

## Vol 15 No 3 – January 2017

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### NN/LM Pac-Man vs Ghosts:

#### Librarians Overcome Barriers

- Fact. There's no end of challenges we as health sciences librarians face.
- Fact. There's an abundance of expertise among our colleagues.
- Fact. This expertise can help with our own particular challenges.
- Fact. Gamification can be fun!

At the recent Joint Meeting on Monday October 24, 2016, the MidContinental and Greater Midwest Regional Medical Libraries of the National Network of Libraries of Medicine took over the lunch time session. We used crowd sourcing to identify successful strategies that attendees used to overcome Pac-Man ghost barriers identified by the RML librarians.

There were fourteen ghost barriers identified by RML staff. Attendees to the Joint Meeting shared strategies that had worked for them in overcoming these challenging ghost barriers. Voting then ensued for popularity and help-me. Popularity votes were for strategies that would work in member institutions. Help-me! Votes were for strategies librarians would like to try but would need assistance with.

With this one activity we tapped into the expertise of the Midcontinental and Midwest Chapter members. We also identified areas where RML assistance would be appreciated. A summary of the most popular and most help-me! strategies are in the table below. For the complete list of strategies see: [https://nmlm.gov/mcr/members/Librarians\\_Overcome\\_Barriers](https://nmlm.gov/mcr/members/Librarians_Overcome_Barriers)

**Most Popular** – These strategies were voted most likely to work in other institutions. If you're facing the identified ghost barrier, try implementing your colleague's strategy and see if it works for you. Some of the strategies are linked to helpful NN/LM resources.

Ghost Barrier	Strategy
1. Because that's how we've always done it...	Sharing info about what other libraries are doing -> show other ways to do it
2. IT challenges	Being willing to fail
3. Lack of planning	<a href="#">Goal setting with time built in for planning</a>
4. Making sense out of data	<a href="#">Using visualization tools</a>
5. Justification for new personnel	Have workload statements for all staff, along with a gap analysis of services not fully realized
6. Challenges to joining forces	Develop projects around a shared need/opportunity and be flexible
7. Poor communications	Hold scheduled meetings to discuss problems, new developments, information from conferences and workshop attendance, etc.
8. Educating administration about today's libraries	<a href="#">Tell stories about how the library has benefitted patrons, don't just give usage statistics</a>
9. Changing space needs	Collaborate with space stakeholders to plan space changes that are needed
10. Insufficient outreach	Leave your office or building and mingle with those you are supposed to serve
11. Outdated skills	Attend conferences and webinars [ <a href="#">Breezing Along with the RML</a> 3rd Wed at 10am MT, 11am CT. <a href="#">Discover NLM and More!</a> 4th Wed (bimonthly) 1pm MT, 2pm CT]
12. Personal motivation	Set small achievable goals
13. Identifying funding sources	<a href="#">Look at your RML web site</a>
14. Changing user needs	Weeded and moved physical media collection, creating more study room space for students as they wanted/needed

**Most Help-Me's!** These strategies received the most votes for needing assistance to carry out. Some of the strategies are linked to helpful NN/LM resources.

Ghost Barrier	Strategy
1. Because that's how we've always done it...	<a href="#">Analyze cost/benefit/time</a>
2. IT challenges	<a href="#">Talk to your IT dept.</a> & learn their methodology. Learn their lingo & you'll be able to better explain/communicate your library's IT needs
3. Lack of planning	Make A Plan!
4. Making sense out of data	Training in R and Python
5. Justification for new personnel	<a href="#">Submit user stories on how the position makes a difference</a>
6. Challenges to joining forces	Establish a relationship. We created a demo of material we want to add to a course.
7. Poor communications	Internal to library – daily emails with meetings for that day, announcements, items of interest, etc.
8. Educating administration about today's libraries	<a href="#">Ongoing impact survey based on Rochester study</a> , tying impacts to specific strategic plan goals.
9. Changing space needs	Becoming more mobile to be more accessible
10. Insufficient Outreach	Partner with departments and colleges in their community outreach activities (or ask other to join library's outreach plans)
11. Personal motivation	Use Google Drive Sheets for personal project management dashboard
12. Identifying funding Sources	Think outside the box. Identify unconventional funding sources.
13. Changing user needs	Assess changing needs

– Claire Hamasu, Associate Director



## Updates for Monthly Webinars

The NN/LM MidContinental Region looks forward to continuing to offer live and recorded webinar sessions to support your educational needs. We have a few updates we want you to be aware of for future sessions.

### Registration

We are now asking attendees to register in advance for our live webinars. This will make it easier for us to send you reminder emails about the specific sessions that interest you, and it also enables us to more efficiently collect demographic data that we need to report. Updates to the National Network of Libraries of Medicine (NN/LM) web site now make it easier for you to register for sessions.

You will need to create an account with NN/LM to register for webinars and classes. You can do this by visiting our training schedule page: <https://nnlm.gov/mcr/training/schedule>. On the right-hand side of the page you will see an option to login or create a new account. (Please note: if you have participated in NN/LM classes in the past via Moodle, you do not need a new account. Just request a new password).

After you log in, find the title from the list of sessions on the training schedule, and click on **Register**. That's it – easy!

01/18/2017	<a href="#">Breezing Along with the RML</a>	Online	<a href="#">MCR</a>	<a href="#">Register</a>
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You will receive a message on the screen confirming your registration. You will also receive reminder emails with further instructions for joining the webinar or class.

### Webinar Recordings on YouTube

The recordings of our monthly webinars are now archived on the NN/LM YouTube channel. We have a playlist for Breezing Along with the RML: <https://goo.gl/1yhdS3>, and a playlist for Discover NLM Resources and More: <https://goo.gl/PGnKaE>. You can subscribe to this channel and receive updates on new videos from the MCR and other NN/LM regions.

### New Schedules

We will continue to offer “Breezing Along with the RML” every month on the third Wednesday. This webinar will feature presentations related to health sciences and effective librarianship practices. “Discover National Library of Medicine Resources and More” is now offered bi-monthly on the 4<sup>th</sup> Wednesday. This webinar will feature specific resources from the National Library of Medicine. We invite you to join in a new national webinar series, “NN/LM Resource Picks,” that is produced through a cross-regional collaboration. This series will also be offered bi-monthly and will feature resources and services of the National Library of Medicine. Our “Discover” sessions will alternate months with “Resource Picks.”

If you have any questions or ideas for future webinars, or would like to volunteer as a guest speaker, please contact Christian Minter, Education Coordinator, [christian.minter@unmc.edu](mailto:christian.minter@unmc.edu) or Annette Parde-Maass, Education Coordinator, [annetteparde-maass@creighton.edu](mailto:annetteparde-maass@creighton.edu).

– Christian Minter, Nebraska/Education Coordinator



## MCR Voices – NN/LM MCR Launches New Podcast Initiative



Watch for “**MCR Voices**” to appear by the end of January 2017. “MCR Voices” will be a series of short podcasts designed to inform and educate our



Network members on excellent practices throughout our region. These podcasts will be short, around 5 minutes each, and will be released on a bi-weekly schedule through the 2017 winter and into spring.

For our first series, we will be interviewing our Partner Library directors on the topic of envisioning a future for their library and how to prepare for that future. All interviews will be conducted by our fearless leader, Claire Hamasu. We hope you will join us as we learn about effective practices from our members. We ask that our members “like” or press the thumbs up icon on each podcast if they learn a new or useful practice. After our first series is complete, we hope to interview additional members from academic health sciences, hospital, community colleges, K-12, and public libraries. We ask you to think about the interesting things you do in your everyday work: the hopeful new, the valuable old, the tried and true strategies that you can always count on. What can you share that will help your colleagues?

Podcasts are an audio-only technology, broadcast through the Internet, which usually contain radio-style discussions. They have seen an upsurge in popularity over the last few years. A June 2016 Pew Research Center survey (<http://www.journalism.org/2016/06/15/podcasting-fact-sheet/>) found that 21% of Americans ages 12 and older have listened to a podcast in the last month. While many podcasts are distributed via iTunes or other venues as audio files, we will be releasing ours through a YouTube playlist for ease of access.

Look to the RML news for an announcement when our first podcast goes live this January.

-Alicia Lillich, Kansas/Technology Coordinator

-Barb Jones, Missouri/Library Engagement Coordinator



## Whooo Says...



*Dear Whooo,*

*I am a hospital librarian, and have only been in this position for a short time. I'm trying to familiarize myself with healthcare and all of the multiple topics and challenges so that I can serve my constituency better. I keep hearing about patient safety in the hospital setting and am starting to understand how much effort is devoted to that issue. I also hear criticisms about safety rates in the hospital environment being so different from the aviation industry. Can you help me understand this?*

*Interested Wonderer*

Dear Interested,

I'm so glad to hear from you. You have asked a question that is of great importance to me and probably one of the most significant in healthcare today. It is also a huge and complex question that would take volumes to answer so I will give you a few basic thoughts and some authors to look for in your readings on the subject.

To start, aviation safety in the United States encompasses the “theory, investigation, and [categorization of flight failures](#), and the prevention of such failures through regulation, education, and training.”<sup>1</sup> Safety has been a concern of the aviation industry since the 1920's and the passage of the Air Commerce Act requiring licensure and examination for pilots and aircraft, the proper investigation of accidents, and the establishment of regulations and safety aids under the Aeronautics Branch of the US Department of Commerce. Since that time, additional concern has emerged and further regulation developed. Safety rates have increased due to improved aircraft design, engineering and maintenance, evolution of safety aids and safety protocols and procedures. Now air travel is reported to be the safest form of travel in terms of distance moved.

Hazards affecting the safety of air travel include such things as foreign debris, misleading and/or lack of information, lightning, ice and snow, engine failure, structural failure, fire, bird strike and human factors (pilot fatigue, pilot intoxication, controlled flight into terrain or electromagnetic interference – certain devices are known to interfere with aircraft operation). There is mandatory accident reporting and investigation carried out by the National Transportation Safety Board, and reports and accompanying information is filed with the Aviation Safety Reporting System.

The comparison to patient safety is really quite interesting. Though healers and medical personnel have been aware of and concerned with the potential for injuries caused by well-intentioned actions since the days of Hippocrates, patient safety is a relatively new discipline. It arose in the 1990's after work in anesthetic accidents in the US, Britain and Australia raised the awareness of the number of patients who die or suffer brain damage from these accidents. By 1999, the Institute of Medicine had released the seminal report "To Err is Human: Building a Safer Health System." This report called for establishment of a Center for Patient Safety, expanded reporting of adverse events, development of safety programs in health care organizations, and attention by regulators, health care purchasers, and professional societies. The majority of media attention, however, focused on the staggering statistics: from 44,000 to 98,000 preventable deaths annually due to medical error in hospitals, and 7,000 preventable deaths related to medication errors alone.<sup>2</sup> Similar statistics were reported on other countries as well, and the World Health Organization has named patient safety an endemic concern, recognizing that healthcare errors impact 1 in every 10 patients around the world.

Major issues at the heart of patient safety are effective communication, teamwork, a culture of safety, and reporting of adverse events. Each of these issues is complex within itself, and the interaction between them plays out differently within units of the larger organization as well as in the organization as a whole. The goal of course is for these four factors to work effectively and form the basis of a well-functioning safety program.

On top of the four issues mentioned above, the major causes of healthcare error are:

- Human Factors – includes variations in training and experience, fatigue, depression, burnout, diverse patients, time pressures, increased working hours of nurses, and a failure to acknowledge the prevalence and seriousness of medical errors
- Medical complexity – includes complicated technologies, powerful drugs, intensive care, and prolonged hospital stays
- System failures – includes poor communication and unclear lines of authority, patient to nurse staffing ratios (higher ratio increases problems), fragmented reporting systems affecting care coordination with patient handoffs, drug names that look or sound alike, reliance on automated systems to prevent errors, cost cutting measures by hospitals in response to reimbursement cutbacks, environment and design factors, infrastructure failures, etc.

In light of all this, it is important to remember that not all adverse events are caused by incompetence, error or high risk procedures. Errors occur at all levels of the health care environment, and many are caused by normal human slips, not poor judgment or recklessness. Also, just because there is an adverse event, the cause is not necessarily from error, but possibly from complications or side effects of the procedure or treatment.

Among the various efforts to minimize adverse events are the increasing use of technology (such as the electronic health record, computerized provider order entry – CPOE, standardized bar code systems for dispensing medications, etc.), evidence based medicine, quality and safety initiatives, health literacy programs, and pay for performance. Currently, programs for reporting adverse events are not mandatory in the US, though a federal reporting database was established in 2005 with the Patient Safety and Quality Improvement Act. Hospital reports of serious patient harm are still voluntary, confidential, and cannot be used in liability cases.

This is a very brief description of both aviation safety and patient safety, Interested. I encourage you to follow these issues carefully and find ways you can contribute to the patient safety effort. It is an effort that must not exist in the silos of individual departments but should include everyone involved in healthcare. We all have a role to play and the responsibility to perform our functions to the best of our abilities, looking for the lapses/incongruities in the system and the potential for error within our individual spheres such as the library. In healthcare, we all exist to take care of the patient in the bed.

Sincerely,

*Whoaa*

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<sup>1</sup> Aviation Safety. Wikipedia. [https://en.wikipedia.org/wiki/Aviation\\_safety](https://en.wikipedia.org/wiki/Aviation_safety) Accessed December 23, 2016.

<sup>2</sup> Patient Safety. Wikipedia. [https://en.wikipedia.org/wiki/Patient\\_safety](https://en.wikipedia.org/wiki/Patient_safety) Accessed January 3, 2017.

***The following authors and journals are good places to start your reading on the topic of patient safety.***

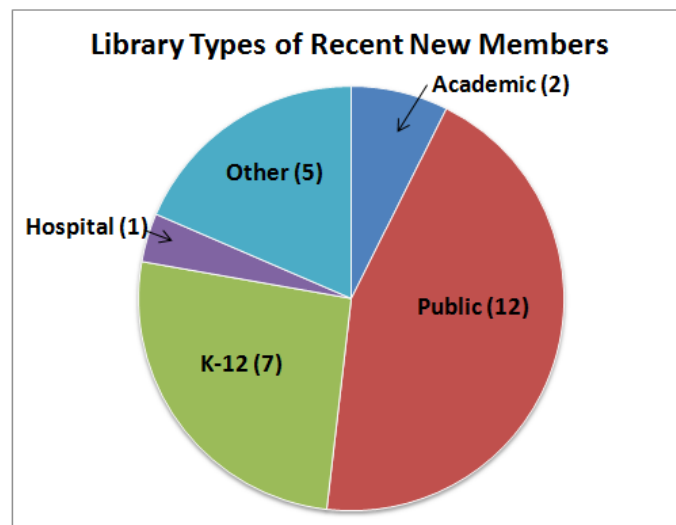
Don Berwick, MD  
 Sidney Dekker  
 Atul Gawande, MD  
 Mark Graber, MD  
 Lucian Leape, MD  
 Peter Pronovost, MD  
 Gordon Schiff, MD  
 Hardeep Singh, MD  
 Robert Wachter, MD  
 Albert Wu, MD

AHRO PSNet – <https://psnet.ahrq.gov>  
 Journal of Patient Safety  
 Joint Commission Journal on Quality and Patient Safety  
 Diagnosis



## Welcome to Our Newest NN/LM MCR Members!

We're happy to report a grand total of 27 institutions have joined as members in the MidContinental Region during the last year and a half. We thought it was time to acknowledge these newest members. New members included 12 public libraries, seven K-12 schools, two academic libraries, and one hospital library. Five new members fall in the "other" category. These institutions included two public health departments, two health education centers, and one educational service unit. One of the academic institutions also began participation in DOCLINE when they joined the NN/LM.



**New Members in Year Five (2015-2016) of the 2011-2016 Contract**

Institution	Library Type	Location
<b>Baker University</b>	Academic	Baldwin City, Kansas
<b>Carbon County Library System</b>	Public	Rawlins, Wyoming
<b>Farnsworth Elementary School Library</b>	K-12	West Valley City, Utah
<b>Fremont County Library System - Dubois Library</b>	Public	Dubois, Wyoming
<b>Fremont County Library System - Lander Branch</b>	Public	Lander, Wyoming
<b>Fremont County Library System - Riverton Branch</b>	Public	Riverton, Wyoming

<b>Riverton Branch</b>		
<b>G. L. Wach Medical Library</b>	Hospital	Fort Leonard Wood, Missouri
<b>Horizonte Instruction and Training Center</b>	K-12	Salt Lake City, Utah
<b>Jackson Hole High School</b>	K-12	Jackson, Wyoming
<b>May Branch, Arapahoe Library</b>	Public	Denver, Colorado
<b>Monticello Academy</b>	K-12	West Valley City, Utah
<b>Natrona County Public Library</b>	Public	Casper, Wyoming
<b>Sweetwater County Library</b>	Public	Green River, Wyoming
<b>Three Rivers Library System</b>	Public	Omaha, Nebraska

### New Members During First Six Months of the Cooperative Agreement (2016-2021)

Institution	Library Type	Location
<b>Burlingame Community Library</b>	Public	Burlingame, Kansas
<b>Dodge City High School</b>	K-12	Dodge City, Kansas
<b>Educational Service Unit 16</b>	Other	Ogallala, Nebraska
<b>Marysville Public Library</b>	Public	Marysville, Kansas
<b>Ogallala High School</b>	K-12	Ogallala, Nebraska
<b>Omaha Area Health Education Center</b>	Other	Omaha, Nebraska
<b>Saratoga Elementary School</b>	K-12	Saratoga, Wyoming
<b>Schuyler County Health Department</b>	Other	Lancaster, Missouri
<b>Southwestern Colorado Area Health Education Center</b>	Other	Durango, Colorado
<b>Stevens County Library</b>	Public	Hugoton, Kansas
<b>Tonganoxie Public Library</b>	Public	Tonganoxie, Kansas
<b>Warren County Health Department</b>	Other	Warrenton, Missouri
<b>Wichita Area Technical College</b>	Academic	Wichita, Kansas

Welcome to these new members! We now have a total of 421 NN/LM members in the MidContinental Region.

You may know of an organization in your area that has a library, or information center and provides health information to health professionals or the public. Ask them to consider joining more than 6,500 other members in the Network. All they need to do is to visit this web page <https://nmlm.gov/members> and follow the instructions to [Join the Network](#). Remember that your state coordinators are seeking members and would also love to receive any tips you have about potential members. Talking points for joining the Network:

- Membership is Free! and you choose how /or if you participate
- Qualified members can participate in DOCLINE (the NLM's automated interlibrary loan system.)
- Network members are eligible to apply for [NN/LM funding](#).
- Access to training and other educational activities!
- Opportunities for partnerships with other member libraries
- Free educational and printed materials

If you have any questions, please contact me or your [state coordinator](#).

– Jim Honour, Wyoming/Member Services Coordinator



## Learn the Fundamentals of Data Science

### Discuss With Your Colleagues – Earn MLA CE

The NN/LM MCR is strongly encouraging health sciences librarians to support biomedical big data research at their institutions. One of the barriers preventing this support is a lack of knowledge on what data science researchers do and what librarians can do to support them. A relatively simple strategy is to increase knowledge in this exciting topic area. To support the education of non-data scientists, the National Institutes of Health's [Big Data to Knowledge \(BD2K\)](#) Initiative has been delivering free [weekly virtual lectures](#). The

series started in September 2016 and will run through May 2017. The lectures have been excellent and, despite covering a complex field of study, the enthusiastic presenters have been able to deliver them in a way that is understandable. Each lecture has been archived and is available on the [BD2K web site](#).

To further aid in learning, the NN/LM MCR is offering additional support for Network members to become more informed about how to support big data researchers. The support comes in two ways. The first is for Network members to attend a 30 minute debrief session following the weekly BD2K Fundamental sessions. The second is for members to register for the asynchronous debrief session. In both ways, attendees will have a chance to discuss with peers the roles librarians can play to support researchers at their institution. Discussions will focus on the assets librarians bring to the table, identify skills and resources needed to provide services, and identify the most important stakeholders librarians need to align with to get a seat at the table. Each virtual lecture and debrief session attended will earn participants 2 MLA Continuing Education contact hours.

[To join the live discussions or attend the asynchronous sessions, go to the NN/LM MCR professional development [web page](#) for information. If you have any questions, please contact the instructors [john.bramble@utah.edu](mailto:john.bramble@utah.edu) or [shirley.zhao@utah.edu](mailto:shirley.zhao@utah.edu)]

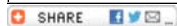
Take a look at some of the past and future topics. Consider viewing them live or at your own pace. Attend the debrief sessions and earn MLA CE.

– John Bramble, Utah/Research Enterprise Coordinator

<b>The BD2K Guide to the Fundamentals of Data Science Series</b>		
<b>9/9/2016 -Introduction to Big Data and the Data Lifecycle</b> Speaker: Mark Musen <i>Stanford University</i> <a href="#">View slides</a>   <a href="#">View lecture abstract &amp; speaker biography</a>	<b>9/16/2016 – Data Indexing and Retrieval</b> Speaker: William Hersh <i>Oregon Health &amp; Science University</i> <a href="#">View slides</a>   <a href="#">View lecture abstract &amp; speaker biography</a>	<b>9/23/2016 – Finding &amp; Accessing Datasets, Indexing &amp; Identifiers</b> Speaker: Lucila Ohno-Machado <i>University of California San Diego</i> <a href="#">View slides</a>   <a href="#">View lecture abstract &amp; speaker biography</a>
<b>9/30/2016 – Data Curation and Version Control</b> Speaker: Pascale Gaudet <i>Swiss Institute of Bioinformatics</i> <a href="#">View slides</a>   <a href="#">View lecture abstract &amp; speaker biography</a>	<b>10/7/2016 – Ontologies</b> Speaker: Michel Dumontier <i>Stanford University</i> <a href="#">View slides</a>   <a href="#">View lecture abstract &amp; speaker biography</a>	<b>10/14/2016 – Provenance</b> Speaker: Zachary Ives <i>University of Pennsylvania</i> <a href="#">View slides</a>   <a href="#">View lecture abstract &amp; speaker biography</a>
<b>10/21/2016 – Metadata Standards</b> Speaker: Susanna-Assunta Sansone <i>University of Oxford</i> <a href="#">View slides</a>   <a href="#">View lecture abstract &amp; speaker biography</a>	<b>10/28/2016 – Data Representation Overview</b> Speaker: Anita Bandrowski <i>University of California San Diego</i> <a href="#">View slides</a>   <a href="#">View lecture abstract &amp; speaker biography</a>	<b>11/4/2016 – Databases &amp; Data Warehouses, Data: Structures, Types, Integrations</b> Speakers: Chaitan Baru & Elena Zheleva <i>National Science Foundation</i> <a href="#">View slides</a>   <a href="#">View lecture abstract &amp; speaker biography</a>
<b>11/18/2016 – Data Wrangling, Normalization &amp; Preprocessing: Part I Signals</b> Speaker: Joseph Picone <i>Temple University</i> <a href="#">View slides</a>   <a href="#">View lecture abstract &amp; speaker biography</a>	<b>12/02/2016 – Data Wrangling Normalization &amp; Preprocessing: Part II Text</b> Speaker: Sanda Harabagiu <i>University of Texas at Dallas</i> <a href="#">View slides</a>   <a href="#">View lecture abstract &amp; speaker biography</a>	<b>12/09/2016 – Exploratory Data Analysis</b> Speaker: Brian Caffo <i>Johns Hopkins University</i> <a href="#">View slides</a>   <a href="#">View lecture abstract &amp; speaker biography</a>
<b>12/16/2016 – Natural Language Processing-NLP</b> Speaker: Noemie Elhadad <i>Columbia University</i> <a href="#">View slides</a>   <a href="#">View lecture abstract &amp; speaker biography</a>	<b>1/6/2017 – Computing Overview</b> Speaker: Patricia Kovatch <i>Icahn School of Medicine at Mount Sinai</i> <a href="#">View slides</a>   <a href="#">View lecture abstract &amp; speaker biography</a>	<b>1/13/2017- Workflows &amp; Pipelines</b> Speaker: Rommie Amaro <i>University of California, San Diego</i>
<b>1/20/2017 – Running a Data Sciences Laboratory: Infrastructure and Applications</b>	<b>1/27/2017 – Modern Computing: Cloud, Distributed, &amp; High Performance</b>	<b>2/3/2017 – Commons: Lessons Learned, Current State</b> Speaker: Vivien Bonazzi



Speaker: Trey Ideker <i>University of California, San Diego</i>	Speaker: Umit Catalyurek <i>The Ohio State University, Columbus</i>	<i>National Institutes of Health, Bethesda</i>
<b>2/10/2017 – Data Modeling &amp; Inference Overview</b> Speaker: Rafa Irizarry <i>Harvard University</i>	<b>2/17/2017 – Supervised Learning, prediction, Machine Learning &amp; Dimensionality Reduction</b> Speaker: Daniela Witten <i>University of Washington</i>	<b>2/24/2017 – Smoothing, Unsupervised Learning, Clustering &amp; Density Estimation</b> Speaker: Ali Shojaie <i>University of Washington</i>
<b>3/3/2017 – Algorithms &amp; Optimization</b> Speaker: Pavel Pevzner <i>University of California, San Diego</i>	<b>3/10/2017 – Bayesian Inference</b> Speaker: Mike Newton <i>California State University, Sacramento</i>	<b>3/17/2017 – Data Issues: Multiple testing, Bias, Confounding &amp; Missing Data</b> Speaker: Lance Waller <i>Emory University</i>
<b>3/24/2017 – Causal Inference</b> Speaker: Joe Hogan <i>Brown University</i>	<b>3/31/2017 – Data Visualization Tools &amp; Communication</b> Speaker: Nils Gehlenborg <i>Harvard University</i>	<b>4/7/2017 – Modeling Synthesis</b> Speaker: John Harer <i>Duke University</i>
<b>4/14/2017 – Open Science</b> Speaker: Brian Nosek <i>University of Virginia</i>	<b>4/21/2017 – Data Sharing &amp; Social Obstacles</b> Speakers: Christine Borgman & Irene Pasquetto <i>UCLA</i>	<b>4/28/2017 – Ethical Issues</b> Speaker: Bartha Knoppers <i>McGill University</i>
<b>5/5/17 – Reproducibility</b> Speaker: John Ionnadis <i>Stanford University</i>	<b>5/12/2017 – Considerations &amp; Limitations for Clinical Data</b> Speaker: Zak Kohane <i>Harvard University</i>	



## The Information Needs of Community Health Center Staff:

### Results of a NN/LM MCR Questionnaire

Community health centers (CHC) provide community-based healthcare to high-need urban and rural citizens. CHCs often serve as a patient's medical home by coordinating medical, dental, mental/behavioral, pharmaceutical, substance abuse, and vision care. The [Bureau of Primary Health Care \(BPHC\)](#) oversees the [Health Center Program](#), a national network of CHCs serving over 24 million patients in areas that have economic, geographic, or cultural barriers to accessing primary health care. In practice for over 50 years, these centers (with 519 sites in the MCR states) have become the largest safety net and most successful primary care system in the U.S.<sup>1</sup>

The [National Network of Libraries of Medicine, MidContinental Region](#) (NN/LM MCR) identified CHCs as a group they would like to work with and learn more about their access to health information. The NN/LM MCR partnered with the [Community Health Association of Mountain/Plains States](#) (CHAMPS) to promote the online questionnaire to 1,085 association members in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming. CHAMPS supports community health centers by providing education and training, networking, and workforce development.

The CHC questionnaire was based on a needs assessment conducted by the Southwestern Pennsylvania AHEC (funded by the NN/LM Middle Atlantic Region). The CHC questionnaire consisted of 10 multiple selection questions and was made available online via SurveyGizmo. During the 30-day open period in the fall of 2016, 108 completed responses and 4 partial responses were received.

The following table provides a breakdown on the respondents by self-identified position at the CHC:

Respondent Self-Identified Position with CHC	Number of Responses
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<b>Physician Assistant:</b> anyone identifying primarily as a PA, family practice PA, PA-C, pediatric PA, or physician assistant.	24
<b>Physician:</b> anyone identifying primarily as a family physician, pediatric physician, or FP.	22
<b>Nurse Practitioner:</b> anyone identifying primarily as a nurse practitioner, psychiatric nurse practitioner, CNP, FPN, or NP.	16
<b>Administrator:</b> anyone identifying primarily as an associate medical director, chief clinical officer, clinical quality specialist, CMO, manager, medical director, nurse program manager, performance improvement coordinator, QI director, QI manager, or VP behavioral health.	15
<b>Dentist:</b> anyone identifying primarily as dental director, dental provider, dentist, or DDS.	14
<b>Behavioral Health:</b> anyone identifying primarily as BH, BHC, behavioral health clinician, behavioral health provider, clinic counselor, LCSW, licensed clinical social worker, or mental health.	8
<b>Registered Nurse:</b> anyone identifying primarily as RN, APN, or ARNP.	4
<b>Pharmacist</b>	4
<b>Registered Dental Hygienist:</b> anyone identifying primarily as RDH, registered dental hygienist.	3
<b>Internist</b>	2

CHC staff were asked about their practices in seeking clinical information for patient care or patient education, point of care tools were utilized the most on a daily basis, asking colleagues ranked second, and searching the web came in third. On a weekly basis, asking colleagues ranked first, web searching ranked second, and visiting professional association websites ranked third. Librarians come in last. There could be a variety of reasons: CHCs operate on tight budgets making it difficult to fund the employment of library personnel; CHCs are often geographically far from a medical or hospital library that could potentially serve their needs; and though CHCs might be geographically closer to a community library, time constraints may come into play having to interlibrary loan biomedical journal articles not generally owned by a public library.

	Every day	At least once a week	At least once a month	Do not search
Clinical/point of care (e.g., Clinical Key, UpToDate, Dynamed)	58 51.8%	20 17.9%	12 10.7%	22 19.6%
Online journals	2 1.8%	29 26.1%	46 41.4%	34 30.6%
Online books	3 2.7%	7 6.3%	24 21.6%	77 69.4%
PubMed/Medline	4 3.6%	11 9.8%	43 38.4%	54 48.2%
MedlinePlus	4 3.6%	11 9.8%	20 17.9%	77 68.8%
Medscape	7 6.3%	17 15.2%	25 22.3%	63 56.3%
Web search engines (e.g., Google, Wikipedia)	23 20.7%	42 37.8%	38 34.2%	8 7.2%
Professional association websites (e.g., AAP, AAFP, AMA)	10 8.9%	32 28.6%	52 46.4%	18 16.1%
Colleagues	27 24.1%	49 43.8%	29 25.9%	7 6.3%
Librarians	0 0.0%	2 1.8%	2 1.8%	108 96.4%

Figure 1- Resources utilized when seeking clinical information for patient care or patient education.

When asked the frequency of looking for specific types of information to address clinical questions, drug information was the most sought after on a daily basis, followed by patient education and therapy/treatment. On a weekly basis, clinical guidelines ranked number one, followed by patient education and therapy/treatment.

Every day	At least once a week	At least once a month	Do not search
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Adverse effects	30 26.8%	36 32.1%	35 31.3%	11 9.8%
Clinical guidelines	22 19.6%	51 45.5%	31 27.7%	8 7.1%
Clinical procedures	10 8.9%	34 30.4%	47 42.0%	21 18.8%
Clinical trials	1 0.9%	12 10.8%	33 29.7%	65 58.6%
Diagnosis	35 31.3%	34 30.4%	27 24.1%	16 14.3%
Drug information	56 50.0%	27 24.1%	22 19.6%	7 6.3%
Lab/imaging interpretation	19 17.1%	26 23.4%	29 26.1%	37 33.3%
Patient education	47 42.0%	38 33.9%	18 16.1%	9 8.0%
Patient safety	19 17.0%	30 26.8%	37 33.0%	26 23.2%
Prognosis	14 12.5%	28 25.0%	40 35.7%	30 26.8%
Quality Improvement Processes	5 4.5%	25 22.5%	45 40.5%	36 32.4%
Therapy/treatment	43 38.4%	37 33.0%	21 18.8%	11 9.8%

Figure 2 – Frequency of need for Information to address clinical questions.

When queried about the patient education topics they wanted to provide, prevention and risk factors came in first, followed by nutrition and weight status, and treatments and therapies.

Value	Percent	Count
Behavioral Health	64.9%	72
Complimentary and Integrative Medicine	40.5%	45
Diagnosis and Tests	55.0%	61
Drug Information	56.8%	63
Health Insurance	25.2%	28
Health-Related Quality of Life and Well-Being	46.8%	52
Nutrition and Weight Status	73.0%	81
Oral Health	46.8%	52
Prevention and Risk Factors	77.5%	86
Treatments and Therapies	71.2%	79
Other - Write In (Required)	9.0%	10

Figure 3 – Ranking of need for patient education from pre-selected health topics.

Needed types and formats for patient education in order of most responses included low literacy, multiple languages, print brochures, online videos, web sites, online tutorials, print tutorials, and audio formats. Languages of interest for patient education included Spanish, Arabic, Russian, Nepali, Burmese, Chinese, Somali, Vietnamese, Mandarin, and Swahili.

When asked to select barriers to accessing health information:

- 68% did not have enough time to search
- 47% noted receipt of too much information that was not relevant
- 45% indicated the cost of resources
- 24% did not know where to start searching
- 23% lacked knowledge of available resources
- 12% specified a lack of searching skills

Next steps include following up with respondents who provided contact information, locating appropriate resources to address identified needs, and offering training to address identified gaps (preferred formats for

training as identified by respondents and based on rank: web-based independent study, evening lecture or workshop, webinar, visit to office/clinic, training email sent weekly/monthly, and at a conference).

-Dana Abbey, Colorado/Community Engagement Coordinator

Click [here](#) for information on health center programs in your state. Click [here](#) to locate a health center in your state.

<sup>1</sup> Health Center Fact Sheet. (2015). Retrieved January 11, 2017, from Bureau of Primary Health Care: Health Resources and Services Administration, <https://www.bphc.hrsa.gov/about/healthcenterfactsheet.pdf>



## Benefits of Participating in a Mobile App Evaluation Project

The NN/LM MCR became aware that the cost of apps for mobile devices was a barrier that was keeping our members from trying apps that could potentially improve work performance or efficiencies or provide an easier way to locate and share health information. To address this issue, qualified full Network member applicants were provided with a \$50 app purchase card in exchange for downloading at least four apps and evaluating them by filling out a Mobile App Evaluation Form. Two cohorts of librarians participated in this project from May 2014 to April 2016 and submitted a total of 122 evaluations.

Participants were required to work at a NN/LM MCR Full Network member institution and be a professional librarian. The application form allowed for potential participants who did not have a Master's level degree in librarianship to provide an explanation as to why they should be considered.

Participants agreed to:

- allocate the time required to experiment with at least four appropriate for-fee mobile apps,
- fully report on those apps using the online App Evaluation Form,
- and submit their reports by quarterly deadlines.

Applications were reviewed for eligibility and, once approved, were sent either an iTunes (for iOS devices such as iPhones and iPads) or GooglePlay (for Android and Windows devices) purchase card. In our first cohort (Year One), 13 members were selected to participate and were provided with purchase cards totaling \$650. The second cohort (Year Two) was expanded to 19 participants, with \$950 distributed via purchase cards. We had a diverse group of both academic and hospital librarians represented in our participant group, with at least one participant from each state in the region in both cohorts.

Year One		13	Year Two		19
<b>Library Type</b>			<b>Library Type</b>		
Hospital	6		Hospital	5	
Academic	7		Academic	14	
<b>Card Type</b>			<b>Card Type</b>		
iTunes	10		iTunes	15	
Google Play	3		Google Play	4	
<b>State</b>			<b>State</b>		
Colorado	3		Colorado	3	
Kansas	3		Kansas	2	
Missouri	2		Missouri	7	
Nebraska	3		Nebraska	4	
Utah	1		Utah	2	
Wyoming	1		Wyoming	1	

In terms of app selection, participants were advised that apps must be appropriate for their setting and cost money either for the initial purchase or for in-app purchases. The criteria was purposefully left broad in hopes that members would be more likely to try a variety of apps that would be useful in their particular work environment.

The app evaluation criteria used for the project was a modified version of the app evaluation worksheet developed by faculty at the Spencer S. Eccles Health Sciences Library for their Topics in Pediatrics course (<http://campusguides.lib.utah.edu/content.php?pid=105887>). This form was modified by former MCR Technology Coordinator Rachel Vukas as a web form using the SurveyMonkey platform. The form asked

participants to provide basic app information (name, cost, platform, etc.) and more detailed evaluation in the areas of credibility, purpose, bias, currency, and organization.

After each quarterly deadline, summaries of the reviews were shared with the region in an article in the MCR's Plains to Peaks Post newsletter. These posts were well received – in the 2016 MCR Spring Questionnaire, 23 out of 28 readers indicated that these reports increased their awareness of mobile apps. Apps were ranked on a scale that ranged from Excellent to Not Good, with the majority of apps reviewed falling into the Excellent or Very Good categories. In both cohorts we found that about 2/3 of the apps were focused on health or medicine and the remaining third were productivity apps. The apps covered a variety of topics such as password management, diagnostic tools, patient education, medical calculators, pdf viewers, and much more.

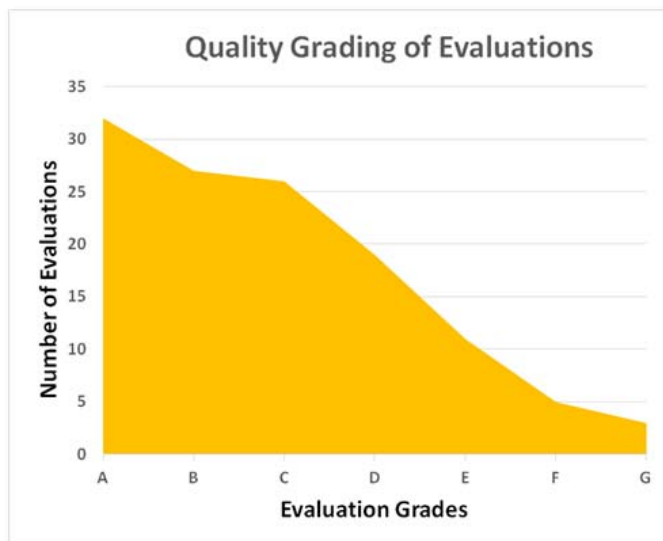
Due to the use of purchase cards, we were only able to collect app cost data from participant reports. In Year One, participants reported spending a total of \$305 in on 46 apps, which was an average of \$6.63 per app. The highest cost app was \$24, but the average was brought down by several free apps that were reviewed despite the project specifications. There was \$345 remaining on purchase cards in Year One. The Year Two cohort reported spending \$625 for 76 apps, bringing the Year Two average cost to \$8.22 per app. The highest cost app was a whopping \$45, but again the lowest app was free. Based on this, we calculated the remaining Year Two funds to be \$325. Participants were able to find excellent apps for reasonable prices.

After each cohort submitted their final reviews, they were asked to complete a brief self-evaluation using SurveyMonkey. In Year One, participants were asked to respond to the following prompt: "Participating in this project benefited my program" on a scale of Very Positively to Not Positively. 15% of participants indicated that this benefited them very positively and 54% indicated it was a positive benefit. While no one indicated that this project was not positive for them, 31% of the participants did not respond.

In Year Two, the self-evaluation was modified and consisted of two questions using a 5-point Likert Scale. When asked their level of agreement with the statement "My involvement in this project benefited or enhanced my professional development," 26% strongly agreed, 47% agreed, 22% neither agreed nor disagreed, and 5% disagreed. They were also asked to indicate their agreement with the statement "I now feel more confident in my ability to evaluate mobile apps," 26% strongly agreed, 58% agreed, 11% neither agreed nor disagreed, and 5% disagreed.

We were pleased with the overall rate of participation. Most reviews were submitted by the established deadlines (73% in Year One/ 74% in Year Two). There were a smaller number of late reviews submitted, though these were usually sent after a request for an extension (21% in Year One/ 26% in Year Two). Two participants ended up dropping out during the final quarter of Year One, so there were a total of 6% of expected reviews that were not received during that year.

After the project completion, we created a rubric to help determine the quality of evaluations submitted. The rubric was based on elements that we would have liked to have seen in an ideal completed evaluation. The evaluation form had four open-answer comment fields that asked for more information on each section completed. These sections were not required, but the information in these fields provided deeper insight and richer information about the apps reviewed. The remaining questions were all required, but gave reviewers the option to select "Information Not Available" as an answer. We noted a large number of these responses were submitted, and while many of these were probably the correct response as app information is not always readily available, there were a few questions where that response did not make a lot of sense: questions such as "Are there ads?" or "When was the app last updated?" Based on this, we down-graded evaluations each time that there was a blank response or they used an "Information Not Available" response when that information should have been easily accessible. There were a total of seven possible deductions and evaluations fell in a range of an A (0 deductions) to G (6 deductions). As you can see in the chart below, the majority of evaluations were of an exceptionally high quality.



Running this project was a fun endeavor and many of the participants seemed to enjoy the work involved. The variety of apps reviewed was a welcome surprise and we were pleased to see many unanticipated app types and subjects included. Overall, we were happy with the evaluations and the amount of effort our participants put forward in this project.

Of course, there were a couple challenges in running a project like this. We had projected that our participants would select higher cost apps, and were disconcerted with the low average app cost and large amount of leftover funds. While working with the participants was mostly a pleasure, it did take some effort to stay on top of them and ensure they were meeting deadlines and submitting quality evaluations for appropriate apps. In hindsight, we feel that most of this difficulty was due to the evaluation form itself. The form was too comprehensive for the information we wanted to gather, which made completing reviews a time-consuming process.

Were we to run this project again or be approached for advice from someone running a similar project, we would make the following recommendations. First, we would either lower the amount of funds provided on purchase cards or encourage participants to select higher cost apps. Second, we would revise the evaluation form to make it shorter and more concise and require responses to open-ended comment boxes. Finally, we would offer more guidance in app selection, as this was a time-consuming process for both the participants and project managers.

We hope reading about this project gives you some insight on the behind-the-scenes processes and perhaps inspires you to run your own app evaluation group. Feel free to reach out to us if you have any questions or would like more information.

– Alicia Lillich, Kansas/Technology Coordinator

– John Bramble, Utah/Research Enterprise Coordinator



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