CLINICAL MEDICAL LIBRARIANS: AN ANNOTATED BIBLIOGRAPHY

A Bibliography Prepared by the Federal Research Division,
Library of Congress
under an Interagency Agreement with the
Federal Library and Information Network (FEDLINK), Library of Congress

April 2013

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PREFACE

This annotated bibliography is a review of the seminal journal literature that discusses and evaluates the role of library and information science professionals known as clinical medical librarians (CMLs) who are working to support clinical care. It includes an overview of major developments and trends in this field, as well as a discussion of ongoing CML programs. CML programs date back to the early 1970s, when Gertrude Lamb established a program at the University of Missouri-Kansas City for biomedical librarians that enabled them to partner with clinicians by participating in medical rounds and providing medical staff with follow-up literature. In 2000 Frank Davidoff and Valerie Florance proposed that a national program modeled on the experience of clinical librarianship be established to train, credential, and pay for the services of information specialists, who would be known as "informationists." The Medical Library Association subsequently coined the term "information specialist in context" (ISIC).

This bibliography addresses the dialogue that has ensued since the publication of the Davidoff-Florance editorial with regard to both the merits and applicability of their concept, including specific examples of librarians working in hospitals and in medical research as informationists.

The researchers of this bibliography initially used databases, including EBSCO and ProQuest, and the Google Scholar search engine, using the terms "information science and clinical care." This approach led to the identification of "clinical medical librarian" and "informationist" as key search terms. The researchers also determined that two industry publications—the *Journal of Hospital Librarianship* and the *Journal of the Medical Library Association* (previously the *Bulletin*)—are the primary source of case studies, historical essays, and literature reviews on this topic. The majority of the articles annotated in this bibliography are published in these journals. Almost every journal article identified in the course of research contained a valuable list of references, and these sources were searched as well. Additional resources that may be of interest to the reader are listed following the main body of the annotated bibliography.

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OVERVIEW

Medical librarians' involvement in the patient-care process is the subject of a growing body of research, much of which offers some evidence of the positive contributions librarians have made to the provision of health care. However, a substantial amount of this research addresses several issues still under debate, such as the role librarians should play in clinical care, the training medical librarians should have, and the ways in which librarians can make others more aware of their positive contribution to clinical care. No consensus seems to exist, either on these issues or on the correct terminology for medical librarians who participate in the provision of health care. Since 2000, the field appears to be in a state of flux, with the debate over medical librarians' functions continuing.

According to the literature reviewed, the first program to involve librarians in health care was a program called Literature Attached to Charts (LATCH), which began in 1967 at the Washington Hospital Center in Washington, DC. Under the LATCH program, librarians received research requests from physicians and attached articles to patient charts.[1] Many observers, however, trace the present-day involvement of librarians in patient care to a different program, which Gertrude Lamb established in 1971 at the University of Missouri-Kansas City (UMKC). In this program, biomedical librarians with education or experience in both library science and medical librarianship participated in medical rounds, enabling them to identify clinicians' information needs. The librarians then provided clinicians with relevant medical literature obtained from the UMKC Medical Library. According to Virginia Algermissen, who succeeded Lamb as the project's director, clinicians accepted the librarians' assistance. Moreover, statistics at the library indicated an increase in circulation and in searches. These results provided evidence of the librarians' effect on health care. The UMKC program is significant for placing librarians on clinical-care teams and for introducing the first term to describe librarians who formed this type of partnership with clinicians: "clinical medical librarians" ("CMLs").[2]

[1] Steven L. Sowell, "LATCH at the Washington Hospital Center, 1967–1975," *Bulletin of the Medical Library Association* 66, no. 2 (April 1978): 218–22, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC199448/pdf/mlab00126-0066.pdf (accessed March 22, 2013).

[2] Virginia Algermissen, "Biomedical Librarians in a Patient Care Setting at the University of Missouri-Kansas City School of Medicine," *Bulletin of the Medical Library Association* 62, no. 4 (October 1974): 354–58, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC198820/ (accessed March 24, 2013); Kay Cimpl, "Clinical Medical Librarianship: A Review of the Literature," *Bulletin of the Medical Library Association* 73, no. 1 (January 1985): 21–22, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC227537/ (accessed April 3, 2013).

From the 1970s through the 1990s, several other institutions established CML programs. As they began to practice, observers of the profession offered mixed assessments of the value of librarians as partners in clinical care. A few studies published in the 1980s and 1990s found that information provided by CMLs yielded benefits, such as enhanced patient care and time savings for physicians and health-care teams. In addition, some reported that the information CMLs provided cost less than information from medical screenings, such as chest x-rays, and from other traditional sources of medical information. Other studies raised various concerns about CMLs' abilities and about the information they provided to clinicians. Some found that CMLs negatively affected traditional library services, since the time they spent on medical service reduced their availability for other library services.[3]

Of particular concern to many in the CML community was the enactment of federal and state regulations eliminating the requirement that, to be eligible for Medicaid and Medicare funds, a hospital must maintain a library. In 1986 the Health Care Financing Administration (HCFA) became the first to promulgate a regulation permitting the elimination of hospital libraries, and several state agencies soon followed suit. The New York State Department of Health informed the Medical Library Association that it saw no link between the closure of hospital libraries and problems with patient care and services.[4]

After 1986 many studies focused on how to measure the value of CML services in the provision of health care, demonstrate the importance of hospital libraries, and raise public awareness of the role of CML services and hospital libraries in medical care. Two publications were particularly significant for linking library-provided information and patient-care outcomes. These studies surveyed physicians and other health-care professionals at hospitals in and around Chicago, Illinois, and Rochester, New York, about the information services that hospital libraries provided to clinicians. The researchers found that the majority of survey respondents gave high

[3] Cimpl, "Clinical Medical Librarianship: A Review of the Literature," 24–26; Georgia Scura and Frank Davidoff, "Case-related Use of the Medical Literature," *Journal of the American Medical Association* 245, no. 1 (January 2, 1981): 50–52 (DOI 10.1001/jama.1981.03310260028023; accessed March 24, 2013). Cimpl lists 23 programs that had emerged by 1981, and a 1993 study by Michael Royal, William E. Grizzle, Virginia Algermissen, and Robert W. Mowry lists 29 existing programs. See Michael Royal et al., "The Success of the Clinical Librarian Program in an Academic Autopsy Pathology Service," *American Journal of Clinical Pathology* 99, no. 5 (May 1993): 576–81.

[4] States were required to have legislation at least as stringent as federal regulation. When HCFA promulgated a regulation eliminating library requirements for hospitals, many states responded by passing similar legislation in their own jurisdictions. See Joanne Gard Marshall, "The Impact of the Hospital Library on Clinical Decision Making: The Rochester Study," *Bulletin of the Medical Library Association* 80, no. 2 (April 1992): 169–70, http://www.ncbi.nlm.nih.gov/pmc/ articles/PMC225641/ (accessed March 24, 2013).

ratings to hospitals' information services. Most also stated that such information would definitely or likely affect their handling of patient-care cases. In addition, the research known as the "Rochester Study" found that many physicians favored information provided from hospital libraries over information from colleagues and over information provided by diagnostic images and laboratory tests.[5] A subsequent research project expanding upon the Rochester Study surveyed more than 16,000 nurses, physicians, and other clinicians working in more than 100 hospitals in North America, mostly in the United States. Most clinicians in the survey expressed favorable opinions of the quality of information that hospital libraries provided; a majority stated that they found such information slightly more valuable than data derived from laboratory tests and other sources; and a majority reported that such information affected their decisions regarding patient care.[6]

Another watershed event for the CML profession was the publication in 2000 of an editorial that proposed renaming the field altogether. The authors, Frank Davidoff and Valerie Florance, noted that, although clinical librarians were an important component of clinical care, clinical-librarian programs generally had not flourished. They found, among other reasons, that the profession had failed to thrive because it lacked a national credentialed program dedicated to training information specialists for clinical care. They suggested that, if librarians were to pursue training in both information science and clinical care, they could become ubiquitous, embedded elements of clinical-care teams, thereby raising their profile among clinicians. The title Davidoff and Florance proposed for this new category of librarian—"informationist"— subsequently assumed strong currency in relevant literature."[7]

Publication of a range of responses assessing their arguments soon followed Davidoff and Florance's article. Some countered that the skills they described were precisely the skills that CMLs already possessed and asserted that librarians should be more proactive in raising awareness of the role they play as the leading knowledge-based informational professionals

[5] David A. King, "The Contribution of the Hospital Library Information Services to Clinical Care: A Study in Eight Hospitals," *Bulletin of the Medical Library Association* 75, no. 4 (October 1987): 291–301, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC227744/ (accessed March 24, 2013); Marshall, "The Impact of the Hospital Library on Clinical Decision Making: The Rochester Study," 169–78.

[6] Joanne Gard Marshall et al., "The Value of Library and Information Services in Patient Care: Results of a Multisite Study," *Journal of the Medical Library Association* 101, no. 1 (January 2013): 38–46, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3543128/ (accessed March 24, 2013).

[7] Frank Davidoff and Valerie Florance, "The Informationist: A New Health Profession?" *Annals of Internal Medicine* 132, no. 12 (June 2000): 996–98, http://annals.org/article.aspx?articleid=713553 (accessed March 24, 2013).

within hospitals.[8] Others concurred with Davidoff and Florance, contending that librarians had not previously been involved in clinical care in the manner envisioned by Davidoff and Florance, but that librarians needed to evolve into such a role, a professional development that would increase their perceived value to health-care providers and hospital administrators.[9]

At the time Davidoff and Florance published their editorial, at least one program was already training librarians to fulfill a role such as Davidoff and Florance had suggested. In 1996 the Eskind Biomedical Library at the Vanderbilt University Medical Center had begun offering a program that trained CMLs to support clinical care. The program trained CMLs to create searchable electronic databases of medical research publications and to provide expert searches for other clinical-team members. The program was also significant for training CMLs to develop a high level of clinical knowledge and for requiring CMLs to participate in clinical rounds at the medical center as part of clinical-care teams. In an early assessment of the program, the library's deputy director and program participants stated that clinicians consistently gave high evaluations of the CMLs' ability to function in clinical environments. A subsequent assessment of the same program provided moderate evidence that CMLs were affecting many types of decisions made by clinicians, particularly decisions concerning the addition of new or different treatments. The researchers also found that clinicians who received information from CMLs tended to feel that such information could affect their future patient-care practices, and that these clinicians expressed greater satisfaction with information provided by CMLs than with information they had obtained by themselves.[10]

Additional CML programs partnering librarians with clinicians have followed. CMLs participate in patient-care rounds, supply information and literature in response to clinical questions, and provide access to library expertise proactively, at the point of service. Besides the programs discussed in this bibliography, several others are underway. Zipperer noted in 2004 that health-sciences librarians at the University of Washington participate in the creation of

[8] Michael Kronenfeld, "The Informationist: A New Profession?' So What Are We? Chopped Liver?" *National Network* 25, no. 2 (October 2000): 1, 15.
[9] T. Scott Plutchak, "Informationists and Librarians," *Bulletin of the Medical Library Association* 88, no. 4 (October 2000): 391–92, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC35262/ (accessed March 26, 2013).
[10] Nunzia B. Giuse et al., "Clinical Medical Librarianship: The Vanderbilt Experience," *Bulletin of the Medical Library Association* 86, no. 3 (July 1998): 412–16, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC226391/ (accessed March 15, 2013); Shelagh A. Mulvaney, "A Randomized Effectiveness Trial of a Clinical Informatics Consult Service: Impact on Evidence-based Decision-making and Knowledge Implementation," *Journal of the American Medical Informatics Association* 15, no. 2 (March–April 2008): 203–11 (DOI 10.1197/jamia.M2461; accessed March 21, 2013).

clinical-information and knowledge tools at patients' bedsides.[11] Memorial Sloan-Kettering Cancer Center launched a program in 1999 to partner medical librarians with the gynecology, gastroenterology, and psychology services, expanding the program in 2006 to include the hospital's nursing service.[12] The University of New Mexico Health Sciences Center in Albuquerque initiated a CML program in 1999.[13] At Truman Medical Center-Hospital Hill in Kansas City, a CML from the UMKC School of Medicine participates two days per week on the rounds of two medical teams, and provides the teams with more than two dozen information packets each month.[14]

Although several analyses attest to the value of librarians at hospitals in the United States and elsewhere, some research provides more tepid assessments of librarians' significance in clinical care. For example, in 2003 Winning and Beverley found that, although studies indicate that health-care professionals have high opinions of clinical librarian (CL) services, and that clinicians use information provided by CLs, those studies provide little evidence that CL services are cost-effective or that these services have any effect on patient care. Other analysts point out that CML programs have grown slowly, and that academic health-services libraries still do not consider the support CMLs offer a core service. Still other observers note that full informationist services are only provided in academic health-sciences libraries, large teaching hospitals, and medical research organizations.[15]

Much of the literature on CMLs examines the roles librarians have, could, and should fulfill, and the requisite education and experience they should have to carry out those functions. Beverley, Booth, and Bath identified 11 possible roles that information professionals could play

[11] Lorri Zipperer, "Clinicians, Librarians and Patient Safety: Opportunities for Partnership," *Quality and Safety in Health Care* 13, no. 3 (June 2004): 220, http://www.ncbi.nlm.nih.gov/ pmc/articles/PMC1743840/ (accessed March 24, 2013).
[12] Isabel Sulimanoff, Marisol Hernandez, and Donna S. Gibson, "The Clinical Medical Librarian Program: The Memorial Sloan-Kettering Experience," *Journal of Hospital Librarianship* 11, no. 4 (October–December 2011): 338–39 (DOI 10.1080/15323269.2011.611432; accessed April 3, 2013).
[13] Sarah Knox Morley and Holly Shipp Buchanan, "Clinical Medical Librarians: Extending Library Resources to the Clinical Setting," *Journal of Hospital Librarianship* 1, no. 2 (2001): 21 (DOI 10.1300/J186v01n02_02; accessed April 3, 2013).
[14] Amrita Burdick, "Informationist? Internal Medical Rounds with a Clinical Medical Librarian," *Journal of Hospital Librarianship* 4, no. 1 (2004): 17 (DOI 10.1300/J186v04n01_02; accessed April 3, 2013).
[15] M. Alison Winning and C. A. Beverley, "Clinical Librarianship: A Systematic Review of the Literature," *Health Information and Libraries Journal* 20, no. 1 (June 2003): 10–21 (DOI 10.1046/j.1365-2532.20.s1.2.x; accessed March 26, 2013); Mimi Guessferd, "The Clinical Librarian/Informationist: Past, Present, Future," *Journal of Hospital Librarianship* 6, no. 2 (July 2006): 65–73 (DOI 10.1300/J186v06n02_07; accessed April 3, 2013); Mark A. Polger, "The Informationist: Ten Years Later," *Journal of Hospital Librarianship* 10, no. 4 (2010): 363–79 (DOI 10.1080/15323269.2010.514556; accessed March 24, 2013).

in providing research support for clinicians, namely, critical appraiser, data extractor, data synthesizer, disseminator, document supplier, literature searcher, primary researcher, project leader, project manager, reference manager, and report writer.[16] Some analysts document librarians' roles as expert researchers who monitor information about health pandemics and other emergency situations, and provide timely, relevant information to clinicians, government health departments, and incident management teams.[17] Tan and Maggio found that clinical librarians' chief roles are fulfilling requests for medical research (including some time-sensitive research requests), instructing medical practitioners on how to perform medical research, and providing information to medical staff and patients through readily accessible and easily comprehensible virtual libraries, e-mails, and other means.[18]

In addition to examining CMLs' functions as information scientists, researchers have discussed extensively the education and experience that librarians should have, if they are to contribute successfully to clinical care. Giuse, Sathe, and Jerome found that health-care professionals believe that, to succeed, an informationist requires a high degree of research skill, subject knowledge, teaching expertise, and accomplishment in other areas. Rankin, Grefsheim, and Canto identified several factors essential for successful informationist service, such as continuous learning, embedding in clinical-care delivery, and knowledge of particular medical topics. They also outlined two prominent categories of informationists, distinguished according to their priorities: "clinical informationists," who first acquire service experience and later develop technical focus, and "research informationists," who first develop a technical focus and later become involved in personal service.[19]

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[16] C. A. Beverley, A. Booth, and P. A. Bath, "The Role of the Information Specialist in the Systematic Review Process: A Health Information Case Study," *Health Information and Libraries Journal* 20, no. 2 (June 2003): 65–74 (DOI 10.1046/j.1471-1842.2003.00411.x; accessed March 26, 2013).

[17] Sandra McKeown, "Roles for Hospital Librarians During a Pandemic: Electronic Information Monitoring and Provision of Synthesized Updates on Incident Management Personnel" poster, London Health Sciences Centre, London, ON, Canada , 2010), http://www.chla-absc.ca/2010/graphics/chla2010-poster20.pdf (accessed March 13, 2013); Robin M. Featherstone et al., "Provision of Pandemic Disease Information by Health Sciences Librarians: A Multisite Comparative Case Series," *Journal of the Medical Library Association* 100, no. 2 (April 2012): 104–12 (DOI http://dx.doi.org/10.3163/1536-5050.100.2.008; accessed March 19, 2013).

[18] Maria C. Tan and Lauren A. Maggio, "Expert Searcher, Teacher, Content Manager, and Patient Advocate: An Exploratory Study of Clinical Librarian Roles," *Journal of the Medical Library Association* 101, no. 1 (January 2013): 63–72, http://www.ncbi.nlm.nih.gov/pmc/ articles/PMC3543140/ (accessed March 13, 2013).

[19] Nunzia B. Giuse, Nila Sathe, and Rebecca Jerome, "Envisioning the Information Specialist in Context (ISIC): A Multi-center Study To Articulate Roles and Training Models" (final report, Eskind Medical Library and Medical Library Association, Chicago, IL, 2006), http://cec.mlanet.org/2008-may/isic_final_report_feb06.pdf (accessed March 22, 2013); Jocelyn A. Rankin, Suzanne F. Grefsheim, and Candace C. Canto, "The Emerging Informationist

In fact, the literature draws a distinction between CMLs and informationists. In Polger's 2010 literature review, he notes that, in 2006, Mimi Guessford wrote that "clinical medical librarians currently pick up much of their clinical familiarity on the job, but the informationist would undergo extensive training and require certification to be an integral part of the patient care team."[20] According to Polger, the literature illustrates the distinction between informationists and CMLs: unlike CMLs, informationists are permanent members of the clinical care team—no longer library based—who possess specialized subject knowledge in sciences or health sciences.[21]

The jury is still out regarding how far the profession of CML and informationist has developed. In their discussion of the CML program at the University of New Mexico in 2001, Morley and Buchanan stated: "While the number of CML programs offered by health sciences libraries has grown over the years, growth has been slow. After almost 30 years, CML programs are still not considered a core service of academic health sciences libraries."[22] Polger concludes in his literature review that "the research data . . . suggest that informationists are few and far between and mostly represented in large teaching hospitals affiliated with academic institutions (medical schools) and the National Institutes of Health (NIH)."[23]

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Algermissen, Virginia. "Biomedical Librarians in a Patient Care Setting at the University of Missouri-Kansas City School of Medicine." *Bulletin of the Medical Library Association* 62, no. 4 (October 1974): 354–58. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC198820/ (accessed March 24, 2013).

In this early article on clinical librarians, Virginia Algermissen discusses the work of information specialists in patient care. Previously, these specialists had shared the general title "science information specialist," which also included specialists in other fields of science. Recently, they acquired the new title of "clinical medical librarians (CMLs)," reflecting their specific work and working environment and distinguishing them from those in other fields. The University of Missouri-Kansas City School of Medicine had initially employed three CMLs to work with the

Specialty: A Systematic Review of the Literature," *Journal of the Medical Library Association* 96, no. 3 (July 2008): 194–206, http://www.ncbi.nlm.nih.gov/pmc/ articles/PMC2479064/ (accessed March 24, 2013).
[20] Polger, "The Informationist: Ten Years Later," 368.
[21] Polger, "The Informationist: Ten Years Later," 376.
[22] Morley and Buchanan, "Clinical Medical Librarians: Extending Library Resources to the Clinical Setting," 17.
[23] Polger, "The Informationist: Ten Years Later," 376.

school's student education units. All three CMLs possessed library science degrees and education or experience in medical librarianship. As a consequence of attending teaching rounds at the school, the CMLs began to contribute to patient care in several ways, such as answering questions and executing expert searches to provide information relevant to patients' needs. According to Algermissen, the CMLs' impact on the school was evident in statistics showing an increase in library usage, including use of a document retrieval system that the CMLs had helped to create—an early example of clinical librarians' implementation of information technology.

Banks, Marcus A. "Defining the Informationist: A Case Study from the Frederick L. Ehrman Medical Library." *Journal of the Medical Library Association* 94, no. 1 (January 2006): 5–7. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1324766/ (accessed March 24, 2013).

The author of this article, Marcus A. Banks, is an informationist for the Frederick L. Ehrman Medical Library, New York University (NYU) School of Medicine, initially tasked to "establish a training program for Enhancing Medical and Public Health Capabilities in Times of Crises." Banks is an administrator of NYU's Center for Health Information Preparedness (CHIP) Web site, which posts articles of interest to the medical preparedness community, as well as linking to a toolkit that he developed. The toolkit provides citations to relevant print materials in the medical and dental library collections, and links to databases, electronic journals and books, Web sites, and e-mail discussion lists. The author notes that other NYU librarians are often enlisted to work with School of Medicine faculty on projects similar to his work for CHIP. Banks sees this collaboration as "an important validation of the role of the library in a thriving health sciences center." This article's main focus is the "continuing challenge the [library] profession faces in defining the skills necessary to be considered an informationist," with reference to the "seminal editorial" of 2000, in which Frank Davidoff and Valerie Florance first presented the concept of "informationist." Banks also refers to the efforts of the Medical Library Association (MLA) to grapple with the "informationist" concept, as well as with an alternative MLA term—"information specialist in context (ISIC)." The author concludes that his status as an informationist "represents a way to ensure that the library continues to be perceived as relevant in the digital age" and remains an important component of key NYU School of Medicine and College of Dentistry projects. According to Banks, redefining the health sciences librarian as an

informationist or ISIC acknowledges "the continuing need for professionals with superior information-seeking skills."

Beverley, C. A., A. Booth, and P. A. Bath. "The Role of the Information Specialist in the Systematic Review Process: A Health Information Case Study." *Health Information and Libraries Journal* 20, no. 2 (June 2003): 65–74. (DOI 10.1046/j.1471-1842.2003.00411.x; accessed March 26, 2013).

Authors C. A. Beverley, A. Booth, and P. A. Bath describe 11 possible roles that information professionals could play in appraising, identifying, and searching research publications for clinicians, a collection of tasks the authors refer to as the "systematic review process." The authors identify these 11 roles: critical appraiser, data extractor, data synthesizer, disseminator, document supplier, literature searcher, primary researcher, project leader, project manager, reference manager, and report writer. Beverly and colleagues derived these 11 suggested roles from a case study of information professionals who were producing a study for the Welsh government to identify the needs of visually impaired persons for health information. The authors suggest that both information professionals with traditional librarian responsibilities and those with nontraditional responsibilities might become more involved in systematic reviews, thereby influencing evidence-based health care and health informatics.

Brettle, Alison, Michelle Maden-Jenkins, Lucy Anderson, Rosalind McNally, Tracey Pratchett, Jenny Tancock, Debra Thornton, and Anne Webb. "Evaluating Clinical Librarian Services: A Systematic Review." *Health and Information Libraries Journal* 28, no. 1 (March 2011): 3–22. (DOI 10.1111/j.1471-1842.2010.00925.x; accessed March 21, 2013).

Alison Brettle and colleagues offer an evaluation of clinical librarian (CL) services, building on earlier efforts to appraise the effectiveness of such services. Through a "systematic review"—a methodical and detailed analysis of existing studies of CL services—the authors found that previous research had identified four types of CL services beneficial to health care: outreach; outreach, plus critical appraisal and synthesis; question-and-answer service; and question-and-answer service, plus critical appraisal. In all these services, CLs provide literature searches in response to research inquiries; in two of these services, CLs provide critical appraisals of literature searches; and, in two of these services, CLs engage with clinical-care providers, offering them research training or collaborating on clinical-care teams. These services save the

health professionals' time, as well as providing them with useful and timely information. However, the authors of this review also caution that they found the quality of the studies of CL services "less than adequate," and that many of the studies were impressionistic, rather than empirical.

Davidoff, Frank, and Valerie Florance. "The Informationist: A New Health Profession?" *Annals of Internal Medicine* 132, no. 12 (June 2000): 996–98. http://annals.org/article.aspx?articleid=713553 (accessed March 24, 2013).

Since its publication in 2000, every leading clinical medical librarian has cited this article by Frank Davidoff and Valerie Florance as the "seminal editorial" establishing and defining the term "informationist." The authors enumerate the many reasons why, at the time of the article's publication, physicians did not search the medical literature regularly themselves, and did not ask for professional help in searching as often as they should. At that time, thousands of journals and texts and other resources were not electronically indexed; most physicians acquired the skills of literature retrieval during their training; and those who had acquired knowledge about searching the literature tended to let those skills lapse. The authors conclude that "the medical profession falls far short in its efforts to make the critical link between the huge body of information hidden away in the medical literature and the information needed at the point of care." They assess the clinical medical librarianship programs established in the 30 years since Gertrude Lamb created the first program, as both efficient and effective. However, they contend that "with a few notable exceptions, mostly in large academic centers, clinical librarianship has failed to take root and flourish." Davidoff and Florance ask the question, if practicing clinicians do not retrieve information from the literature themselves, who will? The solution they offer is to establish a "national program, modeled on the experience of clinical librarianship, to train, credential, and pay for the services of information specialists. These new professionals might be called informationists." They suggest that four general principles should guide the training and practice of informationists. These professionals must have "a clear and solid understanding of both information science and the essentials of clinical work," and must "learn the practical, working skills of retrieving, synthesizing, and presenting medical information and the skills of functioning in a clinical care team." Training programs should be accredited. Lastly, informationists should answer directly to clinical directors, so that the health-care community learns to recognize the importance of informationists and to include them in the process of care.

Detlefsen, Ellen G. "Clinical Research Informationist." *Reference Services Review* 32, no. 1 (2004): 26–30.

In this article, author Ellen G. Detlefsen, who is affiliated with both the School of Information Sciences and the School of Medicine of the University of Pittsburgh, discusses her role as chief of the University's Mental Health Intervention Research Center for Late Life Mood Disorders (MHIRC/LLMD) Information Dissemination Unit. The Center director created the position that Detlefsen holds in response to the National Institute of Mental Health's mandate that "information dissemination be explicitly a part of federal research efforts," and to meet the need for "an expert to whom [the Center director] and his colleagues, especially those who are research trainees, could turn to address very specific information questions." Typical projects for the MHIRC/LLMD Unit include analyzing which journals and what type of journals are publishing the Center's research; creating lists of Web resources on various topics; and providing text for research proposals. The Unit works with Center staff and the Center's primary-care partners to navigate the literature of primary care and to locate Web-based and multiple-format educational materials related to consumer, patient, and family health. The author concludes that working with health professionals at the Center has given the information officer "a new role as a team member in the clinical research environment." Detlefsen is hopeful that the creation of the MHIRC/LLMD Information Dissemination Unit "may also be instructive for other centers in the large medical enterprise at the University of Pittsburgh, and they may choose to offer such services to their team members, thus spreading the word about the crucial services that an informationist, or information specialist in context, can provide."

Giuse, Nunzia B., Nila Sathe, and Rebecca Jerome. "Envisioning the Information Specialist in Context (ISIC): A Multi-center Study To Articulate Roles and Training Models." Final report. Eskind Medical Library and Medical Library Association, Chicago, IL, 2006. http://cec.mlanet.org/2008-may/isic_final_report_feb06.pdf (accessed March 22, 2013).

This report details findings from a study of attitudes and perceptions of the roles, educational requirements, and future potential of informationists. The authors, Nunzia B. Giuse, Nila Sathe, and Rebecca Jerome, were members of a task force that the Medical Library Association created to study the new roles of informationists—the "Information Specialist in Context." The authors base their findings on surveys, interviews, and focus groups with librarians and health-care

professionals. The task force found that health-care providers and researchers showed low levels of acceptance of librarians, that informationist practice had low visibility in clinical and research literature, and that librarians and health-care professionals frequently had only an amorphous understanding of the informationist concept. The research also revealed that health-care professionals and librarians believe that, to succeed, an informationist requires a high degree of research skill, subject knowledge, teaching expertise, and accomplishment in other areas. The investigators also found that developing model informationist programs and instituting careful training and evaluation could lead to greater acceptance and recognition of informationists among health-care professionals.

Giuse, Nunzia B., Suzanne R. Kafantaris, M. Dawn Miller, Kimbra S. Wilder, Sandra L. Martin, Nila A. Sathe, and Jeffrey D. Campbell. "Clinical Medical Librarianship: The Vanderbilt Experience." *Bulletin of the Medical Library Association* 86, no. 3 (July 1998): 412–16. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC226391/ (accessed March 15, 2013).

Nunzia Giuse, Deputy Director of the Vanderbilt University Medical Center, and a team of librarians at Vanderbilt University examine the training and skills necessary for clinical librarians to provide effective health-care service. The article is one of the first in clinical librarianship literature to examine this topic. Specifically, the authors discuss the university's clinical medical librarianship (CML) program, which began nearly two years before the article's publication. The program required clinical medical librarians to participate in clinical rounds at the Medical Center as part of clinical-care teams, as well as training librarians to support clinical care through the creation of searchable electronic databases of medical research publications and the provision of expert searches for other clinical team members. The researchers found that clinicians consistently gave high evaluations of the abilities of librarians in the CML program to function in clinical environments.

King, David A. "The Contribution of the Hospital Library Information Services to Clinical Care: A Study in Eight Hospitals." *Bulletin of the Medical Library Association* 75, no. 4 (October 1987): 291–301. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC227744/ (accessed March 24, 2013).

In one of the earliest studies of the effect of hospital libraries' information services on patient care, David King reports the influence of library-provided information on many health-care providers' handling of patients. King surveyed 176 nurses, physicians, and other health

professionals in eight Chicago area hospitals about information they had requested from hospital libraries concerning clinical situations and current cases. Nearly all of the respondents gave high ratings to libraries' performance and responses, and most claimed they would definitely or probably handle their cases differently because of the information the libraries had provided. Often referred to as the "Chicago Study," this research examines library information services in hospitals, rather than clinical medical librarian services specifically. However, the study is distinctive for analyzing information services at nonacademic hospitals, whereas previous studies had examined specialized clinical librarian services offered at hospitals and health services associated with universities.

Marshall, Joanne G. "The Impact of the Hospital Library on Clinical Decision Making: The Rochester Study." *Bulletin of the Medical Library Association* 80, no. 2 (April 1992): 169–78. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC225641/ (accessed March 24, 2013).

In this article, Joanne G. Marshall examines the impact of hospital library services on clinical decision making, finding that physicians often rate the information from librarians as beneficial and of greater value than other information sources, such as discussions with their colleagues. The article—often called the "Rochester Study"—presents the results of a survey that asked 208 physicians at 15 hospitals in the Rochester, New York, area to evaluate the effect of different information sources on their patient-care decisions. Most physicians (80 percent) claimed that the information the libraries provided had definitely or likely changed their handling of patient care, particularly their choice of tests and the advice they gave to patients. Moreover, physicians stated that library-provided information enabled them to avoid various actions, such as additional tests or procedures. Physicians also rated information received from libraries more highly than information received from diagnostic imaging and laboratory tests. While previous studies had found that clinical librarians were a valuable information source for physicians, the Rochester Study was distinctive for measuring the importance of library-provided information to clinical-care decisions, and for highlighting specific areas of patient care in which that information influences physicians' decision making.

Marshall, Joanne G., Julia Sollenberger, Sharon Easterby-Gannett, Lynn Kasner Morgan, Mary Lou Klem, Susan K. Cavanaugh, Kathleen Burr Oliver, Cheryl A. Thompson, Neil Romanosky, and Sue Hunter. "The Value of Library and Information Services in Patient Care: Results of a Multisite Study." *Journal of the Medical Library Association* 101, no. 1 (January 2013): 38–46. http://www.ncbi.nlm.nih.gov/pmc/articles/ PMC3543128/ (accessed March 24, 2013).

This article details results of analysis based on the principal author's Rochester Study (described in the previous entry). The authors augmented the earlier Rochester Study's survey of physicians with surveys of other clinical-care providers, information from focus groups of librarians, and data captured using other research methods. In this article, Joanne G. Marshall and her colleagues focus on the research project's survey of more than 16,000 nurses, physicians, and other clinicians working at more than 100 hospitals, mostly located in the United States, with some in Canada. The researchers asked clinicians about the value of information they receive from clinical librarians, including specific questions about information quality, contribution to quality patient care, and related matters. The survey results largely replicated those of the Rochester Study, with most respondents providing high ratings of the quality and cognitive value of information provided by hospital libraries. Among other findings, the survey reported that a majority of respondents had stated that library-provided information saves them time, affects their decisions about patient care, and is slightly more valuable than laboratory tests and other information sources.

Medical Library Association. Philadephia Regional Chapter. "The Medical Informationist and Other Roles for the Librarian in the 21st Century." Summary, panel discussion on October 17, 2000, Philadelphia Regional Chapter, Medical Library Association, Philadelphia, October 28, 2000. http://www.mlaphil.org/wp/ce/2000/10/28/informationist (accessed March 11, 2013).

This article is the transcript of a discussion among Frank Davidoff, Valerie Florance, Ellen Detlefsen, and Julie McGowan, on information professionals' roles in the twenty-first century. Davidoff and Florance, who in 2000 were the first to use the term "informationist," define the term to mean an information professional who is "cross trained, i.e., who by virtue of cross training in medicine, computer science, and information science, can cross professional boundaries." The primary job of an informationist "is to bridge the gap between a caregiver's and a patient's information needs with the best information resources." McGowan sees the

informationist as a "core, central member of the healthcare team" who "takes the information to the point where it is needed: morning report, rounding in hospital, patient conference." Detlefsen supports broadening the application of the term beyond the clinical setting, to research and hospital administration. The panelists also discuss the attributes of a successful clinical librarianship program and strategies for beginning an informationist pilot program. In summation, the moderator states that medical librarians need to prove their value outside of their own ranks. At the same time, medical librarians need to develop other skills, such as knowledge of terminology and biostatistics, so that they "are in synch with the way the healthcare professionals are doing their work and fit into the mode and thought processes."

Mulvaney, Shelagh A., Leonard Bickman, Nunzia B. Giuse, E. Warren Lambert, Nila A. Sathe, and Rebecca N. Jerome. "A Randomized Effectiveness Trial of a Clinical Informatics Consult Service: Impact on Evidence-Based Decision-Making and Knowledge Implementation." *Journal of the American Medical Informatics Association* 15, no. 2 (March–April 2008): 203–11. (DOI 10.1197/jamia.M2461; accessed March 21, 2013).

This National Library of Medicine–funded study attempts to determine the effectiveness of clinical librarians (CLs) in clinical decision making. The analysis is distinctive for its rigorous methodology and the specificity of its findings. Over a two-year period, the study's investigators examined the impact of CLs on clinicians' decision making at the Vanderbilt University Medical Center. The CLs were part of Vanderbilt University's Clinical Informatics Consult Service, which places within intensive-care units librarians with training in information retrieval and in specific medical subjects. The researchers conducted observations and interviews to determine how clinicians use the information that CLs provide, paying particular attention to clinicians' intended and actual courses of care, both in cases where CLs provided information and in cases where clinicians sought information for themselves. The findings provided moderate evidence, but not strong evidence, that CLs have an impact on many types of clinical decisions, particularly decisions concerning the addition of new or different treatments. The researchers also found that clinicians who received information from CLs tended to feel that such information could affect their future patient-care practices. In addition, clinicians expressed greater satisfaction with information provided by CLs than with information they had obtained by themselves.

Plutchak, T. Scott. "Informationists and Librarians." *Bulletin of the Medical Library Association* 88, no. 4 (October 2000): 391–92. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC35262/ (accessed March 26, 2013).

In this brief article, T. Scott Plutchak discusses contending views on the proper roles of informationists, producing an often-cited definition of informationists as a hybrid of traditional librarians and clinical-care providers. Plutchak highlights the views of Frank Davidoff and Valerie Florance, who propose that clinical librarians— "informationists"—should pursue more specialized clinical education and practice than they often have. He also presents the views of their detractors, who believe that Davidoff and Florance have simply described the work that clinical librarians have done for years. Plutchak argues that clinical librarians have not done this type of work, but that they should do it. The author points out that the occupation of clinical librarian has not flourished, partly because such librarians generally support clinicians through traditional practices—they work in libraries, providing relevant, timely information. Plutchak contends that if clinical librarianship is to flourish as an occupation, then clinical librarians should augment traditional librarian skills with greater knowledge of and involvement in the provision of health care.

Polger, Mark A. "The Informationist: Ten Years Later." *Journal of Hospital Librarianship* 10, no. 4 (2010): 363–79. (DOI 10.1080/15323269.2010.514556; accessed March 24, 2013).

This article reviews the previous 10 years of literature discussing the "informationist," a concept that Frank Davidoff and Valerie Florance had coined in 2000, or "information specialist in context" (ISIC), a term generally used by the Medical Library Association. According to the author, Mark A. Polger, informationists are "part of the clinical care team. They attend patient rounds with other clinical staff, and respond to patient care questions at the bedside. They provide services such as LATCH (Literature Attached to Charts), individualized literature searches, and providing information packets on a variety of diseases or conditions." Polger stresses the partnership between the library professionals and the clinical care team, stating that both benefit: the informationists "raise the profile and importance of the role of an information expert in a clinical setting," and the clinicians "save time and money by using another person's skills and expertise." The author reviews articles that discuss and illustrate the general role of informationists and how the clinical medical librarian can evolve into an informationist, as well as the informationists' specific job functions, educational requirements, and influence on medical

research teams. He notes Michael Kronenfeld's skepticism toward the concept (see Overview). In 2004 Kronenfeld argued that the informationist concept had not reached beyond the Medical Library Association, the National Institutes of Health, and the National Library of Medicine, and that the role was not concretely defined. [Cunningham, Diana J., and Michael R. Kronenfeld. "The Informationist: A Debate." Journal of Hospital Librarianship 4, no. 1 (March 2004)]. In conclusion, Polger discusses the results of his own survey of the health-services profession, illustrating his premise that "the informationist service can only be fully realized in large academic health sciences libraries, large teaching hospitals, and medical research organizations such as the National Institutes of Health."

Rankin, Jocelyn A., Suzanne F. Grefsheim, and Candace C. Canto. "The Emerging Informationist Specialty: A Systematic Review of the Literature." *Journal of the Medical Library Association* 96, no. 3 (July 2008): 194–206. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2479064/ (accessed March 24, 2013).

Authors Jocelyn A. Rankin, Suzanne F. Grefsheim, and Candace C. Canto analyze numerous characteristics of informationists. Their methodology is distinctive from others in that its conclusions are coalesced from a comprehensive comparison of findings from 113 publications. The resulting analysis is both broad in scope and rich in detail on many topics, such as informationists' defining characteristics, their educational and professional qualifications, and their roles in the workplace. In addition, the authors report two prominent categories of informationists, distinguished according to their priorities: "clinical informationists," who first acquire service experience and later develop technical focus, and "research informationists," who first develop a technical focus and later become involved in personal service. Furthermore, the authors identify several factors essential for successful informationist service, such as continuous learning, embedding in clinical-care delivery, and knowledge of particular medical topics.

Scura, Georgia, and Frank Davidoff. "Case-Related Use of the Medical Literature." *Journal of the American Medical Association* 245, no. 1 (January 1981): 50–52. (DOI 10.1001/jama.1981.03310260028023; accessed March 24, 2013).

The authors of this study sought to document the patient-care benefits of clinical librarian programs at what was then a "relatively early phase of their development." (The authors credit creation of the clinical librarian service to Gertrude Lamb and her colleagues in the early 1970s).

This article reports the effect of clinical librarian services, which provide "highly specific, case-related medical literature searches," on actual case management and on diagnostic thinking, based on the study's random sample of 50 information searches conducted for staff of the medical and pediatric services at John Dempsey Hospital at the University of Connecticut. The results indicate that the information services the hospital's clinical librarians provided affected patient management (treatment) in 20 percent of cases, influencing diagnostic thinking in 86 percent of cases. The authors conclude that the cost of an information service is difficult to compare with the cost of a clinical procedure directly; "efficiency, here defined as ratio of effectiveness to costs, may be at least as great for the management information provided by case-related literature searches as for comparable information from the clinical laboratories and from diagnostic x-ray films."

Shipman, Jean P., Diana J. Cunningham, Ruth Holst, and Linda A. Watson. "The Informationist Conference: Report." *Journal of the Medical Library Association* 90, no. 4 (October 2002): 458–64. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC128963 (accessed March 19, 2013).

In April 2002, the Medical Library Association hosted a conference at the National Library of Medicine to "further explore the concept of the 'informationist' as it relates to health sciences librarians or libraries and education for the profession." The goal of the conference "was to facilitate a national discussion, derive a consensus definition, and develop recommendations for an action agenda for the informationist professional in the clinical and research domains." This article is a summary of the conference objectives and proceedings. Included among the objectives is a discussion of how informationists' unique roles compare with those of other professionals, as well as the identification of the requisite knowledge, skills, and attributes for informationists working in different settings. Frank Davidoff and Valerie Florance, who had originally proposed the concept of "informationst" in 2000, each gave keynote presentations addressing the need for informationists in health-care settings, as well as the obstacles preventing broader acceptance of the informationist concept in the environment of health-care practice, "despite the fact that the clinical librarian and clinical pharmacist concepts have been around since the late 1970s." Concept exploration panels and smaller discussion groups addressed the role of informationists in both clinical and research settings (including the emerging field of bioinformatics); options for training informationists; and funding and marketing of

informationists' services. Its organizers viewed the conference as only a first step toward bringing the Davidoff-Florance informationist professional concept to fruition. Ms. Shipman and her colleagues conclude that "outcomes from the conference [will] be used to formulate action plans that will further test the viability of the concept, and, ultimately, transform the concept into meaningful practice in the clinical setting, the research arena, and any other environment in which knowledge-based information is crucial to the decision making process." Speaker presentations, a bibliography, and other materials related to this conference, including the February 2006 final report of the Task Force on the Information Specialist in Context (ISIC), can be accessed at http://www.mlanet.org/research/informationist. The ISIC report is available to Medical Library Association members only.

Tan, Maria C., and Lauren A. Maggio. "Expert Searcher, Teacher, Content Manager, and Patient Advocate: An Exploratory Study of Clinical Librarian Roles." *Journal of the Medical Library Association* 101, no. 1 (January 2013): 63–72. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3543140/ (accessed March 13, 2013).

Librarians Maria C. Tan, of the University of Alberta, and Lauren A. Maggio, of Stanford University, examine the roles of seven clinical librarians who were embedded in patient-care teams at hospitals in Canada and the United States. In interviews with the "embedded" clinical librarians, the authors found that those librarians support patient care through a number of roles, interacting with both clinical-care teams and with patients. Clinical librarians' chief roles are fulfilling requests for medical research (including some time-sensitive research requests); instructing medical practitioners on how to perform medical research; and providing information to medical staff and patients through readily accessible and easily comprehensible virtual libraries, e-mails, and other means. Tan and Maggio also found that the librarians' presence on wards and at clinical team meetings helps clinicians better understand librarians' roles and the information they provide. In addition, the research findings suggest that clinical librarians' detachment from direct patient care enables them to provide objective analysis to clinical-care teams.

Winning, M. Alison, and C. A. Beverley. "Clinical Librarianship: A Systematic Review of the Literature." *Health Information and Libraries Journal* 20, no. 1 (June 2003): 10–21. (DOI 10.1046/j.1365-2532.20.s1.2.x; accessed March 26, 2013).

In this article, M. Alison Winning and C. A. Beverley attempt to determine whether clinicians use the services of clinical librarians and whether such services affect patient care and are cost-effective. The authors' research is based on a literature review of clinical librarian studies published after 1982. The authors find that, according to existing research on clinical librarian services, health-care professionals do use the services of clinical librarians in clinical settings, and they have a high opinion of those services. However, the authors also find that the few existing studies of clinical librarian services have too many variations in their reporting methods, rendering them unreliable as a source of data on clinical librarian services' cost-effectiveness, on the influence of those services on patient care, or on clinicians' use of research literature in clinical practice. In the end, the authors conclude that existing studies are indeterminate about the effectiveness of clinical librarian services on clinical care, and that further high-quality research is necessary to determine reliably the effectiveness of those services on health-care practice.

Zipperer, Lorri. "Clinicians, Librarians and Patient Safety: Opportunities for Partnership." *Quality and Safety in Health Care* 13, no. 3 (June 2004): 218–22. http://www.ncbi.nlm.nih.gov/ pmc/articles/PMC1743840/ (accessed March 24, 2013).

The author, Lorri Zipperer, argues that clinicians should recognize the key role librarians play in ensuring patient safety. The author cites studies showing that "the expertise of librarians can make a difference in clinical care by locating materials that remind practitioners of facts or details, support various courses of diagnostic or therapeutic action, or provide new pieces of information that modify or redirect clinical activities." According to Zipperer, librarians have the opportunity to demonstrate how effective access to information and knowledge for clinical, research, and organizational efforts can improve patient safety through: 1) programs supporting the informationist concept, 2) evidence-based medicine, and 3) librarians' contribution to the sharing of knowledge at the point of care and throughout hospitals. Programs supporting the Davidoff-Florance concept of "informationist" require librarians to acquire clinical knowledge and to be actively involved in the process of care, prompting "the pursuit of a more clearly defined role for librarians in clinical care that could affect patient safety." Evidence-based

medicine provides a direct link between medical literature and patient care. With the expansion of the medical information base and increased pressure on clinicians' time, librarians' ability to find evidence that clinicians can use to address distinct clinical problems has become more essential than in the past. Librarians interact with clinicians, administrators, students, and patients to build bridges between hospital administrators and staff at the point of care, developing access points to literature, and selecting databases and Web sites to enhance knowledge-management systems. The article also enumerates ways in which librarians, hospital administrators, and clinicians can collaborate at the local level, for example, by "encouraging and enabling librarians to participate in clinical activities such as executive walkarounds, grand rounds, morning reports, and institutional review boards;" and "establishing a concrete role for librarians in the research needed to ensure safe development of clinical trial protocols."

ADDITIONAL RESOURCES

Most articles discussed in this bibliography include an extensive list of references. Highlighted below are several additional resources that were identified in the course of research.

Abels, E.G., K.W. Cogdill, and L. Zach. "Identifying and Communicating the Contributions of Library and Information Services in Hospitals and Academic Health Sciences Centers." *Journal of the Medical Library Association* 92, no. 1 (January 2004): 46–55.

Cunningham, Diana J., and Michael R. Kronenfeld. "The informationist: A Debate." *Journal of Hospital Librarianship* 4, no. 1 (March, 2004): 1–15.

Davidoff, Frank, and Jennifer Miglus. "Delivering Clinical Evidence Where It's Needed: Building an Information System Worthy of the Profession." *Journal of the American Medical Association* 305, no. 18 (May 11, 2011): 1906–1907 (DOI: 10.1001/jama. 2011.619; accessed March 26, 2013).

Detlefsen, Ellen G. "The Education of Informationists, From the Perspective of a Library and Information Sciences Educator." *Journal of the Medical Library Association* 90, no. 1 (January 2002): 59–67.

Giuse, Nunzia B., Taneya Y. Koonce, Rebbecca N. Jerome, Monynda Cahall, Nila A. Sathe, Annette Williams. "Evolution of a Mature Clinical Informationist Model." *Journal of the American Medical Informatics Association* 12, no. 3 (May/June 2005): 249–55.

Gomes, Alexandra, Elizabeth Palena-Hall, Laura Abate, Elaine Sullo, Paul Levett, and Morgan Wilcoxson. "Connecting to Our Community: Extending Librarians' Roles through Collaboration." *Journal of Hospital Librarianship* 11, no. 2 (April–June 2011): 165–74 (DOI**:** 10.1080/15323269.2011.558412; accessed March 26, 2013).

Guessferd, Mimi. “The Clinical Librarian/Informationist: Past, Present, Future.” *Journal of Hospital Librarianship* 6, no. 2 (April–June 2006): 65–73 (DOI: 10.1300/J186v06n02_07; accessed March 26, 2013).

McGowan, Julie J. “Tomorrow's Academic Health Sciences Library Today.” *Journal of the Medical Library Association* 100, no. 1 (January 2012): 43–46 (DOI: 10.3163/1536-5050.100.1.008; accessed March 26, 2013).

Morley, Sarah Knox, and Holly Shipp Buchanan. “Clinical Medical Librarians: Extending Library Resources to the Clinical Setting.” *Journal of Hospital Librarianship* 1, no. 2 (Summer 2001): 15–23.

Robison, Rex R., Mary E. Ryan, and I. Diane Cooper, "Inquiring Informationists: A Qualitative Exploration of Our Role." *Evidence Based Library Information Practice* 4, no. 1 (January 2009): 4–16.

Seago, Brenda L. “School of Medicine CBIL Librarian: An Educational Informationist Model,” *Reference Services Review* 32, no. 1 (2004): 35–39 (document ID 200569781; accessed via Proquest, March 26, 2013).

Sulimanoff, Isabel, Marisol Hernandez, and Donna S. Gibson. “The Clinical Medical Librarian Program: The Memorial Sloan-Kettering Experience.” *Journal of Hospital Librarianship* 11, no. 4 (September–November 2011): 338–47.