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Academic Librarians Expanding Rural Information Access in the U.S. Midwest

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Abstract:

Purpose: Small towns that dot the landscape of the Midwest USA are often hundreds of miles apart, have limited internet connectivity, and populations with lower socioeconomic status and poorer health than in urban areas. Open access for these areas requires action by libraries.

Methods Through a partnership between the University of Missouri's (MU's) iSchool, MU's J. Otto Lottes Health Sciences Library, and the National Network of Libraries of Medicine (NNLM), MidContinental Region, we are creating a network of practice across the Midwest that will develop a cohort of LIS students who will serve as Catalysts for Community Health.

Results/Outcomes The network of practice should increase accessibility and health literacy for clinical practitioners, community-based organizations, and individuals in underserved and rural areas across the Midwestern United States.

Conclusions/recommendations Progress and acceptance of a bottom-up approach to designing support has been successful so far.

Keywords: Academic libraries; Health information; Rural areas.

Academic Librarians Expanding Rural Information Access in the U.S. Midwest

Small towns that dot the landscape of the Midwest are often hundreds of miles apart, have limited internet connectivity, and populations with lower socioeconomic status and poorer health than in urban areas. Poor health is often both a cause and a product of poverty – that is, poverty can cause poor health, and poverty also limits access to the resources that can improve health, such as doctors, hospitals, and also access to quality information about health. A number of studies confirm the relationship between poor rural and urban areas and health disparities (Agency for Healthcare Research & Quality, 2016; Gilmour, 2007).

There are many factors that contribute to poor health, but knowledge about healthy habits and disease management can mitigate some of those factors. Librarians are particularly interested in providing access to easily understood, evidence-based, and accurate health information. There is a wide availability of quality online health information, but it does not always reach people in areas of high poverty (cf. Levy, Janke, & Langa, 2014; Loignon, Dupéré, Fortin, Ramsden, & Truchon, 2018), and when it does, the messages provided by that information may not be culturally appropriate (Birru & Steinman, 2004).

Through a partnership between the University of Missouri's (MU's) iSchool, MU's J. Otto Lottes Health Sciences Library, and the National Network of Libraries of Medicine (NNLM), MidContinental Region, we are creating a network of practice across the Midwest that will develop a cohort of LIS students who will serve as Catalysts for Community Health, increasing accessibility and health literacy for clinical practitioners, community-based organizations, and individuals in underserved and rural areas across the Midwestern United States. Bossaller and Adkins, professors in the iSchool, worked with the MU Health Sciences Library Director (Ward) and the NNLM Missouri Coordinator (Pryor), academic librarians in specialized roles, to create a plan that employs the relatively rich resources of academic libraries in service to rural and lower-resourced areas.

Literature Review

Librarians can support health literacy efforts, and resources do exist for librarians who want to expand their health information knowledge (e.g., Medical Library Association Specialization in Consumer Health). However, studies have shown that librarians do not always feel comfortable providing health information (Flaherty, 2015). While some LIS programs have extensive health sciences and health informatics coursework, most do not (Raszewski, Dwyer, & Griffin, 2019). Moreover, most health information professionals have more in-depth curricular needs than are answered in regular LIS master's degree programs (Ma, in press).

There is a demonstrated divide between haves and have-nots regarding access to health information in the public library setting. Some public libraries are hiring nurses, counselors, and social workers to provide services to vulnerable populations (Michaelson Monaghan, 2016), but rural public libraries are unlikely to have the capacity to hire non-librarians. Many do not, in fact, have an MLIS librarian. Researchers have found that libraries in economically vulnerable communities provide fewer services than those in wealthier neighborhoods (Adkins, Haggerty, & Haggerty, 2015; Pribesh & Gavigan, 2009).

Health information librarianship models discuss curricular needs for people who intend to work in the health sciences librarianship community. The Medical Librarian Association (MLA) has

developed a curricular specialization entitled Consumer Health Information Specialization (CHIS), designed for medical librarians, public librarians, allied health professionals, and other information professionals. NNLM likewise delivers health information training to librarians around the United States. The Medical Library Association's (2018) Symposium on Health Information for Public Librarians brought together public librarians and health sciences librarians for the All of Us Research Program, and developed a list of learning objectives for health information professionals.

Models and theories of embedded librarianship demonstrate the impact that librarians can have when they work directly with information seekers. Many studies have been oriented toward subject librarians embedded in student classes, finding that they provide just-in-time help and become valuable members of the learning team. Pendleton and Chatman (1998) found that the information-poor are more likely to seek help from their peers rather than seeking experts. Placing librarians in clinics and other settings where health information is available will bring evidence-based health information to vulnerable people, leading to better health outcomes than personal experience and hearsay.

Librarians dedicated to health information services also play a significant role in influencing patient outcomes. Lyon et. al. (2015) found that most librarians who serve at the clinical point-of-care were considered valuable members of the team, and their research even saved lives. However, the librarians reported that their training was limited, as they were mostly self-trained and said that they would have benefited from medical training (e.g., language, procedures) so that they could become valuable team members more quickly. Caulfield-Noll & Gorman (2017) write that the value-added services offered to patients by librarians (such as customized packets) were appreciated by both the healthcare team and patients.

Goals & Methods

Our discussion so far has emphasized the health information needs of members of the public in rural areas, where they may not have an institute of higher education, and public libraries. However, the librarians who work with the NNLM are typically housed in academic health sciences libraries, and they are contracted to provide services for their whole region, rural and urban areas alike. They are, therefore, naturally motivated to work with rural public and school libraries in their regions, as well as associations serving rural communities, and many have a long history of doing so.

To engage academic librarians in providing health information for rural residents, we engage in two interwoven strategies that leverage the goals of the United States National Institute of Health (NIH) and the National Library of Medicine (NLM): to ensure equal access to biomedical and evidence-based research and resources across the whole country, with an intent to counteract socioeconomic disparities in health information and health behaviours.

Educating students to meet the demand for health information in rural areas, by providing an MLIS curriculum supplemented by classes in public health and health informatics. Our objective is to increase accessibility by training library and information science (LIS) students to help doctors find current and connect patients with consumer health information to increase their health literacy. To provide this education, graduate-level courses were chosen with the assistance of Ward (MU Health Sciences Library Director), and at least one of those courses will be taught by Pryor (NNLM Missouri Coordinator).

Ward, Bossaller, and Adkins worked together to discuss learning outcomes and desired knowledge, skills, and abilities from graduates of this program, in addition to the geographic limitations our students would face in pursuing coursework. Ward brought knowledge of the Medical Library Association's initiatives and practices of the previous NNLM Missouri Coordinator. Based on those conversations, we reviewed the list of online, health information focused courses available at our university to help students achieve those outcomes.

The University of Missouri has a comprehensive health sciences academic focus, including a medical school, nursing school, school of health professions, coursework in public health, and coursework in biomedical informatics. Of those, nursing, public health, and bioinformatics offer courses in the online format.

The final selection of non-LIS classes included Principles of Public Health, Introduction to Health Informatics, Consumer Health Informatics, and Health Care in the United States. These courses were chosen because they provided a broad focus on public health concerns, helped students become familiar with health informatics and ways of evaluating population-level health concerns, and familiarized students with the language of public health.

NNLM Missouri Coordinator Pryor was hired after these discussions took place, but offered feedback on these outcomes based on her health science librarianship experience in other academic library settings and the resources available through NNLM. After reviewing the coursework, she realized that she could contribute to the LIS curriculum by creating and offering a course in Consumer Health Information. This course differed from the Consumer Health Informatics course offered by the Department of Health and Medical Informatics in that the Informatics course focuses on *how* to make medical information available for consumers, emphasizing systems and technologies, while the Consumer Health Information class focuses on *what* medical information is already available for consumers. These two classes complement each other in providing a foundation for helping our students learn how to meet people's health information needs. Our students will bring the additional component of cultural sensitivity and appropriate communication to this knowledge to help create knowledge systems that meet the needs of their communities.

Creating a regional network of contacts who come together to discuss information needs specific to their own communities. Students enrolled in the program will also work with NNLM to continue building open online platforms and advocating for the health information needs of people living in their areas. A Native American population in Wyoming, for instance, will have different health needs and health practices than a farming community in Nebraska.

Pryor liaised with the five other NNLM coordinators in the Mid-Continental Region to enlist support and create a work group for the project. Pryor also worked to schedule meetings for selection of candidates for the grant program and for group meetings during the program concerning how NNLM coordinators could engage in mentoring and support of the students during their clinical experiences. NNLM coordinators provide students with multiple perspectives – they represent their regions and are familiar with the health needs of those particular areas, they represent those needs to the broader NNLM and NIH organizations, and they communicate what NNLM and NIH can offer to communities.

Additionally, through her work in co-creating the Missouri Area Health Education Centers' Digital Library (MDL) in 2005, Ward has extensive networks with health sciences librarians

in the Midwestern region. Ward drew on her networks to enlist additional support and develop a general overview of the most pressing health information issues in rural areas.

Future Goals

As of this writing, we have only just received news of funding for this project. The ideas mentioned above were developed on the assumption of funding, but some of the work to be done can be done without additional funding.

Increased coverage of health sciences librarianship content in classes.

- Ward and Pryor will solicit guest speakers to discuss health sciences informational issues for classes, including required classes for the MLIS degree such as Reference Services and Collection Management.
- The research team will discuss ways to incorporate health sciences librarianship into assignments undertaken by students in their required courses on information technology, reference services, and organization of information. Ward and Pryor will review ideas and provide input on authentic problems of practice that students are likely to face when working in the health science arena. These health science focused assignments can be undertaken by any students in the classes, not just those who are chosen for the cohort.

Creation of a cohort of student “Catalysts for Community Health.”

- Twelve students will be selected from rural and underserved urban backgrounds to participate in an MLIS degree focused on public health.
 - We will focus on student recruitment from minority-serving institutions in the region, such as Haskell Indian Nations University (serving indigenous Native American populations), Lincoln University and Harris-Stowe University (historically Black universities).
 - These students will undertake the classes chosen above, with the goal of placing those students in rural and urban public libraries with high service needs.
- Pryor and other NNLM MidContinental Region coordinators will work together as an advisory board to the grant-funded project, engaging in such actions as helping to select strong potential candidates for admission to the grant-funded program and mentoring those candidates throughout their MLIS program through regular contact and discussion.
- An additional advisory board will be created of respected community leaders who may or may not be in the health professions, but who can speak to community needs, community strengths, and cultural values. This advisory board will help our students determine how to engage in culturally-sensitive interactions and create information products that are respectful of local values.
- Students selected for the grant-funded component of this program will complete an internship at a rural community health or wellness agency. NNLM coordinators will help identify these agencies and work with staff at these agencies to clarify expectations for students and their experiences.
- Students will engage in a cohort-driven capstone project. Ward’s experience creating MDL and her work with a state-wide health literacy project have given her the expertise to lead students in creating health information resources for a network of peers, and work with NNLM colleagues to guide students in a group project to produce culturally appropriate information resources available for their communities.

Conclusion

We anticipate using these results to improve NNLM connections with rural communities, train librarians to work with these communities effectively, and to ensure that all communities get the benefit of open access, publicly-funded research results. Professionals who can speak across disciplines and who are grounded in empowering their own community can lead powerful transformation. The students in this program will be recruited to remain in their community as they research and serve as part of their education, working across several academic disciplines with professionals in libraries and healthcare settings. They will contribute to knowledge that leads to healthy community change.

We employ a bottom-up approach to connect with rural communities, asking them to identify their needs rather than imposing our perspectives on them. At the same time, we work with local health professionals to discuss their needs and limitations, to meet their information needs as well. Our students will be working with clinicians and social workers at the point of need and in their own communities, and adding value to the health practitioners' goals by providing patients with easily comprehended and culturally sensitive information about conditions, wellbeing, or lifestyle that they can use to support healthy decision-making in their daily lives.

The community engagement research that is produced through our partnerships will be ripe for testing across multiple contexts. Poverty and poor health occur in tandem around the world, and we hope that this interdisciplinary model focusing on empowerment through health information will be widely adopted as a model within LIS.

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