

**NATIONAL NETWORK OF LIBRARIES
OF MEDICINE**

MidContinental Region

Outreach Narrative

Option Year 4

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Outreach Programs to Health Professionals and Public Health Workers

The National Library of Medicine's core mission includes outreach programs "to ensure that all people in the U.S. have a known, accessible, understandable, and affordable source of current, authoritative health information."¹ The NN/LM MCR will advance this mission by building on and enhancing outreach efforts to improve access to health information, specifically by targeting health professionals. In Option Year 4, NN/LM MCR coordinators will focus on engaging public health workers, clinicians, community health workers, and promotoras.

Goal: Develop collaborations among Network members and other organizations to improve access to and sharing of biomedical information resources throughout the nation.

Outcome: Network members and other organizations are better able to support access to health information resources.

Approach:

Develop programs that reach practicing health professionals by promoting health information resources

RATIONALE:

The NN/LM MCR has developed a relationship with the Health Care Education Association (HCEA) with the Colorado/Health Information Literacy Coordinator monitoring the association's three listservs, and the Utah/Technology Coordinator acting as listserv administrator. The HCEA is a multi-disciplinary professional organization of health educators that provides relevant resources, reference tools, and information on health care education for patients and health care providers. The listservs provide a venue to promote health information resources for healthcare staff and patients nationwide. The NN/LM MCR monitors each listserv and responds to questions by providing health information resources when appropriate. In the first six months of Option Year 3, the Colorado/Health Information Literacy Coordinator provided twenty listserv responses. Feedback for the responses included:

- "This is just what I need to develop the policy!"
- "You always give the best information! Thanks for the thoughtful responses and the information that is so on point."

¹ "Charting a course for the 21stCentury–NLM's Long Range Plan 2006-2016." National Library of Medicine. 2006. Retrieved January 9, 2015 from http://www.nlm.nih.gov/pubs/plan/lrp06/report/LRP_Goal2.html.

- "This information was helpful and I appreciate the response."
- "Thank you for these great resources."
- "What a wonderful list of resources! I am sure it will help many people!"
- "This is so helpful. Thank you so much."

Consistent contact with members through the listservs led to an invitation for the Colorado/Health Information Literacy Coordinator to serve on their Education Committee beginning in January 2014.

Objective – Health Information Literacy

Post responses to health related queries submitted to online environments. (e.g., listservs, forums etc.)

METHDOLOGY:

The NN/LM MCR will continue to support the health information needs of the HCEA by acting as listserv administrator, monitoring the listservs, and posting answers to health information related queries. The Colorado/Health Information Literacy Coordinator will also serve on the HCEA's Education Committee.

Based on positive feedback from HCEA listserv members, the NN/LM MCR will expand monitoring of additional health professional listservs. They will post health information resources when appropriate to one site in their state (i.e., patient navigators, public health, school nurses, and health ministries).

EVALUATION:

- 50% of responses to posts on health professional listservs are judged useful by recipients.

Approach:

Work with community-based organizations to improve their connectivity to health information resources

RATIONALE:

In Option Years 1 and 2 the NN/LM MCR implemented the Under Connected Community-Based Organization (CBO) project. Through this project an outreach staff member from five CBOs received an Apple iPad along with training by NN/LM MCR staff on the device and on accessing resources and services from NLM. In Option Year 3, the five CBOs were offered funding to purchase apps they felt would benefit their outreach programs and the communities they serve.

**Objective –
Technology**
Manage the Under
Connected CBO iPad
Project.

METHODOLOGY:

The Technology and Health Information Literacy coordinators will work with state coordinators and Network members to identify clinics and CBOs who could benefit from using an iPad. NN/LM MCR coordinators will approach CBOs with whom they have established relationships to gauge interest. The NN/LM MCR will provide training on:

- creating an account to the iTunes store
- searching for iPad Apps
- installing apps onto the iPad
- using NLM resources such as MedlinePlus, HealthReach, NIHSeniorHealth, and others
- submitting NN/LM MCR quarterly reports

EVALUATION:

- Each CBO participant will report how the project contributes two ways to increased access to health information.

Goal: Develop, promote, and improve electronic access to health information by Network members, health professionals, and organizations providing health information to the public.

Outcome: Network members and other organizations are better able to support access to health information resources.

Approach:

**Increase awareness
of resources and
access to information
services for
unaffiliated health
professionals and
public health
workforce**

RATIONALE:

For nearly a decade, the NN/LM MCR has developed synchronous and asynchronous training sessions on health information resources. A popular series was the monthly "*Spotlight! on National Library of Medicine Resources,*" that has since been re-branded "*Discover NLM Resources and More.*"

These sessions – presented live, then archived for future viewing – are generally well attended by health sciences library staff, but the content presented would also benefit health professionals and public health workers. In the contract's Base Year, a promotional effort was launched to expand *Spotlight!* and *Discover* attendance to health professionals and public health workers (including community health workers).

In Option Year 1, the NN/LM MCR began tracking synchronous attendance of health professionals and public health workers. In Option Year 3, *Discover* session topics included drug resources, PubMed topic specific queries, mobile resources, clinical trials, resources for community colleges, and Specialized Information Services.

Statistics were collected for the time frame: Option Year 1 - Option Year 3 (May 2012-December 2014).

Audience	Option Year 1	Option Year 2	Option Year 3 (partial)
Health Professionals	11	45	71
Public Health	25	100	17

In addition to offering training sessions, the NN/LM MCR also promotes ways unaffiliated health professionals and public health workers can access medical literature. Medical libraries have a long history of providing information services and resources to their institution's affiliated staff, but the majority of U.S. health professionals and public health workers are unaffiliated, and do not have cost effective and timely access to health information. Loansome Doc, a service supported by NLM, connects individuals to biomedical literature through a system of participating medical libraries that serve the unaffiliated. Currently, there are 65 libraries in the NN/LM MCR participating in Loansome Doc, with 26 serving unaffiliated health professionals. Coordinators would like to see an increase in participation.

Coordinators promoted MedlinePlus Connect at exhibits, consultations and presentations given to health professionals. This no-cost service helps patient portals and electronic health records identify patient-specific education resources from MedlinePlus directly related to a patient's diagnosis, medications, and lab tests. The Missouri/Library Advocacy Coordinator serves on the NN/LM MedlinePlus Connect Taskforce.

Objective – Education

Develop, promote, and provide training on resources and tools, especially from NLM and NN/LM, that increase Network member skills to develop projects and programs (includes ClinicalTrials.gov Results and MedlinePlus Connect).

METHODOLOGY:

Coordinators will promote MedlinePlus Connect at appropriate conferences, exhibits, and presentations given to health professionals.

Coordinators will promote "*Discover NLM Resources and More*" webinars to targeted groups through listservs, blog postings, and web advertisements. Participation will be tracked via an online participation form.

Coordinators will encourage Network members to participate as a Loansome Doc provider and promote Loansome Doc services at health professional and public health conferences when exhibiting.

EVALUATION:

- 90% of "*Discover NLM Resources and More*" participants who submit an evaluation indicate that the class met learning objectives.
- One person per targeted group will attend the synchronous or asynchronous *Discover* sessions.
- Two additional Network members will provide Loansome Doc services to unaffiliated health professionals.

Approach:**Manage and contribute to Bringing Health Information to the Community blog****RATIONALE:**

The *Bringing Health Information to the Community* (BHIC) blog, with 623 subscribers, is a national resource that highlights health information resources, professional development opportunities, and funding opportunities for community-based organizations, especially those working in underserved communities. The blog is maintained and managed through the NN/LM MCR, but has NN/LM coordinators as contributors from the MCR, MAR, PNR, and PSR. Through this collaboration, BHIC draws from a wider knowledge base, a greater number of resources, and reaches a broader audience.

As BHIC has expanded readership, as well as the number of contributors, it is important to re-examine the focus of the blog compared to the needs of the readers. A questionnaire disseminated in Option Year 3 found that all of the blog's readers rated the resource content positively, or very

positively. Additional data showed 40% of respondents work in an academic setting, with an additional 14% in a hospital or medical clinic. Feedback from the questionnaire included:

- "I filled out the survey, but just wanted to let you know how FANTASTIC the BHIC is. I consider it essential to my work as a consumer health librarian in a health care organization, and as an associate librarian at an academic health sciences library. I forward at least one announcement from every BHIC I receive to colleagues (in) the hospital and on campus. Thanks so much for providing this service."
- "What I value and appreciate the most is that the information is of the highest caliber. I don't have to second-guess or double check the facts, it is truly reputable."
- "Has been very helpful. Access and awareness to a lot of the issues that are sent through BHIC would not be possible."
- "I have shared the blog postings with many health professionals here in the university and am always thanked. Several have subscribed themselves and everyone wants to know how I found 'that' out. You make me look good!"
- "I rely on this information to keep up to date and frequently forward it to a listserv of community members."
- "The resources are great. I forward/share at least one resource a week to my community partners that are a 'good fit.' Thank you for continuing the service."
- "I love the BHIC blog and am always finding useful information to use in class and practice."

Objective – Health Information Literacy
Manage and contribute to Bringing Health Information to the Community blog.

METHODOLOGY:

Future plans for BHIC include expansion in a number of ways. The NN/LM MCR hopes that every region will contribute to the blog in order to draw from a wider knowledge base and better represent a national focus. The Health Information Literacy Coordinator (Nebraska) will recruit from the regions not currently contributing. We also want to increase the number of clicks on BHIC posts. The BHIC blog's statistics are kept through a bitly account that counts the number of times a link

in the body of a post is clicked. The Health Information Literacy Coordinator (Nebraska) keeps quarterly link click statistics. In order to increase link clicks, promotional materials will be distributed by BHIC contributors in all regions and social media options will be explored as a way to increase audience activity.

In Option Year 3, the AddThis widget was added to every post page to allow readers to share individual posts on social media accounts, as well as print, email, and share the link. Readers will continue to find the widget on every post in Option Year 4.

EVALUATION:

- Clicks on BHIC links will increase 10%.

Approach:

Inform those who work with Limited English Proficiency (LEP) populations about multiple language resources

RATIONALE:

In the contract's Base Year, coordinators developed relationships with State Refugee Coordinators to promote multi-language and culturally competent consumer and patient education resources. In Option Year 1 and into Option Year 2, the Colorado/Health Information Literacy Coordinator partnered with Health and Human Services (HHS) Region VIII's Office for Civil Rights to provide training to the region's state hospital associations. This training was in response to HHS's Effective Communication in Hospitals Initiative for persons with limited English proficiency (LEP), including those who are deaf or hard of hearing. Session attendees included physicians, nurses, and hospital administrators. The sessions were well received and feedback indicated the health information resources would be very useful for patient education.

Option Year 3 built on prior relationships with State Refugee Coordinators and included offering training and LEP resources. All NN/LM MCR coordinators working with refugee health workers reported that the organizations found the information was useful. Four states were involved.

In Option Year 3, Coordinators distributed four articles on health information resources for limited English proficient persons and a resource list of promotoras and interpreters serving the MCR, based on suggestion from the NN/LM MCR's Regional Advisory Board.

Objective – Health Information Literacy

Inform those who work with Limited English Proficiency (LEP) populations about multiple language resources.

METHODOLOGY:

The MCR, while primarily English-speaking, does have a strong LEP representation. The top ten languages, other than English spoken in the region include: Spanish, German, Vietnamese, French, Chinese, Korean, Arabic, Algonquian, Navajo, and Portuguese.² In Option Year 4, coordinators will expand promotion of LEP health information resources to those who work with LEP populations, including community health centers, community-based organizations, health ministries, public health departments, allied health, physicians, nurses, and dental health.

To increase awareness of LEP resources the NN/LM MCR coordinators will:

- Present at least one webinar on multiple language resources and/or cultural diversity.
- Have a presence at conferences and meetings for rural, public health, and minority populations and promote multiple language resources.
- Write, distribute and publish articles for agencies and health professionals working with underserved populations.
- Post to appropriate social media sites, listservs, and blogs.

Multilingual and health literacy resources to be promoted include MedlinePlus (<http://www.nlm.nih.gov/medlineplus/>), HealthReach (<http://healthreach.nlm.nih.gov>), EthnoMed (<https://ethnomed.org/>), and SPIRAL: Selected Patient Information Resources in Asian Languages (<http://spiral.tufts.edu/>).

EVALUATION:

- One organization per state working with limited English proficiency (LEP) populations report that resources were useful.
- Articles about access to health information resources will be published, four within each state.
- Five out of ten visitors to the exhibit booth report that they received useful LEP information.

² Modern Language Association Language Map. Data extraction: American Community Survey 2010. Retrieved January 9, 2015 from http://www.mla.org/map_data

Outreach Programs to Consumers

The NN/LM MCR has demonstrated the value collaboration plays in outreach through the use of its distributed model. State coordinators have built a strong foundation for outreach programs to consumers by connecting with organizations that serve consumers. State coordinators are members of their state library association, their state or local health sciences library consortia, and they are connected to the workforce at local public and community health organizations. Working with intermediary groups, which already have trusted relationships with consumers, allows coordinators to integrate health information into programs that have been successful in reaching the consumer. Groups, such as libraries, community and faith based organizations, and governmental agencies are a major focus for state coordinators. In addition, coordinators support NN/LM National Outreach Initiatives in the region working with community colleges to improve health information access for students, faculty and staff; connecting with K-12 entities to raise awareness of National Library of Medicine resources supporting health and science curriculums; and providing train-the-trainer sessions on resources like ClinicalTrials.gov to enable consumers to make informed decisions about their health.

Goal: Develop collaborations among Network members and other organizations to improve access to and sharing of biomedical information resources throughout the nation.

Outcome: Network members and other organizations are better able to support access to health information resources.

Approach:

Monitor and post responses to health related queries submitted to online communities

RATIONALE:

Social media has an increasing influence on where consumers and patients are looking for information. Internet health sites reach two out of three Americans, receiving over a 100 million hits a month. Many of these visits are to health-related online communities.³ A recent study on the social life of health information found that 26% of adult Internet users read or watched someone else's health experience online, and 16% went online to find others with similar health issues.⁴

³ Health Sites Reach 2 in 3 Americans Monthly. (2011, June 1). Retrieved January 7, 2015, from <http://www.comscore.com/Insights/Data-Mine/Health-Sites-Reach-2-in-3-Americans-Monthly>.

⁴ Health Online 2013. (2013, January 14). Retrieved January 7, 2015, from <http://www.pewinternet.org/2013/01/15/health-online-2013/>.

Over the past three years, the Colorado/Health Information Literacy Coordinator has monitored and provided health information resources when appropriate for the Health Care Education Association's (HCEA) listserv subscribers. In 2014, the Colorado/Health Information Literacy Coordinator began monitoring and posting resources to the Colorado Association of School Nurses (CASN) listserv. Based on positive feedback from both HCEA and CASN listserv users regarding the quality and relevance of information provided, NN/LM MCR coordinators will expand the monitoring of listservs to include broader health-related online environments where health care providers and the general public congregate. Engagement in these platforms provides an opportunity to reach a wide audience with timely and authoritative health information.

In addition to social media outreach, the Missouri/Library Advocacy Coordinator worked on a pilot project to connect patients with medical librarians who can assist them in locating evidence-based information on their symptoms. Expert HealthSearch, supported by the Society to Improve Diagnosis in Medicine (SIDM), serves to provide literature searches for patients who are either under a physician's care but have not received a correct diagnosis, or have received a diagnosis but are not showing appropriate health progress. Interested patients signed up through the SIDM site. The Missouri/Library Advocacy Coordinator helped to develop the librarian search team and needed infrastructure for Expert HealthSearch.

Objective – Health Information Literacy

Post responses to health related queries submitted to online environments. (e.g., listservs, forums etc.)

METHDOLOGY:

NN/LM MCR coordinators will monitor and post replies when appropriate to Reddit Health, a platform for Internet communities with 70 health-related categories. Each coordinator will select ~~several~~ **one or two** categories to monitor (e.g., cancer, diabetes, nutrition, asthma) and post links to authoritative content from sources like NLM, the CDC, and Mayo Foundation for Medical Education and Research. The intent of the posts is to raise awareness of authoritative health resources, not offer medical advice.



Figure 1 - Sample reply to Reddit Health inquiry

The post's usefulness will be tracked by the number of upvotes or downvotes cast by readers over a period of a week from the date of initial posting – with the goal a of week's accumulative total of upvotes being at least 50%. The NN/LM MCR will consider an upvote as an indicator that the information was useful. The NN/LM MCR's Reddit account will allow tracking the cumulative totals of votes by posting and track comments made to postings.

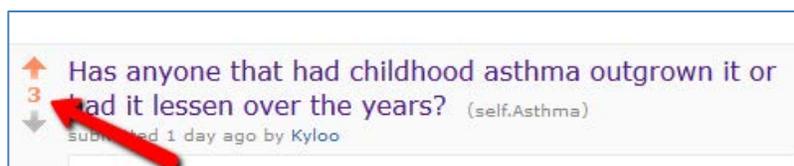


Figure 2 - Example of upvote/downvote function in Reddit

The Missouri/Library Advocacy Coordinator will continue to work in supporting the Expert HealthSearch project, serving as the project director. In this role, she will coordinate librarian participation, monitor portal for search requests, and distribute requested searches.

EVALUATION:

- 50% of posts are judged useful on the site.

Approach:

Develop, promote, provide training, and disseminate information on resources and tools that increase Network member skills to develop projects and programs

RATIONALE:

NN/LM MCR coordinators have developed, promoted, and provided instruction for a variety of presentations, distance learning classes, tutorials, and webinars highlighting health information literacy resources. The sessions are modeled on the train-the-trainer format, with attendees serving as the conduit for information to the consumer. In Option Year 2, online and in-person sessions were offered on a multitude of resources and topics including: MedlinePlus, NIHSeniorHealth, LactMed, PubMed, PubMed Health, ClinicalTrials.gov, the Affordable Care Act, K-12 health resources, multiple language health resources, diets and evidence-based medicine, self-help resources, patient education materials assessment tools, and mobile health apps. In the first two quarters of Option Year 3, online sessions were offered on clinical trials, drug resources, limited English proficient resources, and pet health.

Articles about health information resources provide a venue for more in-depth reporting on a resource or service. In Option Year 2, NN/LM MCR staff wrote and distributed articles on multi-language consumer health resources, veteran's health resources, and elder abuse. Thus far in Option Year 3, articles have been written and distributed on limited English proficient health information resources, medication safety, mobile health resources, and toxicology/environmental health.

Objective – Education

Develop, promote, and provide training on resources and tools, especially from NLM and NN/LM, that increase Network member skills to

METHDOLOGY:

The NN/LM MCR will offer six sessions specific to health information literacy resources for targeted audiences: K-12, community colleges, public libraries, and those seeking patient education resources. These training sessions support the National Initiatives. Additionally, the NN/LM MCR will offer content in its *"Discover NLM Resources and More"* webinars throughout the year that are of interest to

develop projects and programs (includes ClinicalTrials.gov Results and MedlinePlus Connect).

Objective – Education

Write and distribute articles about health information resources.

consumers and those who work with consumers. Examples of upcoming topics include drug resources, pet health, and medical marijuana.

Furthermore, the Utah/Technology Coordinator is working with HOSA (Health Occupations Students of America) staff on a pilot project to provide training on MedlinePlus and the Colorado/Health Information Literacy Coordinator has been asked to participate as a judge at the HOSA Colorado State Leadership Conference to evaluate student competencies. HOSA promotes career opportunities in health care for students enrolled in health science education and biomedical science programs.

The NN/LM MCR will continue to author articles and distribute them using the publication media supported by the organizations of the audiences we want to reach. The members of these organizations have direct contact with community members, clients, or patients. We will continue to use the media listed below:

- Colorado – Colorado State Library blog, Colorado Council of Medical Librarians *CCML Council Quotes* newsletter, Colorado Library Net (LIBNET), Rocky Mountain Chapter of the Special Library Association (SLA) listserv, Colorado Public Health Association News.
- Kansas – *BlogJunction* Kansas, Kansas Libraries listserv (KANLIB), Health Science Library Network of Kansas City.
- Nebraska: Nebraska Library Association listserv, Nebraska Educational Media Association listserv, Nebraska Distribution list (key public health, CBOs, hospitals, academic staff), Lincoln Metropolitan Medical Response System Wiki, Office of Interprofessional Scholarship Service and Education at Creighton Wiki, Public Health Association of Nebraska Listserv.
- Missouri: St. Louis Medical Library Group listserv, Missouri Distribution List (Missouri Network members, key public health contacts, and CBO contacts).

- Utah: Utah State Library Division's *Utah Libraries* blog, Utah Library Association newsletter, Center for Utah Multicultural Health newsletter, Rural Health Association of Utah newsletter.
- Wyoming: Wyoming Library Association listserv, Wyoming State Library listserv, Wyoming State Library *WYLD Databases & Online Resources* blog.

EVALUATION:

- For our training sessions, 90% of participants responding indicate class met learning objectives.
- Four articles about access to health information resources will be published within each state.

Goal: Promote awareness of, access to, and use of biomedical information resources for health professionals and the public, with a particular emphasis on contributing to the Healthy People 2020 goal of eliminating health disparities.

Outcome: Network members and other organizations are better able to support access to health information resources.

Approach:

Encourage and/or support health information literacy collaborations that reach other networks and relevant organizations

RATIONALE:

In almost any initiative, collaborating with groups or organizations with similar interests is strategically advantageous. These partnerships can contribute to increased community awareness and representation, higher success in planning and implementing programs, and have the added benefit of sharing resources and expertise. In Option Year 2, NN/LM MCR coordinators conducted 17 health information-related consultations, with 14 consultees indicating the consultation was beneficial. Thirteen consultations were conducted in the first two quarters of Option Year 3, with all consultees indicating the consultation was beneficial. Consultation topics included an outreach program addressing homelessness and health literacy, public library programming for the Affordable Care Act, and a middle school partnership proposal on healthy eating.

Coordinators also sought to make contacts and establish relationships in the region, reaching out to state education organizations, community colleges, school districts, and local school sites to promote the use of NLM resources to support school health and science curriculums, and allied health programs. K-12 entities were encouraged to become Network members, with three sites joining in Option Year 2 and six sites thus far in Option Year 3. The NN/LM MCR saw growth in community college membership with five sites joining in Option Year 2 and three sites thus far in Option Year 3.

In Option Year 2, a non-monetary award was offered to recognize four partnerships involving health information between K-12 entities and public libraries, but no nominations were submitted. In Option Year 3, the award was tweaked and made more attractive with money to support four new projects or enhance existing collaborative projects between a library (public, community college, medical, hospital, or academic health sciences) and a K-12 school entity (school library, school nurse, or health/science teacher) involving NLM health and/or science information that can serve as a model for other partnerships. Two projects were funded, one with a middle school and a public library, the other a junior high school and a public library. Completion date of the projects is April 2015.

In addition, coordinators worked with their state libraries. State libraries provide leadership and expertise in developing library-related policies, activities, and assistance for school, public, academic, and special libraries. They are committed to supporting access to information, and are excellent partners for assisting coordinators in raising awareness of NLM consumer health resources. In Option Year 2, coordinators met with state library staff to discuss results of the NN/LM MCR's public library questionnaire on health information resource training needs. The state library staffs uniformly stated the information would help direct the kinds and formats of programming and training they conducted, and the meetings served as the foundation for many conversations

on health-related programming the coordinators would collaborate on. One of the major training opportunities came with the advent of the Affordable Care Act (ACA) - coordinators worked with their state libraries to provide training on the role of the public library in light of the ACA. In Option Year 2, six out of six state library staff rated their collaboration with the RML in supporting access to health information resources positively or very positively.

Coordinators also involved themselves in collaborations supporting health information literacy at the state level with multiple constituencies. The Colorado/Health Information Literacy Coordinator served on a work group to investigate the efficacy of forming a Health Literacy Colorado; the Missouri/Library Advocacy Coordinator served on the Missouri Coordinated School Health Coalition; the Nebraska/Education Coordinator and Health Information Literacy Coordinator (Nebraska) served on the steering committee for Health Literacy Nebraska.

Objective – Health Information Literacy

Encourage and/or support health information literacy collaborations that reach other networks and relevant organizations.

Objective – Health Information Literacy

Administer K-12 funding.

Objective – Health Information Literacy

Maintain State Library collaborations.

Objective – Member Services

METHODOLOGY:

The NN/LM MCR will continue to promote and conduct consultations on health information literacy related partnerships or collaborations, including project development and funding.

Building on the relationships established with K-12 librarians and health and science teachers, the NN/LM MCR will offer four awards to recognize successful partnerships between public libraries and K-12 entities (e.g., school library, school nurse, health/science teachers) involving health information. The purpose of the award is to support new projects or enhance existing collaborative projects between a library (public, community college, medical, or academic health sciences) and a K-12 school entity (school library, school nurse, or health/science teacher) involving NLM health and/or science information that can serve as a model for other partnerships. The project will be highlighted in an article and will be added to Library Success: A Best Practices Wiki. This wiki highlights successful and innovative projects and partnerships that can serve as models.

Manage portions of the NN/LM Resource Sharing Plan (includes membership recruitment among K-12 and community college libraries).

Examples of projects include:

- Partnerships to provide access to health information to support health and/or science curriculum
- Partnerships to conduct innovative health and/or science information outreach programs
- Partnerships to benefit community access to health information
- Partnerships to improve access to health information for underserved/vulnerable populations

To be eligible, partners must be an NN/LM MCR Full or Affiliate member.

NN/LM MCR coordinators will continue to partner with state libraries to increase awareness and access to health information. In addition, the Colorado/Health Information Literacy Coordinator will continue to serve on the work group as Health Literacy Colorado evolves; the Missouri/Library Advocacy Coordinator will continue to serve on the Missouri Coordinated School Health Coalition; and the Health Information Literacy Coordinator (Nebraska) will continue to serve on the steering committee for Health Literacy Nebraska.

EVALUATION:

- Eight out of 10 consultees indicate that the consult on health information literacy related partnerships or collaborations was beneficial.
- The NN/LM MCR has four partnership models it can promote.
- Four K-12 school libraries will become Network members.
- Four community college libraries will become new or reactivated Network members.
- All State Libraries in the MCR report that RML collaboration improved their ability to support access to health information.

Exhibits and Presentations at Meetings

Goal: Promote awareness of, access to, and use of biomedical information resources for health professionals and the public, with a particular emphasis on contributing to the Healthy People 2020 goal of eliminating health disparities.

Outcome: Librarians, health care providers, and consumers in the MCR are more aware of health information resources, services, and programs.

Approach:

Exhibit and/or make presentations to promote NN/LM and NLM programs and services

RATIONALE:

Conferences represent a unique opportunity to reach a specialized audience. It may be an audience of librarians, health professionals, public health professionals, or community-based organizations. Or it may be an audience with affiliations in the K-12, or community college arenas, thereby giving coordinators an opportunity to make headway on the National Initiatives. The first step of this opportunity is demonstrated by exhibiting. That activity gives coordinators an opportunity to interact in-person, in a two-way dialogue with users or potential users of the products and services provided by the NN/LM MCR and the National Library of Medicine. There were 37 exhibits throughout the region in Option Year 2 and 28 exhibits in the first half of Option Year 3.

Exhibiting also affords opportunities to propose and subsequently present a topic promoting NLM information. Although some conferences limit presenters to their own members, charge additional fees, or have a preset agenda, each of the six state coordinators is charged with exhibiting at a minimum of four different conferences and to submit a proposal to present at those four conferences.

As the NN/LM MCR is assigned by the NLM to exhibit at national meetings, coordinators submit proposals to present at these events. National meetings present a special opportunity to reach an even wider audience than those traditionally noted on a state or regional level. Coordinators can become more informed about those organizations, their members, and their health information needs.

Objective – Health Information Literacy

Exhibit at local, regional, state or national events (including conferences where the target audience is affiliated with national initiatives).

Objective – Health Information Literacy

Submit program proposals at local, regional, state, or National events.

METHODOLOGY:

NN/LM MCR coordinators will submit program proposals at local, regional, state, or national events. Should the closing date be past, coordinators will still submit a proposal in case there are substitute opportunities. Because coordinators are located in each of the six states, they are in a unique position to identify those conferences which have the most “bang for the buck,” reaching audiences that have been targeted by the National Initiatives or prioritized by the NN/LM MCR.

The NN/LM MCR has identified and prioritized tiers of conferences. Coordinators need to exhibit at a minimum of four meetings a year, and limit their choices to the following tiers, depending on scheduling/cost. The highest priority exhibits are in Tier I.

- Tier I: State library associations, Community colleges, School librarian and media conferences
- Tier II: School nurses, School Information Technology, State Parent-Teacher Associations, School subject conferences, School health/safety fairs
- Tier III: Community health, Public health meetings, Physician assistants

Coordinators will report their exhibit activities in the NLM External Exhibit System, the NLM Activity Reports, and the NN/LM MCR’s Activity Report System. Data will include number of conference attendees, number of personal demonstrations, resources that were promoted, and how well the information was received, and number of presentation attendees (if there has been a presentation). This is useful data for future event planning.

EVALUATION:

- Coordinators will present at 25% of events where they exhibit.
- For classes taught at a conference, 90% of participants responding indicate that the class met learning objectives.

Information Technology and Policy Awareness

Technology services and resources along with associated standards continue to advance at a rapid pace. Staying abreast of new technology developments, understanding, and visioning the implication for technology are areas of critical importance for health sciences librarians.

Goal: Develop, promote, and improve electronic access to health information by Network members, health professionals, and organizations providing health information to the public.

Outcome: Network members are aware of new technologies that increase access to biomedical information.

Approach:

Identify technological access policy developments and trends

RATIONALE:

As technology services and resources along with their associated standards and policies continue to advance at a rapid pace, keeping current with trends that will improve access to biomedical information is an important service the NN/LM MCR provides to our constituents. As institutional policies regarding patient information and data security in an era of web/cloud based technologies are being debated, it is essential for health sciences librarians to be aware of the implications of these debates as they relate to their ability to provide access to health information and interact effectively with their institutional colleagues and constituents.

The technology coordinators will continue to work toward Network members increasing their awareness of technology information that can increase access to biomedical information. In Option Year 4, there will be a continued focus on:

1. Technology access policies and trends that impact Network members; and
2. Developments in federal EHR policy/regulations and EHR technology.

Objective – Technology
Monitor and disseminate technology developments.

METHODOLOGY:

NN/LM MCR will continue to monitor appropriate technological blogs, websites, newsletters and professional literature, and attend workshops and meetings to stay current and knowledgeable of the development of new

technological policies and their potential effect on health science libraries and their parent institutions. The NN/LM MCR staff will continue to educate themselves about EHR technology and monitor new developments and advancements on the implementation and use of EHRs, specifically the value of integrating evidence based medicine resources and personal health information into EHR systems. The NN/LM MCR will disseminate this information to our Network members through presentations, discussion venues, articles, and postings.

EVALUATION:

- 65% of Network member respondents to a questionnaire report that information disseminated by the NN/LM MCR increased their awareness of developments in technologies that support access to health information.
- 65% of Network member respondents to a questionnaire report that information provided by NN/LM MCR increased their awareness of EHRs.

Outcome: Health sciences librarians are integrated in the conduct of e-science.

Approach:

Facilitate Effective Practices in e-science and Data Management/Curation Interest Group

RATIONALE:

The development of e-science information technology and policy initiatives continues to evolve at NN/LM MCR research institutions. Effective roles that academic health sciences librarians can play to support researchers with data management and curation services also continue to change. Although more attention is being given to the subject, it remains a new paradigm in sciences that is data-driven, collaborative, and reliant on specialized computing. This paradigm continues to present an opportunity for Network members in academic health institutions to assume new roles by participating in e-science initiatives. Preliminary research suggests that librarian involvement in research teams influences the team's data gathering, storage, and curation methods and improves the research output. However, there is still a gap in the literature on current practices of health sciences librarians supporting researchers in e-science activities.

The NN/LM MCR views this as an area in which we can continue to support constituents in our region by utilizing e-science efforts developed over the course of the current contract. These efforts are: providing current online resources, such as the *e-Science Portal for New England Librarians* that provides vetted e-science resources and assists Network members in using the portal; e-science events, specifically the successful “Research Lifecycle Symposium” (2012); educational offerings that focus on how health sciences librarians can support biomedical researchers, such as, the asynchronous class created from the recordings of the symposium; and the development and facilitation of the NN/LM MCR Effective Practices in e-science and Data Management/Curation Interest Group that was created in Option Year 3.

**Objective –
Technology**

Network members in the Data Management/Curation Interest Group will share effective practices with the region.

Objective – Education

Administer funding for Professional Development Awards.

METHODOLOGY:

In Option Year 4, the NN/LM MCR will continue to focus on encouraging academic health sciences librarians to explore roles they can play in e-science and data management/curation by facilitating the Effective Practices in e-science and Data Management/Curation Interest Group. To help librarians, participants will be asked to identify and share how librarians provide added value to their research community through the use of effective practices in e-science and data management/curation.

To further encourage librarians to become active in e-science and research support, the NN/LM MCR will encourage them to apply for professional development funding so they can participate in a conference or workshop on e-science and data management/curation.

EVALUATION:

- The Effective Practices in e-science and Data Curation Interest Group will share lessons learned with the region in either a presentation or article.
- The funding award participants will share information gained through their professional development experience with the region via a presentation or article.

Outcome: Network members have the necessary skills to develop projects and programs.

Approach:

Offer learning opportunities through formal classes

RATIONALE:

Teaching Network members about effective roles that academic health sciences librarians can play to support researchers with data management and curation services is an important service that the NN/LM MCR can provide. Providing a formal class explaining the fundamentals and major concepts of data management and curation will provide the building blocks for a strong foundation in the understanding of the important role that librarians can play to support the research community. The first class that we offered on this topic was "Developing Data Services to Support e-science/e-research" conducted in the Base Year.

Objective – Education

Develop, promote, and provide training on resources and tools, especially from NLM and NN/LM, that increase Network member skills to develop projects and programs (includes ClinicalTrials.gov Results and MedlinePlus Connect).

METHODOLOGY:

The NN/LM MCR will create a class to help Network members better understand the fundamentals and major concepts of data management and curation. We will use experience gained over the course of the contract and combine it with: the lessons learned from the e-science and Data Management/Curation Interest Group, reports from Network members sharing their professional development experience, and effective practices resources shared by librarians focusing on this area of work. This class will have an emphasis on understanding issues faced by biomedical researchers with discussions on effective practices that health sciences libraries are playing to support this user group.

EVALUATION:

- 90% of participants who respond to the evaluation indicate the class met the learning objectives.

Technology Improvement

Goal: Develop, promote, and improve electronic access to health information by Network members, health professionals, and organizations providing health information to the public.

Outcome: Network members and other organizations are better able to support access to health information resources.

Approach:

Provide consultations and assist Network members who cannot access NLM and NN/LM resources and services

RATIONALE:

A major function of the NN/LM MCR technology program is to introduce Network members to online network services that can help them in the provision and dissemination of health information. Online network services include: social media services such as Twitter, Facebook, YouTube, Web 2.0, cloud, etc.; or online collaborative services such as Skype, Adobe Connect, and Moodle. Having instant, anytime-anyplace access to these types of resources also increases efficiencies in collaborative efforts and enhances professional development opportunities. However, there are Network members who experience barriers to accessing online network services, affecting their ability to increase knowledge or skills for themselves along with their users.

The NN/LM MCR defines Network members as under connected if they are prohibited, due to institutional policies, from accessing valuable online network services.

Finding workable strategies to eliminate these barriers remains important to the NN/LM MCR because providers of information resources and services use social media and collaborative services to add value to their products or to keep users informed about them. The NN/LM MCR, National Library of Medicine, and other highly authoritative entities are among these providers and rely on online network services to engage, educate, and inform their users. The NN/LM MCR continues to find that restrictive institutional policies primarily impact hospital Network members who are a majority of our Full Network membership. Therefore, we will continue to look for effective ways to support their access to restricted online network services.

**Objective –
Technology**

Provide consultations and assist Network members who cannot access NLM and NN/LM resources and services.

METHODOLOGY:

In Option Year 1, the NN/LM MCR established the Hospital Internet Access Barriers Working Group (HIAB-WG) which produced a guide identifying workable strategies to justify wider access to appropriate online network services. Network members can use this guide when talking with their institutional policy makers. We added a human component to the guide by offering consults with NN/LM MCR staff to develop a strategy appropriate for their institution. The NN/LM MCR will regularly promote the guide and consultation services. The guide will be updated based on feedback from the Network members who were assisted.

EVALUATION:

- Two out of three Network members indicate that the consultation helped them to identify strategies to decrease barriers to access of NLM and NN/LM resources and services.

Approach:

Develop, enhance, and maintain the NN/LM MCR gamification project

RATIONALE:

Game play is a time-honored way children develop new skills and become productive members of their society. Game play continues to be used by K-12 educators, especially in early childhood development curricula. Game play for adult learning, in contrast, is a relatively new and growing trend. More organizations involved in adult learning (e.g., higher education institutions, private corporations) are using gaming for skill development among their students and employees. Data shows that this form of learning is often very effective.⁵

In Option Year 2, the NN/LM MCR staff investigated gaming as another way Network members could engage in NN/LM MCR educational programming and, as an incentive to participate, offer a venue for competition. The game NN/LM MCR staff developed was called "Mission I'mPossible." The game was determined to be a success by meeting the evaluation criteria - a player (a.k.a. Network member) successfully met the requirements to win the game. There

⁵ Whitton N. Game engagement theory and adult learning. Simul Gaming [Internet]. 2011;42(5):596-609

were other successes resulting from the gamification process:

- a robust online place where players engaged in over thirty-five playable or point earning activities
- eight of 14 players earned ten or more points
- the NN/LM MCR staff and staff from the National Library of Medicine National Training Center contributed to the content of the game

The NN/LM MCR staff determined that due to the overall success with the “Mission I’mPossible” game, a new game theme would be developed and would be offered to Network members not only from the MidContinental Region but to all NN/LM regions in Option Year 3. This game is called “Librarians in the Wonderful Land of Oz.” As with the “Mission I’mPossible” game, the Oz game allows Network members to engage in professional development in a fun way and connect with other Network members in healthy competition.

As part of learning how to get more Network members to register and play the game, we experimented with giving the game a more professional sounding name. After a few weeks of promoting the game as a “game,” we changed to calling it an “online interactive professional development experience,” which resulted in a dramatic increase in registrations from librarians from all over the country and Canada. The Medical Library Association is supporting the program by authorizing continuing education credits for those completing the learning modules. There are four learning modules currently in play with several more to be made available during the rest of Option Year 3.

Objective –

Technology

Develop, enhance, and maintain the NN/LM MCR game.

METHODOLOGY:

The NN/LM MCR will continue to promote, develop, and maintain the NN/LM MCR game using Moodle. The NN/LM MCR is in the process of developing software protocols that will make creating new game themes a relatively simple process. This is important because eventually the Oz game will no longer hold the interest of Network members and we will need to change to a new theme. Deciding the next theme, will be a creative team of NN/LM staff and Network members lead by the NN/LM MCR technology coordinators. We will continue to use the Experiential Education Theory (EET), also known as the See One, Do One, Teach One

method of learning to structure the challenges. To make EET more relevant to how librarians learn, we made some modifications: See One = Increase Knowledge; Do One = Use Knowledge; and Teach One = Share Knowledge.

We will continue to add playable challenges to the four major focus areas in the game: Library Advocacy, Health Information Literacy, Education, and Emerging Technologies. We anticipate there will be more than eight playable areas within the game for Network members to engage in by spring of 2015. The NN/LM MCR is working with staff from other NN/LM RMLs and Centers with an offer of including their classes in the game. We anticipate that by spring 2015, the NN/LM OERC will have at least one challenge added to the game.

The minimum requirement to win the game is to complete two of the three challenges. Where there are two or more players that exceed minimum requirements, the player with the most points wins.

EVALUATION:

- One Network member completes at least two of the three challenges to win the NN/LM MCR game.

Approach:

Encourage Network members to explore the use of tablet apps

RATIONALE:

The NN/LM MCR has been supporting Network member use of mobile technology through our education programs, the NN/LM MCR website, *Plains to Peaks Post* newsletter, and the iTest iPad project. This project provided 48 Network members with Apple iPad2s, training on their use, and a supportive community environment. Data showed that the adoption of new technology can enhance library services and the prominence of the librarian within their institution. The *Journal of Hospital Librarianship* (Volume 15, Issue 2) will publish an article that describes the project.

In Option Year 3, the Mobile App Sharing Project continued support of Network member use of tablets as a way to increase access to biomedical information. This project funded qualified Network members with mobile app purchase cards for Apple and Android operating systems. In exchange

for the purchase card, each Network member selects for-fee apps relevant to their work environment and shares their experience with the NN/LM MCR and with their institution. App project participants report their experience via an evaluation form. The results of the evaluations have been published in the NN/LM MCR's *Plains to Peaks Post* newsletter. This has been a successful project and will be extended into Option Year 4 with a new group of Network members.

**Objective –
Technology**

Network members, participating in the Mobile App Sharing project, share information about apps.

METHODOLOGY:

The NN/LM MCR will request applications to participate in the Mobile App Sharing Project in May 2015. We will fund up to twenty qualifying Network members to purchase mobile apps for the mobile device operating system of their choosing. To qualify, the applicant must: be a librarian from a NN/LM MCR Full Network member institution; agree to evaluate at least four for-fee mobile apps appropriate to their work environment; and submit their evaluations by the established deadlines. They will be required to evaluate the apps they purchase using the following criteria: the app's authority of information sources, accuracy and objectivity, currency of information, the app's organization and usability, purpose of app, and comparison with other apps. Participant app evaluations will be shared with the NN/LM MCR in each issue of the *Plains to Peaks Post* newsletter.

EVALUATION:

- 80% of project participants report they are confident in their ability to evaluate mobile apps.

Goal: Develop, promote, and improve electronic access to health information by Network members, health professionals, and organizations providing health information to the public.

Outcome: Network members have the necessary skills to develop projects and programs.

Approach:

Offer learning opportunities through formal classes

RATIONALE:

The NN/LM MCR views providing Network members with learning opportunities in the area of educational technologies and online network services (social media and collaborative services) that support provision and dissemination of health information as critical to the practice of librarianship.

Exposing members to the use of new or existing technology increases the likelihood they will adopt these technologies. This, in turn, can ensure that they more effectively disseminate biomedical information to their users. To this end, we employ different teaching methods to accommodate different learning preferences. The NN/LM MCR has found that both structured/unstructured and synchronous/asynchronous learning opportunities are valued by our Network members.

Objective – Education

Develop, promote, and provide training on resources and tools, especially from NLM and NN/LM, that increase Network member skills to develop projects and programs (includes ClinicalTrials.gov Results and MedlinePlus Connect).

Objective – Technology

Monitor and disseminate technology developments.

METHODOLOGY:

We will continue to provide educational offerings on technology through classes that offers continuing education credits approved by the Medical Library Association. These will be both synchronous and asynchronous classes that combine the use of Adobe Connect and Moodle.

We will offer an updated version of our “Cool Creative Communication: Three Part Class” (15 MLA CE). This is a three part, asynchronous Moodle class that focuses on the use of social media, visually presenting data, and constructing an effective presentation. The class can be completed in four weeks.

EVALUATION:

- 90% of participants who respond to the evaluation indicate that the class met learning objectives.
- 85% of Cool Creative Communications class participants adopt at least one technology discussed in the class.