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Evolution of a Library: Information Storage to Information Use

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ABSTRACT

This article presents a detailed look into the thinking behind a successful medical library renovation. It may provide useful insight to those facing the aspect of renovation or reduction in services. The Arnold Medical Library in Honolulu, Hawaii, has served Straub Clinic and Hospital for over four decades and now functions as the main library for Hawaii Pacific Health (HPH), a four-hospital, nonprofit organization in the state of Hawaii. This project involved the engagement of the nursing education department and the hospital administration in an in-depth review of the (a) information needs of the organization as a whole, and (b) creation of a plan to combine infrastructure, resources and services into a space that supports the long-term mission and goals of the organization. The project resulted in the successful renovation of a 450 sq. ft. library converting it into a flexible center for information access, collaboration and study.

ARTICLE HISTORY

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Library renovation; project implementation; resource utilization; strategic planning

History

Technology has been driving the change in the relationship between the Arnold Library and its primary client, Straub Clinic and Hospital, for decades. In 1974, Mrs. Frances Granier, the first Straub librarian, began offering MEDLINE searches with one of the first dedicated medical library computer workstations in the state. Interestingly, for clarification a medical journal article of the time had to describe the new computer terminal as a *typewriter-like* device (Figure 1).

Introduction

After more than four decades of operation our small one person medical library was given the opportunity for a complete renovation to bring it into the 21st century. This article is a detailed look into the thinking behind a successful medical library renovation. The process included a complete

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Figure 1. Mrs. Frances Granier at the MEDLINE terminal.

rethinking of the roles of libraries and librarians and their relationship to the organization. This involved development of a hospital “mission focused” strategic plan to provide system-wide, cost-effective support in a flexible space that promotes the collaborative creation of, access to, and education about clinical information.

Traditionally libraries have served as the physical repository for knowledge. For at least the past two decades there has been an ever-increasing shift in the role of libraries. The combination of digitization, internet access and overall increased costs of operation have caused many medical libraries to rethink or reduce operation costs. In an example discussed by Haapanen (1), library space was reduced due to space requirements from competing hospital functions. Unfortunately, in a number of cases hospital administrators have decided to cease library operations completely. These factors have also shifted the role of librarians from repository managers to *access* advisors.

Along with this shift in role comes a shift in how institutions view and value libraries. Physical space is always at a premium and now that digitization has greatly reduced the need for document storage, libraries have to justify their use of space. Librarians have to present a well-thought-out plan to explain how they will serve as information *conciierge*, managers and educators. They must provide specific examples of how this new role benefits the overall organization in terms of cost effective support of the overall mission.

A diagram presented by Berman gives a very good graphical representation of information flow and use (2). Within the diagram one can see where libraries fit in between being a provider space and user space (Figure 2).

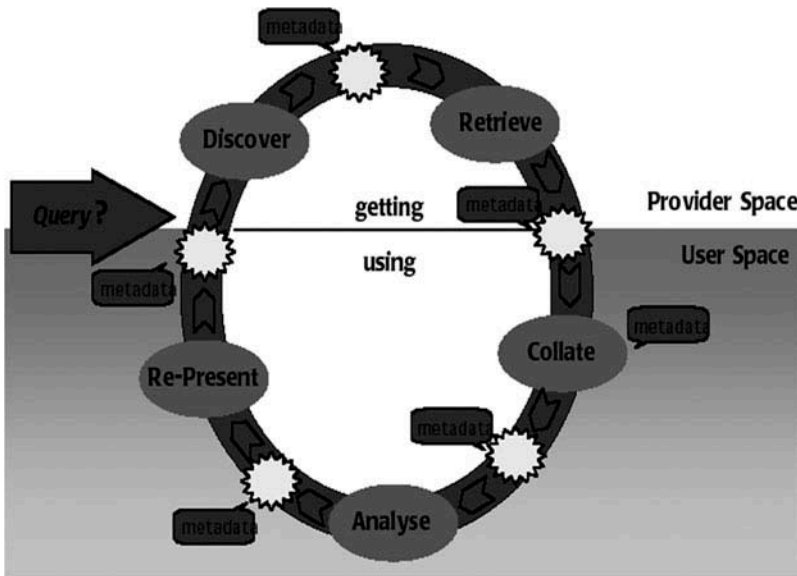


Figure 2. Provider space/user space described by Bearman and Trant (2).

The full spectrum of libraries from academic to public are facing this paradigm shift. This metamorphosis is especially challenging for medical libraries given the costs of physical space, library digital resources and multiple demands on the use of space for clinical and administrative duties in the hospital setting.

Methodology

Following is a step-by-step record of that evolution and the thought process behind the transition.

The first step was an overall definition of what would go into the makeup of the new space. It is important that this assessment of the “foundation” was done objectively with no preconceived notions of what the “space” might look like (Figure 3).

Following are the definitions of three components that would be integrated into the concept of the information space.

Infrastructure

Infrastructure is composed of both physical and virtual spaces. The physical space allows for the management of the medical library and provision of face-to-face services and communication. It is the location for administrative space, computer workstations, mobile device distribution, printed and solid media distribution and face-to-face orientation and instruction.

Foundation

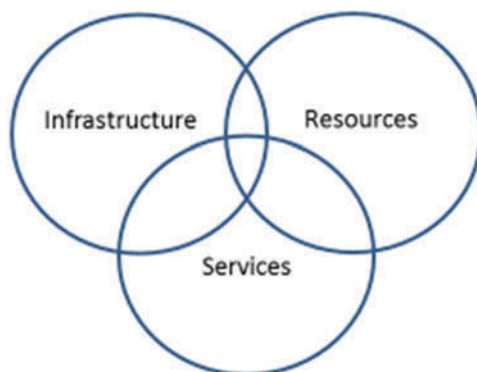


Figure 3. Basic operational components of a medical library.

The virtual infrastructure space is the complex of servers, intranet and internet portals that allow for maintenance, storage, access and distribution of electronic resources and services.

Resources

The resources of the medical library can be defined as the set of physical and virtual deliverable information components.

- Physical Resources
- Information contained in printed documents, books, media as well as workstations and mobile device and supporting equipment owned by the library.
- Intellectual Resources
- Staff and skill sets that apply to the management and operation of the library. This includes the technical interface between the library, vendors and local IT support.
- Virtual Resources
- Bibliographic databases, electronic journals, e-books, electronic documents for orientation and instruction and more.

Services

Services are those actions and operations that allow for the acquisition and dissemination of information to the HPH medical community. These services are designed to address and support the vision, mission and goal of the medical library. The acquisition, management and implementation of both

infrastructure and resources allow for flexible, timely delivery of needed information services in terms of document delivery, research support and consultation and instruction on the use of information resources via online tutorials, webinars, in-house or outreach classes.

The way forward

The first task was to clearly identify major objectives that would clearly support the overall organization. We had to come to some “truths” about those objectives.

- All of the components of the *Library/Information Space* (Infrastructure, Resources and Services) are interactive.
- No objective can be addressed fully in a specific fiscal year as every objective is continually evaluated.
- All objectives cannot be addressed and implemented simultaneously.
- All objectives are under the constraints of staffing, time and fiscal resources.

From there, we had to build the objectives into a Strategic Plan that would serve as a guide for establishing the space and suggest ways to logically approach the challenges of developing and maintaining a medical library in a dynamic and rapidly changing environment. These objectives and the strategic plan had to be vetted by the hospital administration to assure buy-in and support.

Opportunity

Reduction in the need for storage of physical documents opened the space for a multitude of more efficient information based uses (Figure 4). The concept behind the infrastructure redesign was to provide a space focused on the access, dissemination and utilization of information and media in as many formats as possible. With careful planning the 450 sq. ft. area has been converted into a flexible multi-purpose space.

Implementation

LED lighting and upgraded air conditioning lowered energy operating costs (Figure 5). Addition of a videoconference system allows multisite conferencing with the HPH facilities on neighboring islands as well as with organizations on the continental United States. Flexibility of the space has made it a desired site for videotaping and professional film production for special hospital projects (Figure 6).



Figure 4. Prerenovation physician orientation session in cramped quarters with compact journal storage system.



Figure 5. Updated LED lighting and air conditioning system.

Within a few weeks of renovation, the library served as a 24/7 command center for the two-week hospital-wide roll-out of a new medical monitoring technology system. This enabled nurse-managers and vendor trouble-shooting via phone and computer. Staff training, trouble calls, planning and review meetings were all held within the library with the space reconfigured as needed for each situation (Figure 7). The library now serves as a space for clinical webinars, specialized training, and library instruction (Figures 8 and Figure 9). In addition to clinical staff use, the library is also being used for scheduled staff-assisted patient viewing of medical procedure videos using preloaded iPads. This change helped to expand and promote the library's role as a center for learning and information literacy for all aspects of evidence-based clinical resources.



Figure 6. Library space used for film production.



Figure 7. Library as project command center.



Figure 8. Medical school training class.

Current uses

With completion of the renovation the library now supports:

- Staff workstations
- In-service training



Figure 9. Clinical webinar.

- Webinars
- Video Teleconferencing
- Special Projects
- Teaching
- Clinical team rounding discussions
- Simulation training
- Media productions
- Patient education

Conclusion

Within a few months, the library completed its evolution from a 20th-century library archive to a 21st-century space for the creation, collaborative use of and access to information dedicated to supporting the mission of the hospital organization.

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