Bridging the Geographic Divide: Information Access for Remote Veterinarians
A Case Study of Outreach & Engagement in Ohio
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Abstract: Outreach and engagement is a core element of the mission of a land grant university in the United States. This paper describes the development of an outreach program at the Ohio State University Medicine Library in effort to actively engage professional veterinarians in the state of Ohio.

Professional veterinarians must commit to a program of lifelong learning to maintain or upgrade their skills and remain competitive in the practice environment. The ability to identify an information need, efficiently and effectively access information, critically evaluate information, and use information to develop accurate, creative solutions to real problems is required. Such skills identify an information literate individual. However, information literacy, like any skill, must be practiced to be maintained. Problem-based veterinary curricula emphasizes the use of printed and electronic resources to gather information regarding particular cases. Students gain experience with databases such as CAB Abstracts, PubMed and electronic journals. Post graduation, students disperse and experience a new challenge: how to access the veterinary medical literature. Frequent barriers to information include lack of time, followed by cost, poor organization of sources, lack of an appropriate source to satisfy an information need, the questionable reliability of certain information sources, and the geographical distance from a veterinary medicine library.

Research indicates veterinary libraries are often underutilized or overlooked by the veterinary professional. This may be due to a publicity disconnect: veterinary professionals would use the library more, but are unaware of the services they offer. Hybrid librarians may eliminate barriers to veterinary information by reexamining their libraries as a physical space. Subscribing to the principles of university outreach and engagement, hybrid librarians may contribute to lifelong learning by creating sustained relationships with veterinary practitioners. Through electronic document delivery, email and chat reference services, websites, online training, presentations, and other services hybrid librarians may successfully create a new library for veterinary professionals which better suits their needs. This paper describes the development of an outreach program at the Ohio State University Veterinary Medicine Library in effort to actively engage professional veterinarians in the state of Ohio.
Literature Review

Low use of veterinary medicine libraries by practicing professionals was first noted in a 1991 study by Pelzer and Leysen. Results from their survey of veterinary professionals in 17 states with veterinary libraries offering services to practitioners indicated few veterinarians regularly used the library, computer databases or extension veterinary services for their information needs. Practitioners selected their personal collection of textbooks first, followed by consultation with colleagues and diagnostic laboratories when asked which resources they preferred to use in critical care situations. Books were listed after journals as the most important resource for maintaining knowledge of recent advances in veterinary medicine. While concerning since information in books is often outdated by one to two years when published, the results indicated veterinary practitioners had a slightly better understanding of current information sources than veterinary medical students. A 1988 study by Pelzer and Leysen of veterinary medical students at the University of Iowa indicated students preferred books to journal articles for locating current information. Books were again selected over journals when Pelzer, Leysen, and Wiese re-visited the study in 1998 to examine information use in the electronic environment.

Wales’ 2000 study of UK veterinarian’s information seeking behavior and information use revealed veterinary practitioners were making greater use of the internet and online sources. Over 70% of respondents surveyed, however, reported they did not use online library catalogs or databases. Wales theorized a veterinary equivalent to a readily available version of MEDLINE on the internet, such as PubMed, was needed to increase veterinarian’s use of online databases. While veterinarians do report using MEDLINE, the database was not specifically created for veterinarians, and therefore is often not appropriate for their information needs. Examples of initiatives undertaken to improve veterinarian’s access to veterinary resources online include the VEIN community of the Postgraduate Foundation for Veterinary Education at the University of Sydney, Australia, which provides access to CAB Abstracts to its members for a small fee. Still, the internet, while used more, ranked below journal articles, textbooks, and conferences as a source for drug, diagnostic and therapeutic information. Books remained the preferred source of information in emergency situations. A little over half of the individuals Wales surveyed indicated they actually used a veterinary library. However, in both Pelzer and Leysen’s, and Wales’ studies, comments indicated a publicity disconnect: veterinarians would use the library more, but were unaware of the services they offered. Wales noted the majority of non-library users commented they would use the library more if the library would “improve access via the Internet.”

Physical and electronic barriers alone may not be the only factors preventing veterinary practitioners from accessing library resources. In a 1985 study, researchers interviewed physicians immediately following patient visits to determine actual questions physicians formulated during the encounter. The physicians averaged two questions for every three patients seen, four of which could not be answered immediately. During closing interviews, researchers asked the physicians to identify barriers to obtaining information to answer these questions. The most frequent barrier cited was lack of time, followed by the cost of information sources,
poor organization of these sources, the non-existence of an information source which could provide an answer to the question, and the overwhelming amount of information sources available with questionable reliability. Wales survey identified similar barriers for veterinarians.\textsuperscript{15}

**The Ohio State University and Ohio's DVMs**

The Ohio State University College of Veterinary Medicine is centrally located on the university's main campus in Columbus, Ohio. Additional research and clinical facilities are housed at the Ohio Agricultural Research & Development Center in Wooster, Ohio, and the Large Animal Clinic in Marysville, Ohio. As a unit of a land-grant university with a mission for teaching, research, and public service, the college actively participates in the university's Cooperative Extension Service, providing workshops and services for veterinarians, farmers, livestock breeders and others throughout Ohio, and surrounding states.\textsuperscript{1,16} The university as a whole has renewed its emphasis on outreach and engagement in recent years. Inspired by the reports and activities of the Kellogg Commission on the Future of State and Land-Grant Universities, university administrators are encouraging faculty efforts to develop mutually beneficial, meaningful relationships between academia and society.\textsuperscript{17} It is recognized that engagement holds a two-fold purpose: bringing students, faculty, and members of the community at large together to learn together while searching for potential solutions to real problems.\textsuperscript{16}

Academic librarians serving professional disciplines, like veterinary medicine, are uniquely prepared to engage both the professional and general community at large. Society grants a high degree of autonomy to professionals with the expectation that professionals will use their knowledge and expertise to contribute to the common good.\textsuperscript{19} This trust is perhaps most apparent in the medical and legal professions, where the professional often functions as the "final common pathway through which help and harm must pass."\textsuperscript{20} The professionals' relationship with the community has a symbiotic character, since knowledge and competence is required to maintain the community's trust. Without faith in the professionals' competence or character, the community would have little value for the professionals' service.

Currently over 2,500 licensed veterinarians practice within the state of Ohio.\textsuperscript{21} More than 75% live beyond a one hour driving distance from the Ohio State University's Veterinary Medicine Library. Distance alone is a significant barrier for obtaining veterinary information. The ability to obtain accurate clinical information in real-time is another. In some rural Appalachian counties one or two veterinarians service a geographical area larger than 400 square miles. This is in wide contrast to metropolitan areas, where nearly 50% of Ohio's veterinarians practice. Still, on average, there is one veterinarian for approximately 4,437.59 humans, 1,070.69 dogs, 1,231.69 cats, 11,324 chickens, 500.41 cattle, 663.48 pigs, and 29.74 horses.\textsuperscript{22,23,24} These numbers are likely higher as veterinarians involved industry,

\textsuperscript{1} The Morrill Act of 1862 created over 70 land-grant university's within the United States. Intended to offer higher education to all, the grant donated land to the states to establish schools of agriculture and mechanical arts. Many have grown into large, multi-faceted public universities, offering affordable education to millions of Americans.
public health, research, and other areas not directly involved in clinical care were not excluded from the calculations. Over 75% of Ohio’s veterinarians are alumni of the Ohio State University’s College of Veterinary Medicine, the only veterinary school in the state. Thus the potential for creating and nurturing sustained relationships for information exchange, continuing education, and other purposes is a significant possibility.

**Information Needs Assessment**

To assess the information needs of Ohio’s veterinarians, the author attended the Saturday session of the Midwest Veterinary Conference, presented by the Ohio Veterinary Medical Association, from February 20-23, 2003 at the Greater Columbus Convention Center in Columbus, Ohio. The author viewed the conference as an opportunity to speak to a captive audience of time-pressed, geographically dispersed veterinarians. Previous attempts to survey veterinarians information needs via phone and in person were unsuccessful. Seeking a research methodology which would illuminate professionals actual needs for and uses of information, the author settled on the information needs interview advocated by David Nicholas. [25] Nicholas notes that such interviews allow the researcher to collect both qualitative and quantitative data. Further, such interviews often reveal issues of importance to the interviewee that the questioner might not have considered. Professionals have many roles in practice, and therefore complex information needs. Since information needed or desired often depends on the role being played, the author also questioned whether a professional's information needs could be discerned from a simple survey questionnaire. Professionals often serve as managers, counselors, supervisors, planners, and researchers, duties performed in addition to their roles defined by their trade specific knowledge and training. [26,27]

A schedule of interview questions was created and used for each interview (Appendix A). Question number three was designed using the critical incident technique, asking the participant to recall a case where information was needed to confirm a diagnosis, determine treatment, or discuss prognosis. [28] The other questions were intended to collect both qualitative and quantitative data. Potential participants were approached both in the exhibit area and by the College of Veterinary Medicine’s Alumni Association booth. An informed consent form explaining the project and assuring participants their identities would remain confidential was signed and collected for each participant. An audio recording of the interview was made for transcription and coding purposes, then erased and discarded.

Seven participants were recruited for the study. Interviews ranged from 10-25 minutes in length and participants ranged from 35-55+ years of age. Five were affiliated with a small animal practice, one with a mixed animal, and one was in industry. Three practiced in a rural location, two suburban, and one in an urban city. Only one practiced alone. All participants were graduates of the Ohio State University’s College of Veterinary Medicine and reported they subscribed to the *Journal of the American Veterinary Medical Association*. Five received *Veterinary Economics*, three received *Veterinary Forum*, two mentioned *Veterinary Medicine*
and one purchased the *Journal of the American Animal Hospital Association*. One individual mentioned they don’t necessarily subscribe to these titles, *Veterinary Medicine*, *Veterinary Forum*, and several others just come. When asked how they obtain information from a journal they do not subscribe to, two reported they don’t with a laugh, and one called a colleague.

The estimated number of books individuals had related to their practice ranged from 20 to over 300. One individual indicated that of the books she’s collected over the years, there are probably only a dozen that she actively uses. Most new titles were purchased within the past 6 months or year. Three of the participants kept their books and journals at their practice, one at home, and one kept a combination of books and journals both at his practice and at home. As in the Pelzer & Leysen and Wales studies, when asked if they’ve had a question regarding a patient within the past couple of days, week, or month which required information to answer, most participants indicated they obtained this information from a book.29,30 One indicated he got online and queried the NOAH community.31 Two indicated they consulted a book first, then called a colleague or specialist at the University or a specialty practice. Two indicated they called a colleague or specialist directly, though one noted the difficulty in getting a University specialist or clinician on the phone. Factors which prevented participants from locating answers to their question or questions included lack of time, inability to locate the information readily or reach an individual to consult with, and a lack of resources or out of date resources.

Books were the number one resource consulted by participants in an emergency situation, followed by consulting an authority or colleague. All had an internet connection either at work or at home, though only 2 indicated they obtained information for their practice via the web. Reasons for not using the web included a lack of knowledge of where to look for veterinary information. The three participants who indicated they had experienced difficulty finding information on a topic indicated they either consulted a book or called a colleague in this situation. None of the participants were aware of services offered by the Ohio State University Veterinary Medicine Library. Suggestions for services included access to electronic resources and a continuing education course on veterinary literature.

**Assessment of Current Library Services**

The Ohio State University Veterinary Medicine Library moved to its current facility in the Veterinary Medicine Academic Building in March 2002. While the 1999 AVMA Directory indicated the library was open to the public and offered reference, current awareness, and interlibrary loan services, there were no formal written policies regarding unaffiliated users in 2001.32 Phone requests for articles were filled on a case by case basis. Further the library’s website referred veterinarians needing document delivery services to fee-based services out of state.

Public access to the library is limited in the new location. While the library is open late during the week and on the weekends, building access is restricted to College of Veterinary Medicine students, faculty, and staff after 6:00pm weekdays and all day on weekends. This situation, compounded with the information gathered
from the information needs interviews, and offhand comments received by library staff over the years indicated the need to develop a formal outreach program. Both a publicity disconnect and a program disconnect were occurring. Services were available but were not communicated effectively to potential users. In addition, services were not consistently offered or available to library users.

Outreach Program

The Outreach Program targeting practicing Ohio veterinarians should be fully implemented by Fall 2003/Winter 2004. State budget reductions over the past fiscal year resulted in a hiring freeze at the university. This has significantly affected other library departments and thus delayed parts of the project which require technical support. The program will initially be comprised of five elements:

- document delivery;
- email and phone reference
- a mobile continuing education course on accessing the veterinary literature which can be taught at local veterinary association meetings throughout the state;
- a redeveloped library website with a specific link for veterinary professionals;
- a detailed marketing plan

A used scanner was acquired through library administration in February 2003 and Prospero software was installed for document delivery to the desktop. An assessment of the 32 veterinary medical library’s websites in the United States and Canada indicated that 13 libraries provided document delivery services, 12 of which charged a fee. Since library administration expressed an interest in establishing a cost-recovery model for this service, a chart with the fees charged by other institutions was forwarded to the University Treasurer’s office in April. As other departmental libraries at the Ohio State University are exploring similar outreach initiatives, the library’s business office also purchased and installed financial software for billing program participants.

The continuing education course on accessing the veterinary literature will include a module on searching PubMed in addition to information about the Ohio State University Veterinary Medicine Library itself and the resources we have to offer. A brochure is currently in development and will be available both in print and online. An invitation has already been received and accepted to present the continuing education course on accessing the veterinary literature at the 2004 Midwest Veterinary Conference, which will be held again at the Greater Columbus Convention Center from February 26-29, 2004.

Email and phone reference services are currently available, but need to be marketed. The marketing plan will be implemented with the document delivery services. Articles will be placed in the *Speculum*, the Ohio State University’s College of Veterinary Medicine’s alumni newsmagazine, and *Newsline*, the Ohio Veterinary Medical Association’s monthly newsletter. Announcements will be posted on the alumni and OVMA listservs and the library’s website. Website re-development has been slowed by the resignation of the web librarian and the re-design of the Ohio State University Libraries main website. A new, visually appealing, navigable site for
the Veterinary Medicine Library and students, faculty, and staff, however, was recently completed. A separate site targeting Ohio's veterinary professionals should be ready for release by early fall.

Conclusion

An outreach program is needed to facilitate practicing veterinarians' access to the Ohio State University Veterinary Medicine Library. As a unit of a land grant institution and the sole veterinary college in the state, the library has a responsibility to reduce geographic barriers and provide equal access to veterinarians living outside the perimeter of the greater Columbus metropolitan area. Further, the library has the ability to alleviate the busy, time-stressed practitioner's inability to acquire information when it is most relevant and needed by providing document delivery to the desktop. Educational offerings on how to efficiently locate, critically evaluate, and access veterinary information may also assist practitioners with difficulties locating both relevant and accurate information. Through the development of document delivery, reference, and educational services, with a redesigned website and defined marketing plan the library may eliminate barriers to access by proactively reaching out to Ohio's veterinarians.

References

5. Wales, op. cit.
6. Pelzer, op. cit.
9. Wales, op. cit.
11. Pelzer, Use of information sources, op. cit.
12. Wales, op. cit.
13. Ibid. p.245.
15. Wales, op. cit.
21 State of Ohio, Veterinary Medical Licensing Board. Personal communication, October 2002.
29 Pelzer, Use of information sources, op. cit.
30 Wales, op cit.
Preparing for Engagement: Assessing the Information Needs of Professionals

Demographical Information

Age:
25-35  35-45  45-55  55+

Type of Practitioner:
Single  Group

Type of Practice:
Small Animal  Large Animal  Mixed  Exotics
Other

Area of Practice:
Urban  Suburban  Rural

DVM received:
Year:__________  From:________________
Preparing for Engagement: Assessing the Information Needs of Professionals

Demographical Information

1. Do you subscribe to any journals? If so, which titles? If you need information from a journal you do not subscribe to, how do you obtain it?

2. Can you estimate the number of books you have related to your practice? What was the last title you purchased and when did you purchase it? Where do you keep your books and journals?

3. Think back over the past couple of days (week, month, or year). Have you had any questions regarding a patient you needed information to answer? If so, how did you obtain this information?

4. Can you identify any factors which prevented you from finding answers to a question or questions?

5. If information is required in an emergency situation, where do you look for this information?

6. How do you maintain your knowledge of current practices or new developments in veterinary medicine?

7. Do you have an internet connection at work? at home? Which internet service provider do you use? Do you obtain information for your practice via the www. If so, what sites do you visit most frequently and why?

8. Have you ever experienced difficulty finding information on a topic? If so, what did you do?

9. Are you aware of the services offered by the Ohio State University Veterinary Library? Are there any services we currently do not offer which would be helpful for your practice?