Soul Provider:
Some Thoughts on the Future of Academic Health Sciences Libraries

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> A state of the art academic health sciences library reflects the character of its institution, it has been stated to be the very heart of its institution, I believe it can be an institution's soul as well.
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> —Cynthia L. Henderson

There are currently 131 accredited medical schools in the United States (Association of American Medical Colleges, www.aamc.org/medicalschools.htm). For every medical school there is an academic health sciences library. Some states, such as Arizona, Arkansas, Colorado, Hawaii, Indiana, Iowa, Kansas, Mississippi, Nevada, New Mexico, North Dakota, Oregon, Rhode Island, South Dakota, Utah, Vermont, and Washington, have only one medical school and therefore have only one academic health sciences library in the entire state. Other states, such as California, Florida, Illinois, Ohio, Pennsylvania, and Texas, have six or more medical schools with their corresponding libraries. New York leads all of the other states with a whopping 12 medical schools and therefore 12 academic health sciences libraries. All 131 of these libraries are considered resource libraries by the National Library of Medicine, located in Bethesda, Maryland.

In the past these academic health sciences libraries were built around the needs of the collection. Floor load, climate control, capacity for growth, and of course thoughts of a few different format needs like microfilm, microfiche, and the viewing equipment for them were the priority issues to be dealt with. The user, although important, was secondary to the ability of the library to increase its collection size. As a matter of fact, many libraries were evaluated primarily on the number of items in their collection; more items of course meant a better library and therefore an easy ride in assisting the institution to achieve accreditation.

How different it is today and definitely will be in the future. Now academic health sciences libraries are built around users, their needs, and most particularly user technological needs because it is through technology that the most resources are available. We are not at the paperless point yet, in fact far from it. But academic libraries, particularly health sciences ones where the primary unit of information has always been the journal, continue to make strides toward this elusive and somewhat hard-to-define goal. In fact, looking at the most recent Association of Academic Health Sciences Libraries *Annual Statistics* for 2007–2008, you find the following: Over half of the reporting libraries, 72, have fewer than 300 print journal titles, with 33 of those having fewer than 100 print titles; on the other hand, the mean or average amount of electronic titles selected for the health science community by 78 reporting libraries is 4,959 (available for purchase online at www.aahsl.org/mc/page.do?sitePageId=84868). The tradeoff of one format for a more convenient one is thus starkly illustrated. And why not? Changes in technology, from paper to microfiche to CD-ROM to current digital formats and

those yet to come, drive access to information. In fact, as formats change, the one thing that remains constant is the steep learning curve that librarians must master in order to keep current and be able to train others. Most librarians have a high tolerance for change and uncertainty. This is a plus, and I do not see that being different in the future.

So moving on to some predictions about the future academic health sciences library:

The Internet has not made public physical space obsolete for people. People need and want personal contact and interaction. So even though the electronic article will be the chief unit of information and wireless access will be the primary access mode, with all library transactions being conducted online, personalized access and services to users wherever they are (campus, hospital, clinic, etc.) will continue to be a major priority.

As much as is possible the library will have everything digital and downloadable or printable and existing library partnerships and collaborations with all types of libraries will be enhanced to identify new ways to make available to users increasingly complex and expensive information resources.

So what will be in the academic health sciences library proper?

The library will have computers and ergonomic, flexible, and modular furniture, like lounge seating for use with tablet and laptop computers and other technologies to come. There will be shelving for a small core collection of books, journals, and media. There will be wirelessly networked printers, copiers, scanners, and fax machines. A consumer health service point will be in place for the community to access health information. There will be space for staff team-based work and space for staff to interact with users and technologies, such as desktop video, that will enable library staff to work with remote users. There will still be a need for climate control to preserve unique archive and special collection materials for the institution.

Some general concepts to keep in mind:

Academic health sciences libraries should avoid being structured inflexibly around any particular technology, although technology itself will become more sophisticated and less obtrusive (think flat screens with CPUs built into them and smaller keyboards). Quick responsiveness to user needs along with the use of proven, cutting-edge technology to enhance library services will be paramount. Academic health sciences librarians should partner with faculty in online, web-based and face-to-face curricular support and collaborate with community organizations in outreach projects to serve the public's need for health information. Academic health sciences libraries will remain unique by collecting in specific subject areas that enhance the mission, values, and vision of their particular institution and thus be an invaluable interactive institutional repository for all users.

The academic health sciences library will continue to serve as:

- A physical symbol of the search for knowledge
- A focal point for the campus and intellectual commons

- A haven for study and research
- A place for individuals and groups engaged in collaborative learning, teaching, or work
- An access point and interactive distribution center for print and electronic information
- A learning commons to support trends in education, research, service, and outreach
- A functional and pleasant workplace for staff
- A virtual gateway for institutional knowledge
- A signature space that is attractive, flexible, and useful

Along with the promise of personalized health care, personalization of health information resources for patients, health care providers, researchers, faculty, and students will be extremely important. The call for an electronic medical record that will make all of this seamlessly available and customizable to individual need (while maintaining patient privacy) is an attractive vision that will be complex to achieve and take a lot of compromise and patience from everyone, including libraries.

The library should look forward to being able to provide transparent access to a number of remote information resources simultaneously, along with the ability to mix that access to different electronic resource media in real time.

The use of intelligent agents, which are software programs that can be set up to retrieve detailed information or perform specific tasks automatically, will become commonplace and natural language controlled. While faculty are teaching and students are learning, intelligent agents can be behind the scenes scanning articles for precise information wanted or monitoring changes in a chosen field of health care research or practice.

The everyday use of supercomputers that handle virtual reality and text-to-speech capabilities (such as turning a faxed article into a speech message retrieved via telephone) as well as speech-to-text capabilities (such as dictating an article over the phone) will no longer be considered cutting edge. Computers already in development have rudimentary text-to-speech and speech-to-text capabilities; in the near future, this technology will become far more advanced and extremely applicable to institutions.

Some academic health sciences libraries include rooms now where students can practice giving presentations. Sophisticated presentation tools (think extremely thin, perhaps even roll-up, flexible, flat panels) that could be used to display lectures and the use of holographic images that could be projected in midair to help students visualize anatomy three-dimensionally could not be very far away.

And, of course, the allure of virtual reality with three-dimensional access to a virtual collection, users wearing small virtual reality equipment (think something the size of a finger ring and some eyeglasses) could enter the virtual library, walk around, pick up and browse through books and journals, download and/or print the discovered information all from anywhere they had Internet access.

Last but not least, the convergence factor. The most ubiquitous high-tech equipment that most individuals currently own is their cell phone. As more and more applications become available and optimal sizes of screen and battery life enhancements become certain, the convergence of devices that is already happening (think MP3, camera, phone) is destined to accelerate. The phone may be where academic health sciences libraries should be looking to determine how best to use it to leverage access to resources and information for their users.

Academic health sciences libraries must deliver on the promise to increase health information competencies. The lack of these health information competencies translates into dismal infant mortality rates, preventable deaths, an increasing health disparity gap, and a generally unhealthy population at a time when demographics in terms of an aging work force are exploding. Academic health sciences libraries remain, with all of their technology-friendly service and their diverse information formats, a cherished and utilized place where people, ideas, information, and knowledge meet and interact. It is refreshing to the soul. And there is always a future for that.

