

Dual Pricing of Health Sciences Periodicals: a Survey*

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ABSTRACT

A survey of dual pricing practices among publishers of health-related journals identified 281 periodicals with an average price differential of over 100% between individual and institutional subscription rates. Both the practice itself and the amount of the differential are increasing, indicating that journal subscriptions of health sciences libraries increasingly provide the financial support necessary for the publication of health sciences journals. Dual pricing is also correlated with copyright royalties.

The problems that dual pricing creates for health sciences libraries' budgets are due in part to uncritical purchasing by libraries. Increased consumerism on the part of health science librarians is recommended.

DUAL PRICING refers to the practice by periodical publishers of maintaining different subscription price structures for individuals and institutions. A 1977 study of dual pricing by Wittig [1] concluded that: (1) the phenomenon has existed at least since the mid-1950s, (2) the price differential between the two subscription rates is increasing, and (3) the prices charged to institutions are increasing much faster than the rates charged to individuals. The interest of medical librarians in the dual pricing phenomenon is evidenced in the annual reports of the Medical Library Association's Committee on Bibliographic Projects and Problems [2-4]. In 1973 this committee surveyed the Medical Library Association's institutional members to determine the effects of dual pricing on health sciences library subscription practices. The committee concluded that in health sciences libraries with fewer than 300 periodical subscriptions, price was becoming a determining factor (in

addition to need) in selecting journals for purchase [5]. In their 1979 report, the National Inquiry into Scholarly Communication [6] considered the dual price phenomenon in relation to the problems that the rapid rise in journal costs were creating for libraries. Their conclusion blamed both libraries and publishers: "We think the problem results from efforts by some publishers to charge all that the traffic will bear and from uncritical purchasing by libraries."

These findings raise additional questions for health sciences librarians, which this paper will attempt to answer. First, how extensive is dual pricing among the publishers of health-related journals? Second, what is the differential between individual and institutional subscription rates for health-related journals, and does this differential vary significantly among publishers? Finally, since one of the justifications publishers offer for dual pricing is that library photocopying reduces publishers' subscription income, do health science journal publishers who practice dual pricing also insist on royalties for copying? These questions provided the framework for this study.

METHODS

Indications of the extent of dual pricing practiced by publishers of health science journals were sought, following three approaches. First, the list of "500 Key Titles" for small and medium-sized medical libraries, prepared by Felter in 1973 and updated by Brown and Moore in 1978 [7], was checked to determine which of these titles were offered to institutions and individuals at different prices. This was accomplished by examining the subscription information in a current issue of each title.

*This study results from the authors' involvement in the Medical Library Association's Bibliographic and Information Services Assessment Committee.

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The second approach involved examining current subscriptions at three university medical center libraries, all of which have broadly interpreted "health sciences" collections, to identify journal titles with different prices for institutions and individuals. Journals whose titles begin with A through I were searched at the Health Sciences Library of the State University of New York at Buffalo. Titles beginning with J through Z were studied at the Health Center Library of the Cleveland Health Sciences Library. At the same time, all current subscriptions at the Basic Medical Sciences Library of the Northeastern Ohio Universities College of Medicine were examined.* Advertising flyers, especially those for new titles, provided additional information on titles whose publishers practiced dual pricing.

The number of titles from the list of 500 key titles that did have a dual pricing structure provided an indication of the extent of the phenomenon among health sciences periodicals. The additional titles gleaned from the current subscriptions at the medical center libraries and from publishers' ads generated a larger pool used to calculate the differential between individual prices and institutional prices, to identify the publishers of health-related periodicals who practiced dual pricing, and to determine price differentials according to publisher. This larger pool also provided an extended view of the royalties situation, showing the extent to which health science journal publishers who practice dual pricing also require copying charges.

RESULTS

The survey's findings are presented in the Appendix and in Table 1. The Appendix lists alphabetically the 281 titles found to have a dual pricing structure. Those titles which were included in the "500 Key Titles" list are identified. Given for each title are publisher, rates for individual and institutional subscriptions, and the percentage of differential between the two rates. Finally, those titles which require copying royalties, in addition to institutional prices, are indicated.

Of the 500 key titles, 61 (12.2%) were identified as having dual pricing. Obviously, this figure

*The State University of New York at Buffalo Health Sciences Library subscribes to 2,658 periodicals. The Cleveland Health Sciences Library, Health Center Library, subscribes to 2,585 periodicals. About half the titles at each institution were examined. The Northeastern Ohio Universities College of Medicine Basic Medical Sciences Library subscribes to 505 periodicals.

TABLE 1
PUBLISHERS WITH GREATEST PRICE DIFFERENTIALS
BETWEEN INDIVIDUAL AND INSTITUTIONAL
SUBSCRIBERS

Publisher	Number of titles identified	Average percentage differential
Pergamon	47	294.8
Academic (prices for 2 of 7 titles listed)	(2)*	116.5
Elsevier	5	102.4
National Research Council of Canada	5	100.0
Plenum	8	92.5
Dekker	6	75.0
Mosby	13	53.9
Year Book (prices for 5 of 6 titles listed)	(5)*	44.2
Williams & Wilkins	27	29.7
Karger	37	25.4

*Five Academic Press titles and one Year Book title indicate that the publisher charges a reduced subscription price for individuals but requires that each individual request this rate.

cannot be applied across the board to all health-related periodicals, since the list of key titles is deliberately slanted toward clinically oriented English-language titles for a medium-sized teaching hospital library. It does, however, indicate the extent of the practice of dual pricing by health science publishers. Further, the percentage of health-related periodicals having dual pricing is very close to the 15% figure arrived at by Wittig [1] in 1977 for all U.S. periodicals.

The remaining 220 titles were identified through the studies at the three libraries mentioned and from publishers' flyers, raising the population of journals available for study to 281. Individual and institutional prices were determined by examining 1978 issues of the journals and the Faxon and Readmore price lists for April and September of 1978 (1979 rates). Of the titles listed, 17 show reduced prices for individuals, but their publishers do not list the individual rates, and they require individual inquiries for the cost of personal subscriptions. This accounts for the lacunae in the Appendix under "Individual Rates" and under "Percentage of Differential."

The average individual subscription rate for the 264 titles whose individual subscription rates were known was \$30.61. The average institutional subscription rate for the 281 titles was \$63.90.

The percentage differential between individual

and institutional subscription costs for the 264 titles for which both prices were known ranged from a low of -20% for one title (*Communication monographs*, published by the Speech Communication Association, which has a discount for libraries), to a high of 890% for Pergamon's *Tetradedron*. The average differential between individual and institutional subscription rates for the 264 titles was 102.14%.

The Appendix also identifies 88 (31.3%) titles whose publishers require royalty payments for photocopying from journals. This information was gathered from the ownership statements and copyright statements on articles in current issues of those journals. The rates and methods of computing these costs vary: Mosby charges 10 cents per page, Williams & Wilkins requires \$2 per article, and one Plenum title listed its royalty charge at \$5 per article.

Table 1, based on the titles listed in the Appendix, identifies the ten health-related journal publishers with the highest average percentage of differential between individual and institutional prices. It is difficult to draw a clear picture; all types of publishers, both foreign and domestic, including societies and university presses, practice dual pricing. However, of the 61 dual-priced titles from the "500 Key Titles" list, 40% were published by Williams and Wilkins, and 20% were published by Mosby.

DISCUSSION

The data indicate a rapid change from the situation in 1974, reported by King Research, Inc. [8]. The King study of dual pricing by field showed the life sciences journals to have a slight negative differential: that is, a lower average cost to institutions. The King study cannot be compared directly with this study because the "life sciences" field in the King study was limited strictly to clinical medicine and biomedical research titles, while health sciences libraries generally use a broader definition. Still, with only one "health-related title" discovered in 1979 having a negative differential, and a 102.14% average positive differential in those titles that do have dual pricing, it is obvious that the increases in both the quantity of titles with dual pricing and the percentage of differential found by the King report for periodicals from other fields have now overtaken life sciences periodicals.

The dual pricing phenomenon grew from agreements reached between publishers and societies to publish journals of societies at reduced rates for

society members but at higher rates for all others [9]. Publishers extended reduced rates for members to individual subscribers and adopted the concept of institutional rates. Recently a new twist to the phenomenon has occurred—individual subscriptions are not being permitted in some instances unless the individual's institution also subscribes at the institutional rate. Two publishers have been identified that publish at least one title with this stipulation [10-11]. Interestingly, in one instance an indignant college professor managed to have this new policy rescinded regarding his long-standing personal subscription [10].

In 1978 the Medical Library Association's Bibliographic and Information Services Assessment Committee attempted to follow up on suggestions that dual pricing might be contrary to antitrust laws in the United States. Correspondence with the American Library Association, the Special Libraries Association, and the American Association of Law Libraries revealed that, while the subject had been much discussed, no formal legal opinion had been obtained.

In February 1979 the Library of the Medical and Chirurgical Faculty of the State of Maryland asked Anderson, Coe and King, the Faculty's legal counsel, for an opinion regarding the practice of differential pricing of medical journals by certain publishers. The counsel's opinion was that "it is legal for publishers to charge institutions more than individuals for periodical subscriptions. The opinion is supported by case law, and no other law seems applicable." A violation of United States and most state antitrust laws would occur if library and individual subscribers were in competition in a commercial sense, for example, for the resale of periodicals. However, since no commercial anti-competitive effects result from such price discrimination, it follows that the practice is legal. The U.S. Internal Revenue Service is currently looking at the matter from a different vantage point, and it is now questioning the tax-exempt status of societies whose journals have differential pricing schemes, singling out members, nonmembers, and institutions [12].

CONCLUSIONS

As a result of the survey conducted for this paper, it appears that the practice of differential pricing for health-related journal subscriptions is approaching the same frequency as for all periodical publications. In 1978, 12.2% of the "500 key titles" in the health sciences had dual pricing,

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compared with 15% of all U.S. publications that had dual pricing in 1977.

Further, it appears that both the frequency of health-related titles having higher subscription rates for institutions and the amount of institutional prices are increasing. According to the 1974 King Research study of clinical medicine and biomedical research titles [8], publishers of these titles at that time generally offered subscriptions to institutions at rates lower than the subscription rates for individuals. In 1978, only one health-related title could be found with a negative differential, and for the 281 titles that were found to have dual pricing, the average positive differential was 102.14%. It is also evident that a substantial number of health-related journals that have dual pricing also require copying royalties.

If present trends continue, the number of existing periodicals that adopt institutional prices is likely to increase; new journals will frequently carry institutional prices; and the difference between institutional and individual prices will increase. It is easy to speculate about the causes for this situation. The "publish or perish" syndrome seems to generate an ever-increasing amount of material to be published. New journal titles are more and more specialized and are therefore likely to have fewer individual subscribers. The costs of journal publishing have become so great that many periodicals may not survive on what individual subscribers can afford to pay [6, 8, 9]. As valid as these assumptions may be, they do not remove the sting from the charge of the National Inquiry into Scholarly Communications that "some publishers . . . charge all that the traffic will bear" [6].

For libraries, however, the National Inquiry's reference to "uncritical purchasing by libraries" is a far more influential factor. The 1972 report of the Medical Library Association's Committee on Bibliographic Projects and Problems suggested that the only reaction to dual pricing that might have impact would be cancellation of certain subscriptions, while making the reasons for this action clear to publishers. The report refrained from recommending this action, however, since the losers would be library users [5]. Since then, however, periodical budgets of many health sciences libraries have failed to keep pace with rising costs, making cancellations of some subscriptions necessary.

In 1978 the Medical Library Association's Bibliographic and Information Services Assessment Committee elected to make "uncritical purchasing" by health sciences libraries one of its major

concerns. Taking a cue from the rise in consumerism, the committee initiated a dialogue between health sciences libraries as a significant block of consumers and those responsible for the issuance and distribution of library products and services, principally publishers and vendors. A national Publisher/Vendor/Health Sciences Librarian Forum was held at the 1979 Medical Library Association annual meeting in Hawaii. The forum was well attended and provided an opportunity for librarians to raise questions on such issues as dual pricing and to hear the reactions of publishers and vendors, as well. The exchange was fruitful, resulting in increased insight for all who were present. The committee strongly believes that similar forums conducted at local, regional, and national levels will be worthwhile, and it is assisting MLA's regional groups in conducting similar forums at their meetings.

These forums are a beginning, but they alone will not alter the dual pricing situation. Communication between participants must be coupled with increasingly responsible and critical selection and purchasing of periodicals by health sciences librarians. The need for health sciences libraries' purchases to financially support health-related periodical publishing gives those libraries a powerful voice in the publishing process, if they choose to use it.

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APPENDIX

HEALTH SCIENCE RELATED PERIODICALS WITH DUAL PRICING

Periodical Title	"500 Key Titles" list	Publisher	1979 individual rate	1979 institutional rate	Price differential %	Copying royalties
Acta Cytologica	*	Williams & Wilkins	36.00	41.00	14	*
Acta Medica Scandinavica (including supplements)	*	Almquist & Wiksell		80.00		
Addictive Behavior		Pergamon	30.00	50.00	67	
Addictive Diseases		Spectrum	15.00	28.00	87	
Adolescence		Libra	16.00	20.00	25	
Ambio		Royal Swedish Academy of Sciences	29.00	48.00	66	
American Heart Journal	*	Mosby	24.00	37.00	54	*
American Journal of Clinical Biofeedback		Peabody College for Teachers	7.00	10.00	43	
American Journal of Clinical Hypnosis		American Society of Clinical Hypnosis	15.00	25.00	67	
American Journal of Digestive Diseases		Plenum	30.00	60.00	100	*
American Journal of Drug and Alcohol Abuse		Dekker	17.50	35.00	100	
American Journal of Human Genetics		University of Chicago Press	18.00	30.00	67	
American Journal of Law and Medicine		MIT Press	25.00	35.00	40	
American Journal of the Medical Sciences	*	Slack		35.00		
American Journal of Mental Deficiency		American Association on Mental Deficiency	20.00	40.00	100	
American Journal of Obstetrics and Gynecology	*	Mosby	30.00	43.00	43	*
American Journal of Optometry and Physiological Optics	*	Williams & Wilkins	35.00	40.00	14	*
American Journal of Orthodontics	*	Mosby	21.50	34.50	60	*
American Journal of Pathology	*	Harper & Row	36.00	60.00	67	
American Journal of Physical Medicine	*	Williams & Wilkins	15.00	21.00	40	*
American Journal of Psychoanalysis		APS Publications	16.00	26.00	63	
American Journal of Sports Medicine		Williams & Wilkins	22.00	27.00	23	
American Naturalist		University of Chicago Press	22.00	30.00	36	*
Analytical Chemistry		American Chemical Society	10.00	14.00	40	*
Animal Learning & Behavior		Psychonomic Society	7.50	15.00	100	
Annals of Neurology		Little, Brown	34.50	39.50	15	*
Annals of Occupational Hygiene		Pergamon	30.00	66.00	120	
Annals of Thoracic Surgery		Little, Brown	34.50	39.50	15	*
Archives of Environmental Health	*	Heldref Publications	12.00	25.00	108	
Archives of Sexual Behavior		Plenum	33.00	65.00	97	*
Art Psychotherapy		Pergamon	30.00	54.00	80	
Behavior Research Methods and Instrumentation		Psychonomic Society	12.50	25.00	100	
Behavior Today		Atcom	33.00	41.00	24	
Behavioral and Brain Sciences		Cambridge University Press	30.00	60.00	100	
Behavioral Science	*	Society for General Systems Research	21.00	35.00	67	*
Behaviour Research and Therapy		Pergamon	30.00	56.00	87	
Biochemical Pharmacology		Pergamon	40.00	300.00	650	
Biology of the Neonate		Karger	59.20	74.00	25	
Biometrika		Biometrika Trust, University College, London	17.50	25.00	43	
Biorheology		Pergamon	30.00	105.60	252	
Biosciences Communications		Karger	52.80	66.00	25	
Biotelemetry		Karger	31.20	39.00	25	
Birth and the Family Journal		American Society for Psychoprophylaxis in Obstetrics	8.00	10.00	25	
Blood Vessels		Karger	52.80	66.00	25	

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Periodical Title	"500 Key Titles" list	Publisher	1979 individual rate	1979 institutional rate	Price differential %	Copying royalties
Botanical Gazette		University of Chicago Press	22.00	30.00	22	*
Brain, Behavior and Evolution		Karger	65.60	82.00	25	
Brain Research Bulletin		Ankho	18.00	80.00	344	*
British Journal of Psychiatry		Headley Bros. Ltd.	100.00	125.00	25	
Bulletin of Environmental Contamination and Toxicology		Springer-Verlag	Available on Request	106.00		*
Bulletin of the History of Medicine		Johns Hopkins Press	15.00	22.00	47	
Bulletin of Mathematical Biology		Pergamon	30.00	79.00	163	
Bulletin of the Psychonomic Society		Psychonomic Society	20.00	40.00	100	
Canadian Journal of Biochemistry	*	National Research Council of Canada	17.50	35.00	100	
Canadian Journal of Botany		National Research Council of Canada	30.00	60.00	100	
Canadian Journal of Microbiology		National Research Council of Canada	17.50	35.00	100	
Canadian Journal of Physiology and Pharmacology		National Research Council of Canada	15.00	30.00	100	
Canadian Journal of Zoology		National Research Council of Canada	17.50	35.00	100	
Cardiovascular Radiology		Springer International	48.00	60.20	25	
Caries Research		Karger	47.20	59.00	25	
Catheterization and Cardiovascular Diagnosis		Liss	37.50	50.00	33	*
Cell Biology International Reports		Academic	80.00	160.00	100	
Cellular and Molecular Biology		Pergamon	30.00	66.00	120	
Chemotherapy		Karger	65.60	82.00	25	
Chest		American College of Chest Physicians	30.00	37.00	23	
Child and Youth Services		Haworth Press	14.00	24.00	71	
Child Psychiatry and Human Development		Human Sciences Press	Available on Request	40.00		
Child's Brain		Karger	52.80	66.00	25	
Chromatographia		Pergamon	51.00	100.00	96	
Clinical and Investigative Medicine		Pergamon	25.00	55.00	120	
Clinical Immunology and Immunopathology		Academic	Available on Request	53.00		*
Clinical Pharmacology and Therapeutics	*	Mosby	31.00	44.00	42	*
Clinical Research	*	Slack	25.00	50.00	100	
Clinical Toxicology		Dekker	65.00	130.00	100	
Cognitive Therapy and Research		Plenum	18.00	36.00	100	
Communication Monographs		Speech Communication Association	25.00	20.00	-20	
Community Mental Health Journal		Human Sciences Press	16.00	36.00	125	*
Community Mental Health Review		Haworth Press	14.00	24.00	71	
Comparative Biochemistry and Physiology. A: Comparative Physiology		Pergamon	30.00	262.00	773	
Comparative Biochemistry and Physiology. B: Comparative Biochemistry		Pergamon	30.00	262.00	773	
Comparative Biochemistry and Physiology. C: Comparative Pharmacology		Pergamon	30.00	120.00	300	
Computerized Tomography		Pergamon	30.00	70.00	133	
Computers in Biology and Medicine		Pergamon	30.00	71.50	138	
Confinia Psychiatrica		Karger	35.20	44.00	25	
Contemporary Psychoanalysis		Academic	15.00	35.00	133	
Contraception		Geron-X	60.00	100.00	67	

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Periodical Title	"500 Key Titles" list	Publisher	1979 individual rate	1979 institutional rate	Price differential %	Copying royalties
Corrective and Social Psychiatry and Journal of Behavior Technology Methods and Therapy		Martin Psychiatric Research Foundation	21.00	23.00	10	
Cortex		Cortex	24.00	45.00	88	
Counseling Psychologist		American Psychological Association	12.00	14.00	17	
Critical Care Medicine	*	Williams & Wilkins	25.00	30.00	20	*
Culture, Medicine and Psychiatry		Reidel	18.00	36.00	100	
Current Advances in Genetics		Pergamon	20.00	105.00	425	
Current Microbiology		Springer-Verlag	29.00	89.00	207	
Current Prescribing		Yearbook	23.00	31.00	35	*
Current Problems in Obstetrics and Gynecology		Yearbook		39.00		
Current Problems in Pediatrics		Yearbook	22.00	31.00	41	
Current Problems in Radiology		Yearbook	23.50	32.00	36	
Current Problems in Surgery	*	Yearbook	23.00	31.00	35	*
Cytogenetics and Cell Genetics		Karger	69.20	74.00	25	
Dermatologica		Karger	44.00	55.00	25	
Developmental and Comparative Immunology		Pergamon	30.00	55.00	82	
Developmental Neuroscience		Karger	44.00	55.00	25	
Digestion		Karger	60.40	88.00	25	
Disasters; the International Journal of Disaster Studies and Practice		Pergamon	20.00	44.00	120	
DM. Disease-A-Month	*	Yearbook	17.00	29.50	74	*
Drug Abuse & Alcoholism Review		Haworth	16.00	24.00	50	
Drug Metabolism and Disposition		Williams & Wilkins	40.00	50.00	25	*
Emergency Med. Tech.			10.50	23.50	124	
Endeavour		Pergamon	10.00	20.00	100	
Environment		Heldref	12.75	19.50	53	
Environmental Science and Technology		American Chemical Society	20.00	52.00	160	*
Enzyme		Karger	96.00	120.00	25	
Ethics in Science & Medicine		Pergamon	30.00	60.50	102	
European Journal of Cancer		Pergamon	30.00	176.00	146	
European Neurology		Karger	59.20	74.00	25	
European Surgical Research		Karger	65.60	82.00	25	
Evaluation Quarterly		Sage	15.00	30.00	100	
Experimental Aging Research			20.00	65.00	225	
Experimental Cell Biology		Karger	47.20	59.00	25	
Experimental Gerontology		Pergamon	30.00	80.00	167	
FEBS Letters		Elsevier	23.33	52.17	124	
Family Process		Family Process Inc.	12.00	20.00	67	
Gastroenterology	*	Williams & Wilkins	45.00	60.00	33	*
Gastrointestinal Radiology		Springer-Verlag	38.00	66.00	74	
Gerontology		Karger	65.60	82.00	25	
Gynecologic Investigation		Karger	47.20	59.00	25	
Haemostasis		Karger	52.80	66.00	25	
Health/PAC Bulletin		Health Policy Advisory Center	10.00	20.00	100	
Health Physics		Pergamon	30.00	160.00	433	
Heart and Lung	*	Mosby	12.00	25.00	108	*
Hemoglobin		Dekker	40.00	54.00	35	
Hormone Research		Karger	47.20	59.00	25	
Human Biology		Wayne State University Press	12.00	15.00	25	
Human Development		Karger	44.00	55.00	25	
Human Heredity		Karger	65.60	82.00	25	
Immunochemistry		Pergamon	30.00	122.00	307	
Immunogenetics		Springer-Verlag	Available on Request	141.00		
Immunological Communications		Dekker	26.25	52.50	103	

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Periodical Title	"500 Key Titles" list	Publisher	1979 individual rate	1979 institutional rate	Price differential %	Copying royalties
Indian Journal of Biochemistry		Council of Scientific and Industrial Research, India	12.75	17.00	33	
Inquiry		Blue Cross Association	15.00	20.00	33	
International Archives of Allergy and Applied Immun.		Karger	88.00	110.00	25	
International Journal of the Addictions		Dekker	40.00	80.00	100	
International Journal of Biochemistry		Pergamon	30.00	134.20	347	
International Journal of Law and Psychiatry		Pergamon	20.00	49.50	148	
International Pharmacopsychiatry		Karger	35.20	44.00	25	
Investigative and Cell Pathology		Wiley	Available on Request	47.50		
Investigative Ophthalmology	*	Mosby	37.00	50.00	38	*
Investigative Urology	*	Williams & Wilkins	35.00	40.00	14	*
Japanese Journal of Physiology		University of Tokyo Press	40.00	50.00	25	
Journal of Abnormal Child Psychology		Plenum	16.00	32.00	100	
Journal of Allergy and Clinical Immunology	*	Mosby	24.00	37.00	54	*
Journal of Antibiotics		Japan Antibiotics Research Association	25.00	60.00	140	
Journal of Applied Behavior Analysis		Society for Experimental Analysis of Behavior	10.00	18.00	80	
Journal of Applied Social Psychology		Winston	19.50	46.00	136	*
Journal of Autism and Childhood Schizophrenia		Plenum	17.50	32.00	83	
Journal of Bioenergetics		Plenum	20.00	32.50	63	
Journal of Biomechanics		Pergamon	30.00	132.20	341	*
Journal of Chronic Diseases		Pergamon	30.00	90.20	201	*
Journal of Clinical Orthodontics		JPO, Inc.	31.00	40.50	31	
Journal of Communication Disorders		Elsevier	33.00	65.00	97	*
Journal of Community Health		Human Sciences Press	15.00	30.00	100	
Journal of Environmental Pathology and Toxicology		Pathotox	33.00	62.00	88	
Journal of Dentistry		Wright	10.00	15.00	33	
Journal of the Experimental Analysis of Behavior		Society for Experimental Analysis of Behavior	10.00	30.00	200	
Journal of Fluency Disorders		Elsevier	15.00	30.00	100	
Journal of Geriatric Psychiatry		International Universities Press	16.50	25.00	52	
Journal of Health and Social Behavior	*	American Sociological Association	12.00	16.00	33	
Journal of Higher Education		Ohio State University	14.00	16.00	14	
Journal of Histochemistry and Cytochemistry	*	Williams & Wilkins	45.00	50.00	11	*
Journal of Immunology	*	Williams & Wilkins	80.00	100.00	25	*
Journal of Infectious Diseases	*	University of Chicago	35.00	70.00	100	*
Journal of Insect Physiology		Pergamon	30.00	225.50	652	*
Journal of Investigative Dermatology	*	Williams & Wilkins	50.00	60.00	20	*
Journal of Laboratory and Clinical Medicine	*	Mosby	30.50	43.50	43	*
Journal of Lipid Research		Lipid Research, Inc.	30.00	70.00	133	
Journal of Liquid Chromatography		Dekker	24.00	48.00	100	*
Journal of Marine Research		Yale	15.00	30.00	100	
Journal of Medical Primatology		Karger	52.80	66.00	25	
Journal of Membrane Biology		Springer-Verlag	Available on Request	539.00		*
Journal of Nervous and Mental Disease	*	Williams & Wilkins	38.00	48.00	26	*

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HEALTH SCIENCE RELATED PERIODICALS WITH DUAL PRICING

Periodical Title	"500 Key Titles" list	Publisher	1979 individual rate	1979 institutional rate	Price differential %	Copying royalties
Journal of Neurochemistry		Pergamon	50.00	215.00	330	*
Journal of Neurosurgical Nursing		American Association of Neurosurgical Nurses	20.00	24.00	20	*
Journal of Nutrition Education	*	Society for Nutrition Education	12.00	16.00	33	*
Journal of Pediatrics	*	Mosby	22.50	35.50	58	*
Journal of Pharmaceutical Sciences	*	American Pharmaceutical Association	30.00	50.00	67	*
Journal of Pharmacokinetics and Biopharmaceutics		Plenum	33.00	65.00	97	
Journal of Pharmacology and Experimental Therapeutics	*	Williams & Wilkins	100.00	120.00	20	*
Journal of Prosthetic Dentistry	*	Mosby	22.00	35.00	60	*
Journal of Psychiatric Education		Human Sciences Press	10.00	20.00	100	*
Journal of Steroid Biochemistry		Pergamon	30.00	146.30	388	*
Journal of Studies on Alcohol	*	Rutgers Center for Alcohol Studies	25.00	35.00	40	*
Journal of Submicroscopic Cytology		Karger	59.20	74.00	25	
Journal of Thoracic and Cardiovascular Surgery	*	Mosby	38.00	51.00	34	*
Journal of Trauma	*	Williams & Wilkins	35.00	41.00	8	*
Journal of Urology	*	Williams & Wilkins	48.00	63.00	31	*
Laboratory Investigation	*	Williams & Wilkins	55.00	60.00	10	*
Leukemia Research		Pergamon	30.00	45.00	50	
Life Sciences		Pergamon	50.00	286.00	472	*
Malacologia		Institute of Malacology	12.00	20.00	67	
Malacological Review		Society for Experimental and Descriptive Malacology	8.00	15.00	88	
Mass Emergencies		Elsevier	19.00	36.25	91	
Mathematical Biosciences		Elsevier	94.00	185.00	97	*
Medical and Pediatric Oncology		Liss	30.00	50.00	67	
Medical Anthropology		Redgrave	17.00	25.00	47	
Medicine	*	Williams & Wilkins	20.00	26.00	30	*
Memory and Cognition		Psychonomic Society	15.00	30.00	100	
Mental Health and Society		Karger	44.00	55.00	25	
Microchemical Journal		Academic	Available on Request	60.00		
Micron		Pergamon	30.00	96.00	220	
Milbank Memorial Fund Quarterly; Health and Society	*	Milbank Memorial Fund	10.00	15.00	50	
Mineral and Electrolyte Metabolism		Karger	47.20	59.00	25	
Modern Medicine	*	Harcourt	12.00	25.00	108	*
Molecular Pharmacology		Academic	Available on Request	92.00		*
Nephron	*	Karger	94.40	132.00	40	
Neuroendocrinology		Karger	52.80	66.00	25	
Neurological Research		Crane, Russak	38.00	76.00	100	
Neuropharmacology		Pergamon	30.00	139.00	363	*
Neuropsychobiology		Karger	52.80	66.00	25	
Neuropsychologia		Pergamon	30.00	92.40	208	
Neuroscience		Pergamon	35.00	110.00	214	
Nucleic Acids Research		Information Retrieval		175.00		
Nursing Papers		McGill University School of Nursing	7.00	11.00	57	
Nursing Research		AJNG	20.00	30.00	50	
Nutrition and Metabolism		Karger	59.20	74.00	25	
Obstetrical and Gynecological Survey	*	Williams & Wilkins	36.00	42.00	17	
Ophthalmic Surgery		Slack		36.00		
Oral Surgery, Oral Medicine, Oral Pathology	*	Mosby	22.00	35.00	60	*
Origins of Life		Reidel	30.00	66.00	120	

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Periodical Title	"500 Key Titles" list	Publisher	1979 individual rate	1979 institutional rate	Price differential %	Copying royalties
Pediatric Nursing		National Association of Pediatric Nurse Associates and Practitioners	10.00	12.00	20	
Pediatric Research	*	Williams & Wilkins	52.00	57.00	10	*
Perception and Psychophysics		Psychonomic Society	25.00	50.00	100	
Perspectives in Biology and Medicine	*	University of Chicago	12.00	16.00	33	*
Perspectives in Psychiatric Care		Nursing Publications, Inc.	10.00	12.00	20	
Pesticide Biochemistry and Physiology			Available on Request	33.00		*
Pharmacological Reviews	*	Williams & Wilkins	20.00	25.00	25	*
Pharmacology, Biochemistry and Behavior		Ankho	25.00	180.00	620	
Phonetica		Karger	65.60	82.00	25	
Photochemistry and Photobiology		Pergamon	30.00	147.00	390	*
Physiological Psychology		Psychonomic Society	10.00	20.00	100	
Physiological Zoology		University of Chicago	15.00	20.00	33	*
Physiology and Behavior		Pergamon	30.00	244.00	713	*
Phytochemistry		Pergamon	35.00	187.00	434	*
Plant and Cell Physiology		Japanese Society of Plant Physiologists	25.00	80.00	220	
Prostaglandins		Geron-X	66.00	100.00	67	
Progress in Neuropsychopharmacology		Pergamon	30.00	45.00	50	
Psychiatry Clinica		Karger	35.20	44.00	25	
Psychiatric Quarterly	*	Human Sciences Press		35.00		
Psychiatry	*	William Alanson White Psychiatric Foundation	15.00	24.00	60	
Psychoneuroendocrinology		Pergamon	30.00	55.00	83	
Psychosomatic Medicine	*	Elsevier	35.00	70.00	100	*
Psychotherapy and Psychosomatics		Karger	44.00	55.00	25	
Radiologic Technology	*	Williams & Wilkins	15.00	18.00	20	*
Rehabilitation Psychology		American Psychological Association	7.50	15.00	100	
Renal Physiology		Karger	47.20	59.00	25	
Review of Educational Research		American Educational Research Association	12.00	14.00	17	
Review of Existential Psychology and Psychiatry		AMS Press	9.00	15.00	67	
Revue Canadienne de Biologie		Presses de l'Université de Montreal	15.00	20.00	33	
Science	*	American Association for the Advancement of Science	31.00	65.00	110	
Sexuality and Disability		Human Sciences Press	15.00	35.00	133	
Sexuality Today		AXcom	39.00	47.00	20	
Social Forces		University of North Carolina Press	10.00	12.00	20	
Social Psychology		American Sociological Association	12.00	16.00	33	
Social Science and Medicine		Pergamon	30.00	141.00	369	
Social Work in Health Care		Haworth	20.00	36.00	80	
Sociological Review		University of Keele	17.25	23.00	33	
Sociology of Education		American Sociological Association	12.00	16.00	33	
Soil Science		Williams & Wilkins	23.00	40.00	74	*
Somatic Cell Genetics		Plenum	34.00	68.00	100	
Stain Technology	*	Williams & Wilkins	17.00	22.00	30	*
Steroids	*	Holden-Day		64.00		
Surgery	*	Mosby	25.90	38.50	49	*
Survey of Anesthesiology	*	Williams & Wilkins	22.00	24.00	10	*
Survey of Ophthalmology	*	Williams & Wilkins	30.00	35.00	17	*
Tetrahedron		Pergamon	50.00	495.00	890	*
Tetrahedron Letters		Pergamon	60.00	440.00	633	*

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Theoretical Population Biology		Academic	Available on Request	47.00		*
Transplantation	*	Williams & Wilkins	50.00	60.00	20	*
Ultrasound in Medicine and Biology		Pergamon	30.00	55.00	83	*
Urological Survey	*	Williams & Wilkins	24.50	26.50	8	*
Vision Research		Pergamon	30.00	187.00	523	*
Yale Journal of Biology and Medicine	*	Neil Watson	20.00	35.00	75	
World Journal of Surgery		Springer-Verlag	32.00	48.00	50	