NATIONAL NETWORK OF LIBRARIES OF MEDICINE

MidContinental Region

Outreach Narrative

Option Year 2
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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." The NN/LM MidContinental Region will advance this mission by building on and enhancing outreach efforts to improve 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:** Health professionals, librarians, students, and members of other organizations have increased skills to use resources for health information

**Approach:**

Provide opportunities for librarians to support evidence-based clinical care and incorporate it into the electronic health record

**RATIONALE:**
Evidence-based practice in a health care setting integrates the best evidence from reliable medical studies with clinical expertise and patient preferences. And while it is generally agreed upon that evidence-based practice is important, there are numerous articles and studies outlining the barriers to its implementation. One solution is integrating evidence based medicine into the electronic health record – providing timely and informed decision-making at the point of care and for continuity of care.

The 2009 American Recovery and Reinvestment Act (ARRA) moved clinical care one step closer to seamless access to evidence-based practice and the electronic health record. ARRA provides monetary incentives for physicians demonstrating meaningful use of an electronic health record. The concept of meaningful use is reflected in the “5 Pillars” of health outcomes:

1. Improve quality, safety, efficiency, and reduce health disparities.
2. Engage patients and families in their health.
3. Improve care coordination.
4. Improve population and public health.
5. Ensure adequate privacy and security protection for personal health information.

Health information technology allows health professionals to better manage patient care through electronic health record (EHR) systems, and to address several pillars of meaningful use via access to health information through the EHR. The success of evidence-based practice goes hand in hand with electronic systems and technology that allow providers to quickly and securely share information about patient health. Widespread adoption of this technology has created a new role for librarians supporting clinical care to educate, monitor and disseminate new developments and advancements on the implementation and use of the electronic health record.

**METHODOLOGY:**

Two major barriers to implementing evidence-based practice are lack of time and lack of research skills. Librarians can assist in overcoming these two barriers. First, librarians can provide search expertise to clinical staff saving time for the health professional and secondly, they can assist in producing more effective search strategies and results. The NN/LM MCR will investigate and offer at least one educational opportunity for librarians to become expert literature searchers. Both online and in-person training are being explored, with the possibility of offering one session as a part of the Midcontinental Chapter of the Medical Library Association annual meeting CE. Using the Medical Library Association’s “Essential Guide to Becoming an Expert Searcher” as a foundation, the NN/LM MCR will develop and offer an expert literature searching class to enhance skills and proficiencies of members to provide the best search results possible for clinical staff. In addition, further exploration of “expert searcher” materials available through MLA should provide additional direction for development.

To insure that librarians are an integral part of the electronic health record team at their institution, the NN/LM MCR will offer two classes to educate librarians on the electronic health record as an instrument for bridging clinical decision support tools, evidence-based practice, and patient education. These sessions will raise awareness and knowledge of how electronic health records relate to clinical care and patient decision-making and task librarians to develop action plans for incorporating health information resources, such as MedlinePlus Connect, into the electronic health record.

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EVALUATION:
1. 90% of expert literature searchers class participants completing the class evaluation indicate that the class met learning objectives.
2. 90% of electronic health record class participants completing the class evaluation indicate that the class met learning objectives.

Support librarians increased involvement in patient care

RATIONALE:
There has been significant recent work documenting the value of the librarian to patient care with the Joanne Gard Marshall study. In the MCR, the University of Missouri study, conducted during the last contract, concentrated on healthcare professionals’ uses of the library, the impact on patient management and barriers to library use. It can be extrapolated from these studies that use of the librarian does show some impact on patient safety (e.g., diagnosis, drug choice, etc.). However, the literature does not contain evidence of the financial aspects of the librarian contribution to patient care.

A key component to improved patient care is a patient’s access to appropriate health information for decision-making, understanding treatment regimens, improving health outcomes, and reducing medical costs. A patient’s health literacy – the degree to which individuals can obtain, process, and understand the basic health information and services they need to make appropriate health decisions – can be facilitated and enhanced by librarian involvement in patient care. A 2011 review of literature from the Agency for Healthcare Research and Quality found that seniors with lower health literacy had a higher risk of mortality and reduced health status due to poorer ability to interpret labels and understand medication administration and the content of health messages.

Contributing to improving a patient’s health information literacy is an emerging role for many librarians.

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7 Ibid.
METHODOLOGY:
The NN/LM MCR will distribute a questionnaire to gauge where librarians are in terms of driving health information literacy outreach in their institutions, as health information literacy is an important component to patient safety. The results will help NN/LM MCR staff understand how member librarians practicing in hospitals and public libraries are implementing health information literacy programs at their institutions and to identify barriers to implementing such programs. Examples of programming/activities that support health information literacy include:

1. Training health care staff in the principles of health literacy and plain language.
2. Disseminating health information literacy research to health care staff, administrators, and key community stakeholders.
3. Providing patient access to health information materials in the appropriate language, reading level, and format (e.g., print, audio, video).
4. Assisting patients and family members in the navigation and access to health care services.
5. Serving as a gateway for resources such as interpreters and health navigators.
6. Including health information literacy resources for clinicians and patients on web site.

The NN/LM MCR will conduct a research project to identify the value of librarian services in clinical care related to the cost of patient care. The hypothesis is that the information gathered will demonstrate that librarian services increase the quality of care and lower the cost of care. This will involve tracking what the search recipient does with the information gained from the librarian’s literature search and how the patient treatment and eventual outcome is affected. An ideal result for this study would be a distinct billing code for librarian services.

Before the actual research can take place, the librarian search process needs to be standardized for various levels of searching (general reference, mediated search, systematic review, etc.) so that the cost for an individual search can be correctly identified; the cost for a search required by a systematic review process will be very different from a short informational search at the reference desk.

The NN/LM MCR will hire a consultant to develop the concept of the project and the study structure. The consultant will also develop a rationale for the project and create promotional materials for recruitment into the project.
Additionally, the NN/LM MCR will partner with NN/LM PSR to sponsor a one day patient safety symposium. This symposium will feature keynote speakers, a panel of experts and group discussion work focused on the concepts of high reliability and the transfer of evidence and information in the healthcare system.

Objectives for the event are:

1. Increase awareness of leadership possibilities for librarians in patient safety both within and outside the library.
2. Increase awareness of the importance of high reliability of information and evidence-based processes.
3. Encourage librarians to seek opportunities in their own institutions to engage with other professions in patient safety processes.

The NN/LM MCR will continue to support librarians to become change agents in their institutions in the area of health information literacy. For many years, NN/LM MCR staff has offered presentations, classes, and workshops to increase knowledge about authoritative health information resources to address health information literacy. Staff will continue to provide training in this area and include a class specific to the topic of patient safety.

EVALUATION:

1. 50% of 129 of hospital Network members responding to the health information literacy questionnaire indicate that they contribute to at least one health information literacy activity.
2. 60% of at least 75 respondents from the target cohort to a questionnaire indicate that the RML provided patient safety resources have increased awareness of opportunities for librarian involvement.
3. 90% of patient safety class participants completing a class evaluation indicate that the session met learning objectives.

RATIONALE:

Informed patients can foster improved patient-physician communication and greater engagement in their personal health care. Numerous studies illustrate the positive impact of patients who actively engage in accessing health information, but often conclude with the caveat that “physicians should counsel patients about where to find reliable and accurate health information.” Added to the knowledge of resources that are reliable and accurate, the health professional must also consider the readability level, appropriate language, and accessibility.
The NN/LM MCR has developed a relationship with the Health Care Education Association (HCEA) with one coordinator monitoring the association’s three listservs. 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 perfect venue to promote health information literacy 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 Option Year 1, the Colorado/Health Information Literacy Coordinator began tracking responses to the queries she replied to. Subscribers asking the questions were excited to learn about new resources for patient education:

- "Dana, this is very helpful, thank you so much for taking the time to put this together!"
- “Thanks Dana, I appreciate that this will help.”
- “Dana, thank you so very much for your timely response! This is exactly what we were looking for!”
- “Dana, I appreciate the resources you sent on CCHD. There were a couple of new resources I hadn’t found yet and I do appreciate your time to look and reply!”

The NN/LM MCR has also established successful relationships with organizations representing and supporting faith-based community nurses as collaborators for health information literacy outreach. Faith-based community nurses—also known as parish nurses, congressional nurses, health ministers, pastoral associates, parish care coordinators, church nurses, and health ministry nurses—serve as educators and counselors, and provide spiritual support, referrals, and health screenings. Because they work with a variety of faith communities—including Christian, Jewish, and Muslim, in a variety of settings—homes, community centers, and houses of worship—access to appropriate consumer health information can be a challenge. For several years, the NN/LM MCR has exhibited at the International Parish Nurse Association (IPNA) conference (now the Church Health Conference), and offered pre-conference sessions on locating evidence-based practice literature and patient education resources. The NN/LM MCR also authored a series of articles on resources for professional development, evidence-based practice, and patient information based on the information needs assessment distributed to attendees at the 2011 IPNA conference.
The NLM’s authoritative consumer health resources, such as MedlinePlus, ClinicalTrials.gov, Genetics Home Reference, and NIH Senior Health, assist health professionals in their conversations with patients and community members about health issues and outcomes.

**METHODOLOGY:**
The NN/LM MCR will continue to support the health information needs of the HCEA by continuing to monitor their listservs and posting answers to health information related queries. In addition, coordinators will submit articles to the HCEA, and attend conferences for health educators.

Going forward with the faith-based community nurses, the NN/LM MCR will use the results of the questionnaire distributed in 2011, to develop and teach classes tailored for the nurses and write articles highlighting health information resources. We will continue to exhibit at the Church Health Conference (formerly the International Parish Nurse Association), and submit proposals to present.

**EVALUATION:**
1. 50% of responses to posts on the HCEA listservs are judged useful by recipients.
2. Four classes will be developed and offered for faith-based community nurses.
3. 90% of faith-based community nurse participants responding to a class evaluation indicate that the class met learning objectives.
4. Four articles will be distributed for use in faith-based community nurse publications.

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

**Outcome:** Health professionals, librarians, students, and members of other organizations have increased skills to use resources for health information

**Approach:**

**RATIONALE:**
The 2009 American Recovery and Reinvestment Act not only provided opportunities for new roles for librarians, but also created a significant need for trained health IT professionals to implement and manage electronic health systems coming online under the Health IT Workforce Program. The Community College Consortia is
one component of this program. Member institutions of the Consortia established training programs in health IT education to address the increased workforce need for skilled health IT specialists to implement the electronic health record. To address the integration of patient education resources into the electronic health record, the NLM has developed MedlinePlus Connect, a free service allowing health organizations and health IT providers to link patient portals and electronic health records systems to MedlinePlus, the gold standard for authoritative, plain language information resource for patients, families, and health care providers. Other resources, such as PubMed and PHPartners are excellent tools for health IT professionals to stay current on health IT issues, developments and policy.

METHODOLOGY:
The MCR has five schools participating in the Community College Consortia. The NN/LM MCR will work with library staff at community colleges offering health IT certification programs. Outreach will include raising awareness of the resources from the NLM that support the health IT programs and for health IT professional development. In addition, NN/LM MCR staff will promote NLM tools such as MedlinePlus Connect, MedlinePlus, and PubMed at meetings and conferences for community colleges. NN/LM MCR coordinators will solicit feedback from library staff as to how these resources supported the curriculum.

The region’s community colleges also support curriculum for many of the nursing and allied health programs. Allied health encompasses more than 80 different professions, and represents approximately 60% of all health care professionals. The resources and tools that coordinators will share with community college library staff for the health IT curriculum would benefit students in any of their nursing and allied health programs – from the consumer/patient care side to the professional development side.

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EVALUATION:

1. Two of five librarians or faculty from the community colleges indicate, when asked, that as a result of RML support they shared information about resources for health information technology.

2. Coordinators will exhibit, depending on scheduling and cost, at community college conferences.

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:

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

RATIONALE:

Two approaches the NN/LM MCR takes when encouraging and/or supporting health information collaborations that reach other networks and relevant organizations are: the use of educational and communication technologies and providing consultation services.

Mobile technology in the hands of healthcare workers performing daily tasks (such as data entry, research, educating themselves and their patients) is prevalent. However, gaps remain for those serving high risk populations. For these health workers, especially those doing home visits and working where Internet access is unavailable, mobile technology that can access quality health information that is culturally relevant and at an appropriate literacy level can make a difference in client care.

With the ability to access online resources such as MedlinePlus and PubMed via a tablet type device, mobile technology can enhance provider/client communications and ultimately contribute to improved health outcomes. NN/LM MCR is currently conducting a pilot project, Health Information Literacy Connectivity Collaboration Project, where we provided iPads with cellular Internet access to three organizations that provide community based health related services to at-risk populations. Personnel from each organization received training on how to use the device and on many health information resources from the National Library of Medicine.
Through our continued contact with these organizations and from their quarterly reports, we see they are having great success with integrating iPads into their outreach services. So much so, that we plan to extend the Health Information Literacy Connectivity Collaboration Project by working with additional community-based organizations from different parts of our region in Option Year 2. The NN/LM MCR offers consultations to members and groups seeking advice on information and information technology issues. The consultations prove helpful to the organization and provide the NN/LM MCR with the opportunity to build relationships.

One example of this is Health Literacy Nebraska. It started with consultation services with the two coordinators. This led to them becoming founding members. In the past year, Health Literacy Nebraska has secured initial funding, established a web site, created a survey, and in January, held a health literacy summit attended by over 100 participants representing health professionals, public health, hospitals, and community-based organizations.

**METHODOLOGY:**
The Technology and Health Information Literacy coordinators will work with state coordinators and Network members to identify clinics and community-based organizations who could enhance their services with access to online resources and Web 2.0 technologies when performing outreach in their communities. The NN/LM MCR will work with an individual from these organizations and equip them with an iPad with cellular network Internet access. We will set up the devices and provide training on their use as well as training on accessing and using NLM resources, including multi-language resources. Internet fees associated with the device will be funded for the year for each organization.

We will analyze and use the information submitted by the organizations participating in the first pilot to improve the second pilot. We will submit a report to NLM, covering the two years of the project, describing specific examples of how the iPads were used and how access to health information resources enhanced these organizations’ client outcomes.

In Option Year 2, the NN/LM MCR will continue to seek out opportunities to work with Network members and other organizations to consult on health information literacy collaborations.
EVALUATION:
1. Organizations participating in the Health Information Literacy Connectivity Collaboration Project will identify two ways the project contributed to increased access to health information.
2. Health Information Literacy Connectivity Collaboration Project participants will continue to fund the data plans for distributed devices.
3. NN/LM MCR will report to NLM on lessons learned from community based organizations participating in the iPad pilot.
4. 80% of at least fifteen consultation service participants indicate the consult was beneficial.

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
Develop culturally and linguistically appropriate resources and provide training in the effective use of electronic health information resources

RATIONALE:
Although the MidContinental Region is primarily Caucasian and English speaking, it is growing in diversity. The U.S. Census Bureau, Statistical Abstract of the United States: 2012 reports the following percentage of people in each of the MidContinental Region’s six states who report a language other than English, spoken at home.

<table>
<thead>
<tr>
<th>State</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorado</td>
<td>15</td>
</tr>
<tr>
<td>Kansas</td>
<td>10</td>
</tr>
<tr>
<td>Missouri</td>
<td>5</td>
</tr>
<tr>
<td>Nebraska</td>
<td>10</td>
</tr>
<tr>
<td>Utah</td>
<td>15</td>
</tr>
<tr>
<td>Wyoming</td>
<td>5</td>
</tr>
</tbody>
</table>
Additionally, there have been an increasing number of refugees resettled in the region. According to the Office of Refugee Resettlement, in 2010 and 2011, almost 14,000 new people were resettled in five of the six states represented by the NN/LM MidContinental Region. While the refugee populations are relatively small, they are quite diverse, as noted in the figure below:

![2011 - Top 5 Areas from which Refugees Resettle to MidContinental Region Six States](image)

**METHODOLOGY:**
Although all health resources cannot be provided for all languages, the National Library of Medicine does collect relevant information and make it available through MedlinePlus – Multiple Languages. In addition, other free, credible multi-language health resources are available, including the Refugee Health Information Network (RHIN), EthnoMed, Healthy Roads Medica, and SPIRAL: Selected Patient Information Resources in Asian Language, and can be promoted through public libraries, refugee resettlement groups, and community-based organizations. In the past two years, MidContinental Region coordinators have presented to public libraries and refugee resettlement groups and will continue to do so. To increase awareness of multi-language resources the NN/LM MCR will:

1. Present at least one webinar on multiple language resources and/or cultural diversity.
2. Have a presence at conferences and meetings for rural, public health, and minority populations.
3. Offer at least one online class in relation to culture or language (i.e., “No Comprende?”)
EVALUATION:
1. Coordinators working with refugees report to NN/LM MCR coordinators that resources presented were useful.
2. 90% of participants attending multiple language resource training respond on a class evaluation that the class met learning objectives.

Outreach Programs to Consumers

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:
Foster Collaborations and encourage partnerships to improve access to electronic consumer health information

RATIONALE:
Health information literacy advances the identification of and access to health information resources; the ability to evaluate, analyze and understand the content; and the ability to use health information to make informed decisions. To support enhancement of this involvement, librarians will need resources and trainings to learn about the issues surrounding health information literacy and how to become health information literacy drivers in their institutions.

The NN/LM MCR has been addressing health information literacy in a number of ways. Coordinators located in Nebraska were involved in the formation of, and serve on the steering committee for, Health Literacy Nebraska. This organization is interdisciplinary and involves members from several different institutions. Health Literacy Nebraska has secured funding, established a web site, and held a summit for health professionals on all facets of health literacy. Two sections were dedicated to participants from libraries and community-based organizations sharing their activities that improved health information literacy.

The Bringing Health Information to the Community (BHIC) blog 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.

Collaborating with the state library in each of our states has been one of the successful strategies to improve access to consumer health information. In Option Year 1, state libraries have agreed to co-sponsor a training needs assessment that will be distributed to all public library members in the region. Examples of additional partnerships include presentations and trainings through the state library system. The Nebraska/Education Coordinator promoted medical resources from the National Library of Medicine at many of the events sponsored by the Library Broadband Builds Nebraska Communities. The Wyoming/Member Services Coordinator and the Missouri/Library Advocacy Coordinator have both provided online sessions for their state library. The Wyoming sessions were recorded and made available on the Wyoming State Library’s YouTube channel.

Workgroups provide assistance to the NN/LM MCR in developing products that will be useful to our constituents. In Option Year 1, the workgroup met to discuss upcoming projects and share their experiences with the Exhibitors Toolkit, a training tool to prepare members to promote NLM resources in the exhibit hall.

METHODOLOGY:
The NN/LM MCR has identified health information literacy as an issue of significant concern and an area where librarians can have an impact on health consumers.

A new initiative for the NN/LM is outreach in the K-12 environment. NN/LM MCR coordinators will work with K-12 librarians and teachers to increase awareness of NLM databases and resources. At the same time, coordinators will introduce the benefits of NN/LM membership and encourage school libraries to join the Network. Currently, six K-12 schools are members of the NN/LM—four in Colorado and two in Nebraska. Coordinators will provide a platform for evaluation and communication to receive feedback and determine if the resources shared supported the K-12 curriculum. Conferences will provide another venue for sharing NLM resources to support K-12 school health curriculum. The NN/LM MCR will exhibit and present at meetings for school librarians, school nurses, and school subject specialists.

In addition, the NN/LM MCR will offer a recognition award to K-12 libraries collaborating with a public library to improve health information literacy. With the downward trend in the number of
school librarians, it is important to support and emphasize collaborations that maximize resources while also improving access to electronic health information resources. NN/LM MCR coordinators will identify successful collaborations through conversations with K-12 and public librarians as well as looking out for posters and presentations at conferences on such collaborations. At least four potential collaborations between a K-12 entity and a public library in the region will be identified. Awards will be presented at the primary school library conference for the state.

The workgroup will reform with new members in Option Year 2, again with a librarian from every state in the region, and will be involved in creating another product to be used to improve health information literacy in the region.

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 will recruit from the regions not currently contributing. We also want to increase the number of clicks on the BHIC posts. The BHIC blog’s statistics are kept through a bit.ly account that counts the number of times a link in the body of a post is clicked. The Health Information Literacy Coordinator in Nebraska has been keeping weekly link click stats for the last year to create a baseline. 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.

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 feedback form will be distributed through the listserv as well as posted on the blog to ascertain the topic areas of most interest. With this information, BHIC contributors can tailor blog posts to informational needs to better serve as a health information resource for the readers.

Using the data collected and analyzed from the public library training needs assessment, the NN/LM MCR will offer webinars and workshops on topics that are of most interest to public librarians. The data will be shared with our state library partners and training sessions will also be offered through the state library training systems. Current partnerships such as the BTOP program in Nebraska, the YouTube recordings in Wyoming will continue. The Utah Coordinator has collaborated with the Utah State Library in the
past by sharing exhibit space. This relationship will continue in the future, with planned shared exhibits at the Utah Native American Health Summit and at the Utah Medical Association's annual board meeting. The State Data Coordinator from the Utah State Library also worked with the Utah Coordinator to order and distribute NLM promotional materials to public libraries in the state.

**EVALUATION:**

1. The health information literacy working group produces a product or program that is used.
2. Four of six state libraries responding to a questionnaire rate their collaboration with the RML in supporting access to health information resources positively or very positively.
3. At least four state awards given in the region recognizing model K-12/public library collaborations.
4. Four additional K-12 school libraries will become Network members.
5. Two examples from K-12 educators are shared with NN/LM MCR state coordinators about how resources and information provided supports the K-12 curriculum.
6. 80% of 200 BHIC readers responding to questionnaire rate the resource content positively or very positively.
7. Clicks on links in BHIC will increase by 10%.

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

**Outcome:** Health professionals, librarians, students and members of other organizations have increased skills to use resources for health information

**Approach:**

<table>
<thead>
<tr>
<th>Offer programs, presentations, and classes on electronic health information resources</th>
<th>RATIONALE:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NN/LM MCR coordinators have worked closely with public library staff in urban and rural areas, conducting in-person and virtual train-the-trainer sessions on NLM resources such as PubMed and MedlinePlus. The public library is a valued community resource for health information and library staff have a good grasp of their communities health information needs.</td>
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The NN/LM MCR offers monthly online “Spotlight! On NLM Resources” training sessions on electronic health information resources and publicizes these training sessions on listervs to bring in public, medical, and academic librarians. There are at least ten of these sessions per year. Additionally, NN/LM MCR coordinators
have taught classes and given presentations on NLM resources online, face-to-face, and at professional conferences as well as presented posters. The Health Information Literacy Coordinators created a poster on American Indian and Arctic health information resources that was presented at the Joint Conference of Librarians of Color to an audience that came from all types of libraries, with the majority from public libraries.

The NN/LM MCR also offered a series of four workshops over two days for librarians to qualify for Consumer Health Information Specialization (CHIS) certification from the Medical Library Association. This workshop was offered to librarians in Utah and Wyoming, with an average attendance of thirteen librarians per class. Most of the attendees were health sciences librarians (6) while the others were a mix of community college (1), public (3), and academic librarians (3.)

**METHODOLOGY:**
Using the results of the public library training needs assessment, NN/LM MCR coordinators will be able to customize trainings if a state interest is unique. We will also be able to identify training needs that are common across the region. Coordinators will offer online training to public librarians on health information literacy, emergency preparedness, operating a consumer health library, creating resources brochures or guides for patient health information and other topics identified as relevant to the needs of the region. At least two classes per state will be taught specifically for public librarians. In Option Year 2, the NN/LM MCR will again offer sessions for participants to earn their level 1 or 2 CHIS (Consumer Health Information Specialization) certification from MLA.

Coordinators will recruit public and health sciences library members to share their health information literacy practices that reach the consumer. Their practices will be shared in a variety of ways including the MCR blog, RML News, social media pages, or Breezing Along with the RML.

**EVALUATION:**
1. 90% of participants responding indicate that health information resources class met learning objectives.
2. 90% of Spotlight! participants responding to the evaluation indicate that the class met learning objectives.
Exhibits and Presentations at Meetings

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

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:
The NN/LM MCR exhibiting program is an important outreach activity reaching Network members, health professionals, researchers, the public health workforce, librarians, and consumers. Conferences are, of course, a “marketplace” where coordinators can share the wealth of information available from the National Library of Medicine, as well as the services provided by the National Network of Libraries of Medicine. Exhibits and presentations at meetings additionally provide an opportunity to receive feedback on how the products and services of the National Library of Medicine continue to support the health information needs of end users. It also affords the coordinators a personal contact with constituency in the region, as opposed to an e-mail or a phone call.

In Option Year 1, the goal, which is on track to be met, is for each coordinator to exhibit at four meetings. Exhibit venues included conferences for medical translators, public health professionals, teachers, state and regional librarians, family physicians, school nurses, and school librarians. At each conference, coordinators are encouraged to submit proposals to present.

The NN/LM MCR also welcomes the opportunity to exhibit and present at national organizations. Serving in this capacity allows coordinators to observe the trends happening within the organizations. This not only brings the National Library of Medicine resources to a larger audience, but also makes coordinators more aware of those groups, their efforts, and how their local members can best be assisted when the coordinators return to the region.

METHODOLOGY
NN/LM MCR coordinators will identify appropriate local, regional, or state professional meetings, conferences and community health events to exhibit at and make presentations. NN/LM MCR staff will exhibit, depending on scheduling and cost of the event, with groups outlined below. Priority is given to tiers I and II.
Tier I – state library associations, community colleges, regional extension center vendor fairs, school librarian and media conferences
Tier II – school nurses, school IT, state PTA, school subject conferences, school health and safety fairs
Tier III – community health meetings, public health conferences, physician assistants meetings
Tier IV – medical societies

NN/LM special initiatives are also taken into consideration. Exhibits, where it is appropriate to promote MedlinePlus Connect (such as regional extension center vendor fairs) and ClinicalTrials.gov, have most recently been identified. Audiences in Option Year 2 will also include community colleges and K-12 educators. Promoting the NLM and NN/LM programs and services is a shared responsibility among the NN/LM MCR coordinators. With the region’s distributed model, the coordinators are well positioned in each state to identify the best venues at which to exhibit and present for maximum reach. These venues continue to promote personal networking and demonstrate the NN/LM commitment to that group.

NN/LM MCR coordinators will also exhibit at national meetings as determined by the NLM. In Option Year 2, we plan to exhibit and present at the Association for Rural & Small Libraries, the National Network of Health Career Programs in Two-Year Colleges, and the Church Health Conference.

Coordinators report both national and local exhibit information, to the NLM External Exhibit System, and through the RML’s Activity Reporting System (ARS). By recording the number of attendees, personal demonstrations, the resources that were promoted, and that were successful, the NN/LM MCR has data that can be utilized to improve future exhibit opportunities. If coordinators have the opportunity to present, this information, too is reported through the NLM Outreach Applications and through the ARS. This then serves as background for selection of promotional materials and the development of presentations for future conferences.

EVALUATION:
1. The NN/LM MCR will have an exhibit presence at a minimum of two events per state, including the state library association meeting.
2. Coordinators present at 50% of events where they exhibit.
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:

**Enlist the assistance of NN/LM MCR Regional Advisory Board members to exhibit**

**RATIONALE:**
The NN/LM MCR coordinators regularly invite Network members to join us in the exhibit booth when we exhibit at local and national meetings. They may work for a few hours or up to a day. In the past, when an NN/LM MCR coordinator has had a conflict and could not exhibit at a local meeting, a librarian or staff member from their Resource Library filled in. In the current contract, this practice will be taken to the next level. Coordinators will enlist NN/LM MCR Regional Advisory Board members to assist with exhibits. The board is an effective mechanism to advise the RML on outreach and programming for Network involvement. The exhibit experience will provide board members first-hand experience in this form of outreach.

**METHODOLOGY:**
Regional Advisory Board members come from a variety of backgrounds and work in diverse settings. Exhibiting will allow them to share their expertise and knowledge outside the walls of their institutions. Board members will be enlisted to assist with exhibits. Each member will be certified, which includes basic exhibit training and training on NLM resources being promoted at the event. Members’ performance will be evaluated at state and local exhibits before being asked to exhibit at national exhibits. Individuals will be selected based on qualifications and the coordinator's confidence in person’s ability to present content and represent the NN/LM and NLM.

**EVALUATION:**

1. Each RAB member works at least one time with a coordinator at an exhibit when the meeting is within reasonable proximity to the RAB member’s location.
2. 95% of Network members and other individuals involved in RML activities indicate their involvement in RML activities benefited or enhanced their ability to support access to health information resources or their professional development
**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 collaborations among Network members and other organizations to improve access to and sharing of biomedical information resources throughout the nation

**Outcome:** NN/LM MCR communications mechanisms are effective

**Approach:**

<table>
<thead>
<tr>
<th>Investigate and implement communication technologies</th>
<th>RATIONALE:</th>
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<tr>
<td>Effectively communicating with current and potential NN/LM participants is critical to the success of the NN/LM MCR program. Advanced computing and networking technologies continue to transform communication capabilities as seen in the variety of ways users access the Internet (e.g., mobile devices, smartphones, tablet devices, and netbooks) and increasingly offer affordable and speedier access to the Internet. Better online applications are helping users get organized and get noticed without losing the human element. Web 2.0 technologies, such as live peer2peer and peer2many applications (e.g., video conferencing, VoiceOver IP, chat, text messaging, etc.) and web collaboration applications (e.g., Google Hangouts, wikis) are a few examples.</td>
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The NN/LM MCR conducted a communication audit in 2011 to assess the effectiveness of our communication methods which resulted in the development of a communication plan to identify and increase our communication outreach, enhance our specific communications (newsletters, blogs), and design an action plan for social media communications. We promoted our communication plan to our Network members through presentations, articles, and by leading by example, demonstrating how our members can implement social media and Web 2.0 technologies within their libraries. Learning about new technologies will increase member awareness of new ways to promote their activities and resources and increase their interaction and communications with their constituents.

**METHODOLOGY:**

NN/LM MCR uses a variety of methods to communicate, both internally and externally. Methods include in-person or distance presentations (synchronous/asynchronous), electronic
newsletters, blogs, social media and web conferencing. NN/LM MCR uses tools that help reduce duplication and increases coordination and collaboration. Staff are encouraged to actively investigate new methods, brainstorm options for use, and enthusiastically share these new methods.

Investigations will include using new communication methods or the new application of an existing method. Communication methods tend to focus on software, not hardware, but there may be exceptions to this if the opportunity arises. The NN/LM MCR will implement at least one new communication mechanism that will be successfully adopted by NN/LM MCR staff. All staff will continue to contribute to the social media already implemented (i.e., Facebook, LinkedIn, and Twitter).

EVALUATION:
Results of a questionnaire show that 60% of at least 75 respondents from the target cohort rate communications from the NN/LM MCR positively or very positively in contributing to their ability to support access to health information resources.

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:

Monitor current technological and policy developments and trends to identify those that will improve access to biomedical information

RATIONALE:
As technology services and resources along with their associated standards and policies continue to advance at a rapid pace, keeping current with these trends and identifying those that will improve access to biomedical information is an important service to our constituents. As institutional policies regarding the use of Web 2.0 technologies, cloud computing, and patient information and security continue to be debated, it is essential for health sciences librarians to be aware of the implications of these policies as they relate to their ability to provide access to health information and interact effectively with their colleagues and constituents.

An understanding of federal policy and regulations regarding EHRs and meaningful use is imperative for health care providers and offers librarians the opportunity to become involved in the implementation and educational aspects of EHRs.
Having an awareness of current policy trends and developments and the ability to share this knowledge will allow Network members to be seen as valued professionals in their institutional settings, enhance their ability to communicate with policy makers, and increase the efficiency and effectiveness of the services they offer.

**METHODODOLOGY:**
NN/LM MCR will continue to monitor appropriate technological blogs, web sites, newsletters and professional literature, and attend workshops and meetings to stay current and be knowledgeable of the development of new technological policies and their potential effect on health science libraries and their parent institutions. We expect that the use of social media and the meaningful use will warrant our focus through Option Year 2. NN/LM MCR will disseminate this information to our Network members through presentations, discussion venues, articles, and postings.

**EVALUATION:**
1. Contribute four articles per year in the quarterly newsletter, “Plains to Peak Post.”
2. Contribute news items monthly to the RML News.
3. Regularly contribute to NN/LM MCR social media outlets.

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

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

**Approach:**

<table>
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<th>Develop pilot projects to identify and promote the roles of librarians in institutions that have e-science initiatives</th>
<th>RATIONALE:</th>
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<td>E-science information technology and policies remain in the early stages of development in academic health sciences libraries in our region. Although more attention is being given to the subject, it continues to be a new paradigm in sciences that is data-driven, widely distributed and 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. The NN/LM MCR will continue to provide online resources (e.g., web page, online tools/services, etc.), and educational offerings on (big) data management and curation in order to support our Network members who are developing data services for researchers they support.</td>
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We will continue to build on the knowledge gained during two previous events. The first, held in 2012, included a workshop on data management and curation, a keynote presentation on library services followed by a panel discussion, and the follow up interactive webinar that allowed both in-person and virtual participants to comment on and discuss what they learned. The second, to be held in March 2013, is a joint effort between the NN/LM MCR and PNR. “The Research Lifecycle: Partnering for Success” will be hosted at three locations: University of Utah; University of Washington; and Oregon Health Sciences University. Each site will be connected to each other via high definition broadcast technology where the keynote speaker, Victoria Stodden of Columbia University will speak on big data followed by a panel discussion with representatives from some of the most important tools being used by researchers today, such as eagle-i, VIVO, Data Management Planning Tool (DMP Tool), and RedCAP. The day will end with small-group sessions for participants to share what they learned.

There is a gap in the literature for current practices by librarians supporting researchers practicing e-science. The NN/LM MCR views this is an area to which we can contribute.

**METHODOLOGY**

In order to support Network members who are currently or planning to support researchers participating in e-science initiatives, the NN/LM MCR will form a research group to study current practices for supporting researchers. The research group will consist of Network members who have expertise in working with researchers involved in e-science. They will submit their findings for publication.

The NN/LM MCR will continue to support our members by maintaining an e-science web presence on two levels. The first level is to continue to link to the e-sciences web page, hosted by the NN/LM NER, where their considerable experience with e-science initiatives and programs are reflected. NN/LM NER has agreed to take on a leadership role in providing a web presence in the area of e-science for the NN/LM. The second level is to continue to provide e-science related information that is region specific on our web site.
EVALUATION:

1. The research group reports its findings on current practices for librarians supporting researchers participating in e-science and prepares study for publication.
2. 60% of at least 20 respondents from the target cohort to a questionnaire rate the e-science web pages a 4 or 5 on a likert scale.

Technology Improvement

The NN/LM MCR defines under connected Network members as those experiencing barriers to accessing health information affecting their ability to serve their users and their audience. An example of a barrier is the inability to access new communication technologies, such as, social networking sites and Web 2.0 technologies.

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 in developing strategies that address barriers to access

RATIONALE:

The NN/LM MCR will continue to devote resources that address the barriers to health information access due to being under connected to the Internet. Our hospital members represent a significant number of institutions that are under connected. Due to institutional policies, their access to social media services (including those generated by NLM) and other useful Web 2.0 tools are prohibited.

The NN/LM MCR recognizes the importance of current, high quality, and authoritative health information resources available on the Internet. We also recognize the importance of what people are doing with this information and where they are expressing it. Social media services used by the masses, such as LinkedIn, Facebook, Twitter, etc. are only a few examples of the many aids to communicating and sharing of information. Access to Web 2.0 tools (e.g., online collaborative spaces, video conferencing services, cloud technologies, etc.) have high importance for professionals and the professional associations in which they participate. Having instant, anytime-anyplace access to these forms of resources increases efficiencies in...
collaborative efforts and adds to professional development opportunities.

The NN/LM MCR has established the Hospital Internet Access Barriers Working Group to create an online guide. This guide identifies strategies Network members can use to justify wider access to appropriate social media services and Web 2.0 technologies to their institutional policy makers. The interactive capabilities of these technologies can enhance our Network member’s ability to provide value added services to their clients and to participate in their professional associations. The guide will be completed during Option Year 2.

METHODOLOGY:
The NN/LM MCR will regularly promote and offer in-person or online consultation services to Network members interested in developing strategies to gain wider access to appropriate social media services and Web 2.0 technologies. The consultations will be based on the guide developed by the Hospital Internet Access Barriers Working Group. We will update the online guide using feedback from the Network members we assist. Network members can also use the guide as a stand-alone resource.

EVALUATION:
1. At least five Network members indicate that the strategies employed from the consultations or online guide were helpful in addressing access barriers at their institution.

Outcome: Network members adopt new technologies to increase access to biomedical information

Approach:

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<th>Teach technology classes and learning sessions</th>
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RATIONALE:
Providing learning opportunities for Network members in the area of educational technologies, social media services, and Web 2.0 technologies will continue to be a major focus for the NN/LM MCR. Exposing members to learning new or long standing effective methods of using technology to enhance the teaching/learning experience increases the likelihood they will adopt these technologies. This, in turn, can assist them to more effectively disseminate biomedical information to their users. As a result, we employ different teaching methods to accommodate different learning preferences.
The NN/LM MCR has found that both structured and unstructured learning opportunities are valued by our members.

During Option Year 1, we have provided different educational offerings, especially in the area of technology, our: 1) formal class “Cool Creative Communication: Three Part Class” which has been approved for fifteen Medical Library Association continuing education credits; and 2) informal learning sessions “MCR Sandbox Sessions.”

“Cool Creative Communications” has three parts: Part 1 – “Engaging Users via Social Media,” covers popular social media tools proven to be effective in reaching customers; Part 2 – “Dazzling Data Visualization,” presents concepts of visually representing data, such as infographics and other tools proven to be effective in making data understood at a glance. Part 3 – “The WOW Factor - Clear Concise Presentations,” covers popular applications and approaches to effective presentations.

The class can be completed in four weeks and is taught asynchronously through Moodle. In the first half of Option Year 1, the two classes we have offered drew participation among Network members from our region as well as from other regions. For the two classes, we have had eighteen registrants with nine completing the class. 50% is a normal dropout rate for distance education sessions. These participants cited they could not continue the class because of the time required.

Our informal learning sessions are called “MCR Sandbox Sessions.” These sessions offer Network members a chance to learn and play with a social media service, Web 2.0 tool, or device. The only learning objective is having fun. The sessions start with about ten minutes of instruction and demonstration, which is followed by participants logging into the product and practicing simple features. We started hosting the sessions in 2011 and continue to host these sessions quarterly. Past sessions have included Doodle, Prezi, Facebook privacy settings, Basic iPad Apps, Trello, Infogr.am, and general Apple iPad usage. The approximate number of participants for past sessions is about 85 individual Network members.
METHODOLOGY:
We will continue to offer updated versions of our formal class, “Cool Creative Communications.” We will teach at least four technology classes.

The NN/LM MCR will host at least four Sandbox Sessions. We will continue to select products with the following criteria:
1. They are free, have an available free trial, or are commonly available;
2. They are accessible on secure servers or not blocked by institutional policies;
3. Features are easy to learn; and
4. Participants can have a quality experience within 60 minutes (for more complex products, we will split the sessions up into parts).

EVALUATION:
1. 90% of class participants evaluating the “Cool Creative Communication: Three Part Class” will indicate that it met the learning objectives.
2. At least 90% of those responding report that the “MCR Sandbox Session” was fun.
3. 60% of at least 75 respondents from the target cohort to a questionnaire indicate that they adopted at least one new showcased technology per year.