

The Academic Health Sciences Library and Serial Selection

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ABSTRACT

A review of efforts to formulate basic medical journal lists and a report of a survey of subscriptions held in academic health science libraries is presented. The subscriptions held by thirty-seven libraries were analyzed to determine those held by 60-100% of the sample. A comparison of those titles subscribed to by 90-100% of the sample reveals that most of these titles appear in the lists formulated by other studies.

INTRODUCTION

THE most often heard lament of science librarians is the difficulty of dealing with the information explosion or as more properly described from the librarian's point of view—the paper explosion. Today there are over 50,000 scientific, medical, and technical journals (1). Of this number approximately 2,200 are indexed in *Index Medicus* (2) and 7,661 in *Biological Abstracts* (3). These figures illustrate a major problem faced by librarians: Which journals are most useful, most important for inclusion in a health sciences collection?

Over the years, there have been numerous attempts to deal with this problem—to identify a core of important journals. The most recent effort in this area has been described by Garfield, who has reported an analysis of journal citations. He reported that 152 journals accounted for 50% of all references analyzed and 767 journals accounted for 75% of all references analyzed (4).

While it is not the contention of this author that one single standard can be used to evaluate the need to include a journal in a collection, I do maintain that a consideration of several factors can assist the librarian in an analysis of which journals should be included. The purpose of the present study was to review factors which have been considered in the past, to

consider current research and current practice reflected in journal subscriptions held, and to present and compare findings of various evaluation studies.

HISTORICAL DEVELOPMENTS

In 1927 Gross and Gross used citation analysis to determine the importance of a particular journal. In their case a volume of the *Journal of the American Chemical Society* was used and references were tabulated to determine the frequency with which a particular journal was cited. They based their analysis on three assumptions:

1. The more frequently a journal is cited the more useful it is
2. A journal or journals used in analysis of citations must represent the field
3. All journals analyzed are of equal importance (5).

A similar analysis was performed by Jenkins for journals in the field of child guidance. In that study, references found in *Child Development Abstract and Bibliography*, *Mental Hygiene Bulletin* and in ten journals recommended by persons working in the field were analyzed (6). Citation analysis for the evaluation of medical journals was performed by Sherwood, who surveyed one year of the *Journal of the American Medical Association*. Although his sample reflected a limited data base he discovered that 70% of the articles cited appeared in fifty journals (7). In 1937, Hunt combined the use of citation analysis of references in important journals and journals borrowed for use outside the library to formulate a list of basic biomedical periodicals (8).

Although the basic method of citation analysis initiated by Gross and Gross was widely used as exhibited by the studies cited,

there were questions concerning the validity of such a limited analysis. Estelle Brodman tested the validity of the Gross and Gross method in a study concerning physiology journals. Brodman proposed that if a journal's importance can be reflected by the frequency with which it is cited then a list of journals designated by professionals in a field should approximate the results obtained from analysis by the Gross and Gross method. In this particular study, it was found there was little correlation between the list of journals designated by the members of the Department of Physiology at the College of Physicians and Surgeons and a list resulting from citation analysis of the *Annual Review of Physiology*, the *American Journal of Physiology*, the *Journal of Physiology*, and *Pflügers Archiv* (9).

In 1946, William Postell tested the validity of the first assumption used by Gross and Gross by analyzing the use of physiology journals requested and borrowed at the Louisiana State University Medical Library. There was a high degree of correlation between the ranking of journals by circulation and the ranking of journals by professionals in the College of Physicians and Surgeons as reported in the Brodman study. At the same time there was very low correlation between the use ranking and the citation ranking. Therefore, this study supported the Brodman evaluation of the Gross and Gross method of journal evaluation as invalid (10).

However, the citation analysis method of evaluating journal importance did not disappear in spite of the indictment by these two studies. Raisig, while confident that the citation analysis was useful, noted that the method of selection of the data base is important. Furthermore he noted that the subjective selection of a single journal to serve as the data base was the factor which reduced the validity of the Gross and Gross study. Proceeding in his description of sample selection, Raisig stressed the selection of several journals weighing each so that citations analyzed would have equal statistical value (11). At the same time, Raisig believed that the frequency with which a journal is cited can be used as an indicator of its significance and that this significance should continue over a period of time. However, in order to overcome the limitations of the Gross and Gross method, a broad data base from which

data is randomly selected must be used. In his study the frequency of the publications is considered in relation to the frequency of citation to prevent a distortion of data. He considered as a data base for determining the total possible citations the serials indexed in *Current List of Medical Literature*, 1951-1960. Only those serials published four or more times a year were considered. The number of articles published was determined, and the serials were divided by subject. Then random serials, issues, articles, and citations were analyzed. The relative index of use was computed using the following equation:

$$\frac{\text{number of subsequent citations to articles} \times 100,000}{\text{number of articles published}}$$

In spite of the careful design of Raisig's study, he stated that the results or method were not infallible, but that he hoped the index of significance compiled would be of use (12).

In 1963, Eugene Garfield discussed the implications of citation indexing noting that this new method of indexing could give a wide variety of information not previously available and that this information would include data which could be used to analyze journal importance based on citation analysis (13). As Garfield predicted in this earlier article such an analysis has been done. The Institute for Scientific Information has analyzed from the data base of *Science Citation Index* references published during the last quarter of 1969. The data were analyzed to produce three sets of information:

1. Cumulation of all citations of the same title showing the number of times cited,
2. The frequency of citation for each article, and
3. Frequency of citation by journal in which the article appeared.

The analysis of these data has shown that a good journal collection need not be large, since 50% of the references appeared in only 152 journals. Garfield notes that citation analysis including data on the chronological distribution of citations can be useful in the selection of journals for subscription and the purchase of backfiles (14).

Besides these attempts to devise a systematic method for evaluating the mass of serial publications there have been several relatively

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successful efforts to develop guides for those involved with the smaller medical library. In 1965, Alfred Brandon issued the first edition of his *Selected List of Books and Journals for the Small Medical Library* (15). This list was developed to provide a current comprehensive list as a guide for selection for the small hospital library. Then in 1969, Moll issued his list of journals for the small medical library. This list was based on a survey of physicians and resulted in a list of forty-eight titles (16). Also in 1969 Stearns and Ratcliff issued their compilation of titles needed to form a core library for practitioners in community hospitals (17) and expanded the list in 1970 to form a core health science library (18). Both of these lists were formulated on the basis of titles recommended by specialists from across the United States.

Besides the use of citation analysis and the recommendations of subject specialists to devise lists of important serial titles, analysis of circulation records has been used. Only two such studies will be mentioned here. Stangl and Kilgour analyzed circulation records for a one-year period at the Yale Medical Library. These data were analyzed to determine who borrowed journals and what type of journal they borrowed. They concluded that there were complicated relationships among users and titles, and they also identified thirty-eight titles which were used more than any others (19). David Crawford has presented his analysis of journal circulation in the year 1968 which not only ranks the journals' titles, but also the circulation in relation to publication date. He noted that a few titles account for most of the circulation (20).

This brief review of the efforts to evaluate a journal's importance by one method or another emphasizes the librarian's continuing concern for intelligent selection of journals. With this in mind and at the same time realizing the many factors which should be considered the following study was undertaken.

DESCRIPTION OF THE STUDY

The present study was undertaken to determine what similarity exists in journal subscriptions held by academic health science libraries in the United States. A second purpose was to identify a core of titles held by these libraries

and to compare these titles with titles identified on other basic lists or in other studies.

The data base for the study was composed of serial lists from selected libraries serving medical schools approved by the Association of American Medical Colleges. The listing of these schools as it appeared in the Education Number of the *Journal of the American Medical Association* was used (21). A random number table was used to select forty schools as a sample. The sample size of forty was based on a decision that for a journal to be included in the core list at least 60% of the sample must subscribe to it. Based on this value, a sample of forty libraries would give a reliability quotient of 92%. There would be a 92% probability that a journal held by only 50% of all health science libraries would not be accepted. To determine the representativeness of the selected sample, a comparison of the size of the sample libraries and all the medical school libraries was made. The size factor was considered since an abnormal number of very small or very large libraries would skew the resulting data. The size of the libraries given in the *American Library Directory* (22) was used when the size for individual libraries in an institution was given. If the data for a medical library were not available from this source, data from the *Directory of Health Science Libraries in the United States* (23) were used. However, the limitations of these data should be noted since there was a considerable lapse of time between compilation and publication and between publication and use of the data. The average size of the medical school libraries in the sample was 102,007 volumes; that of all medical school libraries was 107,504 volumes. The standard deviation for all medical school libraries is 19,583 volumes. There is an 80% probability that there will be a deviation from the true mean as large or larger than the deviation of the sample from the entire population.

While the selection of the sample libraries was being made, letters were sent to libraries requesting their subscription lists. In this process, it was discovered that the National Library of Medicine's data base for SERLINE could be used for select libraries. The SERLINE print-out of serial holdings indicated holdings information for selected libraries in Regional Medical Library Regions 2, 5, 6, 8, 9, and 11. Data for libraries in other regions were not included

or were included in such a way that they could not be used. As a result of the letters requesting subscription information and of the SERLINE data, information on subscriptions held by thirty-seven of the forty libraries was secured.

Therefore the data base for the core subscription study included information provided by some libraries in the format of serial holdings or subscription lists and for other libraries the data used was the information provided in the SERLINE computer print-out. There are obvious limits to the data base. Information on the titles held by any library had to be determined from one of these two sources. Some data might not be current, i.e., some subscriptions might have been cancelled or new ones might have been added. Another problem was the difference in scope of lists. Many libraries do not include all annual publications on serial records but catalog them as monographs. The same is true of proceedings, reports, and transactions of various congresses, symposia, and meetings. Lastly, many libraries do not indicate as separate entries supplements to various journals, and SERLINE does not include indexes. It was decided to omit from consideration indexing and abstracting tools, supplements to journals, and reports, proceedings, and transactions of special congresses, symposia, and meetings, since data reported on these publications would not be reliable.

Each library was assigned an identification symbol using one union list as an initial source of titles to be considered; one index card was made for each title. On the card the symbol for that library was noted. As succeeding lists were reviewed the symbol for the library holding a particular title was recorded. A card was made for each new title which appeared; after one-half of the sample had been surveyed no new title cards were made, since a title not held by at least 60% of the sample would not be considered.

RESULTS

Once the data were recorded for all libraries in the sample, they were tabulated in the following manner. Each title card was reviewed to determine if a minimum of 60% of the libraries surveyed held subscriptions for that title. All titles held by fewer than 60% of the sample were eliminated from further considera-

tion since this had been the standard established when the sample size was chosen. When the data were recorded on the title cards each line had been used, so that by establishing points on a dummy card the number of libraries holding subscriptions to a given title could be easily determined.

The card for each title was reviewed and the number of libraries holding a subscription to that title was noted. The title and the number of libraries subscribing were listed. Once this process was completed for all titles, a chart was made to note the corresponding percent of the sample in relation to the number of libraries subscribing to a title. In each case the actual number of libraries for the limits was not a whole number and in each case the figure was rounded off to the nearest whole number. When the data are considered it may appear that the results for the 80 and 90% ranges may have been affected. However, a recomputation breaking the ranges at the midpoint, i.e., 32.5 as the upper limit of the 80% range and 32.6 as the lower limit of the 90% range did not materially affect the results.

Eight hundred and fifty-two titles were identified for inclusion in a core list. The minimum requirement was that at least 60% of the libraries surveyed subscribe for the title to be included. An analysis of these 852 titles revealed that subscriptions to 149 were held by 60-69% of the sample libraries; 171 were held by 70-79% of the libraries; 163 by 80-89% of the libraries; 306 by 90-99% of the libraries; and 63 by 100% of the libraries.

COMPARISON

Besides the intention of identifying such a core of titles this study proposed to compare results of this survey with surveys based on other types of analysis. A particularly interesting comparison might be made between journals identified in this survey for the 90 and 100% ranges and those identified by Raisig, by Garfield, and by a recent MEDLINE study (24).

The MEDLINE study consisted of a ranking of journals by the number of times citations to articles published in these journals were retrieved from the MEDLINE data base. The ranking was based on off-line print-outs by MEDLINE Centers over a three-month period. Such an analysis due to the placement of early

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MEDLINE centers in large medical center libraries would reflect a research orientation. At the same time, it represents a kind of use study as opposed to a pure citation analysis, since the citations analyzed were not all of those in the MEDLINE data base or even a random sample of such titles. Instead, this analysis was based on citations for topics requested through MEDLINE.

On the other hand, the Garfield and Raisig studies were citation analysis based on a scientifically designed sampling technique. Therefore direct comparison between rank in one list and rank in another list would not be accurate and indeed there is little direct rank similarity. However, a general comparison to determine similarity in titles identified, i.e., what percent of the titles appeared on all lists, can be made. For the sake of this comparison the first 152 titles on the Raisig list, in the MEDLINE analysis, and the Garfield study were compared.

The results of the comparison can be seen in Table 1. From this table, one can see that a little less than one-fourth of the titles on any one list appeared on the other lists. Furthermore, almost one-half of the titles on any one list did not appear on any other list. Therefore it must be concluded that there is very little similarity in the results of the various studies. In drawing this conclusion the time lapse between the Raisig and the Garfield study must be noted. Furthermore, the Garfield study included a larger data base and many of the titles included on the Garfield list are concerned with the physical, not the biological sciences and could not be expected to be on the Raisig or MEDLINE lists. As a matter of fact,

an analysis of the Garfield list reveals that approximately sixty of the titles are not biomedical in nature and probably would not be in a basic health science collection.

A comparison of titles identified in the core journal list study with titles identified in the other three studies was made. Except for the Garfield study whose special characteristic of non-biomedical titles has already been mentioned, there is a certain amount of uniformity in the resulting distribution. For titles on all the lists except Garfield, a majority of the titles were in the 90-100% category of the core journal study.

CONCLUSION

It is not accurate to assume that the compilation of a list of serial titles by analysis of any one factor can result in a core collection. However, by considering the results of several studies and the needs of a given institution and its users, one can compile a list for a given library. This particular study has resulted in the compilation of a core list of titles subscribed to by health science libraries serving medical schools. List 1 is a compilation of titles subscribed to by 90-100% of the libraries surveyed. A list of titles subscribed to by 60-100% of the libraries will be available upon request.

The core list is not seen as a definitive guide but as a source of information on which journal subscriptions are widely held. Combined with information from other surveys and studies, the health science librarian will have information on which to base subscription decisions. Particularly useful now would be a carefully designed use study to analyze and compare use for a broad sample of health science libraries. Such a study would yield valuable information for journal subscription decisions.

TABLE 1
COMPARISON OF SURVEY RESULTS

GARFIELD (G)		MEDLINE (M)		RAISIG (R)	
List(s)	No. of Titles	List(s)	No. of Titles	List(s)	No. of Titles
G only	99	M only	72	R only	67
M, G, R	30	M, G, R	30	M, G, R	30
G and R	14	M and R	41	R and M	41
G and M	9	M and G	9	R and G	14
152		152		152	

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Acta Cardiologica
 Acta Chirurgica Scandinavica
 Acta Cytologica
 Acta Dermato-Venereologica
 Acta Endocrinologica
 Acta Haematologica
 Acta Neurologica Scandinavica
 Acta Obstetrica et Gynecologica Scandinavica
 Acta Ophthalmologica
 Acta Orthopaedica Scandinavica
 Acta Oto-Laryngologica
 Acta Paediatrica Scandinavica
 Acta Pharmacologica et Toxicologica
 Acta Physiologica Scandinavica
 Acta Psychiatrica Scandinavica
 Acta Radiologica; Diagnosis
 Acta Radiologica; Therapy, Physics, Biology
 Advances in Biological and Medical Physics
 Advances in Cancer Research
 Advances in Clinical Chemistry
 Advances in Enzyme Regulation
 Advances in Immunology
 Advances in Internal Medicine
 Advances in Lipid Research
 Advances in Metabolic Disorders
 Advances in Pediatrics
 Advances in Surgery
 Advances in Virus Research
 Aerospace Medicine
 American Family Physician
 American Heart Journal
 American Journal of Anatomy
 American Journal of Cardiology
 American Journal of Clinical Nutrition
 American Journal of Clinical Pathology
 American Journal of Digestive Diseases
 American Journal of Diseases of Children
 American Journal of Epidemiology
 American Journal of Gastroenterology
 American Journal of Human Genetics
 American Journal of the Medical Sciences
 American Journal of Medical Technology
 American Journal of Medicine
 American Journal of Mental Deficiency
 American Journal of Nursing
 American Journal of Obstetrics and Gynecology
 American Journal of Occupational Therapy
 American Journal of Ophthalmology
 American Journal of Orthopsychiatry
 American Journal of Pathology
 American Journal of Physical Medicine
 American Journal of Physiology

LIST 1

Acta Anatomica
 Acta Anaesthesiologica Scandinavica

SERIALS SELECTION IN ACADEMIC LIBRARIES

- American Journal of Proctology
 American Journal of Psychiatry
 American Journal of Psychotherapy
 American Journal of Public Health
 American Journal of Roentgenology, Radium
 Therapy and Nuclear Medicine
 American Journal of Tropical Medicine and
 Hygiene
 American Journal of Veterinary Medicine
 American Review of Respiratory Disease
 American Scientist
 American Surgeon
 Anaesthesia
 Analytical Biochemistry
 Anatomical Record
 Anesthesia and Analgesia; Current Researches
 Anesthesiology
 Angiology
 Annales del'Institut Pasteur
 Annals of Allergy
 Annals of Human Genetics
 Annals of Internal Medicine
 Annals of the New York Academy of Sciences
 Annals of Otolaryngology, Rhinology and Laryngology
 Annals of the Rheumatic Diseases
 Annals of Surgery
 Annals of Thoracic Surgery
 Annals of Tropical Medicine and Parasitology
 Annual Review of Biochemistry
 Annual Review of Medicine
 Annual Review of Microbiology
 Annual Review of Pharmacology
 Annual Review of Physiology
 Applied Microbiology
 Archives of Biochemistry and Biophysics
 Archives of Dermatology
 Archives of Disease in Childhood
 Archives of Environmental Health
 Archives of General Psychiatry
 Archives of Internal Medicine
 Archives Internationales de Pharmacodynamie
 et de Therapie
 Archives of Neurology
 Archives of Ophthalmology
 Archives of Otolaryngology
 Archives of Pathology
 Archives of Physical Medicine and Rehabilitation
 Archives of Surgery
 Arthritis and Rheumatism
 Bacteriological Reviews
 Biochemical and Biophysical Research Commu-
 nications
 Biochemical Journal
 Biochemical Medicine
 Biochemical Pharmacology
 Biochemistry (Am. Chem. Society)
 Biochemistry (N. Y.)
 Biochimica et Biophysica Acta
 Biophysical Journal
 Blood; Journal of Hematology
 Brain; Journal of Neurology
 Brain Research
 British Heart Journal
 British Journal of Anaesthesia
 British Journal of Cancer
 British Journal of Clinical Practice
 British Journal of Dermatology
 British Journal of Diseases of the Chest
 British Journal of Experimental Pathology
 British Journal of Haematology
 British Journal of Industrial Medicine
 British Journal of Medical Education
 British Journal of Nutrition
 British Journal of Ophthalmology
 British Journal of Plastic Surgery
 British Journal of Preventive and Social Medi-
 cine
 British Journal of Surgery
 British Journal of Urology
 British Medical Bulletin
 British Medical Journal
 Bulletin of the American College of Surgeons
 Bulletin of the History of Medicine
 Bulletin of the Los Angeles Neurological Socie-
 ties
 Bulletin of the Medical Library Association
 Bulletin of the Menninger Clinic
 Bulletin of the New York Academy of Medicine
 Bulletin of the Rheumatic Diseases
 Bulletin of the World Health Organization
 CA; Cancer Journal for Clinicians
 California Medicine
 Canadian Journal of Microbiology
 Canadian Journal of Physiology and Pharmacol-
 ogy
 Canadian Journal of Public Health
 Canadian Journal of Surgery
 Canadian Medical Association Journal
 Cancer
 Cancer Research
 Cardiovascular Research
 Circulation; Journal of the American Heart
 Association
 Circulation Research
 Cleveland Clinic Quarterly

- Clinica Chimica Acta
 Clinical Chemistry
 Clinical Medicine
 Clinical Obstetrics and Gynecology
 Clinical Orthopaedics and Related Research
 Clinical Pediatrics
 Clinical Pharmacology and Therapeutics
 Clinical Radiology
 Clinical Science
 Clinical Symposia
 Cold Spring Harbor Symposia on Quantitative Biology
 Comprehensive Psychiatry
 Current Therapeutic Research
 Cytogenetics and Cell Genetics
 DM; Disease-a-Month
 Deutsche Medizinische Wochenschrift
 Developmental Medicine and Child Neurology
 Diabetes
 Digestion
 Diseases of the Colon and Rectum
 Diseases of the Nervous System
 Endocrinology
 European Journal of Biochemistry
 European Journal of Pharmacology
 Experientia
 Experimental Brain Research
 Experimental Cell Research
 Experimental Medicine and Surgery
 Experimental and Molecular Pathology
 Experimental Neurology
 FDA Papers
 FEBS Letters: Federation of European Biochemical Societies
 Federation Proceedings; Federation of American Societies for Experimental Biology
 Fertility and Sterility
 Gastroenterology
 General and Comparative Endocrinology
 Geriatrics
 Gut
 Health Services Reports
 Henry Ford Hospital Medical Journal
 Hospitals
 Immunology
 International Anesthesiology Clinics
 International Archives of Allergy and Applied Immunology
 International Journal of Applied Radiation and Isotopes
 International Journal of Cancer
 International Ophthalmology Clinics
 International Review of Cytology
 International Review of Experimental Pathology
 International Review of Neurobiology
 International Surgery
 Investigative Ophthalmology
 Investigative Radiology
 Investigative Urology
 Japanese Heart Journal
 Johns Hopkins Medical Journal
 Journal of Allergy and Clinical Immunology
 Journal of the American Chemical Society
 Journal of the American Dietetic Association
 Journal of the American Geriatrics Society
 Journal of the American Medical Association
 Journal of the American Pharmaceutical Association
 Journal of the American Psychoanalytic Association
 Journal of Anatomy
 Journal of Applied Physiology
 Journal of Bacteriology
 Journal of Biochemistry
 Journal of Biological Chemistry
 Journal of Bone and Joint Surgery; American Volume
 Journal of Bone and Joint Surgery; British Volume
 Journal of Cardiovascular Surgery
 Journal of Cell Biology
 Journal of Cellular Physiology
 Journal of Child Psychology and Psychiatry and Allied Disciplines
 Journal of Chronic Diseases
 Journal of Clinical Endocrinology and Metabolism
 Journal of Clinical Investigation
 Journal of Clinical Pathology
 Journal of Comparative Neurology
 Journal of Endocrinology
 Journal of Experimental Medicine
 Journal of General Microbiology
 Journal of General Physiology
 Journal of General Virology
 Journal of Gerontology
 Journal of Health and Social Behavior
 Journal of Histochemistry and Cytochemistry
 Journal of the History of Medicine and Allied Sciences
 Journal of Hygiene
 Journal of Immunology
 Journal of Infectious Diseases
 Journal of Investigative Dermatology
 Journal of Laboratory and Clinical Medicine

SERIALS SELECTION IN ACADEMIC LIBRARIES

Journal of Lipid Research	Methods in Medical Research
Journal of Medical Education	Milbank Memorial Fund Quarterly
Journal of Medical Genetics	Minnesota Medicine
Journal of Medicinal Chemistry	Modern Concepts of Cardiovascular Disease
Journal of Molecular Biology	Modern Hospital
Journal of Nervous and Mental Disease	Modern Treatment
Journal of Neurochemistry	Molecular Pharmacology
Journal of Neurology, Neurosurgery and Psychiatry	Nature
Journal of Neuropathology and Experimental Neurology	Neurology
Journal of Neurophysiology	New England Journal of Medicine
Journal of Neurosurgery	New Physician
Journal of Nuclear Medicine	New York State Journal of Medicine
Journal of Nutrition	Nutrition Abstracts and Reviews
Journal of Obstetrics and Gynaecology of the British Commonwealth	Nutrition Reviews
Journal of Occupational Medicine	Obstetrical and Gynecological Survey
Journal of Parasitology	Obstetrics and Gynecology
Journal of Pathology	Parasitology
Journal of Pediatric Surgery	Pediatric Clinics of North America
Journal of Pediatrics	Pediatric Research
Journal of Pharmaceutical Sciences	Pediatrics
Journal of Pharmacology and Experimental Therapeutics	Perspectives in Biology and Medicine
Journal of Pharmacy and Pharmacology	Pflügers Archiv; European Journal of Physiol- ogy
Journal of Physiology	Pharmacological Reviews
Journal of the Reticuloendothelial Society	Physics in Medicine and Biology
Journal of Speech and Hearing Disorders	Physiological Reviews
Journal of Surgical Research	Plastic and Reconstructive Surgery
Journal of Thoracic and Cardiovascular Surgery	Postgraduate Medical Journal
Journal of Trauma	Postgraduate Medicine
Journal of Ultrastructure Research	Proceedings of the American Association for Cancer Research
Journal of Urology	Proceedings of the National Academy of Sci- ences of the USA
Journal of Virology	Proceedings of the Royal Society of Medicine
Kidney International	Proceedings of the Society for Experimental Biology and Medicine
Laboratory Investigation	Progress in Allergy
Lancet	Progress in Cardiovascular Diseases
Laryngoscope	Psychiatric Quarterly
Life Sciences	Psychiatry
Mayo Clinic Proceedings	Psychoanalytic Quarterly
Medical Clinics of North America	Psychosomatic Medicine
Medical Economics	Quarterly Journal of Experimental Physiology and Cognate Medical Sciences
Medical History	Quarterly Journal of Medicine
Medical Journal of Australia	Quarterly Journal of Studies on Alcohol Pt. A
Medical Letter on Drugs and Therapeutics	Quarterly Journal of Studies on Alcohol Pt. B
Medical Radiography and Photography	Radiation Research
Medical Research Engineering	Radiologic Clinics of North America
Medical World News	Radiology
Medicine	Scandinavian Journal of Urology and Nephrol- ogy
Mental Hygiene	Science
Metabolism: Clinical and Experimental	
Methods of Biochemical Analysis	

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Scientific American	Transfusion
Scottish Medical Journal	Transplantation
Seminars in Hematology	Vascular Surgery
Stain Technology	Virchows Archiv; Abteilung A: Pathologische Anatomie
Steroids	Virchows Archiv; Abteilung B: Zellpathologie
Surgery	Virology
Surgery, Gynecology and Obstetrics	WHO Chronicle
Surgical Clinics of North America	Yale Journal of Biology and Medicine
Texas Reports on Biology and Medicine	Yearbook of Anesthesia
Thorax	Yearbook of Cancer
Thrombosis et Diathesis Haemorrhagica	Yearbook of Eye, Ear, Nose, and Throat Surgery
Today's Health	Yearbook of Obstetrics and Gynecology
Tohoku Journal of Experimental Medicine	Yearbook of Ophthalmology
Transactions of the American Neurological Association	