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Developing an Online Consumer Health Course for Public Library Staff

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Abstract
The National Network of Libraries of Medicine, Greater Midwest Region (NNLM GMR) received funding to support the evaluation and development of an asynchronous consumer health information course. Requirements of this project included: incorporating recommendations from NNLM instructors, National Library of Medicine staff and public library staff; piloting the revised course with a nationwide cohort; incorporating feedback from the pilot; and delivering a second instance of the revised course. The revised course meets existing requirements for public library certification and for Level 1 certification of the Medical Library Association’s Consumer Health Information Specialization.

Keywords
Public libraries, consumer health, asynchronous

BACKGROUND
Public libraries are a cornerstone of health information access for their communities. Even before the general public’s widespread adoption of the internet, libraries provided health information through print materials (Dalton and Gartenfeld 1981), CD-ROMs (Schell, Kitendaugh and Siegel 1999), and answering health reference questions (Deering and Harris 1996). Today’s increased availability of information online, often of dubious quality (Fox, Duggan 2013), creates a need for greater discernment in locating authoritative and reliable health information. In addition, changes to the United States healthcare system increase the need for patients and health care consumers to become more knowledgeable and engaged in their care (Office of Disease Prevention and Health 2010, Kaiser 2005). Barriers to effective patient engagement include both low health literacy and low digital literacy. Through providing access to actionable health information, reaching out to underserved populations, and hosting health-

Public libraries are the first place that many turn to for health information (Zionts et. al. 2010). Library staff, as trusted providers of health information (Horrigan 2018, Smith, Hundal and Keselman 2014, Flaherty 2016, Rubenstein 2016) are uniquely positioned to fill their community’s need for guidance in selection of health information resources. However, research shows that many public library staff feel uncomfortable or ill-equipped at answering health-related reference questions (Linnan et. al. 2004, Dieterle and Becker 2011, Rubenstein 2016, Kouame, Harris and Murray 2005). Library staff welcome the opportunity for additional training. Research supports the need for education to increase staff knowledge and confidence in handling health-related questions (Linnan et. al. 2004, Harris et. al. 2005, Rubenstein 2016, Morgan et. al. 2016). Public library staff explicitly express interest in: learning about reliable sources for health information; matching patron needs with appropriate resources; ethical issues related to health reference; teaching patrons to search for and recognize reliable health information; privacy and confidentiality concerns; and keeping the interaction professional (Linnan et. al. 2004).

The National Network of Libraries of Medicine (NNLM) meets the demand for educating library staff on health information resources and services through free educational opportunities. NNLM was established by Congress in the Medical Library Assistance Act of 1965 to serve the information needs of health care professionals. During the mid-1990s, the National Library of Medicine (NLM) released the consumer health database MedlinePlus, and the charge expanded to include health consumers and public library staff. As the outreach arm of NLM, the National Network of Libraries of Medicine seeks to “advance the progress of medicine and improve
public health by providing U. S. health professionals with equal access to biomedical information and improving individuals’ access to information to enable them to make informed decisions about their health” (National Network of Libraries of Medicine 2019). NNLM provides education to public library staff as a means to broaden awareness of this access to the general public.

NNLM’s webinars, in-person instruction, and asynchronous courses cover a wide range of health information topics, including senior health, mental health, health news, and genetics. Educational opportunities feature National Library of Medicine (NLM) consumer health resources, such as PubMed, MedlinePlus, LactMed, and ToxTown. In addition, relevant health information resources from the National Institutes of Health (NIH) are presented, such as those from the National Institute of Aging and the National Center for Complementary and Integrative Health. Educational opportunities offered through NNLM are approved for continuing education (CE) credits through the Medical Library Association (MLA). Earning CE credits demonstrates a commitment to ongoing education and is required by public library staff in some states (American Library Association 2014).

Beyond educational opportunities, NNLM provides professional development funds for staff to attend conferences that are beyond the budget of their libraries. NNLM also funds a variety of projects organized by public libraries, including projects which create connections to health resources (Smith 2010), support information-seeking about the Affordable Care Act (Collins 2015), support health information needs assessments within communities (Mi, Stefaniak and Afonso 2014), develop training curriculum for public library staff (Morgan et. al. 2016), and partner with public libraries to teach the public how to identify high quality health information online (Xie and Bugg 2009).
DEVELOPMENT

In the 2017-2018 fiscal year, NNLM supported the design, delivery, and evaluation of an online curriculum for public library staff. This new curriculum emphasizes consumer health resources created by NLM, NIH and other offices of the federal government. The project team, led by staff at the Greater Midwest Region of the NNLM, was charged with:

- Incorporating input and recommendations from NNLM instructors, NLM staff, and public library staff to revise and redesign an existing consumer health course to be relevant for the public library audience.
- Developing curriculum to meet the equivalent of Level I certification from the Medical Library Association (MLA) Consumer Health Information Specialization.
- Piloting the online curriculum with a cohort of up to fifty diverse public library staff from across the nation.
- Incorporating feedback from the pilot and delivering revised curriculum to a second group of up to fifty public library staff.
- Demonstrating how courses in the curriculum meet existing state/regional public library certification requirements.
- Developing guidelines for NNLM instructors in the design and delivery of courses for public librarians.

An existing NNLM course, *Health & Wellness @ the Library: The Essentials of Providing Consumer Health*, was selected for redesign for the new curriculum. At the outset of the project, two primary partners in this project were identified: Online Computer Library Center’s (OCLC) WebJunction and the University of Iowa’s Center for Evaluation and Assessment (CEA). WebJunction was invited to share their experience in developing successful online education for
public library staff, particularly their experience in developing online communities of practice to support the cohort experience. The University of Iowa’s CEA was selected to develop evaluation tools for both cohorts. CEA would analyze the evaluation data.

Beyond these partnerships, the project team convened an advisory group comprising of members from within NNLM’s Regional Medical Libraries and National Network Coordinating Office, as well as a representative from WebJunction. The advisory group met bi-monthly and outlined the following goals within the charter: use evaluation data to recommend course revisions; provide input for promotional materials; contribute to developing guidelines and a continuation plan; and make recommendations for a final report. Throughout the project, this advisory group provided ongoing input and recommendations from across NNLM.

The course would provide sufficient credit hours to enable course participants to obtain the first level Consumer Health Information Specialization (CHIS) certificate through the Medical Library Association. This certificate recognizes individuals who have received training to provide health information services to consumers, fulfilling all of the eight competencies outlined in the certificate program. The value of the CHIS program has been documented. In a recent qualitative study, public library staff in Oklahoma reported feeling more confident with and knowledgeable of health information delivery than staff who had not obtained the certificate (Rubenstein 2018).

The curriculum development process began by establishing initial evaluation data on the existing course, Health & Wellness @ the Library: The Essentials of Providing Consumer Health. Initially, minimal changes were made to this course. The project team adopted the cohort model desired by the sponsoring agency, the National Library of Medicine. After the initial cohort, the project team undertook a period of content revision using evaluation data. Following
the revision, the project team enrolled the second cohort into the revised course. This cohort provided additional data to inform the final revision prior to release of a new course, now named *Stand Up for Health: Health and Wellness Services for Your Community*.

[Figure 1 near here]

**Cohort One: Health & Wellness @ the Library**

The original *Health & Wellness* course was changed as little as possible in order to allow evaluation results to drive the revision of the course. Minimal changes were required to incorporate the cohort experience requested within the guidelines issued by the sponsoring agency. Cohort-based programs, defined as a group of students who are assigned go through a program together, are traditionally used in professional training. Features of cohort programming include: expectation that students will provide feedback and emotional support to their peers; opportunity to be exposed to different perspectives during class discussion; and ability to share work experiences with fellow students. The ideal size for cohort instruction is approximately fifteen students, which means that the cohorts organized for the course were considered large (Maher 2005).

The project team worked with the eight NNLM Regional Medical Libraries to solicit the names of public library staff interested in enrolling in the first cohort of the course. The goal was to enroll library staff from small and large libraries, and to have nationwide representation. A total of sixty-five names were obtained through this recruitment process, and these public library staff were enrolled in the first cohort in the fall of 2017. Of this initial cohort, forty-four began the course, thirty-four completed the course, and twenty-four went on to request their Level I Consumer Health Information Specialization (CHIS) certificate from the Medical Library Association (MLA).
The Center for Evaluation and Assessment (CEA) provided evaluation results for the first cohort to the advisory group. Takeaways from this first evaluation indicated a need to:

- Revise the Week Four topic, “The Library as a Healthy Place,” which was ranked as the least useful topic to participants.
- Create smaller cohort groups for manageability.
- Add additional content about collection development.
- Improve discussion questions in Week Three, “Health Resources: There’s a (Book, Website, App) for That!” which was ranked as the least useful discussion to participants.
- Add additional support information about using and navigating Moodle.
- Replace supplemental readings with links to resources, such as information on handouts and brochures.

WebJunction contributed to the evaluation data, presenting recommendations to emphasize cohort engagement as well as formatting within Moodle. These recommendations included strategies for: creating an inclusive, engaging environment; optimizing discussion within the cohort participants; and improving learner navigation in Moodle. Along with these recommendations, the team at WebJunction provided a sample mockup to improve navigation within the course.

Due to the attrition rate of 47% in this course, the project team decided to administer an online assessment to participants who dropped out to identify reasons for their lack of participation. Results were not surprising. Of the ten responses received, the primary barrier identified was lack of time. The attrition rate informed the registration process for the second cohort. The project team designed an alternative recruitment method and accepted a larger number of registrants.
Revision and Preconference

NNLM instructors on the project team worked closely with an instructional designer at the University of Iowa to make changes. All changes were driven by the evaluation data and recommendations from WebJunction. The course, once revised, was renamed *Stand Up for Health: Health and Wellness Services for Your Community*. The Medical Library Association (MLA) approved the course for 12 credits of continuing education. Taking *Stand Up for Health* enables public library staff to meet all competencies required to obtain the first level of CHIS certification. Renaming and accrediting the new course separately allows NNLM to continue offering the original course, *Health & Wellness @ the Library*, which is relevant to an audience broader than public library staff.

During this period of revision, project instructors were adapting the revised *Stand Up for Health* curriculum for an in-person session to be presented at the Public Library Association (PLA) Conference in March 2018. The entire course would be taught as a full-day pre-conference session. Due to mode of delivery, the project team adapted some assignments and content. The pre-conference session was attended by eighty-five public library staff and received positive feedback from participants. In addition to offering the pre-conference, the project team exhibited at the PLA Conference in order to promote the course to public library staff.

Cohort Two: Stand Up for Health

As stated previously, the project team made revisions to the recruitment process for the second cohort. An online form was developed for registration and the Public Library Association (PLA) and WebJunction assisted with recruitment. Demand to join the cohort was high, with 288 individuals seeking entry. To allow for the high rate of attrition, but keep the workload manageable for instructors, a total of seventy-six participants were registered for Cohort Two. Of
these, sixty-four public library staff began the course, forty-three completed the course, and thirty-three went on to request their Level I Consumer Health Information Specialization.

Following Cohort Two, the Center for Evaluation and Assessment (CEA) presented the advisory group with the evaluation data. Takeaways from the evaluation were:

- The group liked the cohort model.
- No participants in the second cohort reported problems using Moodle.
- The attrition rate was similar to the first cohort.
- Participants would recommend the course to a colleague.
- All participants found the discussion assignments useful.

During the presentation of the data, the CEA provided an overview of evaluation from both cohorts, which reflected that:

- Both groups overwhelmingly liked the cohort model.
- The community wellness report was the most useful activity for both cohorts.
- 100% of participants in both cohorts felt the modules were aligned with the learning objectives.
- Participants in both cohorts would recommend the course to a colleague.

**Wrap-Up and Continuation Plan**

The new course was offered immediately following Cohort Two, allowing those who were waitlisted to enroll in Cohort Three right away. The advisory committee developed a continuation plan, recommending that NNLM schedule *Stand Up for Health* quarterly, with additional offerings made as courses filled up. Additional cohorts were offered in the spring, summer, and fall in order to meet demand. Promotional materials, in the form of a brochure and
The in-person curriculum for *Stand Up for Health*, designed for the pre-conference session at PLA, was revised. Materials are available to NNLM instructors in the institutional Learning Objects Repository. New *Stand Up for Health* instructors are encouraged to shadow current instructors before they offer their own cohort or in-person session. As of March 2019, over 600 public library staff have completed the course either online or in-person.

**Follow-up with Participants**

The National Network of Libraries of Medicine, Greater Midwest Region collaborated with the NNLM National Training Office (NTO) to develop a follow-up survey. This survey is sent to participants three months after the final course work. The survey is designed to:

- Expand upon the evaluation which participants receive immediately after course completion.
- Determine if participants transfer their learning and, if so, how they are doing this.
- Provide justification for the resources expended in the development and administration of *Stand Up for Health*.
- Assist with future planning for this course and other courses from NNLM.

Survey results show that course participants are sharing what they learned and putting their training to use. As of February 2019, respondents who completed just one week of *Stand Up for Health* reported learning about one or more new resources. Nearly all respondents reported sharing what they learn. Over half of the respondents reported that they have developed new programming or outreach efforts as a result of taking *Stand Up for Health*. Of the remaining
46%, many stated that they intend to start new programming or outreach. Additional comments are found in Table 1.

[Table 1 here]

**DISCUSSION**

The impact of *Stand Up for Health* on participants is evident from the results of the follow-up survey. In addition, a fruitful partnership developed between the National Network of Libraries of Medicine and the Public Library Association. PLA formed a health interest group for its members to continue discussing and sharing information on consumer health. A new website, Healthy Community Tools for Public Libraries, was launched to compile training resources, program ideas, and trustworthy health websites and databases. NNLM approached the Association for Rural and Small Libraries (ARSL) to offer a pre-conference session at ARSL’s annual conference in 2018. NNLM GMR sponsored seventy-five public library staff to attend that session in Springfield, Illinois.

The National Network of Libraries of Medicine, through courses such as *Stand Up for Health*, supports public library staff as they seek to gain the knowledge and confidence to meet the health information needs of their communities. Public library staff reported satisfaction and gratitude in the course surveys.

- “This class helped me strengthen my ability to answer health related resource questions, with accuracy and efficiency.”
- “Even though I did not finish the assignments, it was a very useful, informational course. I learned a lot and continue to work to incorporate these learnings.”
- “Learning about reliable resources was very important to me and I have been able to pass some of this information along to fellow staff as well as patrons.”
“This course has been a great catalyst for our library to think more about our role connecting people to consumer health information. Thank you!”

Due to the success of *Stand Up for Health*, NNLM has gained opportunities to present in-person at various library association conferences and regional/state library meetings. NNLM continues to offer *Stand Up for Health* in its asynchronous cohort format, working together with public library staff to promote and support health and wellness nationwide.

**References**


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Figure 1. Poster designed for the Medical Library Association Annual Meeting 2019.

<table>
<thead>
<tr>
<th>3 Month Follow-Up Survey Results</th>
<th>Participants Have or Plan to</th>
</tr>
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<tbody>
<tr>
<td>Share a resource with a fellow staff member?</td>
<td>94%</td>
</tr>
<tr>
<td>Share a resource with a patron(s)?</td>
<td>97%</td>
</tr>
<tr>
<td>Share criteria for evaluating trustworthy health information with patron(s)?</td>
<td>91%</td>
</tr>
<tr>
<td>Share a resource with a library staff member from another organization?</td>
<td>74%</td>
</tr>
</tbody>
</table>

Table 1: Follow-up survey administered at three months.