The National Network of Libraries of Medicine's outreach to the public health workforce: 2001–2006

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Objective: The paper provides an overview of the National Network of Libraries of Medicine’s (NN/LM’s) outreach to the public health workforce from 2001 to 2006.

Description: NN/LM conducts outreach through the activities of the Regional Medical Library (RML) staff and RML-sponsored projects led by NN/LM members. Between 2001 and 2006, RML staff provided training on information resources and information management for public health personnel at national, state, and local levels. The RMLs also contributed significantly to the Partners in Information Access for the Public Health Workforce collaboration.

Methods: Data were extracted from telephone interviews with directors of thirty-seven NN/LM-sponsored outreach projects directed at the public health sector. A review of project reports informed the interviews, which were transcribed and subsequently coded for emergent themes using qualitative analysis software.

Results: Analysis of interview data led to the identification of four major themes: training, collaboration, evaluation of outcomes, and challenges. Sixteen subthemes represented specific lessons learned from NN/LM members’ outreach to the public health sector.

Conclusions: NN/LM conducted extensive information-oriented outreach to the public health workforce during the 2001-to-2006 contract period. Lessons learned from this experience, most notably the value of collaboration and the need for flexibility, continue to influence outreach efforts in the current contract period.

INTRODUCTION

The public health community’s need for outreach led by librarians is evident in the extent to which professional competencies in public health relate to areas of expertise among library and information professionals [1]. In 2001, the Council on Linkages, a collaborative effort to foster connections between public health education and practice, formulated sixty-eight professional competencies for public health personnel [2]; many of these refer to the retrieval, analysis, and management of information and data. Gebbie and Turnock also recently underscored the importance of information management for public health workers with the observation that, “Public health practice, by its very nature, is dependent on and driven by information” [3].

A significant portion of the National Library of Medicine’s (NLM’s) financial support of health information outreach, including outreach to the public health workforce, is administered through the National Network of Libraries of Medicine (NN/LM) [4], which has evolved significantly since its inception with the Medical Library Assistance Act (MLAA) of 1965. Today, NN/LM is made up of eight Regional Medical Libraries (RMLs), each serving under a 5-year, competitively awarded contract with NLM and over 5,000 full and affiliate member organizations.

Over the years, NLM has supported a wide variety of activities focused on reaching health care providers and diverse populations. Since the 1991-to-1996 RML contract period, NN/LM has had a defined outreach program initially directed at rural, underserved, mi-
nority, and unaffiliated health professionals [5]. The scope of the contracts with the eight RMLs expanded significantly in the 2001-to-2006 contracts with the added responsibility of promoting health information access among consumers. To achieve NN/LM’s outreach objectives, the RMLs have increasingly relied on partnerships with NN/LM members. NN/LM supported two major outreach initiatives in the 1996-to-2001 contract period. One initiative supported fifty-three projects to improve access to electronic information for consumers [6]. Six of these consumer-focused projects involved collaborations with a public health department. The other major outreach initiative provided support for twenty-seven projects specifically directed at improving access to electronic information among public health departments and public health personnel. A two-day public health forum held at NLM in April 2001 allowed representatives of these projects to share approaches, strategies, barriers, and solutions to addressing the health information needs of the public health workforce [7]. Lessons learned were grouped under the broad themes of assessing needs, establishing project objectives, fostering partnerships and sustainability, and fulfilling needs through Web-based resources.

Also among the outreach efforts conducted by RML staff in the 1996-to-2001 contract period was a two-year sabbatical project conducted by an RML associate director. With joint sponsorship from NLM and the CDC, the sabbatical project began in January 1998. Data collection entailed semi-structured interviews and focus group sessions that preceded training sessions for public health practitioners. Results were subsequently published in the CDC’s Morbidity and Mortality Weekly Report [8]. The publication was among the first analyses of public health workers’ information needs, and it significantly informed the subsequent outreach efforts of RML staff and NN/LM members.

This article provides an overview of the public health outreach efforts conducted by RML staff as well as an analysis of lessons learned from projects sponsored through the RMLs during the 2001-to-2006 contract period, building on the ideas shared at the April 2001 forum.

PUBLIC HEALTH INFORMATION OUTREACH BY REGIONAL MEDICAL LIBRARY STAFF

As Cahn et al. have described, the two-day forum held at NLM in April 2001 was a seminal event in public health information outreach for NLM, the RMLs, and NN/LM members [9]. In the five years following the forum, the staff at the eight RMLs pursued a wide array of outreach efforts directed at public health, with at least one staff member at each RML responsible for public health outreach. This RML focus on outreach to the public health sector continues in the current 2001-to-2011 contract period.

During the 2001-to-2006 contract period, RML staff continued and deepened their participation in the Partners in Information Access for the Public Health Workforce (Partners) collaboration. RML associate directors and other RML staff served as members of the steering committee guiding this national collaboration, helping to shape the development of Partners-sponsored projects and the PHPartners.org Website. Led by NN/LM’s National Network Office, the redesign of the PHPartners.org Website relied heavily on the expertise of RML staff.

Much of the RMLs’ public health outreach effort during the 2001-to-2006 contract period was guided by a cross-regional logic model developed by a task force formed in 2002 and chaired by an RML associate director. The resulting model, available from the NN/LM Website, articulated three objectives [10]. For each objective, the model noted available resources, prescribed activities for RML staff in each region, specified milestones within a one-year timeframe, identified outputs expected as a result of activities, and established desired outcomes.

For example, one of the logic model’s objectives focused on increasing public health workers’ skill in using NLM resources. To support this objective, the model called for developing a basic training package that could be used by RML staff and others when teaching classes for public health personnel. To meet this need, NN/LM’s National Network Office coordinated the development of a training manual with learning objectives based on the Council on Linkages competencies in public health practice. RML staff, NLM staff, and volunteers from NN/LM member libraries contributed content. As part of the immediate distribution and promotion of the manual, the authors led a full-day continuing education event at the 2004 American Public Health Association annual meeting in Washington, DC. With the assistance of the University of Michigan, the manual’s content was subsequently reformatted and made available as an online tutorial linked from the PHPartners.org Website.

Guided by the NN/LM logic model and with the training manual as a resource, the RML staff conducted 345 outreach activities directed at public health personnel in the 2001-to-2006 contract period. As shown in Tables 1 and 2, these activities represented 13% of all RML-led outreach activities. Complementing the efforts of RML staff, NN/LM members conducted more than 1,300 outreach activities directed at public health personnel as part of RML-funded projects during the 2001-to-2006 contract period.

In addition to training, RML staff conducted outreach to public health personnel through exhibits at national- and state-level conferences. During the 2001-to-2006 contract period, the RMLs assisted the NLM exhibit at the annual meetings of the American Public Health Association, and they were responsible for ex-

### Table 1
National Network of Libraries of Medicine (NN/LM) public health projects, May 1, 2001–April 30, 2006

| Projects                | Number |
|------------------------|--------|
| Total projects         | 1,094  |
| Public health–focused projects | 113    |
hobbits at meetings of the National Association of County and City Health Officials, the Association of State and Territorial Health Officials, the Society for Public Health Education, the Council of State and Territorial Epidemiologists, and numerous state public health associations.

One of the most significant challenges for NN/LM members in the South Central and the Southeastern/Atlantic Regions came in 2005 with Hurricanes Katrina and Rita. While the initial response of the RMLs in these regions focused on facilitating communication and responding to the needs of NN/LM member libraries in Gulf Coast states, these RMLs also identified opportunities to improve the public health information infrastructure in affected areas. In the winter and spring following the hurricanes, the RMLs awarded more than $200,000 to 44 NN/LM member organizations in affected areas. The Houston Academy of Medicine-Texas Medical Center Library, the RML for the South Central Region, also installed computers with Internet connections to support health professionals working in Houston-area evacuation centers.

NN/LM member libraries have conducted extensive outreach to public health personnel, often with support from the RMLs. The projects included in the following analysis of NN/LM-sponsored public health projects are a subset of all NN/LM projects with a public health focus, but they illustrate the variety of approaches NN/LM members have taken in their outreach to the public health workforce.

PUBLIC HEALTH INFORMATION OUTREACH BY NATIONAL NETWORK OF LIBRARIES OF MEDICINE MEMBERS: ANALYSIS OF INTERVIEWS WITH PROJECT DIRECTORS

Interview methods and data analysis

To gain a better understanding of the approaches used and lessons learned from outreach projects targeting the public health sector, 37 telephone interviews were conducted with project directors. The projects were selected by NN/LM National Network Office staff from those focusing on the public health sector and funded during the 2001-to-2006 contract period. Projects were selected primarily because of their breadth of scope. While many smaller projects such as exhibits at state public health conferences were also funded, projects selected for interviews represented those with a relatively broad scope as judged from the project’s level of effort and funding. These projects, most of which were supported with funding amounts between $20,000 and $50,000, reflected a rich diversity of approaches to outreach. The projects represented outreach efforts conducted across NN/LM’s 8 regions. The projects were almost evenly divided between predominately rural (18) and urban areas (19). Table 3 identifies the projects and provides brief descriptive information.

An invitation email was sent to each of the potential interviewees describing the purpose of the interview and suggesting a possible timeframe for scheduling the telephone interview. Many project directors responded with the first contact; a second email was sent to those who did not. Only two instances had no response, which was subsequently discovered to be a consequence of the project leaders’ transfer to other positions. In these two cases, another key person on the project was interviewed.

After telephone interviews were scheduled, an outline of the questions that would be asked was sent to the interviewees. The interview questions (Appendix) were based on those asked as part of an earlier study of fifty-three consumer health-oriented projects sponsored by NN/LM [11]. Interview questions focused on methods of training public health personnel and raising their awareness of information resources, developing new information resources, enhancing the local information infrastructure, and understanding the role of information management in public health practice. Interviews lasted from thirty minutes to an hour, were recorded with permission, and were later transcribed by the interviewer (Stavri). Content analysis of data from the thirty-seven interviews followed principles of reading for meaning and coding for themes [12]. Several readings were needed to achieve these goals, and the transcripts were coded a final time using NVivo software so that themes could be more easily discerned and organized hierarchically.

Findings

Almost all projects focused on providing or extending information services to public health personnel. Exceptions to this approach included one project that sought to model the communication of information and the possible impact of information interventions in a local health department [13]. Another project focused on developing plans and a proposal for future outreach that was subsequently sponsored by another agency.

Among the projects that sought to extend information services, several developed Websites for use by public health workers. Many projects focused on developing classes to address various aspects of information management in local settings. Library staff associated with many projects went to public health agencies and organizations, while others taught public

| Led by Regional Medical Library (RML) staff | Led by NN/LM members as part of funded project | Total |
|------------------------------------------|---------------------------------------------|-------|
| All outreach activities                   |                                             |       |
| 2,738                                    | 6,807                                       | 9,545 |
| Outreach activities involving public health organizations | 345                                         | 1,661 |

Table 2
NN/LM public health activities, May 1, 2001–April 30, 2006
health personnel who came to library settings. Tables 4, 5, and 6 summarize the varied objectives of the projects, the public health personnel who were the focus of outreach efforts, and the locations where outreach activities were conducted.

Table 7 presents the themes that emerged from the analysis of interviews with directors of the thirty-five projects that sought to provide training and other information services to public health personnel. The four major themes that emerged during these interviews were related to effective approaches to training public health workers, recommendations for collaboration with public health organizations, outcomes evaluation, and challenges to public health information outreach. The analysis revealed a total of sixteen specific lessons learned, presented in Table 7 as subthemes.

Limitations

Several factors limited the findings from this analysis of public health projects. Most significantly, data collection relied exclusively on self-reports from project directors. Additional findings might have emerged from interviews with project participants or representatives of the public health organizations that collaborated with NN/LM members. Further, some projects had been completed for many months at the time of the interview with the project director, and key issues might have been unintentionally omitted by project directors because of this time lapse. Other projects were not finished at the time of the interview, leading to the possibility that the project director might not have been aware of important lessons that would be learned later in the project. Lastly, self-reporting from project directors could be slanted more toward positive responses. As noted previously, the directors of two projects were unavailable for interviews. The project staff who were interviewed in their place might not have been aware of all the issues that their project directors could have reported.

FUTURE DIRECTIONS

With the efforts of NN/LM member libraries and the RMLs, remarkable progress has been made in promoting public health workers’ access to and use of information. These efforts are contributing to the health of communities across the nation by providing resources and services that support evidence-based programs and policies. With public health continuing as an outreach priority for NN/LM, it is essential to review and learn from previous outreach efforts. Reviewing previous outreach ensures continuous identification of issues and concerns related to improving the public health workforce’s access to evidence-based information and to informing future NN/LM public health initiatives.

NN/LM’s continued emphasis on public health is reflected in its three main goals for the 2006-to-2011 contract period:

- to develop collaborations among NN/LM members and other organizations to improve access to and sharing of biomedical information resources throughout the nation
- to promote awareness of, access to, and use of biomedical information resources for health professionals and the public, with a particular emphasis on contributing to the Healthy People 2010 goal of eliminating health disparities
- to develop, promote, and improve electronic access to health information by NN/LM members, health professionals, and organizations providing health information to the public.

These goals closely follow those guiding NN/LM in previous contracts. The 2006-to-2011 contract period includes a new public health emphasis in the second goal, contributing to the elimination of health disparities. This objective is derived from one of the two overarching goals from Healthy People 2010, the national consensus statement of public health objectives [14]. Although outreach to minority health professionals and those serving minority populations was a fo-
cus of NLM's earliest outreach efforts [15], the goals for NN/LM now specifically acknowledge health disparities and charge NN/LM with contributing to their elimination. It is expected that NN/LM's emphasis on health disparities will be evident in many of the outreach activities of RML staff as well as the outreach projects sponsored through the RMLs.

Looking forward, it can also be expected that the RMLs will emphasize the value of community engagement and partnerships with community-based organizations for the projects they support. As evident from the Turning Point initiative sponsored by the Robert Wood Johnson and W. K. Kellogg Foundations, community-based collaborations have emerged as one of the most effective strategies for public health projects [16]. This approach will continue to be encouraged for all outreach projects sponsored through NN/LM, including projects directed at the public health sector.

Among NN/LM's specific objectives related to public health is the continued growth and promotion of PHPartners.org. As noted earlier, this Website serves as a portal for public health personnel and represents PHPartners.org, with routine maintenance provided by NLM and NN/LM. Awareness and use of PHPartners.org among public health personnel should continue to grow with the promotional activities conducted by RML staff and NN/LM members.

Finally, in the 2006-to-2011 contract period, a new objective for NN/LM focuses on developing regional emergency preparedness plans. These plans will rely heavily on partnerships with a wide variety of organizations, including medical libraries, public libraries, community health centers, Area Health Education Centers, and state and local health departments. In addition to developing plans based on the needs of libraries, public health personnel, and affected populations, the RMLs will continue to be prepared to provide assistance in response to natural disasters and other catastrophes impacting the health of the public. Disaster preparedness is also a significant theme in NLM's long-range plan for 2006 to 2016, with three of the seventeen recommendations in the plan focusing on this issue [17].

NN/LM's experience in outreach to the public health workforce during the 2001-to-2006 contract period significantly influenced both its goals for 2006 to 2011 as well as its outreach strategies. Building on several years of outreach directed at minority and underserved populations, NN/LM's goals now incorporate the public health concept of health disparities and focus its activities and resources on contributing to the elimination of disparities. Among strategies used in the past, partnerships and collaborations have emerged as keys to success for NN/LM's outreach efforts, evidenced by NN/LM's participation in the national Partners initiative as well as in many of the projects led by NN/LM members in collaboration with public health agencies in local communities. NN/LM members will continue to foster collaborative efforts to enhance the public health workforce's access to evidence-based, health-related information to improve the public's health.

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