could be greatly improved if they added more images of procedures and citations of where the information is from. It is an inexpensive app, if the information could be cited and images added, I think it would be useful for brand new nursing students.

Rank – Not Good:

Nursing History | iOS | $0.99 | Content Current: 2013

USER TYPE: Nurses; Nursing Students; Archivists; Those interested in the History of Nursing.

ABOUT: "Nursing History is the most information packed app regarding nursing history, facts and more."

APP CRED: David Shelechi

CONTENT CRED: At the most, a paragraph or two are provided for each time period. There are no references cited for the small amount of information provided. There are no links or listed resources for additional information.

NOTES: Swipe the picture to review your desired time frame. No headings are provided, so you have to look for visual cues in the picture to guess the time period. Print was small, with no ability to enlarge it. Inexpensive, but still not worth the $0.99. I was hoping this would be an inexpensive resource for my nursing students, but there is not enough content to make it of any value. Nor are there references to further readings which might be of value. I was very disappointed in this app.

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