Circulation of core collection monographs in an academic medical library

*By Cynthia M. Schmidt, M.D.**
Assistant Professor

Muncie Center for Medical Education
Ball State University
Muncie, Indiana 47306

Graduate Student

Master's of Library Science Program
School of Library and Information Science
IUPUI, 755 West Michigan Street 1110
Indianapolis, Indiana 46202-5195

Nancy L. Eckerman, M.L.S.
Special Collections Librarian, History of Medicine

Ruth Lilly Medical Library
Indiana University School of Medicine
975 West Walnut Street, IB 100
Indianapolis, Indiana 46202-5121

Academic medical librarians responsible for monograph acquisition face a challenging task. From the plethora of medical monographs published each year, academic medical librarians must select those most useful to their patrons. Unfortunately, none of the selection tools available to medical librarians are specifically intended to assist academic librarians with medical monograph selection. The few short core collection lists that are available are intended for use in the small hospital or internal medicine department library. As these are the only selection tools available, however, many academic medical librarians spend considerable time reviewing these collection lists and place heavy emphasis on the acquisition of listed books. The study reported here was initiated to determine whether the circulation of listed books in an academic library justified the emphasis placed on the acquisition of these books. Circulation statistics for ''listed'' and ''nonlisted'' books in the hematology (WH) section of Indiana University School of Medicine's Ruth Lilly Medical Library were studied. The average circulation figures for listed books were nearly two times as high as the corresponding figures for the WH books in general. These data support the policies of those academic medical libraries that place a high priority on collection of listed books.

INTRODUCTION

Selecting materials for inclusion in the collection of an academic library can be a complex process. The needs of library clientele, the current collection's strengths and weaknesses, the demands of cooperative collection agreements, the need to preserve historically important documents, the available space, and the budgetary limitations must all be considered. Selecting books for academic medical libraries is especially difficult. Routinely used selection methods and tools either are not useful in selecting medical monographs or are not available to the medical librarian.

Citation analysis cannot be used to determine the

*Address beginning July 1, 2000: Pikeville College School of Osteopathic Medicine Library, 214 Sycamore Street, Pikeville, Kentucky 41501-1194.

relative usefulness of medical monographs. Citation data and the impact factors produced by the analysis of citation data are used by many academic librarians to aid in selecting the most influential materials for inclusion in a library's collection. Citation data for a wide range of journals are regularly published in the *Journal Citation Reports* (*JCR*) of the *Science Citation Index,* and the use of the derived impact factors as criteria for the selection or deselection of medical journal collections has been described. In social sciences and humanities collections, citation data can be used to identify core collections of monographs [1–7].

However, social sciences and humanities research differs from medical research in that the literature of the former research fields includes many primary reports in monograph form, while primary reports of biomedical research rarely appear as monographs. When monographs are occasionally cited by the authors of biomedical research reports, these monographs are typically used as cookbook-like sources of experimental methods or sources of information about long-accepted, generally available knowledge. Basing the composition of a core medical monograph collection on such rare citations would not be wise.

Perhaps monographs are cited so rarely by authors of biomedical research reports, because standard practice leads authors to pick the most recently published of the potential sources of a piece of information, not necessarily the source the authors have found most useful during the development of their research. However, even if established biomedical researchers make little use of a monograph collection, these resources still must be provided for academic medical libraries' as yet nonpublishing clients [8]. For beginning researchers, medical students, and many established clinicians, the medical text provides an approachable mass of ''synthesized,'' ''repackaged'' primary information [9]. In the standard, well-indexed, authoritative texts, information is organized in a utilitarian and familiar manner, so that needed information on similar diseases can be quickly and easily retrieved and compared. Once the overview available in a medical text has been digested, readers can go on to extend and update their knowledge by searching for applicable journal articles.

A selection source designed for academic medical libraries would identify the most useful group of texts for academic libraries' patrons. Calls for the production of such selection sources have been heard intermittently [10]. However, the extent and rapid outdating of the medical literature has discouraged the production of such an extensive medical-selection source. Consequently, academic medical-librarians are left with the several short lists of standard authoritative medical reference works. Brandon and Hill began the biennial publication of a list of standard resources for the small hospital library in 1965 [11]. The usefulness of the Brandon/Hill list was further enhanced when the authors began awarding listed status to some books upon their publication, prior to publication of the next list. In 1973, the *Annals of Internal Medicine* began publishing ''A Library for Internists'' on a triennial basis. In 1994, the Joint Commission on Accreditation of Healthcare Organizations named the Brandon/Hill and ''A Library for Internists'' lists as sources citing authoritative resources with ''up-to-date scientific, clinical, and managerial knowledge'' [12]. Morton and Godbolt's *Information Sources in the Medical Sciences,* although dated, is still mentioned as a list of standard medical reference works [13, 14]. Garrison and Morton's *Medical Bibliography* lists historically important medical works and authors of authoritative medical reference works [15, 16].

Although produced for use in small medical libraries, the Brandon/Hill lists and ''A Library for Internists'' have been used extensively by librarians in health sciences libraries of all sizes [17]. A study performed by Murphy and Buchinger was designed to determine how the Brandon/Hill list was used during the general collection development activities of academic health science librarians in the United States and Canada. Surveyed librarians were asked to rank the importance of ''multiple non-exclusive factors on book selection.'' Inclusion on the Brandon/Hill list was the fourth most important factor, ranking below (1) ''recommendation[s] from primary clientele,'' (2) ''circulation history of [the] previous edition,'' and (3) frequency of interlibrary loan requests. Inclusion on the list was ranked as more important in selection decisions than recommendations from librarian colleagues.

The study described here was designed to determine whether circulation of the ''listed'' books in an academic setting justified the emphasis placed on their collection. The circulation statistics for books listed by four of the core collection lists were obtained and compared to the circulation statistics for books published in the same years but not included in the core lists.

METHODS

Determination of "listed" or "nonlisted" status for hematology (WH) books

The hematology (WH) section of the Indiana University (IU) School of Medicine's Ruth Lilly Medical Library was studied to determine which of the books in the section were listed in one or more of four core collection lists:

1. the ''Brandon/Hill Selected List of Books and Journals for the Small Medical Library'' (1991, 1993, 1995, 1997, and 1999 editions) [18–22],
2. the ''Brandon/Hill Selected List of Books and Jour-

nals in Allied Health'' (1990, 1992, 1994, 1996, and 1998 editions) [23–26],
3. the ''A Library for Internists'' list (1991, 1994, and 1997 editions) [27–29], and
4. the list of hematology references in Morton and Godbolt's *Information Sources in the Medical Sciences* (1992) [30].
All versions of these lists published since 1990 were studied. For the purposes of this study, every edition of any listed work was considered listed, not just those editions included in the published lists.

Database creation

An Access database linking each book's listed or nonlisted status to its Data Warehouse, unique numeric identifier (bib-rec-key) was created. Collection of circulation statistics in the IU libraries' Data Warehouse began in September 1997. For each WH book, the total circulation numbers available for last three months of 1997, all of 1998, and all of 1999 were entered in the new database. The bib-rec-key numbers were then used to link the new database to Access tables extracted directly from the IU Data Warehouse. The new tables contained call number, title, author, and publication year data. Data were arranged by descending publication year, then by ascending list-inclusion status, and finally by ascending call number. This broke books into listed and nonlisted groups for each publication year. The preceding steps were undertaken for all books in the WH section (more than 440 books). However, listed and nonlisted groups of comparable size that also had reasonably high circulation figures were only present for groups of books published between 1990 and 1996. For this reason, average 1997, 1998, and 1999 circulation figures were determined for the listed, nonlisted, and total ''listed and nonlisted'' groups of books in the 1990, 1991, 1992, 1993, 1994, 1995, and 1996 publication groups only. The IU medical library's collection included a total of 109 WH books published between 1990 and 1996.

RESULTS

The obtained results are shown in Table 1. When viewing the table, readers should remember that circulation figures were collected beginning in the last few months of 1997. The average 1997 circulation figures, therefore, represent only a small portion of that year's circulation.

Two nonlisted books, one published in 1996 and the other in 1995, circulated more than ten times during one year. Removal of the circulation figures for the highly circulated books from the calculation of the corresponding average nonlisted circulation figures produced the results indicated by ''1996 nonlisted-1'' and ''1995 nonlisted-1.''

Table 1
Average circulation for ''listed,'' ''nonlisted,'' and ''listed and nonlisted'' books

Publication year/list status	Average circulation 1997 (S.D.)*	Average circulation 1998 (S.D.)	Average circulation 1999 (S.D.)	Number of books
1996 listed	3.1 (2.8)	8.3 (4.3)	4.7 (3.0)	7
1996 nonlisted	0.9 (1.7)	3.7 (4.0)	2.6 (5.4)	9
1996 nonlisted-1†	0.4 (0.7)	2.5 (2.0)	0.9 (1.0)	8
1996 listed and nonlisted	1.9 (2.5)	5.7 (4.6)	3.6 (4.5)	16
1995 listed	2.8 (2.1)	12.0 (7.0)	6.5 (6.0)	4
1995 nonlisted	1.6 (2.3)	3.5 (3.2)	1.6 (2.4)	14
1995 nonlisted-1†	1.5 (2.3)	3.0 (2.6)	1.3 (2.1)	13
1995 listed and nonlisted	1.9 (2.2)	5.4 (5.4)	2.7 (3.9)	18
1994 listed	3.0 (3.5)	5.5 (4.8)	4.0 (2.6)	4
1994 nonlisted	0.8 (0.9)	3.3 (2.8)	2.8 (2.3)	13
1994 listed and nonlisted	1.4 (1.9)	3.8 (3.4)	3.1 (2.4)	17
1993 listed	2.2 (2.9)	6.4 (5.0)	3.9 (2.8)	8
1993 nonlisted	0.9 (1.4)	1.6 (2.1)	1.4 (2.6)	14
1993 listed and nonlisted	1.4 (2.1)	3.4 (4.0)	2.3 (2.9)	22
1992 listed	1.0 (1.4)	5.5 (2.1)	2.0 (1.4)	2
1992 nonlisted	0.3 (0.8)	1.3 (2.0)	0.9 (1.1)	12
1992 listed and nonlisted	0.8 (1.5)	1.9 (2.5)	1.1 (1.1)	14
1991 listed	0.5 (0.6)	3.2 (2.1)	2.4 (1.8)	4
1991 nonlisted	0.8 (1.5)	0.5 (1.0)	1.2 (1.9)	4
1991 listed and nonlisted	0.6 (1.0)	2.5 (2.5)	1.6 (1.8)	8
1990 listed	3.2 (1.7)	2.8 (1.3)	3.2 (4.5)	4
1990 nonlisted	0.2 (0.6)	1.1 (1.6)	1.1 (2.0)	10
1990 listed and nonlisted	1.1 (1.7)	1.6 (1.7)	1.7 (2.9)	14
1990–1996 listed, average of means (SE)	2.3 (1.1)	6.2 (3.2)	3.8 (1.5)	7 means
1990–1996 nonlisted, average of means (SE)	0.8 (0.5)	2.2 (1.3)	1.7 (0.7)	7 means
1990—1996 listed and nonlisted, average of means (SE)	1.3 (0.5)	3.5 (1.6)	2.3 (0.9)	7 means
1990–1996 listed average circulation (SD)	2.4 (2.5)	6.5 (4.9)	3.9 (3.4)	33
1990–1996 nonlisted, average circulation (SD)	0.8 (1.4)	2.4 (2.8)	1.7 (2.7)	76
1990–1996 listed and nonlisted, average circulation (SD)	1.3 (1.9)	3.6 (4.0)	2.4 (2.8)	109

* The circulation figures for 1997 reflect only the last few months of 1997's circulation.
† Two ''nonlisted'' books, one published in 1996 and the other in 1995, circulated more than ten times during one year. Removal of the circulation figures for the highly circulated books from the calculation of the corresponding average nonlisted circulation figure produced the results indicated by ''1996 nonlisted-1'' and ''1995 nonlisted-1.''

Of the 109 books in the WH section that were published between 1990 and 1996, thirty-three were listed in one or more of the core collection lists. Two books were listed only in the ''A Library for Internists'' list; nine were listed only in the Brandon/Hill small medical library list; twelve were listed only in the Brandon/Hill allied health list; three were listed in both the ''A Library for Internists'' list and the Brandon/Hill small medical library list; four were listed in both the Brandon/Hill small medical library list and in Morton and Godbolt; and three were listed in three lists, the Brandon/Hill small medical library list, the

Table 2
Ratios between average circulation figures

Publication year/ratio type	Ratios for 1997 circulation data	Ratios for 1998 circulation data	Ratios for 1999 circulation data
1996 listed: nonlisted	3.44	2.2	1.8
1996 listed: listed and nonlisted	1.63	1.5	1.3
1995 listed: nonlisted	1.8	3.4	4.0
1995 listed: listed and nonlisted	1.5	2.2	2.4
1994 listed: nonlisted	3.8	1.7	1.4
1994 listed: listed and nonlisted	2.1	1.4	1.3
1993 listed: nonlisted	2.4	4.0	2.8
1993 listed: listed and nonlisted	1.6	1.9	1.7
1992 listed: nonlisted	3.3	4.2	2.2
1992 listed: listed and nonlisted	1.2	2.9	1.8
1991 listed: nonlisted	0.6	6.4	2.0
1991 listed: listed and nonlisted	0.8	1.3	1.5
1990 listed: nonlisted	16.0	2.5	2.9
1990 listed: listed and nonlisted	2.9	1.8	1.9
1990–1996 average of means/listed: nonlisted	2.8	2.8	2.2
1990–1996 average of means/listed: listed and nonlisted	1.8	1.8	1.7
1990–1996 average listed: nonlisted	3.0	2.7	2.3
1990–1996 average listed: listed and nonlisted	1.8	1.8	1.6

''A Library for Internists'' list, and in Morton and Godbolt. The average 1998 circulation for all of the studied books listed on two or more lists was 9.7 (standard deviation [SD] = 6.1), while that for the books included in a single list was 5.7 (SD = 4.5). The average 1999 circulation for all of the studied books listed on two or more lists was 5.2 (SD = 3.5), while that for the books included in a single list was 3.1 (SD = 2.5).

In all but one case, the average circulation for *listed* books exceeded the average *overall* (listed and nonlisted) circulation for books published in the same year. The one exception occurred in the comparison of the end of 1997 circulation figures. Excluding this exception, the data showed an average listed circulation to average listed and nonlisted circulation ratio ranging from 1.2 (for 1997 circulation of books published in 1992) to 2.9 (for the 1998 circulation of the same 1992 books). When all books published between 1990 and 1996 were considered together, the ratios between the average circulation for listed books and the average circulation for listed and nonlisted books were between 1.6 and 1.8 for the studied circulation periods.

When average circulation figures for *listed* books were compared to the average circulation figures for *nonlisted* books in individual publication years, the ratios found were quite varied (Table 2). With the exception of the ratio for 1997 circulation of books published in 1991, the ratios between average circulation of listed books and average circulation of nonlisted books ranged from 1.7 (1998 circulation of 1994 books) to 16 (end of 1997 circulation of 1990 books). When all books published between 1990 and 1996 were grouped together in listed and nonlisted groups, the ratios between the average circulation of listed books and the average circulation of nonlisted books were between 2.3 and 2.7 for the circulation periods studied.

Many of the listed books were constantly in circulation. On the other hand, all twenty-two books that failed to circulate during the study period were members of the nonlisted groups.

DISCUSSION

Several core collection lists have been produced to assist librarians working in small hospital libraries. Four of these—the ''Brandon/Hill Selected List of Books and Journals for the Small Medical Library,'' the ''Brandon/Hill Selected List of Books and Journals in Allied Health,'' the ''A Library for Internists'' list, and Morton and Godbolt's *Information Sources in the Medical Sciences*—have been used to determine whether the books considered highly useful in a small hospital library would also be high-circulation items in an academic library. The presented data indicated that the hematology monographs included in the four core collection lists were, indeed, high-use items in Indiana University School of Medicine's Ruth Lilly Medical Library. In fact, the average circulation figures for listed books were more than one-and-one-half times higher than the corresponding figures for the WH books in general. Many of the listed books were checked out on a nearly continuous basis during the studied circulation period. This heavy-use pattern lends support to the collection development policies of academic medical libraries that place heavy emphasis on the acquisition of listed books.

Further studies using the methods described here would be necessary to determine whether inclusion in one or more of the core collection lists is generally predictive of high use in an academic setting. The authors would recommend using only the Brandon/Hill small medical library list and the Brandon/Hill allied health list during any such future assessments. Excluding the other two core collection lists used here would have substantially decreased the work involved in this study and would have excluded only two books from the listed groups.

The lists themselves would be more useful for study purposes if they included the international standard book or serial numbers (ISBNs or ISSNs) along with the other bibliographic data presented for each item. The ISBN is one of the unique identifiers included in full, machine-readable, catalog records. The inclusion of the ISBN would, thus, eliminate the need to locate the unique identifying number assigned to each book by the library's data collection system and would, thus, speed the analysis process considerably. A commer-

cially available or freeware Access database containing the ISBNs, titles, and authors for all the listed titles since the Brandon/Hill lists (medical and allied health) were first published would be a useful collection-development tool. A database that included bibliographic information and ISBNs or ISSNs for the nonlisted editions of Brandon/Hill-listed works would be a useful companion item.

During the course of this analysis, several high-use titles not listed in any of the core collection lists were identified. Identifying such nonlisted, high-use items was an added benefit of this type of study. It gave the library's selection team more information about local use patterns and a chance to promptly acquire future editions of locally popular monographs.

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