
Mapping the literature of case management nursing

By Pamela White, RN, MS, MLS
Pamela.White@urmc.rochester.edu
Branch Librarian

University of Rochester Medical Center
Health Sciences Libraries and Technologies
601 Elmwood Avenue
Rochester, New York 14642

Marilyn E. Hall, MLIS
mehall@mail.sdsu.edu
Health Sciences Librarian

Library and Information Access
San Diego State University
5500 Campanile Drive
San Diego, California 92182-8050

Objectives: Nursing case management provides a continuum of health care services for defined groups of patients. Its literature is multidisciplinary, emphasizing clinical specialties, case management methodology, and the health care system. This study is part of a project to map the literature of nursing, sponsored by the Nursing and Allied Health Resources Section of the Medical Library Association. The study identifies core journals cited in case management literature and indexing services that access those journals.

Methods: Three source journals were identified based on established criteria, and cited references from each article published from 1997 to 1999 were analyzed.

Results: Nearly two-thirds of the cited references were from journals; others were from books, monographs, reports, government documents, and the Internet. Cited journal references were ranked in descending order, and Bradford's Law of Scattering was applied. The many journals constituting the top two zones reflect the diversity of this field. Zone 1 included journals from nursing administration, case management, general medicine, medical specialties, and social work. Two databases, PubMed/MEDLINE and OCLC ArticleFirst, provided the best indexing coverage.

Conclusion: Collections that support case management require a relatively small group of core journals. Students and health care professionals will need to search across disciplines to identify appropriate literature.

INTRODUCTION

Case management is a care delivery model designed to coordinate and manage patient care across the continuum of health care systems. Case managers are usually involved over an "entire episode of illness/disability or need for services" [1]. Numerous definitions of case management often relate specifically to the profession, the organization, or the client group. The American Nurse Credentialing Center, a subsidiary of the American Nurses Association (ANA), defines nursing case management as:

Nursing case management is a dynamic and systematic collaborative approach to provide and coordinate health care services to a defined population. The framework . . . includes . . . five components: assessment, planning, implementation, evaluation, and interaction.

Nurse case managers actively participate with their clients to identify and facilitate options and services for meeting individuals' health needs, with the goal of decreasing fragmentation and duplication of care, and enhancing quality, cost-effective clinical outcomes. [2]

Although its roots are over a century old, contem-

porary case management began in the 1970s as a way to assure both quality outcomes and cost containment in an increasingly complex system. At that time, a variety of factors had converged to cause inflation in health care. Traditional indemnity insurance plans and federally funded programs had few incentives to control costs. Advances in technology were becoming prohibitively expensive. The aging population and an increase in incidence of chronic illness placed additional burdens on the health care system. Duplication and gaps in services were becoming more frequent. The uncontrolled growth of health care costs led to the emergence of "external" case management, as insurance companies and other third-party payers sought effective means of controlling expenses, especially those associated with catastrophic illnesses and injuries. A decade later, acute care facilities began to feel the impact of decreasing revenues. Hospital restructuring efforts strove to standardize plans of care and reduce costs, while improving quality; thus, "internal" case management was developed [3, 4]. Today, case managers can be found worldwide, in acute care, rehabilitation and subacute facilities, community-based programs, home care, and insurance companies.

CASE MANAGEMENT NURSING TODAY

The practice of case management depends a great deal on the type and structure of the organization. Although case managers can arise from many disciplines, most have a background in nursing or social work [5]. Nurses are well suited to the role because the functions of case management closely follow the framework of the nursing process: assessment, planning, implementation, and evaluation. Case management as a *process* broadens this framework and incorporates additional components, such as patient identification or case selection; resource identification; advocacy; coordination, monitoring, and evaluation of care; data collection and analysis; and documentation of multiple outcomes, including cost, quality, and client status [6, 7].

Due to its inherently collaborative and multidisciplinary nature, the process of case management involves the client, family, and other members of the health care team. Coordination of care fosters the efficient use of resources. However, even in the era of managed care, cost-control, while essential, is not the only goal. Quality of care, continuity, and assurance of appropriate and timely interventions are also crucial [8]. In addition to reducing the cost of health care, case management "has proven its worth in terms of improving (re)habilitation, improving quality of life, increasing client satisfaction and compliance ... promoting client self-determination" [9].

The practice of case management is evolving and, to a large degree, still depends on the setting [10]. Historically, preparation for the nurse case manager occurred in the health care organization and was specific to the role, responsibilities, and scope of practice in the institution [11]. More recently, preparation for

nurse case managers has been embraced in the academic setting. Baccalaureate education is seen as minimal preparation, and preparation at the graduate level as advanced practice nurses is increasingly emphasized [4, 12, 13]. Competencies achieved at the graduate level correspond with the complex role and responsibilities of the nurse case manager. Regardless of academic preparation, to be effective, the nurse case manager must possess clinical expertise, effective communication and problem-solving skills, and broad knowledge of the health care system, including financing, regulations, and resources [14–16]. The American Nurses Credentialing Center offers an exam-based nursing case manager certification for registered nurses with demonstrated clinical experience in case management <<http://nursingworld.org/ancc/>>. The Academy of Certified Case Managers ensures the systematic education and knowledge level of certified case managers, while providing a measure of quality <<http://www.academyccm.org>> [17, 18].

The literature of such a discipline is by nature multidisciplinary, with an emphasis on journals addressing the clinical specialization of the case manager as well as those focusing on case management methodology and the health care system. For purposes of this evaluation, the authors focused on literature covering the process, methods, and expertise required by case managers regardless of setting or clinical specialty.

This study is part of a larger project sponsored by the Nursing and Allied Health Resources Section of the Medical Library Association to map the literature of nursing. The purpose of this mapping project is to add to the knowledge of the nursing literature by identifying the core literature of the various disciplines through citation analysis. Citation analysis can assist librarians with collection development decisions and strengthen librarians' knowledge of the breadth of the literature for a specific discipline. In addition, this project attempts to determine the extent of indexing coverage for the core literature. Identifying and determining indexing coverage of the core literature should also assist case management students, faculty, and practitioners in accessing the key literature for research and practice.

METHODOLOGY

The common methodology is described in detail in the project overview article [19]. A review of the literature revealed no bibliographic studies relating to case management. In addition, case management journals were not featured on standard bibliographies or core lists, such as the Brandon/Hill list. Many serials related to case management were clinically oriented or were trade publications or newsletters. To determine source journals for this study, the authors reviewed Key and Electronic Nursing Journals: Characteristics and Database Coverage [20], the literature of professional case management organizations, and the holdings of major academic medical libraries. Only three journals met the authors' criteria for inclusion: professional, peer-

Table 1
Cited format types by source journal and frequency of citations

Cited format type	No. citations in source journals			Citations	
	JCM	TJCM	NCM	Total	Frequency
					%
Journal articles	1,010	674	900	2,584	63.6%
Books	227	293	257	777	19.1%
Government documents	47	87	36	170	4.2%
Internet resources	9	4	7	20	0.5%
Reports	69	139	47	255	6.3%
Miscellaneous	123	62	69	254	6.3%
Total	1,485	1,259	1,316	4,060	100.0%

JCM = *Journal of Care Management*.TJCM = *The Journal of Case Management*.NCM = *Nursing Case Management*.

reviewed journals that were routinely held by academic health sciences libraries and contained at least some research articles:

■ The *Journal of Care Management (JCM)* is the official journal of the Case Management Society of America. In 2000, the journal was renamed *CareManagement: Official Journal of the Academy of Certified Case Managers*. The organization is multidisciplinary, but nurses hold key positions, including appointment to the editorial board of the journal. This journal includes an extensive newsletter section and a continuing education section, *Disease Management Digest*, focusing on the management of specific diseases.

■ *Nursing Case Management (NCM)* was, when this study began, the only case management journal specifically targeted for professional nurse case managers. The title change to *Lippincott's Case Management* in 2000 reflects the multidisciplinary nature of case management practice, while the published articles still primarily reflect nursing practice. *NCM* publishes articles related to both the clinical and management aspects of case management and includes opportunities to attain continuing education credit.

■ *The Journal of Case Management (TJCM)* is the third journal specific to the field of case management. Its multidisciplinary articles relate to both nursing and social work. In 1999, this journal merged with *The Journal of Long Term Care* to become *The Care Management*

Table 3
Distribution by zone of cited journals and references

Zone	Cited journals		Cited journal references		
	No.	%	No.	%	Cumulative total
Zone 1	25	3.7%	851	32.9%	851
Zone 2	94	14.0%	815	31.5%	1,666
Zone 3	554	82.3%	918	35.5%	2,584
Total	673	100.0%	2,584	100.0%	

Journals. The two journals are published as separate titles under one cover. Connecting the two journals emphasizes continuity of care, while allowing each to retain its specialty focus. For purposes of this study, only titles published under *TJCM* were evaluated.

The three selected journals cover the broad spectrum of nursing case management practice. That each journal has undergone a change in title, focus, or format reflects the continuing evolution of case management as a discipline.

RESULTS

Three hundred thirty-nine articles met the study criteria. The number of articles and the average number of citations differed greatly for each source journal. *NCM* provided 108 source articles, with an average of 12.2 references per article. *TJCM* provided fewer source articles, only 58, but they averaged 21.7 references. *JCM* provided the largest number of source articles, 173, but averaged the fewest citations per article, 8.6. Fifty-two articles had no references (*NCM*: 22, *TJCM*: 1, *JCM*: 29), while 6 articles had more than 50 citations each. As the years progressed, the source articles averaged more citations. For example, the average number of citations for articles published in *NCM* in 1999 was 20.7, compared to 7.6 in 1997.

A total of 4,060 citations were analyzed. As shown in Table 1, classification by format indicates journal articles accounted for 63.6% of cited references. Approximately 20% of cited references were from books or other monographs. These references were cited almost equally in each of the three journals, indicating their

Table 2
Cited format types by publication year periods

Publication year	Books		Government documents		Internet		Journal articles		Reports		Miscellaneous		Total citations	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1997–1999*	90	11.6%	23	13.5%	16	80.0%	498	19.3%	39	15.3%	117	46.0%	783	19.3%
1991–1996	447	57.5%	110	64.7%	2	10.0%	1,447	56.0%	163	63.9%	103	40.6%	2,272	56.0%
1981–1990	202	26.0%	30	17.6%	0	0	554	21.4%	45	17.6%	18	7.1%	849	20.9%
1971–1980	19	2.4%	4	2.4%	0	0	66	2.5%	4	1.6%	2	0.8%	95	2.3%
1961–1970	16	2.1%	2	1.2%	0	0	11	0.4%	1	0.4%	1	0.4%	31	0.8%
Pre-1961	3	0.4%	0	0	0	0	4	0.2%	1	0.4%	0	0	8	0.2%
Not available	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No date	0	0	1	0.6%	2	10.0%	4	0.2%	2	0.8%	13	5.1%	22	0.5%
	777	100.0%	170	100.0%	20	100.0%	2,584	100.0%	255	100.0%	254	100.0%	4,060	100.0%

* Includes in press materials.

Table 4
Distribution and database coverage of cited journals in Zones 1 and 2

Cited journal	Total citations	Bibliographic databases							
		CINAHL	PubMed	EBSCO NAH Comp.	EMBASE	Health Ref. Center	SCI	SSCI	OCLC ArticleFirst
Zone 1									
1. Care Manag J (1999–) absorbed J Case Manag (1992–1998)	88	5	5	0	5	0	0	0	
2. J Nurs Adm	72	4	4	0	4	0	0	5	X
3. N Engl J Med	72	1	4	2	3	3	5	1	X
4. Nurs Manage	64	5	4	4	0	3	0	0	X
5. JAMA	45	1	3	3	3	5	4	1	X
6. Psychiatr Serv (formerly Hosp Community Psychiatry)	39	3	3	0	2	0	5	5	X
7. Gerontologist	38	2	2	3	2	5	0	4	X
8. Lippincotts Case Manag; continues Nurs Case Manag (1996–2000)	36	5	5	0	0	0	0	0	
9. Ann Intern Med	34	1	4	3	4	3	5	1	X
10. Soc Work	32	3	2	3	0	1	0	5	X
11. Lancet	31	1	3	3	3	2	5	1	X
12. Transplantation	28	0	5	0	5	0	5	0	X
13. Nurs Econ	27	5	3	2	0	3	0	0	X
14. Transplant Proc	27	0	5	0	4	0	5	1	X
15. Health Soc Work	26	4	4	4	0	0	0	5	X
16. CareManagement (Aug 2000–); formerly, J Care Manag (1995–Jun 2000)	25	5	0	0	0	0	0	0	
17. Hepatology	22	0	1	0	1	0	5	0	X
18. Am J Public Health	20	4	4	4	4	4	5	5	X
19. J Nurs Scholarsh (2000–); continues Image J Nurs Sch (1983–1999)	20	5	4	0	0	4	0	0	X
20. Brain Injury	18	0	4	5	4	0	5	3	X
21. J Am Geriatr Soc	18	1	2	0	2	2	5	5	X
22. J Head Trauma Rehabil	18	4	4	0	4	0	0	5	X
23. Adv Skin Wound Care (2000–); continues Adv Wound Care (1994–1999)	17	5	4	0	0	4	0	0	
24. Arch Phys Med Rehabil	17	5	4	0	4	0	5	1	X
25. Chest	17	1	4	0	5	4	5	1	X
Zone 1 average database coverage		2.80	3.48	1.44	2.36	1.72	2.56	1.96	21
Zone 2									
26. Clin Nurse Spec	16	5	4	0	0	0	0	0	X
27. Community Ment Health J	16	2	2	0	2	2	0	2	X
28. CA Cancer J Clin	15	1	3	4	3	5	3	1	
29. J Adv Nurs	15	2	2	3	0	0	0	5	X
30. J Nurs Care Qual	15	5	4	0	0	4	0	5	X
31. AIDS	14	0	3	0	3	0	5	1	X
32. Am J Psychiatry	14	0	3	0	3	3	5	5	X
33. Arch Intern Med	14	1	4	0	4	3	5	1	X
34. J Am Diet Assoc	14	4	3	0	3	3	5	1	X
35. J Clin Oncol	14	1	4	0	4	0	5	1	X
36. J Gerontol Soc Work	14	5	1	0	0	1	0	4	X
37. J Pain Symptom Manage	14	2	4	0	4	0	4	1	X
38. Nurs Educ Perspec (2002); continues Nurs Health Care & Nurs Health Care Perspect	14	3	2	0	0	3	0	5	X
39. Nurs Outlook	14	5	3	0	0	0	0	4	X
40. Diabetes Care	13	2	4	0	4	0	5	1	X
41. Generations	13	2	0	3	0	5	0	1	X
42. J Assoc Nurses Aids Care	13	5	4	0	0	5	0	0	X
43. MMWR Morb Mortal Wkly Rep	13	3	3	5	0	3	0	0	X
44. Nurs Adm Q	13	5	4	0	0	5	0	0	X
45. J Acquir Immune Defic Syndr Hum Retroviral	12	0	5	4	0	4	5	1	
46. Stroke	12	1	3	0	3	0	5	1	X
47. Case Manag	11	5	0	0	0	0	0	0	X
48. Health Serv Res	11	0	4	0	4	0	4	5	X
49. J Gerontol A & B	11	3	4	5	0	5	0	0	X
50. Med Care	11	0	5	0	0	0	5	5	X
51. Nurs Res	11	4	4	0	0	0	5	4	X
52. Circulation	10	0	1	0	2	0	5	0	X
53. Crit Care Nurs Clin North Am	10	5	4	0	0	0	0	0	X
54. J Child Neurol	10	0	4	0	4	1	4	1	X
55. J Neurosci Nurs	10	3	2	0	0	2	0	0	X
56. Neurology	10	0	2	0	2	0	5	1	X
57. Qual Manag Health Care	10	4	5	0	0	0	0	0	
58. Am J Nurs	9	5	3	4	0	3	0	4	X
59. Bus Health	9	3	3	0	0	5	0	0	X
60. Fam Soc	9	0	0	0	0	1	0	5	X
61. J Bone Joint Surg (Am)	9	0	4	0	3	0	5	1	X
62. J Gerontol Nurs	9	5	4	0	0	0	0	0	X

Table 4
Continued

Cited journal	Total citations	Bibliographic databases							
		CINAHL	PubMed	EBSCO NAH Comp.	EMBASE	Health Ref. Center	SCI	SSCI	OCLC ArticleFirst
63. J Health Human Serv Adm	9	0	4	0	5	0	0	0	
64. J Neurosurg	9	0	4	0	4	0	5	0	X
65. Oncol Nurs Forum	9	3	3	0	0	4	0	0	
66. Blood	8	0	1	0	1	0	5	0	X
67. Home Healthc Nurse; continues Nephrology Nurse	8	5	4	0	0	0	0	0	X
68. Jt Comm J Qual Saf (2003-); continues Jt Comm J Qual Improv	8	3	4	0	0	0	0	0	X
69. Pediatr Nurs	8	4	4	0	0	4	0	0	
70. Semin Nurse Managers	8	5	4	0	0	0	0	0	
71. AACN Clin Issues Adv Pract Acute Crit Care (AACN Clin Issues in MEDLINE)	7	5	4	0	0	0	0	0	X
72. Am J Med	7	0	4	4	5	3	4	1	X
73. Ann Neurol	7	0	2	0	2	0	5	1	X
74. ANS Adv Nurs Sci (quarterly)	7	5	4	0	0	4	0	5	X
75. Arch Gen Psychiatry	7	0	4	0	4	0	5	5	X
76. Arch Pediatr Adolesc Med; formerly, Am J Dis Child	7	1	4	0	4	4	5	1	X
77. Caring	7	5	3	0	0	0	0	0	X
78. Case Rev (ceased publication)	7	NA	NA	NA	NA	NA	NA	NA	NA
79. Federal Register	7	0	5	0	0	0	0	0	
80. Gastroenterology	7	0	1	0	1	0	5	0	X
81. J Insur Med	7	0	5	0	0	0	0	0	
82. J Prof Nurs	7	5	5	0	0	0	0	3	X
83. J Subst Abuse Treat	7	0	5	0	5	1	0	5	X
84. JPEN J Parenter Enteral Nutr	7	3	5	0	5	0	4	0	X
85. Medsurg Nurs	7	5	4	0	0	4	0	0	
86. Ostomy Wound Manage	7	5	3	0	0	0	0	0	X
87. Schizophr Bull	7	0	4	0	4	0	5	5	X
88. Semin Oncol	7	1	4	0	4	0	5	0	X
89. BMJ	6	0	4	3	2	2	5	1	X
90. Hosp Case Manag	6	5	4	0	0	0	0	0	
91. International Pediatr	6	0	0	0	5	0	0	0	X
92. J Contin Educ Nurs	6	4	3	0	0	0	0	0	X
93. J Pediatr	6	1	4	0	5	0	4	1	X
94. Milbank Q	6	0	4	0	0	4	5	5	X
95. New Definition	6	0	0	0	0	0	0	0	
96. Nursing	6	5	2	3	0	2	0	0	X
97. Oncology	6	0	2	0	2	0	4	0	X
98. Pediatrics	6	1	2	2	2	2	5	1	X
99. Public Health Nurs	6	5	5	5	0	0	0	5	X
100. Res Aging	6	0	0	5	5	2	0	5	X
101. Res Nurs Health	6	5	4	0	0	0	5	5	X
102. Clin Infect Dis; formerly, Rev Infect Dis	6	0	4	0	3	0	4	0	X
103. Semin Hematol	6	0	4	0	5	0	5	0	X
104. Arch Neurol-Chicago	5	0	4	0	4	0	4	1	X
105. Aspens Advis Nurse Exec	5	5	5	0	0	0	0	0	
106. Br J Psychiatry (including supplements)	5	0	3	0	3	0	5	5	X
107. Child Adolesc Social Work J	5	0	0	0	0	1	0	0	X
108. Clin Geriatr Med	5	2	4	0	0	0	5	2	X
109. Gen Hosp Psychiatry	5	0	4	0	3	0	5	5	X
110. Geriatr Nurs	5	3	2	0	0	0	0	5	X
111. J Addict Dis	5	0	2	0	3	0	0	5	X
112. J Am Acad Nurse Pract	5	5	5	0	0	0	0	0	X
113. J Appl Gerontol	5	0	0	0	4	5	0	5	X
114. J Clin Epidemiol; formerly J Chronic Dis	5	0	5	0	4	0	5	2	X
115. J Natl Cancer Inst	5	1	4	4	2	3	4	1	X
116. J Neurol Neurosurg Psychiatry	5	0	3	0	2	0	5	1	X
117. J Pediatr Nurs	5	5	5	0	0	0	0	0	X
118. J Urol	5	0	2	0	0	0	5	0	X
119. Surgery	5	0	4	0	4	0	5	0	X
Zone 2 average database coverage		2.08	3.25	0.58	1.61	1.16	2.24	1.58	83
Average Zones 1 and 2		2.23	3.30	0.77	1.78	1.28	2.31	1.66	104

Based on database coverage score: 5 (95%–100%); 4 (75%–94%); 3 (50%–74%); 2 (25%–49%); 1 (1%–24%); 0 (< 1%).

EBSCO NAH Comp. = EBSCO Nursing & Allied Health Collection Comprehensive Edition.

SCI = Science Citation Index.

SSCI = Social Sciences Citation Index.

relative acceptance to the field. Reports (6.3%), miscellaneous documents (6.3%), government documents (4.2%), and Internet documents (0.5%) accounted for the remaining citations.

Table 2 depicts the age of citations, identified by publication year. Most of the citations (75.3%) were published between 1991 and 1999. The percentage of "newer" materials cited was higher for government documents, reports, and miscellaneous documents and lower (69.1%) for monographs.

The application of Bradford's Law of Scattering reflected the diversity of the literature of case management. Zone 1 comprised 25 journals (3.7% of the total). Zone 2 included 94 (14%) journals. The vast majority of the journals (554 or 82.3%), those cited four times or less, fell into the third zone, as shown in Table 3.

All cited journal titles in Zones 1 and 2 were evaluated for indexing coverage in twelve databases during a single reference year, 1998. Table 4 depicts the ranking of these journals and their coverage in the eight databases providing the best overall exposure. PubMed/MEDLINE provided the best coverage. For twenty of twenty-five journals in Zone 1, at least half of the articles were indexed in PubMed/MEDLINE. This was not surprising, given the comprehensiveness of PubMed/MEDLINE and the strong medical focus of the titles in the top zone. ArticleFirst, a multidisciplinary database produced by OCLC, also provides excellent coverage. Unfortunately, due to multiple duplicate entries, it was not possible to determine the actual indexing coverage for this database. However, twenty-one of twenty-five journals in Zone 1 were indexed by this database. CINAHL ranked third, but the other nursing database, EBSCO Nursing & Allied Health Collection Comprehensive Edition, had considerably less coverage. The databases with a social sciences focus generally provided less coverage as well. Social Sciences Citation Index (now part of ISI Web of Science) had the best coverage. Two other "social sciences" databases, PsycINFO and Sociological Abstracts, provided minimal coverage and do not appear in Table 4.

DISCUSSION

As expected, journal articles formed the base of the core literature of case management, accounting for nearly two-thirds of all cited references. Books and other monographs were also important. The fact that the reports category accounted for a significant number (6.3%) of cited references should interest librarians, because copies of these documents can be especially challenging to locate. While Internet documents were cited infrequently, the Web might also be a source for locating the reports of various professional organizations and advocacy groups.

The field of case management has been developing rapidly, with its significance increasing over the past two decades. Secondary sources such as books and monographs constituted a significant portion of the cited literature, especially for articles discussing the

process of case management. More than 67% of the books from the 1990s were published prior to 1997, while 26% of the total books were published in the 1980s (Table 2). Because 33% of the source articles were published in 1997, a certain percentage of citations would be expected to be from the early 1990s. But a seemingly heavy reliance on older literature might also indicate authors' use of monographs that were readily available and with which they were familiar.

Other nontraditional formats, such as government documents and the reports of professional organizations and advocacy or advisory groups were also important components of the core literature. Although more than 86% of the government documents were from the 1990s, more than 50% of those were published in the early portion of the decade. Again, this reliance on older literature might be the result of using what was convenient. Access to and knowledge of the plethora of government statistics, guidelines, and other documents via the Internet should improve the currency of the reference literature.

Current statistics and disease information were frequently derived from associations' or nonprofit organizations' publications and Websites, listed under reports. The reports were more current than other categories. Citing recent conferences and drug inserts might also slant the miscellaneous category toward currency. As knowledge of, and comfort with, accessing quality information via the Internet improves, it will be interesting to track the number of future citations in the Internet category. Will there be increased reliance on general Websites and online communication or will the online version of traditional reports be cited? If the latter occurs, will it impact the currency of those citations?

The diversity of cited journals reflects the dual focus of nursing case management—managing the patient while also managing the process of patient care. Judging from the source articles and the titles of the cited journals, the literature of case management can be divided into two broad categories: literature related to the process of case management and the health care system and "clinical" literature. One possible explanation for the emphasis on process is that case management practice is relatively new and needs to be defined along with its role in both the health care and educational systems. Many case managers have learned case management from peers, have heavy caseloads, and frequently work independently [21]. Journals permit nurse case managers to remain current on contract theory, delivery models, case maps, discharge planning, communication, legislation, and economics. Table 4 shows the subjects represented by journals in Zone 1: case management (3 titles), nursing administration (3 titles), and social work (2 titles).

Given this diversity, one challenge for nurse case managers is to determine which databases to select when searching for pertinent articles. As the indexing coverage demonstrated, PubMed provides good coverage, especially when the focus of the search is on the clinical aspects of practice. Given the multidisciplinary

nature of case management, one might have expected greater coverage in those databases with a social sciences focus. Indexing scores for "social work" titles generally are higher in these databases. Of the two nursing databases, CINAHL provides better coverage. Most, but not all, of the nursing journals are extensively indexed. OCLC ArticleFirst should not be overlooked; more than 87% of the journals in Zones 1 and 2 are indexed. Although case management titles are generally not indexed, the coverage for social sciences is very strong, thus potentially complementing the coverage in the more clinically focused databases. However, PubMed/MEDLINE remains the database of choice when searching for information related to case management. In addition to its excellent coverage, it is both free of charge and readily available.

The appearance of journals specific to nursing research and advanced practice nursing in Zones 1 and 2 may reflect the shift toward postbaccalaureate preparation for nurse case managers. Theories and instruments are beginning to emerge in case management, and nurse case managers with advanced degrees would be expected to have better knowledge of analyzing and performing research. As a result, it could also be expected that literature reviews would be more thorough and current and that reliance on the older but easily available textbooks should lessen.

The core literature also reflects a growing mandate for nurse case managers to manage complex patient populations, which requires sophisticated knowledge of specialty practice. Many of the articles in the source journals discuss the management of specific patient population specialties, such as gerontology, psychiatry, oncology, or neurology. For instance, articles might discuss the latest treatments and trends in wound care, pain control, infectious diseases, or even multicultural communication styles. While general medical journals appear among the most highly cited journals in Zone 1, specialty journals account for more than half of the journals in Zones 1 and 2. The focus on providing continuing education credit in two of the source journals (*JCM* and *NCM*) may encourage nurse case managers to remain current. These articles frequently reference current materials and provide an alternative to those with limited access to, or knowledge of, libraries and bibliographic databases.

As of early 2005, case management is being discussed in a broader range of journals and trade publications than previously noted in the 1997-to-1999 examination, which may indicate the acceptance of and need for this process-and-outcomes model across the disciplines. However, the three core journals identified in this study remain the only core case management journals and thus an essential part of any collection that supports case management practice. While not part of this study, several of the newer case management newsletters appear robust and may be useful to several library collections. Furthermore, it will be interesting to keep track of new journals focused on geographic areas, such as Great Britain, or specific populations, such as the elderly, as these also may become

increasingly rigorous and benefit collections supporting case management practice in the future.

A comprehensive journal collection for nurse case managers would include titles specific to case management, journals addressing health care and nursing administration issues, and key journals in their clinical specialty areas. Librarians have the opportunity to play an important role in educating nurse case managers about current sources of information and access to information via alternative platforms, such as the Internet. In some instances, librarians might participate in the case management team by providing timely access to current information through literature searches and document delivery.

REFERENCES

- SMITH JE. Case management: a literature review. *Can J Nurs Adm* 1998 May-Jun;11(2):93-109.
- AMERICAN NURSES CREDENTIALING CENTER. Nursing case management. [Web document]. The Center, 2003. [cited 16 Dec 2005]. <<http://nursingworld.org/anc/c/certification/certs/specialty.html>>.
- COHEN EL, CESTA TG. Evolution of nursing case management in a changing health care system. In: Cohen EL, Cesta TG, eds. *Nursing case management: from essentials to advanced practice applications*. 3rd ed. St. Louis, MO: Mosby, 2001:3-10.
- TAHAN HA. Case management: a heritage more than a century old. *Nurs Case Manag* 1998 Mar-Apr;3(2):55-62.
- POWELL SK. Overview of case management. In: Powell SK, ed. *Case management: a practical guide to success in managed care*. 2nd ed. Philadelphia, PA: Lippincott, 2000:2-23.
- CESTA TG, TAHAN HA. Role of the case manager. In: Cesta TG, Tahan HA, eds. *The case manager's survival guide: winning strategies for clinical practice*. 2nd ed. St. Louis, MO: Mosby, 2003:69-95.
- LAZARUS A. Integrating end-of-life care with disease management programs: a new role for case managers. *Manag Care Interface* 2001 Mar;14(3):76-9.
- REEL SJ, MORGAN-JUDGE T, PEROS DS, ABRAHAM IL. School-based rural case management: a model to prevent and reduce risk. *J Am Acad Nurse Pract* 2002 Jul;14(7):291-6.
- SMITH DS. Standards of practice for case management. *J Care Manage* 1995 Oct;1(3):7.
- BERGEN A. Care management revisited: a follow-up study. *Br J Community Nurs* 2003 Jan;8(1):16-23.
- FALTER EJ, CESTA EG, CONCERT C, MASON DJ. Development of a graduate nursing program in case management. *J Care Manage* 1999 Jun;5(3):50-2,56,72.
- HAW MA. Case management education in universities: a national survey. *J Care Manage* 1996 Dec;2(6):10-8.
- TORAN MR. Academic case management. *Case Manager* 1998 Jan-Feb;9(1):43-6.
- THOLCKEN M, CLARK MC, TSCHIRCH P. Case management in the undergraduate curriculum. *J Nurs Educ* 2004 Jan;43(1):45-8.
- WAYMAN C. Hospital-based nursing case management: role clarification. *Nurs Case Manag* 1999 Sep-Oct;4(5):236-41.
- DICKERSON PS, MANSFIELD JA. Education for effective case management practice. *J Contin Educ Nurs* 2003 Mar-Apr;34(2):54-8.
- BOLING J, STEVERSON M. Credentialing for case management: licensure, certification, certificate programs, and ac-

- creditation. In: Cohen EL, Cesta TG, eds. Nursing case management: from essentials to advanced practice applications. 3rd ed. St. Louis, MO: Mosby, 2001:299-309.
18. WOLFE GS. Academy of Certified Case Managers: the logical next step. *Caremanagement* 2001;6(4):7.
19. ALLEN M, JACOBS SK, LEVY JR. Mapping the literature of nursing: 1996-2000. *J Med Libr Assoc* 2006 Apr;94(2):206-20.
20. ALLEN M, NURSING AND ALLIED HEALTH RESOURCES SEC-

- TION, MEDICAL LIBRARY ASSOCIATION. Key and electronic nursing journals: characteristics and database coverage. 2001 ed. introduction. [Web document]. Kent, OH: The Section. [cited 25 Jul 2005]. <http://nahrs.library.kent.edu/resource/reports/keyjrnl_intro2001ed.pdf>.
21. WOLFE G. Thoughts on the 5th anniversary of the Journal of Care Management. *J Care Manage* 2000 Jun;6(3):8-10.

Received July 2005; accepted December 2005