
BRIEF COMMUNICATIONS

Test-driving the Internet: a hospital collaborative pilot project

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INTRODUCTION

Library and information management literature abounds with the application, training, and technical aspects of the Internet, but little information exists about the practical implementation and introduction of the Internet at a community hospital. An effective, time-efficient pilot project has been developed by Rapid City Regional Hospital (RCRH) to test-drive Internet access prior to providing institution-wide access. Interdepartmental planning and cooperation have been crucial to its success.

The RCRH Health Sciences Library received a National Library of Medicine Internet Connection Grant in the Fall of 1995. An Internet Advisory Committee (IAC) was established with representation from key hospital departments that would be future users, as well as departments already using the Internet through commercial providers. Departments represented on the IAC included the Library, Information Systems (I.S.), Medical Records, Bio-Medical Engineering, Development, and Cardiac Services.

The IAC immediately implemented a strategy of collaboration to facilitate reaching the goal of providing Internet access to the staff and physicians. A review of the literature and a telephone survey of similar institutions alerted the committee to the pitfalls of implementing Internet access. The lack of additional staffing, expertise, institutional support, and cooperation and communication among departments were common themes [1, 2].

Although the IAC provided a framework for institutional support and interdepartmental cooperation and communication, the IAC's challenge was similar

to other institutions in that it had to accomplish Internet access with existing staff. Rapid City Regional Hospital, a 417-bed tertiary care medical center with 2,500 employees, serves a regional population of 320,000. The library with a staff of five full time equivalents and Information Systems with ten full time equivalents, were each able to allocate a portion of three full time equivalents to proceed with the project. The strategy was to "divide and conquer" the workload among three IAC subcommittees: Policy, Technology, and Education, with primary responsibilities shared between I.S. and the library. The IAC soon found out, as had other institutions, that no one fully appreciated "how much rethinking and retrofitting of existing network structures would be required" [3]. The IAC spent several months investigating various network and firewall configurations before it decided the hospital was ready for full Internet connectivity.

THE PILOT PROJECT

After all of the pieces of the Internet access puzzle were assembled in the Fall of 1996, the IAC was ready to test how well access functioned and wanted to discover any shortcomings and remedy them prior to going live with institution-wide access. The implementation of an eight-week pilot testing period enabled the I.S. and library staffs to accomplish several objectives: (1) To determine the functionality and response time with several simultaneous users under a realistic work load; (2) To determine the usefulness and accuracy of training sessions and materials; (3) To determine the clarity, accuracy, and usefulness of on-line instructions; and (4) To determine the feasibility of dividing the responsibility for technical support and training between two departments.

A list of pilot participants was compiled based on three criteria: (1) an expressed need or interest in using the Internet for work-related purposes; (2) the availability of a personal computer connected to the hospital LAN; and (3) previous experience or familiarity with the Internet. The third criterion was based on the rationale that experienced users would provide a greater challenge to the system; however fifteen of the participants were novice users. A final list of sixty-two participants was compiled, which included five senior managers, eleven department managers, three physicians, fifteen clinical staff, and twenty-eight support staff.

Each participant was expected to use the Internet daily and to perform specific activities that would test the functionality and response time of the system. A minimum daily time commitment of fifteen minutes

was predicted. These activities included: (1) visiting a Web site, preferably one that changed or updated information frequently; (2) sending an e-mail message; (3) subscribing to and reading a newsgroup or e-mail discussion list; and (4) submitting daily reports of the time (in seconds) required to activate the browser and any problems or error messages encountered during each session. These reports were submitted through a pilot log form displayed at the top of the Intranet home page.

The I.S. staff was given the list of participants so that they could begin to install the software on each personal computer and to set up user accounts. They estimated it would take thirty minutes to set up each user. The library staff was responsible for planning and developing the instructional component which included an introductory demonstration session, follow-up training, and printed materials. The library and I.S. worked together to quickly "put up" a simple Intranet home page to be used during the pilot period.

Three ninety-minute demonstrations were conducted by the library staff during the first week of the pilot. The purpose of each demonstration was twofold. A one-hour demonstration of the use of the Internet at Rapid City Regional Hospital was a trial run for the presentation that would later be offered to all hospital staff interested in learning about the Internet. The final thirty minutes were dedicated to the specific responsibilities of the pilot group. At the conclusion, attendees were offered the opportunity to evaluate the demonstration. Comments from the group were very positive and their enthusiasm to "get started" was apparent. Participants were issued their user account names, passwords, and a nine-page handout entitled "Internet: An Overview for RCRH Users," which provided basic instructions for searching, e-mail, and discussion groups, as well as information on appropriate use, etiquette, whom to contact for assistance, and a bibliography of Internet resources available in the library.

During the eight-week pilot project, I.S. was responsible for monitoring and responding to technical comments or problems reported through the daily pilot log. A printed copy of the comments was sent to the library staff weekly for review and follow-up on any questions that concerned the use of Internet applications or those that might impact future training needs. The library and I.S. staff were again prepared to "divide and conquer" to handle the influx of questions and problems. During the first two weeks, the library staff fielded approximately fifty questions, most relating to the mechanics of e-mail, discussion groups, and the daily reporting log. I.S. received approximately seventy calls for technical assistance. During the final four weeks, only five to ten requests for assistance were received each week by each department.

PILOT PROJECT RESULTS

At the end of the pilot period, the IAC reconvened to determine if the pilot project objectives had been met. I.S. reported that the Internet system had performed consistently during the pilot period, and they were comfortable with proceeding with hospital-wide Internet access. Specific problems with printer installation, the use of plug-ins, and the address book could be resolved at a later time. The load time for a user account was reduced from thirty minutes to ten minutes once the I.S. staff became experienced with inputting the data. Both the library and I.S. staff agreed that the number of requests for assistance had diminished to an easily manageable number. The vote of the IAC was unanimous to offer hospital-wide Internet access and a target date for the announcement was set for mid-February 1997.

A follow-up letter and questionnaire were sent to each pilot participant. Their comments were very positive, but most valuable were their responses regarding information that should be added to the demonstration and provided in follow-up training sessions. Eighty-six percent of the respondents were interested in additional training. Thirty percent suggested the need for either hands-on training or the provision of separate training for the novice and experienced computer and Internet user.

POST-PILOT PERIOD

Once hospital-wide Internet access was announced via the hospital's e-mail and newsletter, 68 new users were approved during the first four weeks. This brought the total number of users to 133 (6% of the hospital's employees). After four months the total number of users was 171 (7.5%); after 11 months the total was 298 (13%).

In addition to the demonstration sessions, the library staff initiated hands-on training sessions based on the recommendations of the pilot participants and observations that novice personal computer users needed one-on-one or hands-on training.

Two months after the end of the pilot period, the library and I.S. staffs met to review the status of Internet training and technical support. I.S. reported they were receiving very few requests for assistance and recommended no changes be made in the basic content of the library's training sessions or online user guide.

LESSONS LEARNED

The pilot project provided several valuable lessons. First, the pilot period allowed I.S. to troubleshoot technical issues before hospital-wide access was introduced. This limited the number of calls to I.S. and the

library for end-user assistance. Second, although some problems were encountered, the I.S. staff was able to implement and maintain the Internet connection with few interruptions. Connect time, page loading, and e-mail transfers were fast and reliable. Third, as a result of having novice users in the pilot, the library staff was able to identify and address training needs for both experienced and novice users and developed a hands-on curriculum. The most challenging aspect was developing training for users with few or no computer skills. Although most hospital employees had experience using a dumb terminal via the hospital's medical information system, very few had ever used a personal computer, Windows, or a mouse. Flexibility and patience proved essential for training. Fourth, the library and I.S. staffs learned to take advantage of the technology the Internet provided. The printed versions of the user guide and Internet bibliography were added to the Intranet home page, providing an easy means to update them, to avoid delays in their distribution, and to eliminate paper waste. Finally, the pilot project instilled a feeling of confidence in both the library and I.S. staffs that the Internet could be "tamed."

CONCLUSION

From the library's perspective, the pilot project was a success based on several factors. It enabled Rapid City Regional Hospital to have a smooth transition from implementation of Internet access on a small, restricted basis to hospital-wide Internet access. To be successful, a team effort was necessary. As a result of the collaborative efforts, turf battles and unnecessary duplication of efforts were avoided, and increased mutual respect and enhanced communication developed between the I.S. and library staffs. Each department was allowed to choose, follow through, and succeed at the tasks in which they were most skilled and comfortable.

The IAC worked as a team, using its strengths to offer the institution the necessary support to help it meet its business objectives. The IAC was now positioned to forge a new partnership with public relations and other hospital departments to develop an external Web presence for the institution.

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INTRODUCTION

Change is the prevailing idea in the literature of biomedical librarianship. There is a pressing need for librarians to respond to changes in health care and informatics with vigorous programs that put the library directly into the "critical path" of the medical center's business enterprise [1]. To meet this challenge, the Eskin Biomedical Library (EBL) at Vanderbilt University Medical Center (VUMC) has launched a clinical medical librarianship (CML) program. CML programs bring librarians directly into the clinical setting, where they can be most effective in tailoring information to a patient-specific context [2-4]. In keeping with the medical center-wide effort to improve service to patients and their families, the CML program at VUMC promotes the true integration of librarians into clinical

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