

# First Steps in Developing a State-wide Digital Health Library in Michigan

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***Abstract:***

*MiHealthLibrary is a response to a recommendation of the Michigan Information Technology Commission Report. The desired outcome is ubiquitous and universal access to high-quality, timely, reliable and valid health information for health consumers and practitioners regardless of geographic location in the state, many of whom are currently unserved or under-served in all types of libraries throughout the state. The major objective is developing a working model for negotiating state-wide licenses for core and specialized electronic digital health resource for libraries of all types and sizes that is economically feasible for both libraries and publishers. The Stat!Ref pilot project, if successful, will be used as a model for other state-wide information projects or collaborative international projects designed to team librarians in developed and developing nations in planning and implementing information delivery systems.*

# INTRODUCTION

This paper describes the recent history of Michigan health libraries in beginning implementation of their shared vision of improving the health and well-being of all Michigan residents by building the capacity to organize and deliver high-quality, reliable and valid health and life sciences information in ways that are cost-effective and without geographic or economic barriers.

## HISTORY

Michigan librarians have long realized that there are advantages to be gained by working together to acquire information resources for their users. This need became even more apparent with the advent of the web, and the erroneous perception of many users, including some health professionals, that "all information is available on the web, that it is all free, and all of it is true."

The state library (the Library of Michigan) took the lead in 1996 by providing free basic digital information sources to all libraries in the state regardless of size or type through the AccessMichigan project (Access Michigan, 2001)<sup>1</sup> and the Michigan Electronic Library (MEL) (Michigan Electronic Library, 2001). These projects are funded largely through federal grants provided by the Library Services and Technology Act (LSTA) (Library Services and Technology Act, 2001). Michigan devotes approximately half of what it receives in LSTA funding to MEL and AccessMichigan.

While most AccessMichigan electronic resources were selected primarily for use by a general audience, of special interest and use to health libraries are the CINAHL (Cumulative Index to Nursing and Allied Health Literature (Cinahl Information Systems, 2001) database in the OCLC FirstSearch (OCLC FirstSearch, 2000) suite of databases) and the full-text Health & Wellness Resource Center (Gale Group) (Health & Wellness Resource Center, 2001). In 2001 the Library of Michigan added free access to thousands of titles from the netLibrary (netLibrary, 2001), hundreds of which have either primary or secondary interest to health libraries. Low-cost MARC cataloging records allow health libraries with web-enabled catalogs to add selected titles to their catalogs, thereby increasing the visibility of potentially useful e-books.

Health libraries in Michigan desire to expand the AccessMichigan model of statewide access to digital library resources, specifically full text clinical and consumer health information. They further realize that these will not be funded through a federal grant like LSTA on an ongoing basis, and that another funding model or models will be required to make this possible. One additional outcome may be a model that could work for other types of libraries as well under the AccessMichigan umbrella.

In 1997, the state public health agency (Michigan Department of Community Health or MDCH) (MDCH, 2001) decided to move as many of its library resources from print to digital format as possible, and established the Michigan Community Health Electronic Library (MCHEL) (MCHEL, 2001) under contract with the Michigan Public Health Institute (MPHI) (MPHI, 2001), a private non-profit organization established by the state legislature specifically to accomplish assigned tasks for MDCH and other agencies. MCHEL was

envisioned to allow most library transactions that had previously been conducted in the print public health library located at one of the MDCH buildings in the state capital (Lansing) to move to a system architecture in which most library materials can be delivered to the desktop computer of employees of MDCH (which has various offices around Lansing and the state), MPHI and the local health departments and other entities that it works with. The collection development policy of MCHEL states that electronic versions or equivalents of those historically subscribed to by the print MDCH library will be collected ([MCHEL Vision, Mission, Goals and Objectives, and Collection Development Policy]). The pilot project was specifically chosen because the information product, a collection of medical reference and text books, both fit the MCHEL collection development policy as well as the expressed needs of many Michigan hospital and academic health libraries.

## **AMECHII**

MPHI convened a meeting of key health information stakeholders in May 1999, and out of that grew an initial planning process called the AccessMichigan Electronic Community Health Information Initiative (AMECHII) (AMECHII, 2000). AMECHII's goals are to use technology to improve the health and well-being of Michigan residents by:

- Expanding and enhancing the AccessMichigan/Michigan Electronic Library by licensing, organizing and delivering comprehensive health and life science information resources;
- Increasing the quality of access to health and life science information resources in Michigan;
- Increasing Michigan residents' usage of health and life science information resources by providing a gateway to health information;
- Increasing the cost-effectiveness of the delivery of health and life science information throughout Michigan; and
- Demonstrating the effectiveness of new collaborative approaches to planning, funding and implementing statewide delivery of health and life science information.

The steering committee adopted a plan to seek external grant funding for a more formal planning process and initial implementation (Marks and Brenneise, 2001). Even though several grant proposals have been written to fund the AMECHII concept, none of these has received funding. External funding was sought both for staff time (primarily to negotiate and manage licenses with vendors) and for electronic resources (for example, Elsevier's ScienceDirect (Science Direct, 2001) to support development of the recently-established Michigan Life Sciences Corridor. The AMECHII planners also realized that successful implementation of a self-funded pilot project would be useful both for the lessons learned, but also as a useful part of future grant proposals.

One of the primary conclusions of the AMECHII report is the need to fund staff devoted to the process of implementing this new statewide digital health library, primarily in negotiating with information vendors and resolving issues of implementation. Many hospital librarians in the state are already stretched to the limit of their staff resources simply providing current

library services. Selection of desired products is done through a process of polling Michigan hospital librarians about which products they have the greatest interest.

## **Stat!Ref**

The Stat!Ref purchase grew out of the desire of the Michigan Health Sciences Library Association (MHSLA) (MHSLA, 2001) for a small pilot project to save individual libraries money and also test the feasibility of consortial purchase of licensed digital health information resources among Michigan hospital and health libraries. Even though the AMECHII funding concepts were predicated on receiving outside grant support, MHSLA librarians realized that purchase of information resources on an ongoing basis would have to be largely self-funded in any case, and thus were ready to begin the first step themselves. Even though AMECHII was originally conceived by Michigan libraries of all types, MHSLA libraries, who have the greatest stake in having these resources available, chose to take the lead, with the idea that once the primary users (their own libraries) were on board, other libraries and types of libraries could be added at a later time.

More than 30 of the over 100 hospitals in Michigan were current subscribers or expressed a desire to subscribe to the Stat!Ref suite of medical reference sources., and so it was chosen as a project with a high likelihood of success (Stat!Ref Electronic Medical Library, 2001). Perceived benefits of a group purchase were cost savings for all libraries, and making the price more attractive to the smaller hospitals which had less money to spend. MHSLA chose the name MiHealthLibrary to replace the rather awkward acronym AMCHII.

Both of these benefits were realized. Large institutions benefited because the price per unit (simultaneous user) is cheaper when purchased in groups larger than 10, and smaller institutions benefited because they now have unlimited access to the database by any number of users for the price of a single user (US\$1770 per year). They also benefit because the single user cost is lower than it would have been if each library had purchased the product individually. In addition, libraries could purchase any number of “users” through the consortium, even though if purchased individually, the only options are 1, 5, 10, 20, 40 and so forth. Teton Data was willing to write the contract for 40 simultaneous users for the aggregated libraries in MiHealthLibrary with a proviso that even if 40 simultaneous users was reached, no user would be “locked out” (although this fact would be part of negotiations for subsequent years. One hypothesis to be tested during the pilot year was the belief that Michigan hospital libraries had been “overbuying” when purchasing individually.

The following titles are the Stat!Ref suite (October 2001):

- AHFS Drug Information
- Basic and Clinical Pharmacology
- Color Atlas & Synopsis of Clinical Dermatology
- Current Critical Care Diagnosis & Treatment
- Current Diagnosis & Treatment in Cardiology
- Current Diagnosis & Treatment in Gastroenterology
- Current Diagnosis & Treatment in Orthopedics
- Current Emergency Diagnosis & Treatment
- Current Medical Diagnosis & Treatment

- Current Obstetric & Gynecologic Diagnosis & Treatment
- Current Pediatric Diagnosis & Treatment
- Current Surgical Diagnosis & Treatment
- DeGowin's Diagnostic Examination
- Dictionary of Medical Acronyms and Abbreviations
- DSM-IV-TR: Diagnostic and Statistical Manual of Mental Disorders
- Ellenhorn's Medical Toxicology
- Geriatric Medicine
- Griffith's 5 Minute Medical Consult
- The ICU Book
- Internal Medicine (Stein)
- Medical Immunology
- Medicode ICD-9-CM, CPT, and RVU Coding Resource
- The Merck Manual of Diagnosis & Therapy
- Mosby's GenRX
- Principles & Practice of Emergency Medicine
- Principles of Surgery
- Review of General Psychiatry
- Review of Medical Physiology
- Review of Natural Products
- Rudolph's Pediatrics
- Smith's General Urology
- Stedman's Medical Dictionary
- Taylor's Family Medicine: Principles & Practice
- Treatments of Psychiatric Disorders
- USP DI, vol. 1: Drug Information for the Health Care Professional
- USP DI, vol. 2: Advice for the Patient
- Williams Obstetrics

In the spring of 2001, the MHSLA board voted to proceed, and negotiations with Teton Data Systems, publishers of Stat!Ref, began. As expected in a pilot project, a number of problems were encountered that had to be solved before the project could be successful.

## **Economic Issues**

Teton Data's pricing method is based on concurrent usage at preset levels, such as 1, 5, 10, and so forth, leaving smaller institutions caught have to choose between licensing a single user (with the risk of having additional users locked out) or purchasing 5, often more than they need, can afford, or both. Teton Data was willing to allow placing all MiHealthLibrary simultaneous usage into a single pool, which is a much more efficient of resources than many small individual licenses. In a modified "Priceline" model, each library individually chose what level of usage it wished to pay for, purchasing 2, 3 or 9 users as needed from the pool (which is quite different from the standard model, which limits purchases to levels of 5, 10, 20, 40, 60 and so forth). MiHealthLibrary then purchased "blocks" of users at the vendor-established levels and charged back to libraries their portion of the total, in the end 40 simultaneous users with the option of moving up to 60 if additional libraries join.

Teton Data guarantees that no user will be locked out because the maximum simultaneous number of users had been exceeded (with the understanding that in Year 2, consistent excess usage, if it occurs, will require a higher subscription the following year), thus taking all risk out of moving from individual to pooled purchase. Statistics generated in Year 1 will be available for possible cost allocation purposes in Year 2. At present, it is unknown if libraries will be willing to move to an "as used" basis, although on its face, it seems fair. Perhaps a model that mixes actual use with some limits will be chosen.

## Problems and Solutions

The Stat!Ref license allows any user in any of the member libraries access to the resources. The vendor's delivery method is via the internet with IP recognition, a method of patron authentication that creates problems for several libraries. Several hospitals were unable to join MiHealthLibrary because their IT departments declined to participate in an authentication system that required giving out their IP address(es) and/or they wanted off-site access through use of login/password (which will not be available until 2002 through this vendor). Some hospital information technology (IT) departments feared giving out their IP range, erroneously believing that this constitutes a security threat. A few of the larger institutions have proxy servers that are able to authenticate users first and then provide a single authenticated IP address to the vendor. One lesson already learned in the pilot project is that MiHealthLibrary and MHSLA may have to in future develop its own authentication system outside the individual firewalls of hospitals. A few existent subscribers wanted to continue an existent intranet installation, which was allowed. Most community health workers have Internet access via the state network, and thus can be IP authenticated, but additional methods are being sought for them as well.

Another issue was that of fiscal agency. MHSLA itself does not have a paid staff nor does it wish to impose the accounting required (paying Teton Data and collecting from the members) on the association treasurer. Some shopping around was done, and the Michigan Library Consortium was selected, requiring an additional 5% in the budget to pay their overhead cost (Michigan Library Consortium, 2001). In the future, MHSLA may choose to engage its own bookkeeping service as a way to lower this administrative cost.

At the time of implementation (October 1, 2001), 21 libraries<sup>2</sup> had signed on, most of them medium to large hospital libraries, with a geographic distribution from Metro Detroit to the Upper Peninsula, including two of the three academic health libraries in the state - Wayne State University (a new subscriber) and Michigan State University (a current subscriber). The project is scalable and other Michigan libraries are welcome to join at any time. No small hospital libraries joined initially, probably because few of them have librarians (and thus were not aware of the project) or simply did not have the budget to do so, as the smallest "division of the pie" was a single user. Perhaps in future even smaller pieces can be developed to bring them in as well. Altered pricing models may also have to be developed for libraries that are not primarily health-related, perhaps with groups of libraries pooling together to purchase a single "user."

Among reasons given by some libraries for not joining were wanting only to subscribe to part of the total Stat!Ref library (the project itself was committed to subscribing to all), "we aren't ready," already belonging to a national network that gave them access, "politics," lack of money, and perceived authentication issues. Many smaller and financially challenged hospitals do not have a library and/or librarian to act as advocate or purchasing agent.

## The Future

The vision of AMECHII/MiHealthLibrary is to make a wide variety of specialized licensed health information resources available to all Michigan residents--consumers as well as clinicians. The hypothesis to be tested in this pilot phase is that the primary clientele (the health libraries) which need to have these resources in any case, will work together to form a foundation with their contributed funds to which can be added other users, including smaller hospitals, academic institutions, and even public libraries. A number of geographically-based wide-area digital health libraries, including but not limited to the Alberta Health Knowledge Network (Canada), Janus (Australia), NESLI (United Kingdom), NOVEL (New York), the California Digital Library, and HealthInsite (New South Wales) among others, will serve as useful models in future development.

In order to test this hypothesis, MHSLA has submitted an LSTA grant proposal to the Library of Michigan to expand the Stat!Ref project to everyone in the state, building on the platform of MiHealthLibrary. If funded, usage statistics will be generated that can then be used in further development of workable funding models in which libraries or other agencies contribute on the basis of actual usage patterns (obviously impossible until such patterns are documented) rather than the traditional "warehouse" model of print libraries.

Health librarians in Michigan intend for this to be the first step toward the implementation of the strategic vision of the AccessMichigan Electronic Community Health Information Initiative/MiHealth Library, and additional projects are already being considered<sup>3</sup>.

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## Notes

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- <sup>1</sup> Licensed databases include: Detroit Free Press, Electric Library, OCLC FirstSearch, Gale Group General Reference Center Gold, AncestryPlus and Health & Wellness Resource Center, netLibrary, and SIRS Discoverer.
- <sup>2</sup> Borgess Medical Center (Kalamazoo), Botsford General Hospital (Farmington Hills), Bronson Methodist Hospital (Kalamazoo), Foote Hospital (Jackson), Genesys Regional Medical Center (Grand Blanc), Holland Community Hospital (Holland), Marquette General Health System (Marquette), McLaren Regional Center (Flint), Mercy General Health Partners (Muskegon), Michigan Public Health Institute (Okemos), Michigan State University (East Lansing), Mount Clemens General Hospital (Mt. Clemens), Oakwood Healthcare System (Dearborn), POH Medical Center (Pontiac), Providence Hospital and Medical Centers (Southfield), Saginaw Cooperative Hospitals (Saginaw), Sparrow Health System (Lansing), St. Joseph Mercy Hospital (Ann Arbor), St. Mary's Mercy Medical Center (Grand Rapids), Wayne State University (Detroit), and William Beaumont Hospital (Royal Oak).
- <sup>3</sup> The following are being considered: BMJ Clinical Evidence, ClinGuide, Drug Comparisons, DynaMed, eMedicine, Facts and Comparisons, GenRX, Handheldmed.com, I-medicine, Infotriever, MDConsult, Micromedex, Natural Medicines, Ovid, PsycLit, Review of Natural Products, UpToDate, and more.