The evolution of rural outreach from Package Library to Grateful Med: introduction to the symposium

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Outreach is now a prevailing activity in health sciences libraries. As an introduction to a series of papers on current library outreach to rural communities, this paper traces the evolution of such activities by proponents in health sciences libraries from 1924 to 1992. Definitions of rural and outreach are followed by a consideration of the expanding audience groups. The evolution in approaches covers the package library and enhancements in extension service, library development, circuit librarianship, and self-service arrangements made possible by such programs as the Georgia Interactive Network (GaIN) and Grateful Med.

INTRODUCTION

Outreach has enjoyed unprecedented prominence in the health sciences library community during the last decade of the twentieth century. In 1988, the Board of Regents of the National Library of Medicine (NLM) called for a panel to make recommendations to improve the dissemination of biomedical information. This call was prompted by congressional expressions of concern about access problems, particularly in rural areas. The report of the Outreach Planning Panel, issued in 1989, was incorporated into NLM's Long Range Plan [1]. This milestone was followed by other events that indicated the coming of age of outreach in the health sciences community in the last decade. At the 1991 annual meeting of the Medical Library Association (MLA), Lois Ann Colaianni delivered the Janet Doe Lecture on the outreach vision of the founders of the association [2]. At that same meeting, Linda Jacknowitz and Eve Ruff convened an informal meeting of outreach librarians, which eventually led to the formation of an MLA special interest group. In 1993, the Friends of the National Library of Medicine established the Michael E. DeBakey Library Services Outreach Award, and Jane Bryant started an electronic discussion group for outreach librarians, OUTLIB-L [3].

In these heady days of outreach, a symposium offering several perspectives of outreach in rural communities is warranted. As an introduction to the symposium, tracing the evolution of outreach from health sciences libraries to rural America prior to 1992 may be helpful. Where and when did it begin? What was the motivation? Who was involved? What were they doing? The cutoff date chosen for this exploration of the origins and growth of rural outreach purposely precludes consideration of the developments brought on by the Web, as sufficient time has not elapsed to afford the necessary historical perspective on the Internet era. While the intent of this paper is to provide only an outline of the development of rural outreach as gleaned from representative reports in the published literature, readers should be encouraged to continue the investigation.

WHAT IS MEANT BY RURAL AND OUTREACH?

Although ''rural'' and ''outreach'' are familiar words, considering their meanings in general dictionaries and specialized glossaries may be useful. A simple dictionary definition for rural is ''of or relating to the country, country people or life, or agriculture'' [4]. This definition certainly is consistent with a persisting, if nostalgic image, of rural America—the small family farm. In reality, the farm population, which accounted for nearly half the total population in 1860 and 30% in 1920, dropped to 1.9% in 1990 [5]. If not the family farm, what then is ''rural?''

Two federal schemes define rural in terms of what is not urban or not influenced by metropolitan areas. The U.S. Bureau of the Census scheme specifies population size and density for urban. By default, rural generally can be used to describe places with populations less than 2,500 or where population density is less than 1,000 per square mile. The Office of Manage-

ment and Budget (OMB) identifies metropolitan areas by examining census data in terms of counties. A metropolitan country is measured primarily with respect to population size and the influence of cities. Again by default, a nonmetropolitan county lacks a city with a population of 50,000 and is not integrated with an urbanized area.

The federal definitions for rurality are used to report statistics and to determine eligibility for governmental programs. The two schemes, however, are not consistent with each other or entirely satisfactory in identifying rural populations and places. This inconsistency has led to refinements and alternative classifications with higher minimum population thresholds for the definition of urban and gradations within the nonmetropolitan category based on population size, adjacency to metropolitan areas, economic activities, and social conditions. For example, there is now a designation of ''frontier'' for areas with extremely low population density (i.e., less than 7 people per square mile). The number of counties qualifying for frontier designation in 1996 was 402, located almost exclusively west of the Mississippi River [6].

While defined and all-too-often spoken of in contrast to urban areas, rural America is, in fact, a continuum of diverse communities with distinct social, cultural, economic, and political traits. Library services must take this diversity into account, and the description and evaluation of such services should specify the location of the rural community on the continuum.

Whatever the definition, rural connotes smallness and isolation by virtue of sparse population and geography. But rural areas encompass the greater part of American land (97.5% according to census figures), and the rural population is a sizeable and growing one, no matter that it represents a shrinking minority of the total population. The 1990 census puts the rural population at 61.7 million, representing 25% of the total population. According to 1999 OMB figures, there are 2,270 nonmetropolitan counties compared to 870 metropolitan counties. The national statistics, as mapped in the Cartographic Archives of the North Carolina Rural Health Research and Policy Analysis Program, clearly portray this more imposing nature of rural America [7].

Turning to outreach, ample definitions are readily available. One can choose from among the definitions of outreach offered in the *Oxford English Dictionary,* including the expected ''to reach or extend beyond.'' Equally apt are surpassing, outwitting, and outfitting when the passion, creativity, and determination of outreach proponents are considered.

In librarianship, the term ''outreach'' is of recent coinage. It makes its first appearance in *Harrod's Librarians' Glossary* in 1984, joining the likes of extension work, floating library, mobile library, and traveling library. Outreach is defined as

> The process whereby a library service investigates the activities of the community it serves and becomes fully involved in supporting community activities, whether or not centred on library premises. [8]

The *ALA Glossary of Library and Information Science* definition for ''outreach program'' is

> A library public service program initiated and designed to meet the information needs of an unserved or inadequately served target group, such as the institutionalized, senior citizens, or nonusers. Such programs may emphasize an aggressive publicity effort or extension services to the target group. [9]

Taken together, the definitions point to community analysis, service for other than customary audiences, and, crucial for rural areas, willingness to operate outside the library.

WHO IS SERVED?

The constant audience for outreach service has been the physician. The package library by mail, available as early as 1924, was the means for the national or state medical society library to reach its members, both rural and urban. The focus was still predominantly on physicians according to a presentation about extension services made at the annual meeting of MLA in 1948, although a few programs included nurses and the public [10].

In the 1970s, the audience broadened to all health professionals, as activities centered on community hospitals and their multidisciplinary and ancillary staffs. Not only were direct information services provided, but the rural hospital itself was an outreach recipient as nationwide efforts were directed at placing better-quality libraries closer to rural health professionals. At the same time, a shift to community-based teaching sites for health professional education drew library services out to serve students assigned to rural practice locations.

The final audience group to be served by health sciences library outreach efforts were consumers. Five presentations made at the 1954 MLA annual meeting reflected both the early demand for health information by the public and the quandary within the profession in providing it, even with regard to onsite access [11]. By the late 1970s, health sciences libraries became more actively involved in serving consumers through partnerships with public libraries to establish consumer health information collections and services. Early projects were based in cities. Statewide projects that included rural areas were established later. A portrait of audience evolution from extension service for iso-

lated rural physicians to partnerships for consumer health dissemination can be found in a 1981 description of the integrated outreach programs of the University of New Mexico [12].

HOW HAVE RURAL AUDIENCES BEEN REACHED?

In the discussion below, remote mediated services, circuit librarianship, library development, and self-service through end-user systems have been chosen as highlights in the evolution in outreach approaches used by health sciences libraries to deliver health information to rural audiences, admittedly health professionals for the most part.

Remote mediated service

The Library of the American Medical Association began its Package Library in 1924. It was an outreach service to affiliated users that was limited to members of the association and to individual subscribers to association journals. Although it was not designed exclusively for physicians in rural areas, a 1934 article noted that ''[m]any of our requests are from villages far remote from libraries or from small towns in which few periodicals are available'' [13]. The Package Library was a searching and filtering reference service resulting in the loan of relevant documents. The operation was highly labor intensive involving six staff members. In response to mailed requests, the packages were compiled using a classified collection of 50,000 reprints. The process included review by an association physician. It was a fee-based service with a nominal charge of twenty-five cents. Although some requests were for patient care, information was most frequently needed for medical society papers or case-report publications. With little advertisement, 15,000 packages were loaned in the first nine years of operation. By 1948, annual loan activity was reported to be 12,000.

Extension service seemed to be no different than the package library in that the key features were reference and document delivery. The different name appeared to reflect the inclusion of service to other than affiliated users. In a 1948 presentation about a survey of MLA members to assess the extent of the practice, the importance of direct programs for the rural physician was particularly highlighted. The responses to the survey indicated that ''[i]n perhaps a fourth of the states, by virtue of a state medical library, a medical school extension service, a state association lending library, or the generosity of a large metropolitan association library, the rural physician has reasonably good access to medical literature'' [14]. The survey revealed that wider adoption of this type of a program by libraries was hindered by insufficient financial and human resources.

An MLA presentation in 1961 indicated that the Library of the Texas Medical Association served its members practicing in 254 counties, and that physicians in bordering states and elsewhere were also accommodated [15]. The term ''package library'' was eschewed in favor of ''reference service regardless of the means of communication'' to clarify that remote users received the same level of service as visitors. Avenues for submitting requests included telephone and telegram. Reprints were still the preferred method of filling requests, but reproduction was used for items from bound journals and material loaned by other libraries. Loans of tapes for continuing education and films for presentation to community programs were also mentioned. As recently as 1990, the Texas Medical Association was still offering information services to its membership in the form of fee-based document delivery and free literature searches, with half of the latter activity generated by nonmetropolitan physicians [16].

In the 1970s, reports about extension of reference services to rural areas focused less on its availability and more on the enhancements to it with new technology. In 1974, the University of Minnesota Bio-Medical Library offered MEDLINE and photocopy service to medical students on one-year assignment in rural areas and to their preceptors as part of a new direction in the medical school curriculum [17, 18]. The service was managed with existing library staff and with funds from the medical school to support the direct costs for searches and photocopies. Requests were received by mail or telephone and were mostly for MEDLINE searches plus a selection of articles chosen by the librarian. The program was well received by the students, but there was frustration from the library's perspective with the less than optimal delivery by mail.

By 1979, libraries started experimenting with other technology to increase the interaction between the librarian and user in remote reference transactions and to increase the speed with which documents could be delivered. In 1980, the Tucson Medical Center described its plan to implement a fee-based network service called Simultaneous Remote Search (SRS). SRS was designed to produce and transmit MEDLARS bibliographies to all Arizona hospitals for the benefit of their staffs [19]. Using teleconferencing and terminals with modems, phone conversations between the searcher and the remote requester could be conducted before and after simultaneous viewing of search results on identical printouts at the two locations.

By 1988, telefacsimile and simultaneous remote searching, now possible entirely via the keyboards of two microcomputers, were combined in a collaborative project in South Dakota [20]. The project was initiated by a medical school library and two hospital libraries

with private grant funds in direct response to a needs assessment conducted two years earlier. Building on existing library network patterns, equipment was placed in sixteen institutions throughout the state, mostly hospitals. Four sites served as the sending SRS sites. Telefacsimile was readily adopted by the institutional sites to request and, in some cases, to deliver documents. Usage of SRS was seen as encouraging, but it was noted that some physicians relegated the interactive search role to someone else and that there was some preference for fax rather than SRS to request and receive search results. Although individual health professionals could avail themselves of the enhanced reference and document services with their own equipment, no individual SRS sites were established.

Library development

Although it is customary to think of outreach in terms of information services for individuals, it is also necessary to consider outreach activities that are directed to rural institutions. There are examples of this type of outreach to be found in rural hospital library development and, to a lesser extent, consumer health library development.

In the 1970s, NLM and its newly developed Regional Medical Library (RML) network focused intense outreach activity on the establishment and improvement of community hospital libraries and the subsequent fostering of their participation in regional cooperative arrangements. The greatest needs were improving collections and increasing staffing levels and skills. An example of this type of activity in a rural area, partly funded by an NLM Resource Project Grant, was reported by the Dana Medical Library of the University of Vermont in 1979 [21]. Consultants, making onsite visits, worked with thirty-three rural hospitals to stimulate interest in library development and to provide direction and training to achieve it. Commitments from the hospitals came in the form of space and at least a half-time employee for the library. Over a period of five years, collections, staff, budgets, and use of the RML network were reasonably established at each of the institutions, and cooperative relationships were nurtured to increase the reliance of the hospitals on each other for resource sharing and staff networking.

The importance of the availability of local collections was underscored by a sideline activity to another NLM Resource Project Grant at the University of Kentucky in 1976 [22]. A library consultant collaborated with a solo physician, at his request, in the design of a personal reference collection, based on his experience and practice environment. Over eight months, the physician consulted the collection of twenty-four books and five journals 154 times. Forty-eight percent of those occasions were when an answer was needed immediately. The success rate was 82%.

An event that was concurrent with RML hospital library development and complemented it, particularly in rural areas, was the creation of Area Health Education Centers (AHECs) to address the shortage and maldistribution of health professionals. AHECs are consortia linking academic and community-based institutions for the purpose of expanding and decentralizing education for health professionals in rural areas and inner cities. Library programs for AHECs, represented by reports from California [23] and South Carolina [24], exhibited similar outreach techniques found in RML network development: collection development, staff training, and resource sharing through consortia.

Rural hospital library development within the RML and AHEC frameworks included training of staff, who were generally not librarians. Another outreach activity in this vein and of a preemptive nature was undertaken in 1976 by librarians from an academic health sciences library and a library consortium [25]. The intended audience was students enrolled in a medical records administration program in Minnesota who were likely to find themselves overseeing a library, if employed by a rural hospital. A noncredit course of ten hours was designed to cover the basic principles and practices of hospital library management.

One of the mechanisms NLM used to stimulate growth of hospital libraries in terms of collections, staff, and budget was the Medical Library Resource Improvement Grant, earmarked for the purchase of library materials. In a 1976 evaluation study comparing successful applicants, unsuccessful applicants, and nonapplicants, the analysis by location showed that the successful rural hospital group experienced greater levels of growth than either the rural or urban unsuccessful group as well as the urban successful group on most of the nine variables [26]. An example of a Resource Improvement Grant having a ripple effect beyond the funded institution was found in the case of Luther Hospital Medical Library in Eau Claire, Wisconsin. In 1973, it assumed a role as a resource library for a consortium of twenty-three smaller hospitals in twelve rural counties [27]. Eight years later in 1981, Luther Hospital Medical Library partnered with a public library and public library system on a Library Services and Construction Act (LSCA) grant to develop a regional consumer health center adjacent to the hospital library [28].

Other involvement of health sciences librarians in the development of consumer health libraries and services exclusively in rural areas was found in two reports, from Washington in 1985 [29] and from Missouri in 1990 [30]. In both cases, health sciences librarians acted as advisors to projects funded by LSCA

grants. The Washington project was based at a local public library in a rural community of 11,000, while the Missouri project involved twenty-five public libraries scattered across 16,392 square miles within the boundaries of a single AHEC region. The latter project was seen as a step toward establishing a multi-type library consortium for the region to address the needs of both health professionals and consumers.

Circuit librarianship

One of the best documented outreach approaches implemented in rural areas is circuit librarianship [31]. This model was pioneered in 1973 by the Cleveland Health Sciences Library. Intended to enable small hospitals to provide access to information for both patient care activities and continuing education of personnel, it was implemented as a shared service, a familiar practice employed by hospitals for other activities as well [32, 33]. This service was an expansion of the Cleveland Health Sciences Library's paying membership program and of its role as a resource library in the RML network. Circuit librarianship was an innovation of remote mediated service in that the literature search, filter, and delivery activities of a resource library were enhanced by placing a traveling librarian at the remote location on a regular basis. It afforded individual health professionals not only face-to-face interaction with a librarian but did so at the point of patient care when rounds within the institution were made. In the latter respect, it had much in common with clinical librarianship, which had been pioneered two years earlier. Although circuit librarianship centered on reference and document delivery to individual health professionals, the circuit librarian also offered guidance in the development and organization of the small library collections found at most of the institutions served. The Cleveland program was established on a cost-recovery basis involving predetermined and proportional fees. It was extremely successful and, in three years, had grown to six circuits serving twenty-three institutions, including some rural ones.

Not only had the Cleveland program rapidly expanded by 1976, but its model was replicated by Robert Packer Hospital in northern Pennsylvania with initial funding from a private grant. The soundness of the model was affirmed and its adaptability to a rural region without an academic health sciences library was demonstrated [34]. The Packer program expanded into New York State in 1979 with a Resource Project Grant from NLM. Another quick adopter of the circuit model was a rural AHEC consortium in North Carolina in 1978 [35]. Although circuit librarianship has not been a commonly employed approach, it has persisted with programs thriving in various parts of the country. From an analysis of transaction logs, focus groups, and interviews in 1991, the University of Texas Health Science Center at San Antonio found its relatively new circuit librarian service to be effective [36]. The key ingredients identified for success were high-quality professional and interpersonal skills on the part of the circuit librarian, a strong resource library, enthusiastic liaisons at the served institutions, and adequate funding.

The innovativeness of circuit librarianship was recognized with the award of the 1978 Ida and George Eliot Prize of the Medical Library Association to Sylvia Feuer, extramural coordinator at the Cleveland Health Sciences Library. Its historical significance was evidenced in the recent release of an MLA oral history interview with Jean Antes Pelley, who was responsible for transferring the model from Cleveland to Pennsylvania [37].

Self-service

The next major innovation in rural outreach was the self-service, round-the-clock mode through computers and telecommunications networks prior to the Internet. Examples of this type of outreach were exemplified by the Georgia Interactive Network (GaIN) and Grateful Med.

In 1983, the Georgia Interactive Network (GaIN) was developed at Mercer University with one of its five design principles being service to health professionals in rural Georgia and the university's community-based teaching programs there [38, 39]. Access to MEDLINE directly or to librarian-mediated searches, access to the network's online catalog, and ability to submit photocopy requests were offered to individuals as well as institutions, as part of a suite of services including electronic mail, teleconferencing, registry of consultants, and information about continuing medical education activities. The project was initiated with an NLM Resource Project Grant and moved to self-supporting status with a system of annual membership fees. The first hospital members were drawn from a regional library consortium. In 1992, thirty-six hospitals and other institutions and 800 individuals were part of GaIN. At that time, GaIN was being integrated into patient-education activities in member hospitals, a circuit librarian program in the southern part of the state, a rural public library system, a rural hospital library automation project, and AHEC networking. To foster and facilitate use of GaIN, a range of educational services in the form of technical support and troubleshooting, a user manual, and group or individual training sessions were offered. Special attention was given to intensive training and updates for librarians at hospital library sites.

GaIN was more than a successful demonstration project in its own state and was recognized as a national model with the presentation of MLA's ISI Frank

Bradway Rogers Information Advancement Award to its developers, Jocelyn A. Rankin and Jean Williams Sayre, in 1992. That same year, several progress reports on other university computer-based networks from Oregon, Nebraska, and West Virginia appeared along with an updated report on GaIN in a volume of the *Annals of the New York Academy of Sciences* [40]. Another project along these lines was the gradual development of an information network, ACOGQUEST, by the American College of Obstetricians and Gynecologists (ACOG) with funding from two Integrated Advanced Information Management System (IAIMS) grants from NLM in 1986 and 1990 [41]. The awards of these IAIMS grants were the first to a national society with responsibility for a broad and geographically dispersed membership of physicians and nurses.

In 1986, NLM introduced Grateful Med, a computer software program, to enable health professionals to formulate and run search strategies in MEDLINE and other NLM databases on their own. Loansome Doc, a component added to Grateful Med to permit online ordering of documents identified in searches from a participating library, became available nationally in 1991. A recommendation in the outreach plan of 1989, cited at the beginning of this paper, was the aggressive promotion of NLM products, and this promotion was undertaken through the RML network [42]. One of the initial mechanisms used to promote Grateful Med was a program of competitive contracts. Of the fifty-eight contracts awarded between 1990 and 1992, forty-eight involved hospital or academic health sciences libraries. The vast majority targeted rural areas, often choosing hospitals as the focus of activity. Librarians were traveling again, this time as instructors with contract-purchased laptops in tow. Their libraries served as the document delivery providers for Loansome Doc. Over this three-year period, 8,170 health professionals across the country, mostly physicians and nurses, were reached in group or individual sessions, often carrying continuing medical education credits. In addition to training and demonstrations, follow-up activities such as repeat training visits or search assistance by telephone were seen as vital to sustain use among health professionals. Benefits beyond the number trained were perceived in the intentions of the participating libraries to continue and expand their outreach activities.

THE SYMPOSIUM ON OUTREACH TO RURAL COMMUNITIES

The goal of outreach has remained constant from its early beginnings decades ago—to equalize access to information and to promote the utilization of it. The evolution of outreach thus far has been one of expanding audiences and approaches. It has meant serving one's own and taking on others. It has seen significant achievements and many smaller steps. It has been the work of many—alone and in collaboration—and, most particularly, of NLM. It has placed librarians in the role of mediators, consultants, developers, promoters, and teachers. Other patterns that have emerged are AHEC involvement, networks, travel, technology, cooperation through consortia and creative partnerships, and external funding.

This symposium of papers continues the story of rural outreach at the turn of the twentieth century. Dorsch provides a review of the literature related to the information needs of rural health professionals and the barriers these professionals face. McGowan describes the evolution of outreach activities at the University of Vermont, including its statewide network, VTMEDNET, and poses challenges for the future. McDuffee shares a view of AHEC initiatives building toward a statewide digital library with desktop delivery for North Carolina's health care providers. McCloskey offers a perspective on instructional outreach in the frontier regions of Utah. Two of the papers illustrate the blossoming of outreach activities for consumers: the globally accessible NetWellness based in Ohio and the locally based Planetree Health Resource Center in Oregon. The primary hope of the symposium editors and authors is that this series will intensify attention on outreach to rural communities. Also, just maybe, it will prompt others to contribute their stories for a fuller picture of rural outreach during the Internet era.

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Received April 2000; accepted May 2000