

Tailoring Periodical Collections to Meet Institutional Needs

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ABSTRACT

A system for tailoring journal collections to meet institutional needs is described. The approach is based on the view that reference work and collection development are variant and complementary forms of the same library function; both tasks have as their objective a literature response to information problems. Utilizing the tools and procedures of the reference search in response to a specific collection development problem topic, the author created a model ranked list of relevant journals. Finally, by linking the model to certain operational and environmental factors in three different health care organizations, he tailored the collection to meet the institutions' respective information needs.

REFERENCE WORK and collection development are, to a great extent, variant and complementary forms of the same library function. The librarian's task in either case is to provide a literature response to an information need or problem. In the first situation, the scope of the needs and of the response tends to be relatively immediate and narrow; in the latter, broader and more long range. In either case, key reference tools of a subject literature, such as *Index Medicus* or the MEDLARS database, can be used to provide the needed response. Use of such tools for collection development was an essential element of the problem-oriented approach to journal selection (PAJS), a methodology for hospital librarians developed by the author [1, 2].

In the PAJS system, the hospital librarian (1) identifies the institution's information problems; (2) utilizes the appropriate subject literature key index (or indexes) or database (or databases) as filters to identify a model collection of journal titles most relevant to the defined problem topic; and (3) tailors the collection to meet hospital needs by linking the model list to certain institutional factors.

The earlier study used medical records from three hospitals to identify numerous information

problems needing to be addressed through the journal literature and respective in-house caseload factors to tailor the collections. This paper considers a single information problem topic operant in three different working environments and describes a refined tailoring process that utilizes MEDLARS-assigned subheadings.

THE COLLECTION DEVELOPMENT PROCESS

The following scenario illustrates the system in operation. A physician asks the hospital librarian to find information on the treatment of prostate cancer. Because this is the eighth search requested recently on some form of prostatic disease, the librarian analyzes the hospital records, and finds that (1) the institution's patient feeder population is increasingly aging and that (2) there is a large and increasing load of prostatic diseases encountered on the wards each year. Such objective, health-related, demographic data suggest a continuing, significant information problem in this hospital.

The librarian's initial concern is to identify the articles most relevant to the requested topic. The secondary concern is to identify the journals that, if acquired, would offer the staff the greatest yield of articles relevant to the topic of prostatic diseases. A search of the MEDLARS database is useful for both purposes.

One way to retrieve the most relevant current articles on diseases of the prostate is to explode the MeSH term PROSTATIC DISEASES and to precede the term with an asterisk. This MEDLARS-assigned marker limits the output to those articles in which prostatic disease is a main feature of the article rather than just a peripheral consideration.

The ranked list of journals resulting from a search of the current three years of English-language medical literature appears in Table 1. Three titles (*Journal of Urology*, *Urology*, and *Prostate*) accounted for approximately 25% of the 970 articles; nine titles accounted for approximately 50% of the literature, and 37 journals

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TABLE 1

A PROBLEM-ORIENTED PERIODICAL COLLECTION: JOURNALS RANKED BY NUMBER OF ARTICLES IN MEDLINE DEALING WITH PROSTATIC DISEASES*

Rank	Title	No. of Articles	% of Database	Cumulative %
Quartile 1				
1	<i>J Urol</i>	117	12.06	12.06
2	<i>Urology</i>	105	10.82	22.88
3	<i>Prostate</i>	67	6.90	29.78
Quartile 2				
4	<i>Scand J Urol Nephrol (Suppl)</i>	40	4.12	33.90
5	<i>Cancer</i>	39	4.02	37.92
6	<i>Br J Urol</i>	35	3.60	41.52
7	<i>Prog Clin Biol Res</i>	32	3.29	44.81
8	<i>Invest Urol</i>	28	2.88	47.69
9	<i>Cancer Res</i>	25	2.57	50.26
Quartile 3				
10	<i>Eur Urol</i>	22	2.26	52.52
11	<i>Scand J Urol Nephrol</i>	14	1.44	53.96
12	<i>Urol Clin North Am</i>	14	1.44	55.40
13	<i>Clin Chem</i>	12	1.23	56.63
14	<i>Int J Radiat Oncol Biol Phys</i>	12	1.23	57.86
15	<i>Urol Int</i>	12	1.23	59.09
16	<i>Urol Res</i>	12	1.23	60.32
17	<i>Acta Urol Belg</i>	11	1.13	61.45
18	<i>J Surg Oncol</i>	11	1.13	62.58
19	<i>Recent Results Cancer Res</i>	11	1.13	63.71
20	<i>J Clin Endocrinol Metabol</i>	9	0.92	64.63
21	<i>Lancet</i>	9	0.92	65.55
22	<i>J Steroid Biochem</i>	8	0.82	66.37
23	<i>Clin Chim Acta</i>	7	0.72	67.09
24	<i>JAMA</i>	7	0.72	67.81
25	<i>Am J Clin Pathol</i>	6	0.61	68.42
26	<i>Prev Med</i>	6	0.61	69.03
27	<i>Proc Natl Acad Sci USA</i>	6	0.61	69.64
28†	<i>Acta Endocrinol</i>	5	0.51	70.15
29	<i>Arch Androl</i>	5	0.51	70.66
30	<i>Br J Radiol</i>	5	0.51	71.17
31	<i>Cancer Lett</i>	5	0.51	71.68
32	<i>Int Urol Nephrol</i>	5	0.51	72.19
33	<i>J Endocrinol</i>	5	0.51	72.70
34	<i>J Natl Cancer Inst</i>	5	0.51	73.21
35	<i>NY State J Med</i>	5	0.51	73.72
36	<i>Oncology</i>	5	0.51	74.23
37	<i>Radiology</i>	5	0.51	74.74
38-45	8 journals	4 each	0.41 each	—
46-54	9 journals	3 each	0.31 each	—
55-86	32 journals	2 each	0.21 each	—
87-205	119 journals	1 each	0.10 each	100.00

*The information problem topic was prostatic diseases. Basic research strategy was to comb MEDLARS using the exploded subheading *PROSTATIC DISEASES. The search yielded 970 articles that appeared in 205 journals.

†Journals ranked twenty-eighth and lower fall below the cutoff point of six borrowings.

covered about 75%. An additional 168 periodicals would be required to cover the last quartile.

For model purposes, journals to be considered for acquisition will include only those titles that would have to be borrowed six or more times if they were not owned and for which copyright charges might have to be incurred. On this basis, the cutoff point comes after the twenty-seventh ranking periodical, *Proceedings of the National Academy of Sciences, USA*.

It must be pointed out, however, that a topic-relevant model list representing such a wide spectrum of journals may not be appropriate for all libraries. It might be suitable for a large academic medical center whose missions include (1) secondary/tertiary care of patients with prostatic conditions, (2) training of medical residents in urology, and (3) experimental research dealing with the prostate and its related disease states. However, it is probably too broad in scope and too costly for a small community hospital whose mission relates solely to the basic, primary care aspects of these same conditions. A large teaching (but non-research) hospital's collection needs would lie somewhere between the two.

The list of most productive journals could be further reduced on the basis of individual library characteristics such as (1) the titles presently owned or (2) in-house budgetary restrictions. The collection-tailoring method proposed here utilizes MEDLARS-assigned subheadings as filters.

Because any or all facets of the prostatic disease topic would probably be required at some point by the clinical, educational, or experimental research staff of the large academic medical center, no limitation by subheading would be needed. The small primary care community hospital's staff, on the other hand, would be concerned mostly with basic diagnosis and treatment. The latter institution's search could be appropriately tailored by the application of specific subheadings related to diagnosis and treatment. This should result in the smallest, most tightly knit collection.

Because the information-needs profile and the resulting-collection profile of the large teaching hospital would probably lie somewhere between the two extremes, the search strategy must include a variety of subheadings reflecting the broadest range of diagnostics and therapeutics, as well as other considerations, such as nursing care and

TABLE 2
VARIABLES CONSIDERED FOR TAILORING GENERIC COLLECTION TO MEET INSTITUTIONAL NEEDS

Variable	Institution A	Institution B	Institution C
Setting	Large academic medical center	Large teaching (non-research) hospital	Small community hospital (fewer than 100 beds)
Mission	Secondary and tertiary care Training of subspecialty residents Experimental research	Primary and secondary care Training of general medical-surgical residents	Primary care
Subheadings applied based on institutional needs	No subheadings applied	Chemically induced (CI) Complications (CO) Diagnosis (DI) Diet therapy (DH) Drug therapy (DT) Etiology (ET) Mortality (MO) Nursing aspects (NU) Occurrence (OC) Pathology (PA) Physiopathology (PP) Psychological aspects (PX) Radiography (RA) Radiotherapy (RT) Secondary (SC) Surgery (SU) Therapy (TH)	— — Diagnosis (DI) Diet therapy (DH) Drug therapy (DT) Etiology (ET) — — — — — — — Radiography (RA) Radiotherapy (RT) — Surgery (SU) Therapy (TH)

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psychological factors. Table 2 compares the three model institutions and the subheadings that were applied.

RESULTS

The ranked results of the three searches appear in Table 3. With six potential uses as the basis for cutoff point decisions, the librarian at Institution A

has to consider acquiring all 27 titles on the broadest search. The subuniverse retrieved through Institution C's search shows 401 relevant articles provided by 101 different journals. However, that community hospital librarian need give serious thought to only 14 titles. The "core" collection identified for the large teaching hospital amounted to 17 titles.

An alphabetical comparison of the 27, 17, and 14

TABLE 3
PERIODICAL COLLECTIONS TAILORED FOR INSTITUTIONAL NEEDS—JOURNALS RANKED BY NUMBER OF ARTICLES IN MEDLINE DEALING WITH PROSTATIC DISEASES

Journal Rank	Collection					
	Institution A		Institution B		Institution C	
	Journals (205)*	Articles (970)*	Journals (159)*	Articles (685)*	Journals (101)*	Articles (401)*
1	<i>J Urol</i>	117	<i>Urology</i>	86	<i>Urology</i>	48
2	<i>Urology</i>	105	<i>J Urol</i>	85	<i>J Urol</i>	45
3	<i>Prostate</i>	67	<i>Prostate</i>	46	<i>Scand J Urol Nephrol (Suppl)</i>	33
4	<i>Scand J Urol Nephrol (Suppl)</i>	40	<i>Scand J Urol Nephrol (Suppl)</i>	33	<i>Prostate</i>	31
5	<i>Cancer</i>	39	<i>Cancer</i>	31	<i>Cancer</i>	21
6	<i>Br J Urol</i>	35	<i>Br J Urol</i>	30	<i>Br J Urol</i>	15
7	<i>Prog Clin Biol Res</i>	32	<i>Prog Clin Biol Res</i>	25	<i>Eur Urol</i>	13
8	<i>Invest Urol</i>	28	<i>Eur Urol</i>	16	<i>Int J Radiat Oncol Biol Phys</i>	11
9	<i>Cancer Res</i>	25	<i>Cancer Res</i>	13	<i>Urol Clin North Am</i>	11
10	<i>Eur Urol</i>	22	<i>Invest Urol</i>	13	<i>Invest Urol</i>	10
11	<i>Scand J Urol Nephrol</i>	14	<i>Urol Clin North Am</i>	13	<i>Acta Urol Belg</i>	7
12	<i>Urol Clin North Am</i>	14	<i>Int J Radiat Oncol Biol Phys</i>	12	<i>Lancet</i>	7
13	<i>Clin Chem</i>	12	<i>Scand J Urol Nephrol</i>	11	<i>Scand J Urol Nephrol</i>	7
14	<i>Int J Radiat Oncol Biol Phys</i>	12	<i>Lancet</i>	9	<i>Cancer Res</i>	6
15	<i>Urol Int</i>	12	<i>Recent Results Cancer Res</i>	8		
16	<i>Urol Res</i>	12	<i>Acta Urol Belg</i>	7		
17	<i>Acta Urol Belg</i>	11	<i>JAMA</i>	6		
18	<i>J Surg Oncol</i>	11				
19	<i>Recent Results Cancer Res</i>	11				
20	<i>J Clin Endocrinol Metabol</i>	9				
21	<i>Lancet</i>	9				
22	<i>J Steroid Biochem</i>	8				
23	<i>Clin Chim Acta</i>	7				
24	<i>JAMA</i>	7				
25	<i>Am J Clin Pathol</i>	6				
26	<i>Prev Med</i>	6				
27	<i>Proc Natl Acad Sci USA</i>	6				

*Yield from customized searches.

TABLE 4

PERIODICAL COLLECTIONS TAILORED FOR INSTITUTIONAL NEEDS—ALPHABETICAL COMPARISON OF TITLES

Journal No.	Collection					
	Institution A		Institution B		Institution C	
	Title	Rank	Title	Rank	Title	Rank
1	<i>Acta Urol Belg</i>	17	<i>Acta Urol Belg</i>	16	<i>Acta Urol Belg</i>	11
2	<i>Am J Clin Pathol</i>	25	—	—	—	—
3	<i>Br J Urol</i>	6	<i>Br J Urol</i>	6	<i>Br J Urol</i>	6
4	<i>Cancer</i>	5	<i>Cancer</i>	5	<i>Cancer</i>	5
5	<i>Cancer Res</i>	9	<i>Cancer Res</i>	9	<i>Cancer Res</i>	14
6	<i>Clin Chem</i>	13	—	—	—	—
7	<i>Clin Chim Acta</i>	23	—	—	—	—
8	<i>Eur Urol</i>	10	<i>Eur Urol</i>	8	<i>Eur Urol</i>	7
9	<i>Int J Radiat Oncol Biol Phys</i>	14	<i>Int J Radiat Oncol Biol Phys</i>	12	<i>Int J Radiat Oncol Biol Phys</i>	8
10	<i>Invest Urol</i>	8	<i>Invest Urol</i>	10	<i>Invest Urol</i>	10
11	<i>JAMA</i>	24	<i>JAMA</i>	17	—	—
12	<i>J Clin Endocrinol Metabol</i>	20	—	—	—	—
13	<i>J Steroid Biochem</i>	22	—	—	—	—
14	<i>J Surg Oncol</i>	18	—	—	—	—
15	<i>J Urol</i>	1	<i>J Urol</i>	2	<i>J Urol</i>	2
16	<i>Lancet</i>	21	<i>Lancet</i>	14	<i>Lancet</i>	12
17	<i>Prev Med</i>	26	—	—	—	—
18	<i>Proc Natl Acad Sci USA</i>	27	—	—	—	—
19	<i>Prog Clin Biol Res</i>	7	<i>Prog Clin Biol Res</i>	7	—	—
20	<i>Prostate</i>	3	<i>Prostate</i>	3	<i>Prostate</i>	4
21	<i>Recent Results Cancer Res</i>	19	<i>Recent Results Cancer Res</i>	15	—	—
22	<i>Scand J Urol Nephrol</i>	11	<i>Scand J Urol Nephrol</i>	13	<i>Scand J Urol Nephrol</i>	13
23	<i>Scand J Urol Nephrol (Suppl)</i>	4	<i>Scand J Urol Nephrol (Suppl)</i>	4	<i>Scand J Urol Nephrol (Suppl)</i>	3
24	<i>Urol Clin North Am</i>	12	<i>Urol Clin North Am</i>	11	<i>Urol Clin North Am</i>	9
25	<i>Urol Int</i>	15	—	—	—	—
26	<i>Urol Res</i>	16	—	—	—	—
27	<i>Urology</i>	2	<i>Urology</i>	1	<i>Urology</i>	1

"core" titles is found in Table 4. The community hospital's list represents the "minimal core" of journals necessary for any institution significantly involved with prostatic diseases. With the possible exception of *Cancer Research*, it seems to reflect that institution's limited diagnostic and therapeutic emphasis. The academic medical center's list of journals reflects the broadest clinical aspects of the topic as well as the experimental or research considerations (e.g., *Clinical Chemistry*, *Clinica Chimica Acta*, *Journal of Steroid Biochemistry*, and *Urological Research*).

The large teaching, nonresearch hospital's profile lies somewhere in between, but is closer to that of the small community hospital than that of the large academic medical center. In turn, the small

differences between institutions B and C may be more of number than of kind. In sum, this simple approach has enabled the three librarians to tailor a model collection to the operational needs of their respective institutions.

CONCLUSION

The results that emerged here seem to validate the author's view that core subject reference tools (such as MEDLINE) can be used to tailor periodical collections to deal with the varying information needs of different institutions or the same general information need/problem operant in different working situations or environments.

Librarians working in hospitals and other mission-related institutions (not having area-wide

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lending responsibilities) have long faced the problem of utilizing scarce resources to develop periodical collections optimally relevant to their patrons' significant, continuing information needs. Often, they have been helped in this task by the availability of useful model collections whose titles were suggested or prescribed by subject experts. Librarians have long known that these generic, topic-relevant, model lists had to be adapted to their local situations. Their real problem related to the methods and guidelines (or lack thereof) for making this adaptation.

Librarians should actively apply the objective knowledge, concepts, principles, practices, and

tools of their own field to anticipate information needs and to prepare an information response in anticipation of those needs. The method of journal selection just described represents one example.

REFERENCES

1. Delman BS. A problem-oriented approach to journal selection (PAJS) for small community hospitals, thesis. Cleveland: Case Western Reserve University, 1978.
2. Delman BS. A problem-oriented approach to journal selection for hospital libraries. *Bull Med Libr Assoc* 1982;70(4):397-410.

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