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## BRIEF COMMUNICATIONS

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### **Analyzing in-house journal utilization: an added dimension in decision making\***

*By Shelley A. Bader, M.L.S.  
Director*

*Laurie L. Thompson, M.L.S.  
Assistant Director, Library Operations*

*Himmelfarb Health Sciences Library  
George Washington University Medical Center  
Washington, D.C. 20037*

The Paul Himmelfarb Health Sciences Library, a medium-sized library serving the George Washington University Medical Center, Washington, D.C., is charged with providing direct service for current programs. When the library received a supplemental 1987 journal invoice with increases totaling 18 percent, 8 percent more than the annual budget increase, the Medical School Administration agreed to provide the extra funds necessary for the increases. However, the library had requested (without indicating any additional sources of financial support) over one hundred new journal titles to support expanded patient care and research programs. While the administration was committed to supporting price increases for the existing collection, it could not provide funds for new titles. The serials budget would accommodate new titles only through cancellations.

In the early 1980s, library staff had refined the serials collections policies and eliminated out-of-scope journals and little-used abstracting and indexing tools. When further cuts were required in 1982 to keep pace with inflation, faculty were actively engaged in the deselection process [1]. The combination of staff review procedures and faculty evaluation resulted in twenty-five journal cancellations. Using this process, the library identified only a few titles for elimination each following year. By 1987, the need for even greater cost control in the serials budget made it necessary to further refine these review mechanisms.

#### **QUALITY VS. QUANTITY**

Danny P. Wallace, assistant professor, School of Library and Information Science, Louisiana State Uni-

versity, said in a recent article on bibliometrics and libraries,

The literature of collection management tends to emphasize 'qualitative' rather than quantitative methods. Such studies that have tried to directly relate quality to quantity have produced results that are either negative or too tentative to be of much practical value. It has been found . . . that the relationship between journal productivity and the frequency with which journals are cited is uncertain. The lack of consistency in measurement and of a clear relationship between quantity and quality may lead to a reluctance to deviate from established qualitative methods [2].

It was decided that canceling titles based solely on a selected cost factor (for example, all titles over \$1,000) would be arbitrary. Nor did the library feel that it could rely on generalized citation impact studies to discriminate among titles and determine which journals were essential for program support. Even though there is a general reluctance to use quantitative measures as criteria to evaluate a journal collection, the library, feeling it had few remaining alternatives, decided to build a journal use factor into the deselection process. If a scientific, dependable, and easily implemented method could be developed, the library could systematically determine the core group of journals that its faculty, staff, and students were reading.

#### **MONITORING JOURNAL USE**

Plans for the library's internally developed, automated system included a program for measurement of in-house journal use. All bound and unbound journals added to the library collection receive machine-readable barcode labels. Use is monitored through a custom program written in ANSI standard MUMPS (Massachusetts General Hospital Utility Multiprogram System) that links the serials control system, PHILSOM (Periodical Holdings in Libraries of Schools of Medicine), and the circulation module.

The data is collected with a portable laser barcode reader. After sorting journals onto trucks for shelving, the shelver reads each barcode with the reader. The barcode label is uniformly located on the outside cover of each volume, enabling a shelver to read a three-tiered, single-sided truck in about a minute, or about two seconds per journal. The reader can store up to 31,169 characters, or about seven to ten days worth of data, before they must be read into the library's DEC PDP 11/84 minicomputer. The program stores the data and compiles it on demand in either monthly or cumulative reports detailing individual

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\* This paper was presented at the 88th Annual Meeting of the Medical Library Association, May 24, 1988, New Orleans, Louisiana.

**Table 1**  
Bound periodicals usage statistics sorted by title and volume for June 1987

Title/volume	Use count by volume	Use count by title
Acta Allergologica 1967	1	1
Acta Anaesthesiologica Scandinavica 1982	1	11
1983	1	
1984	3	
1985	1	
1986	2	
1987	3	
Acta Anaesthesiologica Scandinavica Supplement 1982	1	5
1987	4	
Acta Anatomica 1979	1	8
1980	1	
1982	1	
1983	1	
1986	2	
1987	2	
Acta Cardiologica 1973	1	
1980	1	
1985	1	

title use by volume and year, rank order, and specific subject area breakdowns (Table 1).

Data that had previously been obtainable only through laborious, time-consuming, and inaccurate methods, such as counting and keeping paper files or keying the data into a computer file, can be collected easily now. Patrons who reshelv their journals and those who intentionally pull titles to skew survey results were considered as two possible obstacles to collecting accurate journal use data. The barcode reading is not a sample from an isolated survey period but a continuing process that has become absorbed into the library's daily routines. Any variations generated by pulling additional volumes or well-intentioned reshelving become insignificant over the course of many months and years. There has been no evidence of deliberate attempts to bias the data. Therefore, the process represents as reliable and unbiased an approach as possible to collecting this elusive information.

#### DATA ANALYSIS

Data collection began in January 1986; by August, seven months worth of data had been incorporated into the annual journal selection and cancellation process. Data from the journal utilization program added another dimension to the deselection deci-

sions. The program identified low-use titles and compiled a list of possible candidates for cancellation.

The journal use data was not considered in isolation. Factors such as the frequency of publication, the journal's indexing priority (especially in *Index Medicus*), and the library's holdings and binding patterns were taken into account. The complete deselection process identified titles no longer published and previously canceled subscriptions. Infrequently published titles or those the library had received for only a brief time were weighted differently than those titles published with greater frequency or those that had been received for a longer time. Some items identified as having zero use were supplements bound together with the main title. One important finding was a single title consisting of three separately bound parts. One part was used heavily; the other two parts went virtually unused.

For each title under review, the depth of collection coverage and the use of other titles in the same subject were examined. Cost was evaluated against the number of uses for a given title. A \$30 title used three times was considered differently than a \$900 title used three times, if all other factors were equal. To compensate for canceled titles, the library decided to subscribe to a document delivery service that guaranteed a forty-eight-hour turnaround time. While the \$10 per article fee did not make it cost-effective to cancel the \$30 title, the \$870 savings generated from the cancellation of the \$900 title used only three times could be applied toward the purchase of other journals. While some low-use supplements could not be canceled without also canceling the high-use main title, the library was able to cancel the two low-use parts in the three-part title mentioned earlier.

#### RESULTS

After incorporating the journal use data with other selection criteria, the Selection Committee recommended fifteen titles for cancellation in 1988. Faculty agreement with the cancellation recommendations validated the assessment process. The \$4,710 saved with these fifteen cancellations provided the funds necessary to add thirty-five new titles to the collection. The impact of the cancellations is being monitored so that any erroneous decisions can be corrected while back issues are still available to complete the library's holdings.

This process enables the library to monitor continuously trends in journal use, alerting the Selection Committee to titles that may not be critically needed for program support. Faculty support what they see as a scientific approach to journal evaluation. The process removes the emotional response to what is frequently perceived as a subjective process. In addition, the journal use data, considered along with

qualitative standards for collection management, validates the library's proposals to administrators for collection funding. In coming years, the library will have a firmer foundation to support its journal budget requests.

## REFERENCES

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### **Dr. Yan Zonglin, 1982-1983 MLA Cunningham International Fellow: five years later\***

*By Diane Ebro, M.S.*

*Assistant Library Director for Health Sciences  
University of Minnesota Duluth  
Duluth, Minnesota 55812-2496*

"Understanding, Friendship—the Basis of International Cooperation Among Libraries" was the title of a paper presented by Yan Zonglin, M.D. at the Sino-Australian Symposium on Medical Librarianship held in the fall of 1987 in Beijing and in Xian, Shaanxi Province in the People's Republic of China (PRC). Dr. Yan, the library director of Xian Medical University (XMU) was MLA's 1982-1983 Eileen Cunningham International Fellow. The Cunningham Fellowship is a six-month program for medical librarians from countries outside the United States and Canada, which provides for observation and supervised work in medical libraries, some travel in the U.S. or Canada, and an opportunity to take CE courses at the MLA annual meeting [1].

Dr. Yan's goals were to learn first-hand about medical library administration, automated library systems and computer technology; OCLC, RLIN, MEDLINE, BRS; and other databases and networks such as the District of Columbia Health Science Information Network. He applied this knowledge to improving the

services and upgrading the staff professional skills at Xian Medical University Library. His preceptors and host libraries were Shirley Grainger of the Dartmouth Dana Medical Library in New Hampshire; Chester Pletzke, Uniformed Services University Health Sciences Library in Maryland; and Jack Key, Mayo Clinic Library in Minnesota. These host librarians made arrangements for him to visit librarians at area libraries and meetings. His goal-oriented activities in 1982-83, which were coordinated by the International Cooperation Committee, culminated at MLA's 83rd annual meeting in Houston, Texas [2] where members met Dr. Yan, the first Cunningham Fellow from the People's Republic of China.

During the course of a seventeen-day tour of the PRC in the summer of 1987, the author made arrangements to meet in Xian with Dr. Gao Zhen Ya, XMU's vice-president, and Dr. Yan. XMU is one of thirteen medical schools under the supervision of the PRC's Ministry of Public Health. Founded in 1937, it is the oldest and largest medical college in the five-province northwestern region; there are fifty-four medical schools in the PRC's thirty provinces [3]. The university has three thousand students, a faculty of twenty-five hundred including physicians, and two teaching hospitals with a total bed capacity of two thousand. It is composed of eight faculties and other units: a Division of Preclinical Sciences comprised of fifteen departments, the Faculties of Medicine, Stomatology (Dentistry), Forensic Medicine and Public Health—all with five-year curricula except the Pharmacy faculty (four years) and the Health Administration faculty (three years)—and the Faculty of English for Science and Technology. Plans were underway in 1987 to establish a Faculty of Advanced Nursing Education. Since 1949 the medical college has offered excellent training programs for health sciences professionals and allied health workers in rural medical care units. The XMU library has a collection of 380,000 volumes and about two thousand periodical subscriptions, including foreign-language titles housed in a four-story building with an area of 5,600 square meters and serviced by a library staff of forty-two.

Dr. Yan declared that the knowledge and skills he had acquired from his association with U.S. health sciences librarians during the fellowship benefited his institution directly, and those of his Chinese colleagues indirectly. Since his return from the United States in 1983, Dr. Yan started playing a major role in the health sciences library profession in China. He has given six lectures to a total of about five hundred librarians and library technicians at academic symposia or library meetings, and has translated several articles from the *Bulletin of the Medical Library Association* into Chinese. He has written numerous papers on U.S. medical librarianship on general subjects such

\* This article is based on on-site interviews done August 3-4, 1987 in Xian, Shaanxi Province, People's Republic of China.