The Sense-making Practices of Hospital Librarians

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Abstract

Carol L. Perryman: The Sense-making Practices of Hospital Librarians
(Under the direction of Joanne Gard Marshall)

Similar to librarians in other environments, baby-boomer medical librarians are reaching retirement age in record numbers (American Library Association, 2004). In contrast to hopeful predictions that medical libraries will continue to be heavily used (Lindberg & Humphreys, 2005), leaders agree that hospital libraries are at a "critical juncture" (Tooey, 2009), and call for professionals to "be prepared" (Freiburger, 2010) to retool library spaces and redefine practice. Despite prescriptions for change, little is known about the worlds of hospital librarians.

The theoretical perspectives of Sense-Making defined by Brenda Dervin and the work of Karl Weick are used to conduct retrospective, semi-structured interviews to learn more about the **sense-making[1] behaviors of hospital librarians engaged in recognizing, characterizing, and negotiating barriers to sense-making during task- or situation-related processes**. Interviewing techniques pioneered by Dervin were used to enable participants to examine their processes from the stage of their "awareness of discontinuity" in

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[1] Language note: Generically, **sense-making** is the process by which individuals 'make sense' of their worlds (found throughout this document as 'sense-making,' without capitalization), and may also be seen in literature as 'sensemaking' or 'sense making'. Unless I am discussing the metatheory of Brenda Dervin, this text will refer to 'sense-making'; for discussions of her work, I will instead use 'Sense-Making'.

sense-making (Dervin, Foreman-Wernet, & Lauterbach, 2003, p.276), through gap-bridging as the librarians worked to make sense of situations. Analysis used previously validated categories, with additional categories emerged during analysis.

Characterizing the situations and gaps of hospital librarians can assist in the development of support and education, as well as helping the profession to plan for changes that must occur if it is to survive and grow. From this research I have found that the hospital librarians who shared their narratives make sense of their situations through the lens of their place within the organization, and that their feelings of affiliation and stability are vitally important to this process. With the confidence of security, hospital librarians are active participants and contributors to the hospital community. The methods and models provided by both Brenda Dervin and Karl Weick add important perspectives to making sense of hospital librarians' sense-making.

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happen tomorrow, you have continued on your journey, constantly learning, teaching, and benefitting everyone whose lives you touch.

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Preface

"What is the kind of knowing in which competent practitioners engage?"

(Schön, 1983, p. viii).

This research began in practice, as research often does, and it is my hope that it returns to benefit practice. As a hospital librarian, yet to earn my own MLS, I worked alongside colleagues to invent and reinvent the wheel. In a world where so much has changed in a flash, there has seemed to be little choice. Schön writes of the importance of reflection but to me there never seemed to be much time for it in a workplace that was constantly changing. This is what drove me to further education, and to this study.

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List of Abbreviations and Acronyms

AHA   American Hospital Association

AHIP   Academy of Health Information Professionals

ALA   American Library Association

ASIST   American Society of Information Science and Technology

BLS   Bureau of Labor Statistics

BMLA   Bulletin of the Medical Library Association

CE   Continuing Education

CME   Continuing Medical Education

CNE   Continuing Nursing Education

DRG   Diagnosis-Related Groups

EBL   Evidence-Based Librarianship

EBLIP   Evidence-Based Library and Information Practice

EBM   Evidence-Based Medicine

EBP   Evidence-Based Practice

EDUCOM   Educational Communications

HMO   Health Maintenance Organization

ISIC   Information Specialist in Context

IT   Information Technology department, also known as MIS depending on the organization.

JMLA   Journal of the Medical Library Association

LIS   Library and Information Science

LOS   Length of Stay

MIS   Management Information Systems department, sometimes known as IT.

MLA	Medical Library Association
MLS	Master's in Library Science
NLM	National Library of Medicine
PPO	Preferred Provider Organization
SLA	Special Library Organization

Chapter One: Introduction

By the mid 2000s, reports of hospital librarians losing jobs and hospital libraries closing were rife. In 2005, Vital Pathways: The Hospital Libraries Project was established by 2005/06 MLA President M.J. Tooey, AHIP, FMLA, to assess the truth of these reports and to study and develop strategies to support hospital librarians (Tooey, 2009, p.268).

1.1 The Research Problem

Issues of concern within the sub-specialty of medical librarianship and particularly

for those employed in hospital libraries include library closures and mergers, economic

downturn, the graying of the profession, and technological changes that have moved

collections and services away from the traditional place of the library in hospitals and toward

online electronic services and content. These concerns led to a survey by the Medical Library

Association (MLA) designed to capture data about the scope of the threat, culminating in the

publication of a series of articles on problems and opportunities (Tooey et al., 2009). In her

conclusion, Tooey stated that "Hospital librarianship is at a critical juncture, where things are

not as they were and the future is yet to be defined" (Tooey, 2009, p.272). Responses to the

web-based survey over its two-year span demonstrated that, at least for the respondents, there

was room for concern: hospital library closures more than doubled between 2007 and 2009,

from 10% to 22% of all reported negative changes (Funk, 2009).

On the heels of this publication, a second series of six articles was published in early

2010, led by an account by former MLA President Pat Thibodeau of budget cuts and staff

and space losses at Duke University Medical Center Library, often imposed with little or no

allowance for planning time (2010). Some medical library leaders appear to agree: Change,

in response to present threat, may be necessary to survival.

Prescriptions for change are not new, and include calls for the retooling of professional skills and new relationships with key stakeholders, rethinking the library as place, and improved abilities in research, increased accountability, and a continuing need to prove the value of hospital librarians in the medical care setting. Yet the value of new roles is largely unproven (Giuse, Sathe, & Jerome, 2006), and little is known about this population, perhaps another iteration of the "shoemaker's children" in which we have often explored the information behaviors and needs of those served, helping move those professions toward increased access to quality decision support information. Analysis of the changing health information environment may indicate the need for our own changes – but without an understanding of how we operate, suggestions for changes in education may miss the mark. Filling new roles (such as informationists, working in the clinical care setting as a part of the patient care team, or partnering with medical educators to support problem-based learning) (Detlefsen, 1993, p. 351) demands additional education and training, but funding and expertise is limited and outcomes, relatively unproven.

Examination of hospital librarians in their work settings during this time of change may contribute to our understanding and inform the called-for retooling of education, continuing education, and hospital librarians' roles in healthcare. As hospital librarians are information professionals who serve external and internal stakeholders from a perspective of comprehending their contextual information needs, information behavior seems a suitable focus for inquiry. Years of inquiry into the information needs of patrons is not balanced by an understanding of librarians' own information needs in administering collections, managing human resources, and planning services. In considering the deficit, a multitude of

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approaches seemed possible, and necessary – but where to begin? The present research

focuses on the individual hospital librarian, in preference to the larger-scale population,

assuming that generalization across institutions is unproven except at the most broadly-

sketched level (e.g., the efforts of LIBQUAL, for academic health libraries, to establish

industry-wide benchmarks). The research begins small-scale, with the idea that knowing

about how individuals perceive their worlds in accomplishing single-unit-scale tasks or

dealing with contextualized situations may lead to meaningful and rational change built from

that understanding.

1.2 Theoretical Framework

How do hospital librarians characterize and begin to address problems or information

deficits encountered on the job? This dissertation research has employed a retrospective,

semi-structured interview technique in order to learn more about the **sense-making**

behaviors of hospital librarians engaged in recognizing, characterizing, and negotiating

barriers to sense-making during task- or situation-related processes in the workplace.

The Sense-Making micro-moment timeline interview technique enables participants to

examine their own cognitive and affective processes from the stage of their "awareness of

discontinuity" in sense-making, conceived of as a gap (Dervin, Foreman-Wernet, &

Lauterbach, 2003, p.276), through gap-bridging as they work to make sense of a situational

need while engaged in library work.

Described as processes undertaken by individuals or by groups as they attempt to find

congruence between prior understandings and newer information, sense-making has been the

focus for research for Brenda Dervin and Karl Weick, among others. Responses were

initially categorized according to a previously validated schema, also pioneered and tested by

Dervin, added to by emergent categorization, and reinforced by member-checking. The focus of inquiry was defined as tasks, activities, or situations that were not directly for patron services, with the actual task or situational need being defined by the participants themselves: Following Dervin, participants are viewed as theorists, fully capable of explicating situations identified by themselves. Additional situation- and organization-related documentation was requested to construct more complete narratives of sense-making behavior in context.

A longer term objective, to which this study will hopefully contribute, is to gain a more complete understanding of the information support needs of health science librarians, including the use of, need for, and generation of formal and informal research support. Such understandings inform educational preparation and continuing education support for new and mid-career health sciences librarians, and offer a template for exploring the information needs and practices of librarians in other settings.

While understood generically as how humans make sense of their worlds, sense-making has also been regarded in Library and Information Science (LIS) as a methodology well suited for inquiry into human information behavior. Despite this regard, few LIS researchers have explored sense-making practices within our own profession. Over time, Brenda Dervin's metatheory, in particular, has become closely identified in LIS as a way to focus on the user in working to improve systems and services for the benefit of patron services.

1.3 Research Questions

The questions that the present research attempts to answer are as follows:

- How do respondents characterize "gaps" in sense-making as they engage in their work?

- How do respondents characterize the role of organizational structures in their sense-making processes while engaged in their work?

- Does the Sense-Making methodology offer a means for insight into the sense-making behaviors of hospital librarians?

1.4 Organization of the Dissertation

This dissertation is comprised of five chapters. The first chapter has briefly presented the problem, purpose, and theoretical framework of the study. Chapter Two provides background and a literature review of hospital librarians and sense-making theories, focused upon the work of Brenda Dervin and Karl Weick. In Chapter Three, the methods used in the inquiry are discussed. Chapter Four presents results followed by an integrative discussion of findings. In Chapter Five, conclusions and suggestions for further research are discussed.

Chapter Two: Background and Literature Review

In this chapter, two major areas are described in order to provide a background for the study. In the first, I describe literature and data about hospital librarians, expanding in some cases to address medical librarianship more broadly where information is insufficient to cover the narrower population. In the second section, the theories and models used by Brenda Dervin and Karl Weick are described as the major theorists on whose work this study is based.

2.1 Hospital Librarians

Who are hospital librarians? Partial responses to that question are found in demographic information, in responses to surveys by professional associations of their members, in statements made by associations serving this population, and in standards proposed for practice (including education, continuing education, and advanced certification). This study is focused on hospital librarians, rather than medical librarians in general, although it has at times been necessary to describe the broader population of health information professionals, which includes those employed by institutions of higher education, contract employees, and those working in research, commercial, and federal agencies, among others, simply because there is insufficient information about hospital librarians or because information available does not distinguish among places of practice. The lack of knowledge about hospital librarians in practice adds urgency to the research at a time when the economy, the aging population, and

shifts in healthcare are exerting pressure for change and even threatening the existence of hospital libraries and staff.

2.1.1 Demographics

Information about the number of medical or hospital librarians currently employed in the United States is provided by the Bureau of Labor Statistics (2010-11), and more limited education and age information has been obtained from other sources, including the Hay Group/MLA Compensation and Benefits Survey (2009); the MLA (Medical Library Association) Member Directory; MLA Member surveys (2003, 2007, and 2008) as well as executive reports and comparison documents from that organization (MLA, 2003); the MLA Vital Pathways Executive Summary (2009) and that committee's final reports, published as a symposium (Thibodeau & Funk, 2009); the MLA Hospital Library Section (HLS) Annual Report (Supervisor, 2007-2008); and the American Library Directory (2007). Contribution to most surveys included is voluntary, while others may reflect inaccuracies, so no single source provides a comprehensive or definitive listing of hospital librarians or the broader group, medical librarians. For the MLA data, there is additionally no summary of how many medical librarians are *not* members of the Association and its sections.

According to Occupational Outlook statistics for 2008, 159,900 librarians were employed across all types of industries, with approximately 59% employed in public and private educational institutions, and 27% in local government (Bureau of Labor Statistics, 2010). Of the total number of librarians across industry types, approximately 1,300 (12.3%) were employed in public and private hospitals. No distinction is made between university-affiliated, federal, specialty, and community hospitals.

The Hay Group/MLA Compensation and Benefits Survey for 2008, the most recent

of triennial surveys by the Medical Library Association (MLA), was conducted primarily to gather information about compensation and benefits and to compare with the 2005 data, although some affiliation and demographic data is provided (2009). Overall, the largest participation rates for the survey were from residents of California, Texas and New York, with Texas showing a 6.7% response rate, second only to California, with a 10.2% response rate. A large majority (96%) of overall respondents to the survey, limited to MLA members, were from the United States; 34.1% were employed by academic medical centers or medical schools, and 37.8% by hospitals (both teaching and nonteaching). Similar to librarians in other settings, respondents are an aging population, with 61% 50 years or older, and with the largest percentage gain between 50-59 years of age, an increase of 10% from the previous survey. The population also tends to be Caucasian (85%), experienced in library practice, with a full 51% having from 20 to 39 years of experience, although most (36%) have been in their current position for less than five years. Most respondents are female (85%), and 684 of the total 734 respondents (93%) have earned Master's degrees. Most respondents (58%) are not members of the Academy of Health Information Professionals (AHIP), an advanced certification available through MLA (Medical Library Association, 2008).

Very few studies of hospital librarians or hospital libraries covering more than a single region have been done. Up to the time of the Vital Pathways reports (2009), only five surveys of this population had been conducted: in 1962 (Giesler & Yast, 1964), 1973 (Crawford & Dandurand, 1973), 1979 (Rees & Crawford, 1980), and 1990 (Wakely & Foster, 1993). Although several earlier reports were published, including the finding by Doe and Marshall that in 1898, the founding year of MLA, 24 hospital medical libraries were in existence (cited in Wolfgram, 1985), the first attempt to measure more than the most basic

fact of the existence of hospital libraries did not occur until 1962, when a disproportionate random sample survey was conducted (Giesler & Yast, 1964). For this effort, larger hospitals (measured by bed sizes in excess of 100 beds) were selected for the mailed survey. The likelihood that a hospital would have a library increased in proportion to bed size, with 58.6 of hospitals overall having a library, while for institutions with 99 beds or less, only 41.1% had a library.

2.1.2 Education

Among members of the MLA who completed the 2003 or the 2007 MLA Members Survey, the Master's degree in LIS is the prevalent level of education for medical librarians across settings surveyed. Eighty-eight percent (2003) and 86% (2007) of respondents reported having earned either an MLS or MLIS degree, while 2.6% (2003) and 2.4% (2007) report having earned a Master's in another field. Bachelor's or Associate's degrees (combined) were reported by 3.5% (2003) and 3% (2007), while 3% (2003) and 5% (2007) earned a PhD or other postgraduate degree, and a tiny number (.6% for 2003 and 0% for 2007) have no degree.

Education for the skills and knowledge required for health sciences librarianship is largely handled after the general Master's program is completed, and is envisioned and implemented as lifelong learning in the workplace (Medical Library Association, 2007, p.16). The writing of the educational policy statement Platform for Change (Medical Library Association, 1991) began in response to recognition by leaders in the Association that "significant changes in the knowledge and skills [would be] expected of health information professionals in the future" (Detlefsen, 1993, p.342), for which medical librarians would need to be prepared educationally. This realization led to changes in the MLA strategic plan,

and directly in connection with the revision, occurring simultaneously, of the American Library Association (ALA) standards for LIS Master's program accreditation (Smith, 1998), when "each of the major Library and information science associations was asked to provide the ALA Committee on Accreditation with educational and other policy statements pertinent to the need of that organization so that the statements could be shared with the educational programs" (Roper & Mayfield, 1993).

The task force identified 63 different skills and topics of knowledge, which were grouped into seven general areas of focus: health science environment and policy; management information services (general); management of information services (health sciences); health sciences resource management; information services and technology; instructional support; and research, analysis and interpretation. The topics were then used to conduct a member survey in order to "validate what it is that health information professionals do and then to determine what knowledge and skills would be needed in the future" (Roper & Mayfield, 1993. Appendix I: Project Description).

Adopted by the MLA Board of Directors in 1991, the Platform outlined a need for "lifelong, interdisciplinary learning for medical librarians. While areas of concern were exhaustively listed, there is no mention of the provision in the survey itself of definitions for the topics. Connected to this, survey responses ranking the importance of supportive resources may have been affected by the lack of definitions: For example, in the topical listing, areas of concern identified as the "knowledge base" are presented as discrete topics, when in fact, they are frequently integrated in practice, as is the case with planning (ranked sixth on a scale of 1 to 63 in terms of importance) and research methodology (ranked 47.5 on a scale of 1 to 63 in terms of importance). While research was not ranked highly, either for its

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importance now or in the future by respondents, librarians may not have perceived that work done in support of planning frequently requires in-house research. At that time, the Platform authors may have revealed a perceptual bias in listing research as an activity separate from other administrative work. The basic research skill set for medical librarians, provided in the MLA Research Policy statement, is shown in Table 1.

Basic Skills for Medical Librarians

Basic Skills
- ability to work collaboratively (as a peer) with multiple groups of people involved in research or its application
- ability to identify and define important questions or issues that need to be addressed (and are addressable)
- knowledge of quantitative and qualitative methodologies and which is best for a given situation or question
- knowledge of common statistical techniques and their application and interpretation

Advanced Skills
- ability to understand statistical interpretation of research and assess whether the statistics support conclusions
- ability to summarize research findings accurately, clearly, and succinctly for professional communication
- ability to evaluate research findings for validity and usefulness
- knowledge of the best methods for applying research findings to answer important questions (i.e., knowledge translation)

Specialized Skills
- ability to design, carry out, and apply research studies including institutional review board approvals, participant recruitment, data collection and analyses, report writing, and publication, etc.
- ability to obtain funding and resources for internal and external research projects

Librarians will use these skills to produce new knowledge and to integrate existing knowledge (translational purposes) both within and outside health librarianship and within and outside their home institutions.

MLA fully supports its members' need to identify, produce, and apply the best-available evidence when making important decisions and when supplying information to health care colleagues and others. Accordingly, MLA provides opportunities for its members to learn necessary skills through its programs and services. Individual members may also need to seek skills from other local and regional sources.

Table 1. The MLA Research Policy
Retrieved 2/10/2010 from http://mlanet.org/research/policy/policy-06.html

2.1.2.1 Continuing Education, Credentialing, and Certification

Continuing education for medical library practitioners is conducted both informally and formally, although most specialty-focused training and education has taken place after a more general Master's in Library Science (MLS) is earned. In recognition of the need to recruit new health science librarians, some library schools have implemented post-MLS certification or created tracks for the specialization during the Master's program (Moran, Jenkins, Friedman, et al., 1996). According to the 2007 MLA membership survey performed through the association's electronic mailing list, Medlib-L, and the MLAnet.org website (Supervisor, 2008), the 637 respondents were fairly evenly divided on having had mentors at some stage in their careers.

To support specialization training and continuing education needs, MLA conducts ongoing training sessions at annual and regional meetings and throughout the year via distance learning (MLA, 2010; Lynn, Bose, & Boehmer, 2010). In addition, the Association provides certification in recognition of specialized knowledge and skills through membership in the Academy of Health Information Professionals (AHIP), a four-tier ranking achieved through documentation of activities including continuing education, course development, teaching, speeches and presentations, publication, professional experience, and professional association responsibilities (Smith, 1998). This certification is a formal way of recognizing to individuals in various stages of their career development, from the new medical librarian to those with years of experience, and it requires the provision of a portfolio of professional experience rather than a formal requirement, for a competency-based examination (Roper 2006). Of those who completed the 2007 MLA Members Survey, 262 (42%) claimed AHIP

certification at any level, a drop from the 657 (45.9%) response to the same question in 2003 (MLA).

MLA members have access to the MLA Continuing Education Clearinghouse, a "listing of activities approved for MLA Continuing Education (CE) contact hours" (MLA, 2007). Certification in consumer health practice is provided through the Association's Consumer Health Information Specialization Program, and web-based synchronous and asynchronous training on a variety of topics, as well as an independent reading program accompanied by an electronic mailing list, provide opportunities for librarians to earn continuing education (CE) contact hours toward obtaining or maintaining AHIP status. MLANet.gov functions as a portal site for continuing education opportunities, reviewing offerings for MLA Continuing Education (CE) contact hours, and then hosting a searchable interface for activities indexed by topic, regional location (for in-person opportunities), competency area, experience level, and instructor name (MLANet.org, 2006). Formal training opportunities offered by the National Library of Medicine include the Associate Fellows program, a one-year internship offering a second optional year of experience, programs focusing on bioinformatics or leadership, and an annual training session at Woods Hole (U.S. National Library of Medicine, 2010).

While not representative of all medical librarians, self-selected participants in three general surveys conducted by MLA (1994, 2003, and 2007) provided data about their continuing education activities and preferences. Although information from the 1994 general members' survey is provided only as it is compared to results from the 2003 survey, continuing education was among the areas mentioned. For those who responded to the 1994 survey (numbers not provided), continuing education (CE) was ranked 6th of 31 MLA

benefits in terms of priority, while in 2003, 63.1% of respondents (n=689) identified CE as a priority MLA benefit, and in 2007, 71% of respondents identified MLA-provided CE as either "extremely" or "very" important. Among respondents to the 2007 survey, 77% report having been reimbursed in part or fully by their institutions for their participation in continuing education, which included programs sponsored by MLA, non-MLA courses or seminars, formal distance learning, journal clubs, workshops and other content available at MLA annual meetings, specialized training such as consumer health services, MLA or non-MLA Webcasts, teleconferences, or Web-based courses. A comparison of participation in CE based on MLA Member surveys from 2003 and 2007 is shown in Table 2.

CE Type	2003		2007	
	Responses	Percentage of overall responses	Responses	Percentage of overall responses
MLA chapter CE	311	46.3	290	47
Non-MLA courses or seminars	346	51.6	303	49
Normal distance learning program	43	6.4	71	11
Member organized journal club	59	8.8	27	4
MLA annual meeting course or symposia	146	21.8	173	28
MLA special program (e.g., consumer health)	34	5.1	32	5
MLA-sponsored Webcast / teleconf.	317	47.2	324	52
Non-MLA teleconf or Webcast	150	22.4	239	38
Web-based course	77	11.5	131	21
N/A	78	11.6	64	10

Table 2. Responses from 2003 and 2007 MLA Member Surveys

As of 2008, more than 200 courses were listed in the MLA Continuing Education Clearinghouse (Lynch & Walden, 2008). These conclusions appear to be based on limited and biased data, in that responses to member surveys (and participation in CE opportunities) may not be representative of either the entire MLA membership, or medical librarians in the United States. Numbers provided do not differentiate between global attendees, and raw data

is not readily available in order to differentiate by work location. However, it is evident that

the organization has increased its efforts to track participation in continuing education, and

that opportunities are available in formats that enable participation by busy working

librarians. While apparent increases are shown in the percentage of those involved in chapter,

formal, annual meetings, Webcast or teleconference, and Web-based courses, further

research would need to be done to attain a more specific picture of hospital librarians'

involvement in continuing education, along with other questions.

2.1.3 Roles and Responsibilities

While recognizing disparities in job responsibilities that exist between librarians

employed in different sectors, there are nonetheless a few common denominators,

documented as a part of the recently updated MLA education policy statement (Roper, 1996).

There, the health information professional is described as supporting the organization in

which they are employed:

> using new technologies to organize, synthesize, and filter information for scholarly,
> clinical, and institutional decision making, but also play[ing] a critical role in the
> investigation and study of information storage, organization, use, and application in
> education, patient care, and generation of new knowledge (Forsman, Kamper, Kmec,
> et al., 2007).

Through several decades, the roles of health sciences librarians have continued to

change, making adaptation to change itself a requirement for practice, along with the need to

do continuous research on the information needs of those they serve, and to evaluate the

impact of library services (Dalrymple & Fenske, 1992). The visionary report coauthored by

Matheson and Cooper in 1982 forecast smaller medical libraries with storage facilities to

warehouse older materials, ubiquitous online access to electronic journal content, and the

contributions of medical librarians to medical education, at a time when access to electronic

medical information was just beginning to be possible. While the report mainly concerns

academic health science libraries, its influence in bringing about the eventual Integrated

Academic Information Management System (IAIMS) pioneered at Georgetown University

and a precursor to integrated bioinformatics applications, was central. In it, librarians' roles

as content management and access experts, important contributors to medical research and

practice, were forecast. The Matheson Cooper Report, as it is commonly called, led to

changes that continued to affect the development of not only academic libraries, but practices

of hospital librarians as they supported clinical care through mediated searching and outreach

efforts to partner with medical education.

Duties of librarians employed in hospital library settings may include all the activities

listed below, taken from the MLA Position Descriptions in Health Science Libraries, which

contains a section of job descriptions for hospital library staff (Blumenthal, Murthy,

Martinez, et al., 2006).

Collections
- Develops, maintains, and provides access to book, journal, and media collections
- Performs maintenance of accurate serial/journal records using manual or computerized systems, including claims; holdings statements; bindery, storage, and deaccessioning of journal collections
- Catalogs collection, maintaining item records
- Designs, establishes, and maintains access to web-based health information via MEDLINE, e-mail, internet, and other services
- Performs software and hardware troubleshooting, independently and through consultation with vendor and information systems departments
- Monitors usage of resources, including web-based materials
- Participates in quality improvement initiatives

Services
- Provides reference services and end-user training
- Circulation functions
- Consumer health services
- Participates in JCAHO survey processes
- Interlibrary loan and document delivery services and related statistics;
- Communicates and provides service to library patrons by mail, email, fax, and phone
- Retrieves and evaluates quality information in support of patient care, including filtering

for evidence-based information
- Supports administrative need for access to competitive business information in managed care environment
- Produces teaching and other materials
- Maintains communications with medical and allied health staff, employees, residents, patients, the hospital community, and other libraries
- Orients and trains patrons on the use of the library, its hardware and applications
- Produces specialized materials and training for individuals and hospital-affiliated groups

Planning
- Develops strategic initiatives for the implementation of technological advances in health informatics for staff
- Physical space planning
- Planning for change (in funding, collections, equipment, space needs and availability, etc.)

Marketing
- Promotes and markets the library and its services
- National Medical Library week events
- Contributes library information to organization-wide publications
- Supports information needs of physicians and public relations staff for news interviews

Management
- Preparation of library budget and budget reports
- Training and supervision of library staff and volunteers
- Planning, implementation, and evaluation of outcomes

Professional growth activities
- Maintaining professional growth through participation and membership in library associations and consortia relevant to health sciences libraries at a local, regional, and national level.
- Maintain awareness of emerging technologies, applications, and standards of practice

2.1.3.1 Research and Publication by Hospital Librarians

There are few studies that examine the research output of library practitioners, and one that explore the publications of hospital library practitioners. Instead, selected research is reviewed that attempts to characterize LIS research publications, with preference toward those authored by practicing health science librarians (both academic and otherwise). Attempts have been made to gather literature from several decades in order to consider

whether trends may be observed, or across geographical boundaries, to compare research in a different environment. Perhaps worth noting, disparate definitions of the term "research" are discussed as they have been applied in LIS, finding agreement between those who describe academic research, but not necessarily between academic and practitioner researchers. One question with which the present research is concerned is whether practitioners define their own (often applied) research differently. There is some evidence that this may be the case. McNicol finds that practitioners in her study were often engaged in practices that "might be termed research, but were not reported as research" (2004, p. 120), echoing an earlier mention that practitioners appeared to have conflicting ideas about what constitutes research (Burdick, Doms, Doty, et al, 1990), and Brown and Spencer expressed concern about "studies [that] don't actually assess practitioners' use of literature" (2004, p.18).

Limiting examination to academic health science librarians, Mularski (1991) measured the publication patterns of a random sampling of MLA members working in order to assess education level, professional maturity, and geographic location with regard to research output. Average publication rates among this population were 4.3 articles over a ten-year period for males, compared to 2.4 for the same period of time, for females, a difference potentially attributable to years of experience or to position. With regard to education, all but one respondent held a Master's degree in library science, with the largest group (27.8%) having undergraduate degrees in social sciences (p.172). 16.6% of the sample held advanced degrees and were responsible for more than one quarter of the 461 publications. Faculty status was held by the authors of 60.3% of the publications overall, but a requirement to publish did not seem to be tied to the volume of output, consistent with the findings of others.

Dimitroff (1992) examined the published research output of health science librarians by performing a content analysis of 25 years of research articles from the *Bulletin of the Medical Library Association* (BMLA), the official journal of the Medical Library Association, now entitled Journal *of the Medical Library Association* (JMLA). Dimitroff determined that 29.8% of the articles were identified as research. For articles identified as research in BMLA between 1966 and 1990, the first author was found to be affiliated with a hospital library 6.1% of the time, while 51.8% of authors were affiliated with academic health sciences libraries; 12.9% of authors were affiliated with library schools (p.342). By far the preferred method employed by authors was for survey research (41%), with observation used for 20.7% of published studies, and bibliometrics ranking third at 13.8%; operations research (12.1%), followed by historical research (6.6%); all other forms of research including content analysis, experimental, secondary analysis, multiple (or mixed method), other, and Delphi, were used for less than 2% of studies. Dimitroff concluded the analysis by saying that "research articles published in BMLA may describe use of less sophisticated research methods and analytical techniques than the literature in the field as a whole" (p.345).

2.1.3.2 Use and Perception of Research

In a study of the use of library literature by LIS practitioners (Powell, Baker & Mika, 2002), members of ALA, ASIST, MLA and SLA who answered "no" to a question of whether they read research articles (176 of 618, or 28%; a further 51 respondents, or 8%, answered "n/a") were asked to consider why they did not do so. Participants answered that research-based literature did not seem relevant to their job; that the preference was for essay or opinion pieces; that they did not feel sufficiently knowledgeable in research methods; and

that there was simply not enough time. The same study also found that, while many

practitioners conducted research, few actually published their findings, confirming similar

barriers identified in earlier publications (Weaver, 1985; Burdick, Doms, Doty, et al., 1990;

Dalrymple & Fenske, 1992) due (in no particular order) to 1) uncertain access to the

bibliographic databases in which it is contained; 2) the culture of LIS itself, wherein

practicing librarians are not always trained or encouraged to conduct research, and seldom

have time to do so; 3) the "scatter" of evidence affecting LIS practice decision making, e.g.,

education, sociology, and communications literature and resources; 4) the tendency

(undocumented by more formal means) to disseminate the findings of local research through

informal channels, such as listservs, or as unpublished presentations or posters; and other

reasons. A number of authors have found that the action research which characterizes much

work done in practice addresses problems that are specific to the setting, and thus is

"characterized by a lack of external validity ... and low reliability ... and cannot easily be

built into (or) integrated with previous studies" (Gore, Nordberg, Palmer, et al., 2009),

further limiting the dissemination of research done in a practice setting.

2.1.3.3 Electronic Mailing List Use in Medical Libraries

Electronic mailing lists (also known as listservs or just lists) figure importantly in the

working lives of many medical librarians and serve a number of roles that include local,

national and global communication (Schoch, 1997, p. 23); interaction among self-identified

groups (p.24); keeping up with news, including announcements, press releases and ideas; and

participation in asking or answering questions on a one-to-many basis. Smith (2004)

hypothesized that listservs had the potential to overcome not only geographic barriers, but

also social status differences between participants (p.25), and function to create an "invisible

college" of "information exchange within a discipline or sub-discipline" (p. 25). The potential equalizing effect for participants in this asynchronous medium, especially in unmoderated lists, appears to be balanced by the potential downside of the lack of ready (or provided) identifiers of contributor expertise (Smith, 2004). The "80/20" rule of communications is also in effect, with around 20% of members contributing 80% of postings (Echavarria, 1995). The ability to participate in an asynchronous discussion and to search listserv archives means that the text of discussions may also function as a resource and can often be searched.

2.1.3.3.1 The Medlib-L Electronic Mailing List

Begun by medical librarian Nancy Start in 1991, ownership of the Medlib-L electronic mailing list was assumed by MLA in 1995; the list is currently hosted by the University of Vermont[2]. Archives, which are searchable using natural language, are available dating back to 1993, although nonsubscribers must join the list to reveal mailing addresses for posting authors. Primary functions and users for Medlib-L are defined in the list description:

> MEDLIB-L is an electronic discussion list for medical and health sciences librarians. Practical and theoretical issues in public and technical services are discussed. This forum is for ideas, questions, announcements, and concerns specific to health sciences libraries. (List Descriptions).

A command "review medlib-l SHORT NOHEADER" sent to the UVM listserver (LISTSERV@list.uvm.edu) on May 12, 2011 listed 2026 participants on the Medlib-L electronic mailing list, down slightly from the figure of 2116 mentioned in a 2002 posting by former "listmom" Valerie Rankow (Smith, 2004, p. 34). An affiliation with hospitals, universities, and other entities such as pharmaceutical companies is not differentiated.

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[2] List Descriptions, https://list.uvm.edu/cgi-bin/wa?REPORTandz=3ands=0and9=OandX=4F61315E8A3C752052andY=cp1757%40gmail.com

Although it is possible to conceal membership, membership data revealed only 64 hidden

subscribers. According to the list description, only those who subscribe can post messages,

although anyone can subscribe. It is also an unmoderated list, meaning that there is no human

filtering of messages prior to posting. Conventions for posting have grown through the

decades to include agreed-upon subject headings (e.g., ILL for interlibrary loan requests,

CHAT for informal messages) (Smith, 2004).

As previously mentioned, listservs can function as informational repositories or as

informational resources. Nearly half of the participants in a 1996 survey of hospital librarians

(8 of the 20 respondents) reported saving messages from the Medlib-L list in order to use

website URLs mentioned in individual link lists, as well as meeting new colleagues and

sharing answers to reference questions (Ohles & Walton, 1996). A 2001 longitudinal study

of posts to the Medlib-L listserv found that the majority of posts were authored by

individuals working in large academic libraries in the United States. Responses characterized

the listserv as "an essential information source" and also as an "informal meeting or

discussion forum" (Brown and McCall, 2001), thus identifying its role as social as well as

informational. Smith (2004) was able to categorize postings into the following types:

- Administrative/Organizational Communications
- Announcements/Networked Resource Pointers/Giveaways
- Discussions
- The Information Exchange/Interlibrary Loan/Resource Request/Verification
- Metadiscussion ("comments on the list itself, its postings, or its contributors")
- Noise ("anything from unintentional postings to inappropriate
- comments, flames, or off-topic subject,… or jokes")
- Position Announcements
- Surveys
- Thanks (for answers to questions or interlibrary loan requests)
  (p. 33).

Other uses were identified by the 2004 study participants (Smith, 2004) as a last resort for "stumper" reference questions which could not be answered by other local means, as a source of collegial support, as a "sounding board" for ideas and problems in policy and administrative issues, relief from feelings of isolation, product reviews, and as a source for insider "tips and tricks" from experienced practitioners. Downward trends in many areas, especially administrative and policy-related postings, are the cause of speculation by Smith, who suggests that as medical librarians were being asked to accomplish more in less time, there simply was less time to participate actively on the listserv (2004, p. 40). However, a cursory search for subject line terms "Ref," "Urgent," "Chat," and "ILL" for the years 1995, 2000, 2005, and 2010 (Table 3) shows relative stability in these categories, with the exception of unexplained hugely different numbers overall for 1995. Searches were done using the list server syntax for dates (year-month-day) and limiting the retrieval to agreed-upon subject line terms Ref (for reference questions), ILL for interlibrary loan requests, Chat for casual conversation, and leaving the subject line blank in order to retrieve overall numbers. No attempt was made to identify source country or institution, or to differentiate between (for example) ILL requested and ILL "thanks" messages, so the numbers do not necessarily reflect original messages and could include responses within the same thread, or message sequence.

Year	1995	% of Total	2000	% of Total	2005	% of Total	2010	% of Total
Total posts	13643		8300		5776		6326	
Ref	978	7.1	566	6.8	680	11.7	547	8.6
ILL	978	7.1	1743	21.0	2056	35.5	2293	36.2
Chat	134	1.0	277	3.3	282	4.8	298	4.7

Table 3. Posts on the Medlib-L listserv in five-year increments, 1995-2010

Numbers shown in Table 3 appear to indicate increasing reliance upon the listserv for ILL, but this has not been compared to trends in numbers of requestors. Overall, Medlib-L is a heavily utilized channel for reference queries, interlibrary loan, and while usage for "chat" is low, the listserv functions as a means for more casual communication among subscribers. It cannot be presumed that Medlib-L offers the only channel for collegial contact, but the use of the list for casual "chat" has never been very high. As Docline is the primary channel for interlibrary lending, use of Medlib-L for requests is generally reserved for urgent materials or for those who are not Docline participants.

2.1.4 Hospital Libraries as Work Environments

Health science librarians are employed in a wide variety of environments, including academic, hospital, corporate, public, and specialized industry settings (Medical Library Association, 1991). Each of the settings involves disparate political structures, with stakeholders and priorities based upon the particular industry concerns (Messerle, 1987). For the purpose of this study, community hospitals with American Hospital Association (AHA) membership were selected. Community hospitals are defined as

> …all nonfederal, short-term general, and other special hospitals. Other special hospitals include obstetrics and gynecology; eye, ear, nose, and throat; rehabilitation; orthopedic; and other individually described specialty services. Community hospitals include academic medical centers or other teaching hospitals if they are nonfederal short-term (American Hospital Association, 2005).

Hospital libraries are differentiated from academic health sciences libraries and other settings in which subject experts are employed, although there may be some overlap due to the complexities of healthcare and related institutions. Some guidance in differentiating hospitals from other healthcare settings is provided by the American Hospital Association standards for registration, which begin with the statement that the main function of hospitals

is "to provide patient services, diagnostic and therapeutic, for particular or general medical conditions" (American Hospital Association, 2008, p. 1). In addition, hospitals meet a number of other definitional criteria, including

- the maintenance of at least six patient beds;
- the provision of a facility that is safe, uncrowded, and clean in order to treat patients;
- the existence of a governing entity that oversees and undertakes responsibility for the legal and ethical conduct of hospital work;
- the existence of a chief executive whose authority is vested by the governing entity; and
- the presence of a licensed medical staff who are accountable to the governing bodies in their provision of care (American Hospital Association, 2008, p.2).

Based upon statistics provided voluntarily by MLA hospital library members as the result of the 2005/06 Hospital Library Survey, conducted by the Vital Pathways Survey Subcommittee of the Task Force on Vital Pathways for Hospital Librarians, the average hospital library is located in a private, not-for-profit hospital that is part of a larger healthcare system (Funk & Thibodeau, 2009, Table 5), and is a teaching hospital with between 100-400 beds staffed with at least one full-time professional librarian, defined as an individual with an MLS. In addition, the average library functions as a separate department with its own budget, and primarily serves hospital staff, medical staff, patients, patient families, and consumers.

2.1.5 The Healthcare Environment

Hospital libraries operate within the context of their organizations, and are subject to uncertain economic climates, technological advances, and political pressures. From 1965-1982, medical care related costs rose 690% (Atkinson, 1987), far ahead of inflation in the broader US economy[3], more than double the percentage of increase of the Gross National Product (Applebaum, 1986 p.23) and with insurance costs that doubled every five years from

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[3] "[W]hile the Consumer Price Index increased 89% between 1966 and 1976, hospital costs grew a staggering 345%" (Mayes, 2007, p.27).

the early 1970s (Mayes, 2007, p.22). Attempts by the federal government to cap or control the rates of increase during a time of nearly unrestricted cost reimbursement included historically unprecedented wage and price limits, beginning with "hotel" (routine, or room and board) cost restrictions under the Nixon administration in the early 1970s, and have resulted in the Medicare Prospective Payment System (PPS). With these new programs, healthcare has moved from an incurred-cost system (where insurance companies reimbursed costs incurred by payers in direct relation to billing), to a capitation system, paying according to Diagnosis Related Groups (DRGs).

The present era has seen a large-scale shift toward a competitive climate in healthcare provision, ushering in Health Maintenance Organizations (HMOs) and Preferred Provider Organizations (PPOs), intended to incentivize cost-efficient care and negotiate discounts for medical equipment and outpatient laboratory services, and toward specialized services for patients such as mental health and cancer treatment. In concert with these wholesale efforts and readjustments, patient lengths of stay (LOS) have shortened and care has moved toward an outpatient treatment model (Atkinson, 1987). From 1950 – 1984, hospital admissions dropped by 4%, and LOS fell by an "unprecedented" 5.1% (Applebaum, 1986, p.38). Advances in health technology (such as computed tomography (CT) scans) have more often focused upon quality of care rather than on cost-effectiveness (Applebaum, 1986, p.23). Despite such efforts, costs have continued to rise, elevating concern about the country's healthcare system to as a topic for national, highly politicized debate amid predicted system failure.

Attempts to control costs via a Prospective Payment System (PPS) led to early realizations on the part of researchers that generally speaking, hospital data practices were

sloppy at best and even nonexistent, making it difficult to gather data on comparative procedure requirements and LOS related to diagnoses and confounding factors. In addition, healthcare systems have been traditionally reluctant to share such information (Mayes, 2007). At the earliest stages of change, computer systems and analytic software programs did not exist to process data for even one site, so that even if there was a desire to share information, doing so would have been prohibitively difficult.

In reaction to slowed and lessened reimbursement, decreased LOS and inpatient stays overall, outpatient care and larger recession-related economic downturns, hospital based employment has shrunk, though hospitals are understood to react in a different manner to increased unemployment, often showing increased admissions during recessions. Bureau of Labor Statistics (BLS) data demonstrates additional long-term influences on hospital staffing including changes in the size and age of the US population, with the population increasing by 18% from 1980–2004, and those over 65, who are known to draw more heavily on health services, increasing ten-fold in the 20th century (Goodman, 2006).

The types of employment have shifted over this period, making it difficult to trace the direct effects of medical and information technology on employment (Goodman, 2006, p.4), while drug developments have contributed to the lessened need for hospitalization, especially mid- and long-term care. As a result, jobs in outpatient care have grown at an increased rate over hospital based jobs, with a lower relative cost of care. As an example, jobs at cancer centers increased 64% from 1990-2005, while private general and surgical hospital job growth for the same period was measured at 24% (p.11). Adding the various influences of economy, technology, and reimbursement trends, healthcare employment in hospitals has been slower than for other industries (p.5).

2.1.6 Problems Perceived in Hospital Librarianship

In this section, several problematic issues identified within the profession are discussed, including the aging workforce and hospital library closures reported in the Vital Pathways report.

2.1.6.1 The Graying of the Profession

The graying of the profession of librarianship has elicited much concern for at least the past decade, with retirement of baby boomers initially projected to peak in 2010-2015. This projection was later revised upward to 2015-2019, based upon unanticipated economic challenges in a study by the American Library Association in 2002, while the update in 2004 used the 2000 U.S. Census figures to predict that for librarians reaching normal retirement age 65 from 2000—2044. According to the more recent projections, the peak volume of retirements will occur between 2010 and 2019, as shown in Table 4.

Number of librarians reaching age 65 (2000 Census Base)	
Time Period	Number
2000-04	5,479
2005-09	12,898
2010-14	23,208
2015-19	25,014
2020-24	14,400
2025-29	8,674
2030-34	6,517
2035-39	5,544
2040-44	691

Table 4. Number of librarians reaching age 65 between 2000 - 2044

Hospital libraries have always been vulnerable to the economic and regulatory climate. 65% of respondents to a 1989 survey conducted through the publication National Network reported "major negative changes" (Ben Shir, 1989) that included budget cuts or

layoffs (37%), downsizing (6%) and budget or hiring freezes (4%) at a time when managed

care brought about increased competition for the healthcare dollar.

2.1.6.2 Changes and Challenges: The Vital Pathways Survey

The Vital Pathways survey was posted to the MLAnet.org site in order to capture

changes in staffing and funding for hospital libraries in the United States beginning in

October 2006 (Medical Library Association, 2010). As of May, 2008, 121 responses had

been received. The October 2009 *Journal of the Medical Library Association* contains a

symposium reporting on the project and its results, which were first conceived of by 2005/06

MLA President M.J. Tooey during her tenure, and conducted by the Hospital Libraries

Section in collaboration with the Medical Library Association, in order to investigate what,

until that time, were purely anecdotal reports (Tooey, 2009).

Positive changes in comparison to negative changes were reported since February

2007; "the greatest percentage increase in specific response was "library closing," increasing

from 10% in February 2007 to 22%," with a total of 79/121 (65%) reporting negative

changes which are detailed as follows: staff downsized (23%); change in who report to (sic)

(13%); MLS staff eliminated (15%); lost resources/space (8%); library closing (22%);

merging with another library (7%); merging with another department (6%); becoming virtual

library (6%) (Funk, 2009). It is unclear how comprehensive the reporting has been about

changes to the status of hospital libraries since the project began. According to the MLA

Hospital Library Section Annual Report for 2007, membership at the time of the report was

1,043, with 143 (13.7%) identified as "*not* being in a hospital or health system setting" (p. 1)

[italics are my own].

Authors of the report conclude with emphasis on the need for hospital libraries and

hospital librarians to work on strengthening awareness by key stakeholders of the contributions made to information needs throughout the healthcare environment in support of strategic and evidence-based decision-making, and the need to enhance and add to skills in every area of practice, but especially in working more directly with stakeholders in clinical and administrative practice.

2.1.7 Suggested Solutions

In this section, several suggested solutions to the problems mentioned above are described, including new job roles and the use of Evidence-Based Practice, as a way to strengthen the persuasive abilities of librarians in their work settings.

2.1.7.1 New Roles?

Current problems related to the economy and changes in technology and the delivery of information are far from unique in the history of medical libraries. While it is not the intention of this work to convey the entire history of the profession, brief mention of historical concerns with staffing, education, and the graying of the profession provide additional context for our own examination. In delivering the prestigious Jane Doe lecture to the members of the Medical Library Association at the 1989 annual meeting, Columbia University Augustus C. Long Health Sciences Library Director Rachel Anderson quoted John Scully, keynote speaker at the EDUCOM '87, in saying: "The key strength of twenty-first century organizations will not be their size or structure, but their ability to simultaneously unleash and coordinate the creative contributions of many individuals" (p. 323). Anderson traced decades of concern expressed about problems with recruitment of medical librarians beginning after World War I, quality of library school graduates, and overall, the "paucity in both the quantity and caliber of recruits to medical librarianship" (Anderson, 324), and citing studies in 1969 (Kronick, 1972) and the

creation, in 1981, of a study group to consider the problems of recruiting quality candidates to the profession (Mirsky, 1982). In particular, the Kronick study concluded that while graying of the profession, a trend observed in the early 1980s, was of concern, the greater issue was that of "a growing, critical, unmet need for qualified health sciences librarians" (Kronick, in Anderson, 1989, p.324). Referring to an ongoing theme in the literature of medical librarianship, Anderson described the lack of educational preparation by medical librarians, at that time educated largely in the humanities and social sciences, without particular focus on health sciences, and the mismatch to current positions in medical libraries, which called for subject backgrounds in health topics. Kronick found lack of substantive representation in the profession by those whose degrees or coursework included the "hard sciences" to be a disturbing trend with serious consequences, "indicat[ing] that we have a fairly narrow educational perspective from which to examine issues or approach problems" (p.296). That librarians' educational preparation tended to reflect humanities more than sciences was no surprise, stated Anderson, who suggested parallels between educational focus and medical librarians' historical and ongoing "invisibility" and "lack of appreciation and low valuation" (Anderson, p. 325) by physicians, exacerbated by the often clerical nature of library work and a historically female-predominant workforce. In that address, Anderson called for increased efforts toward professionalism and new roles, including that of "knowledge counselor", "information counselor", "database manager", and "information manager" (p.328).

In an editorial by Davidoff and Florance (2000), a "new" role for medical librarians as clinical librarians was suggested as a way to assist healthcare professionals in locating evidence-based literature in support of patient care. Claiming that, while advances in technology had greatly improved access to literature, clinicians tended not to have the time or

skills to benefit from them, the authors stated that this gap could be addressed by information

professionals:

> In sum, 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. This failure means not only that many opportunities for improved patient care and continued learning are missed but also that much of the effort, creativity, and money that goes into biomedical research is simply wasted (Davidoff & Florance, 2000, p. 996).

Seven years later, *Journal of the Medical Library Association* (JMLA) editor Giuse

again urged expansion of medical librarian roles toward a new breed of expert evidence

consultant termed the informationist or information specialist in context (ISIC), defined as

"an individual with a thorough understanding of both a health care domain and information

seeking and appraisal, who employs that combination of expertise as part of a health care or

research team" (Sathe, Jerome, & Giuse, 2007, p.270). Claiming that ISICs' "immersion in

activities outside the library ha[ve] become the new *modus operandi* [that can] aid in the

transformation of health care practice," Giuse allowed that the present structure and available

roles did not yet not allow for growth beyond the more "traditional mechanisms of

recognizing talent through managerial positions" (Giuse, 2007, p.1). Perceived barriers to the

implementation of ISIC roles were identified as the result of an MLA-supported study

conducted at the Eskind Biomedical Library included a lack of funding (89%); problems with

acceptance of the new role by stakeholders (67%); insufficient education (56%); and "lack of

qualified candidates (52%)" (p.271). Respondents to the survey, which compared reactions to

scenarios where ISIC participation might occur, were more likely to agree to the likelihood

of scenarios if they worked in academic medical libraries (40%) than in hospitals (30%),

although the total number of survey participants was small ("274 librarians and 39

healthcare/research professionals" (p.iv)), and may not have been generalizable (Giuse,

Sathe, & Jerome, 2006). The authors concluded that the idea of this particular role for medical librarians was not yet acceptable by either librarians or healthcare practitioners, and indicated the need for "evidence-based training and models for ISIC practice" (p.67) before this new role might find fruition.

2.1.7.2 Evidence-Based Practice?

Evidence-based practice (EBP) is recommended by the Medical Library Association (Grefsheim, Eldredge, Russo, et al., 2007) and the Special Libraries Association (Abels, Jones, Latham, et al., 2003) as a way to ensure the continued viability of information professionals and the profession itself. The objective of EBP in LIS (also referred to as Evidence-Based Librarianship (EBL) or Evidence-Based Library and Information Practice (EBLIP)), as in other disciplines in which it has been applied, is to encourage the practice of rigorous and comprehensive research in the approach to important questions in practice (Eldredge, 2000) as opposed to the utilization of 'expert opinions' which may be based upon anecdote or local narrative (Booth and Brice, 2004).

Evidence-based medicine (EBM), from which the model for EBL is derived, is a newer permutation of efforts through history to employ increased rigor in research, and to unite the results of bench research to clinical practice more closely. In medical practice, clinicians were discovered to generate two questions per every three patient encounters, with less than one third resulting in an information seeking process beyond peer consultation, the preferred first resource for clinical questions (Covell, Uman, & Manning, 1985; Osiobe, 1985). Intended as a way for information professionals to support their practice-oriented decision making, EBL emulates EBM in providing a model for decision making in practice, with the intention of supporting decisions focused upon the best available evidence combined

with clinical expertise and consideration of the local environment.

The objective of evidence-based practice in libraries, as in other disciplines in which it has been applied, is to encourage the practice of rigorous and comprehensive research in the approach to important questions in practice (Eldredge 2000), as opposed to the utilization of "expert opinion" which may be based upon anecdote or local narrative (Booth and Brice 2004). Early efforts rose from medical librarian involvement with the EBM initiatives that led to role redefinition (Scherrer and Dorsch 1999), and in response to continued calls for increased quality in, and use of, research. Support for this initiative was expressed by the Medical Library Association in 1995 and again in 2007 (Grefsheim et al.); the Association of College and Resource Libraries (2000); and the Special Library Association (2001). Key publications include a manual for practice (Booth and Brice 2004) and an online, open access journal that incorporates formal critical evaluations of peer reviewed research in LIS.

In this section, I have briefly summarized what is known about the environment of hospital librarians, although because so little is known, data have been taken from sources that measure medical librarians across all types of libraries. The education and continuing education of hospital librarians, which occurs mainly post-MLS, is insufficiently measured because data are restricted to responses from a voluntary survey of MLA members. Using these figures, medical librarians participate in a wide range of CE opportunities, both MLA-sponsored and through other organizations. Little is known about hospital librarians' use of published research, but more casual means of communication may be preferred over formal dissemination of information. Electronic mailing lists are used in a number of ways, including survey distribution and discussion about issues in the profession, but hospital librarians are underrepresented in journal publications.

The roles of hospital librarians are shifting in response to changes in a broader healthcare environment, which has responded to cost control, technological, and other trends and initiatives with shortened LOS, movement toward a more highly- regulated and increasingly outpatient centered health system, affecting overall health sector employment. In hospital libraries, the Vital Pathways survey reports increased closures and shrinking budgets, while at the same time, hospital librarians are aging and expected to retire at rates that will peak between 2015-2019. Changes suggested for this population include increased involvement with patient care teams and a more rigorous support for decision making, but solutions have not been tested sufficiently to determine whether these models are viable or practicable.

2.2 Sense-making Theories

Information seeking, information use, and the broader umbrella term, information behavior, have been the focus of many studies in LIS, but they are also of concern in the realms of business, education, medicine, and other disciplines as they attempt to examine, codify, enact, reinforce, support, archive, and disseminate decisions made in practice. Case (2007) cites studies from as early as 1902 and 1916, in examining the history of research on information behavior in LIS through ensuing decades from an early focus on materials, to more recent efforts to understand the cognitive and affective processes of the users of those materials in context. This section is focused upon research that has looked at the sense-making of practitioners in various disciplines, as it has been conceived of for individuals and within organizations.

For this purpose the works of Brenda Dervin and Karl Weick are considered. Sense-Making theory is identified as the lens for examination instead of the narrower foci of

decision-making or information seeking, both of unquestionable value in examining the behavior of individuals or groups. However, examining information seeking or use may bypass important information about the context, emotions, political realities and perceptions, and other factors pertinent to the individual or to the unique context of practice. In a situation where so little is known, it seems suitable to simply ask, lead little, and listen much.

2.2.1 "sense-making" and "Sense-Making"

Pioneers in sense-making whose work is most pertinent to the thought processes in a work setting have approached the question from both the individual-actor perspective, and from the organizational perspective. In LIS and the field of communications, Brenda Dervin is widely recognized as the researcher most engaged with research in understanding individual sense-making. In the field of sociology, Karl Weick has addressed sense-making from the organizational perspective, concerned with roles played by the social and structural entities and their effects upon the group processes. However, such a simplistic characterization is misleading: A number of overlaps exist between the two theorists, perhaps unsurprising due to the existence of some basic elements of the process of sense-making in human behavior.

Considering the theories and meta-theories provided by Brenda Dervin and Karl Weick, comparison provides a starting point for examination, comprised of situation, motivation, and satisfaction. Both approaches place an individual or group in the context of a mostly linear process, within which a gap in information needed to continue movement (Dervin) or a disruption in ongoing processes (Weick) creates the need for individuals or groups of individuals to depart from an undesirable condition of stasis, and to work toward resolution (in the case of Dervin, continued forward movement, and for Weick, integration of

new information).

2.2.2 Dervin's Sense-Making Metatheory

> The Sense-Making approach … is in actuality a set of assumptions, a theoretic perspective, a methodological approach, a set of research methods, and a set of communication practices (Dervin, p. 44, in Jacobsen, 2000).

Dervin has differentiated the phenomenon of sense-making from the methodological approach she pioneered by using capital letters (Sense-Making) (Dervin, p.55, in Jacobsen 2000). Dervin has positioned Sense-Making as a "meta-theory," occupying theoretical space as well as supplying a methodology and a mode of analysis, all of which can be termed social constructivist in nature. Social constructivism espouses the view that individuals construct the world through their own actions and perceptions; Dervin considers that the world is "sense-made" with individuals experiencing interpreting, identifying choices, and otherwise enacting their sense-making processes throughout the course of their lives (Dervin, in Dervin, Foreman-Wernet, & Lauterbach, 2003, p.138).

Sense-Making theory is chosen instead of the narrower foci of decision-making or information seeking, both of unquestionable value in examining the behavior of individuals or groups, but which may bypass important information about the context, emotions, political realities and perceptions, and even (depending upon the care taken) factors pertinent to the individual or to the unique context of practice. Dervin has addressed both theory and method, so her works are key to this and the following section. Her work is prolific, but I have included those works most concerned with the proposed research, which offer the opportunity to permit respondents to construct their own narratives and are sufficiently broad (i.e., not focused upon narrow elements of a situation). Other included texts add to my comprehension of information behavior theory, particularly as it applies to workplace

behaviors, and especially to help formulate a conception of Sense-Making theory as a part of information behavior research overall.

For Dervin, the Sense-Making model has been predicated upon two central images, with the first being a hand drawn stick figure as it approaches a bridged gap, with finish line flags waving at the far end (see Figure 1, below). The stick figure is her human, conceived of as always moving (through life), meeting with and surmounting gaps in order to continue toward unspecified goals. The human is also always changing as he or she moves through "time-space," with each step potentially presenting a sense making challenge, or a "gap." The gap represents a "stop" or barrier to progress or continued movement (since no assumption can be made that movement is in a forward direction or linear); the bridge is that which would help restore progress by transcending the discontinuity (p.277).
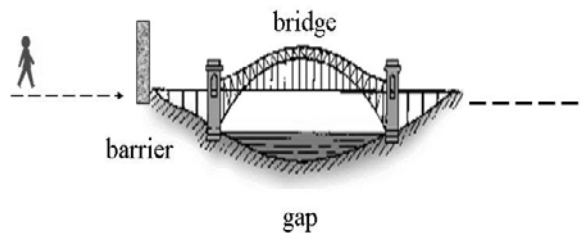
Figure 1. Representation of the central metaphor of Sense-Making
Derived from models drawn by Brenda Dervin (recreated by Perryman).

The second image associated with Sense-Making theory is the triangle of sense making. In the complete image, footsteps represent the individual's movement through both space and time, while directly below that, a series of triangles symbolize the potential for each step to be a gap ("an information-need situation … in which the individual's internal

sense has "run out" (Dervin, Foreman-Wernet, & Lauterbach, 2003, p.278), requiring sense

making action (Figure 2).
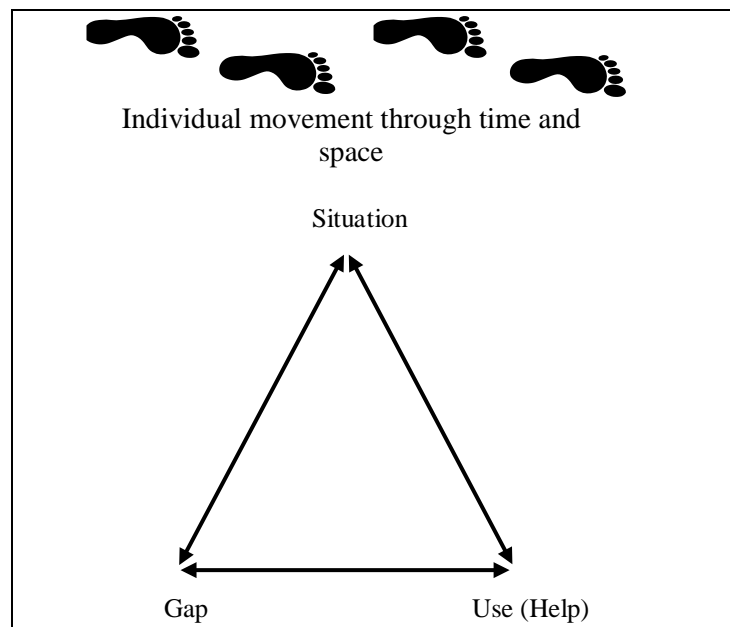
Figure 2. Partial depiction of the Sense-Making triangle

(Dervin, Foreman, Wernet, & Lauterbach, 2003, p.278).

For the past thirty years, Dervin has been researching in the area of Sense-Making

metatheory. Originating from the field of communications, Dervin's model has been cited

heavily in LIS, but also in communications, education, and related disciplines. As rationale

for the development of the model, which has been refined over several decades, Dervin

points out that most public health communications campaigns are directed at bettering

audiences, and have either failed or met only modest objectives. This happens, she explains,

because such campaigns use a traditional one-way approach to communication based on the

idea that the weight of expert information is sufficient to change minds and lives; the

message is visualized as object, a "thing" to be transmitted, and the intended receiver is a

"bucket" (which also implies that the bucket never changes, or seeks to fulfill its own needs)

(Foreman-Wernet, in Dervin, Foreman-Wernet, & Lauterbach, 2003, p.4). In the more

traditional model of communication, individuals who failed to be changed by the message are often perceived as defective in some way. Sense-Making offers an alternative to this more traditional mode of communication, and attempts to reconcile what have been gaps between the often etic (outside) perspectives of researchers with the emic (internal) perspectives of the people being studied, by conceptualizing individuals, who will only understand a message within the context of their own lives.

In the central metaphor of Dervin's model (Figure 1), assumptions are depicted:

- The individual is constantly moving in time and space;

- human reality is discontinuous (we are halted by circumstance, or a gap);

- the individual has to make sense of reality to be able to bridge gaps caused by discontinuities;

- sense-making is a process bound to space and time (meaning that context is integral to the sense-making process);

- information seeking is a part of sense-making.

An additional assumption is that humans do not have an external standard of "truth" that can be consulted in making sense of the world (Foreman-Wernet, in Dervin, Foreman-Wernet, & Lauterbach, 2003, p.6). The core assumption of Sense Making is discontinuity, "an assumed constant of nature generally, and the human condition, specifically" (Dervin & Nilan, 1986), in that people are faced with situations where in order to accomplish their goals, discontinuities or gaps must be bridged. The activity of gap bridging is not, Dervin has claimed, "linear, purposeful, problem solving, or of any particular kind" (Dervin, Harpring & Foreman-Wernet, 1999, p.3/20). At times, taking no action is how a gap is transcended; at times, another road is taken instead. Because the gap is something individually experienced,

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its surmountability is relative to the individual as well, with the assessment of how provided information "helps" or "hurts/blocks" the ability to make sense of the situation (p.4/20). According to Savolainen (1993), a dilemma of sense-making research is the need to consider ways in which individuals are at times rigid or flexible about how gaps can be bridged and perceived; this is an individual action as well, and of interest in understanding sense-making. The metatheory based on the assumptions listed here purports to provide a framework for examining all but a few types of questions. With its base of the discontinuity assumption, claimed Dervin and her coauthors (Dervin, Harpring & Foreman-Wernet, 1999, p.4/20), there are some questions not suitable for Sense-Making research, for which external standards exist. The example is given of evaluating the quality of a research question, where the answer is known. However, they argue that most questions concerning human actors can be investigated using Sense-Making methodologies.

From these assumptions arises another, which is that human sense-making is most properly studied from the perspective of actor, not the observer. Dervin (1992) has presented the example: "When one presents users with a long list of services and has them check off which ones they want, one has constructed a world for the users" (p.64). Such an inquiry asks nothing about the individual's understanding, only his or her preferences among a limited set of choices that embodies the perceptions of the questioners.

Not only do individuals construct and "name" their worlds, but the discontinuities faced are defined by them, as well (Dervin, 1992, p.66). Dervin has proposed that the elements for analysis are to be found in a presumably systematic process employed by the individual[4]. The gap is perceived as a framing utility for the approach to inquiry and all other

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[4] *Presumable* in the sense that people may be enacting repeated and familiar behaviors as they face gaps, preparing them to not only name, but to theorize about their own situations

methodological actions. Viewed in this way, the researcher might face insurmountable difficulties -- every individual unique, every moment, every situation a separate thing -- but Dervin has inserted more quantitative aspects into the inquiry (e.g. economic class, income, education), which could lead to "find[ing] constancies in use of channels" (Dervin, 1992, p.67). To circle back around to the idea of the individual upon their path, facing a gap, "sense making just assumes that the individual is situated at cultural/historical moments in time-space and that culture, history, and institutions define much of the world within which the individual lives" (p.67). All of these elements can be considered part of the context, helping to shape awareness of choices, as well as predilection to selection among them. Considering this process as the basis for a narrative which can be provided upon inquiry, the possibility exists for a rich description open to interpretation, first by the actor, and then (as it is explicated) by the "other," or the observer.

As conceived, Sense-Making theory is carefully positioned between the modern and postmodern perspectives in its assumptions that :

> 1) both humans and reality are sometimes orderly and sometimes chaotic;
> 2) there is a human need to create meaning, and knowledge is something that always is sought in mediation and contest; and
> 3) there are human differences in experience and observation (Foreman-Wernet, 2003, p.7).

Tied to this is an assumption that positions individuals as theorists, capable of their own meaning-making, and thus emphasizing the need for researchers to "share their role as 'theorists' with respondents" (Brendlinger, Dervin, & Foreman-Wernet, 1999). In expressing this particular set of assumptions Dervin has prepared a methodology focused on accounts of orderliness and chaos (and what effects these states for the individual); upon the affective states associated with facing a gap (needing to create meaning); the individual's sense of

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available choices, and their consequences, and the individual's experiences as mediating factors in his or her process of understanding.

The Micro-Moment Time-Line interview process is a logical outgrowth of the desire to encourage a narrative about these process and their associated states of being. Chaos and order also embody a positivist conception of authority-constructed reality versus assumptions about its absence. Dervin claims that in contrast, Sense-Making recognizes the individual as both order and chaos maker, and in terms she calls "communitarian," as the "chaotic, decentered, unconscious human" (Dervin, 2003, p.84) constantly engaged in making and unmaking sense of their world (p. 86). As Sense-Making has emerged from the study of communication, Dervin's concern is also with roles played by others, who may share perceptions about the situation, or they may not, but communicating perceptual differences helps to gain a different perspective. How another makes sense of his or her world in a situation and, particularly, the narrative shared about that process, serves to inform both (or all).

2.2.3 Sense-making in Organizations: Karl Weick

Organizational sense-making concerns itself with the processes of interpretation within an organizational context. There are a number of similarities between the theories of Weick and Dervin with regard to the description of sense-making itself. What Dervin calls a "gap," "barrier," "constraint," and a "moment of discontinuity in which step-taking turns from free-flowing journey to a stop," (Dervin, Harpring, & Foreman-Wernet, 1999, p.276-277) is called a "breakdown" or "surprise" by Weick, due to its unexpected occurrence. This is explained as a situation in which "the current state of the world is perceived to be different from the expected state of the world" (Weick, Sutcliffe & Obstfeld, 2005, p.414).

A conceptualization of Weick's basic model for sense-making in organizations, illustrated in this document as figure 3, would only vaguely resemble the one constructed by Brenda Dervin. The path illustrated in Dervin's model as a broken line is replaced by a wavy one I will call (after Weick) the "flow of stable meaning" with the gap shown instead as a break (called an event in the diagram), followed eventually by a continuation of the wavy line. The process described by Dervin begins where existing texts are found to be incongruent, so that alternate action or further deliberation must be undertaken.
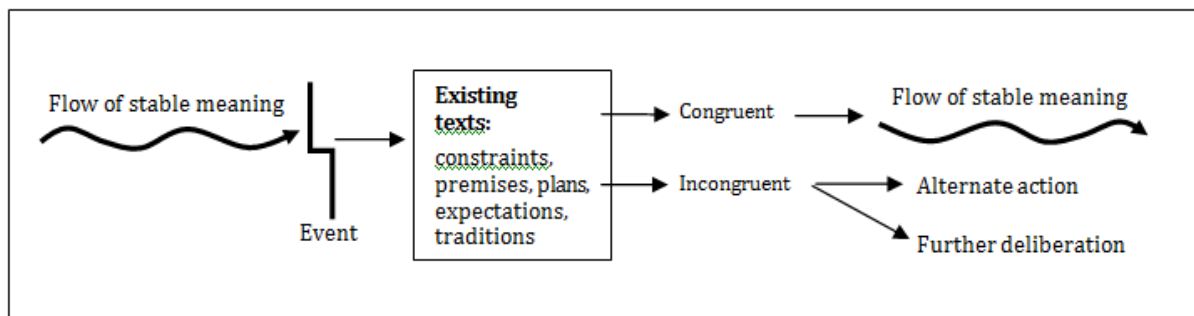
Figure 3. Conceptualization of the Weick sense-making model
(Based on Weick, Sutcliffe & Obstfeld, 2005)

The basic representation shown in Figure 3, above, is a very skeletal framework for Weick's model. In the text of the work from which the description is taken, Weick and his colleagues highlight "central features of sense-making, some of which have been assumed but not made explicit, some of which have changed in significance over time, and some of which have been missing all along or have gone awry" (Weick, Sutcliffe & Obstfeld, 2005, p.409). In this model, the day-to-day sense makings of the way things are, which might be conceived of as a cosmos of meanings previously made, and which together constitute the organization, is shown as a wavy line, called the "flow of stable meaning" or "the flow of action," a desirable state congruent with what is expected by individuals, or by collectives

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within an organization.

When an event occurs in the flow of meaning, so does the need for efforts at sense-making, with the objective of restoring the flow of action. This is also understood in terms of "the coherence of the task [where] the functional relationship between action and goals has been disturbed" (Patriotta, 2004, p.10). Sense-making activities are instigated first, by an awareness of something recognized to be "at variance with the 'normal' environment' (Weick, Sutcliffe & Obstfeld, 2005, p. 411), then by bracketing, or setting apart of what is different, and next, by labeling or identifying the difference as a way to begin looking for ways to integrate the event with known meanings. In order to begin to try to understand or resolve the disruption, once bracketing has occurred, the normal action would be to reach for existing texts about coping. Such texts are explicit components of the structure of the organization, and may manifest as plans, traditions ("the way it's always been done"), or other contingent documents or scripts, created by prior sense-making activities. In the event that existing texts appear congruent to the situation, the "flow of stable meaning" is restored. If the texts are insufficient, the choices will be to take a different action, or to continue sense-making activities by considering further choices.

Patriotta (2004) describes the events of surprise or breakdown as opportunities for an explication of what is frequently tacit: "breakdowns provide a window through which it is possible to access the organizational reality as they put the organization in a situation that requires deliberate attention" (p.8). Such an act of explication becomes part of the narrative about the nature, purpose, and history of an organization, adding to and even changing the sediment of knowledge, with the result that it, itself, becomes tacit, grounds for excavation in future sense making. A newcomer finds procedures and policies, but often must learn how

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they are interpreted and applied, and in what situations they are applied, over time as sense-making events occur. Often, one is directed to "ask so-and-so if you need to know more about X", where "so-and-so," functions as a gatekeeper of institutional narratives, which are themselves important texts. Although Figure 3 depicts the same wavy line as a return to stable meaning, this is not meant to be the *same* meaning that existed prior to sense-making activities, but one which has been changed by the process.

Weick (1995) posits seven basic premises for his model, which are explained with reference to the above description, where suitable. First, *sense-making is "grounded in identity construction"* (p. 18): We are different, changing selves, constructing identity discursively as we perceive events and indeed, our world (making sense of our selves). Each self perceives the world (and situations in it) through the lens of the constructed self; this also implies a self-made world (or one we have created and named). The identities of self are also dependent upon (and managed in reaction to) our need to respond to how we think we are seen by others. Thus, the tale of the Port Authority as told by Weick, an organization whose employees perceived it as altruistic and professional, but then were confronted by another view by outsiders of the organization that was not at all positive. In this situation, the knowledge of a negative image held by others affected employees' own views, actions, and interpretations. Such an event constitutes a threat to identity, a break in the continuity of meaning as it was interpreted by the organization and its employees (p.21). Per Weick, "the meaning that is actually sustained socially from among these alternatives [of who they are] tends to be one that reflects favorably on the organization and one that also promotes self enhancement, efficacy, and consistency" (p.21). The image of a mirror is presented as an analogy for how individuals and organizations view themselves, with sense-making

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occurring in order to sustain a stable sense of identity, or self-conception. In discussing the individual within the organization, Weick explains the individual is both shaped by and a shaper of the organization, embodying and acting as the organization (p.23). Finally, because "sense-making within the organization is self-referential" (p.23), and because individuals embody the organization, the "text" for interpretation is the individual -- expressed as the question "How can I know who I am until I see what they do?" (p.23) In Figure 3, the "flow of stable meaning" is also the sense of identity, as a congruent, relatively stable state of being experienced as individuals and organizations negotiate work life.

Second, *the idea of retrospect* is central to Weick's model of sense-making (p. 24). This may be best explained by saying that one can only make sense of a text, which is present for interpretation, which already exists; therefore, sense-making is retrospective in nature. As we view our world (and as we gaze in the mirror at ourselves), we first see, then process, meaning. As we live, sense-making does not occur without retrospect but is always an examination of what has already occurred. One problem here is that because we constantly are changing, the self that senses is not the same self that lived, so that a gap perpetually exists between the two (p.25). Confusion in a work setting can occur as different meanings are enacted by various individuals or groups within the organization, such as when an administrator has a different conception of a situation than does a middle manager; in addition, because it is common to be involved in more than one project at a time, examining meaning retrospectively presents a challenge as different meanings may be attached to different projects.

> The problem is that there are too many meanings, not too few ... investigators who favor the metaphor of information processing often view sense-making as they do most other problems, as a setting where people need more information. That is not what people need when they are overwhelmed by equivocality. Instead, they need

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values, priorities, and clarity about preferences to help them be clear about which projects matter (p. 27-28).

With meaning making based on retrospect, preference is given to stronger and more complete narratives, so that the more immediate an event, the more powerful effect it has in creating meaning. As well (and connected to this), memory is an imperfect thing: the event is not only retrospectively reviewed, but prone to human lapses.

Third, *sense-making is enactive of sensible environments* (p.30), a phrase intended to convey that, rather than individuals acting upon the environment, sense-making entails interaction, active creation, a meshing or communicative action. This understanding of sense-making as an interpretative *action* is key to differentiating sense-making from the process of choosing between options, because with the first, emphasis is on the process of interpretation (applying meanings), while the second focuses more on how evaluation of options may influence choice among them: it is a part of sense-making. Recalling the idea that the organization and individuals within it are created, interpreted by sense-making over time, the concept of enactment is one in which the individual or group interpret and integrate change into the environment, which in turn affects and reflects their actions. The desirable state of affairs within an organization is to have its members mindful, acting in accord with the current narratives of meaning, but the awareness implies a quality of being critical of that narrative, so that events are noticed and acted upon. In Weick's work, the illustrative tale is told of nurses in a healthcare environment, part of a team of caregivers in a neonatal unit. Noticing (in retrospect) that one infant is not responding as expected (thus, bracketing the infant's responses as being different, worth notice and further action), one nurse alerts an attending physician to the discrepancy, relating the situation to another that had occurred in the past. In this way, members of the healthcare team were using a set of shared meanings

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about expectations; following this, actions would ensue that accorded with established scripts (e.g., guidelines for calling in consultants) (2005, p.413).

Fourth, *sense-making is social in nature*: All elements of and methods enacted during the process of sense-making are dependent upon how individuals were socialized, and upon our intended audiences. In the example of the newborn child, an understanding of well-being and its absence was taught both formally and informally, in a class setting, and customarily, by enculturation that took place on a nursing unit, with social interaction serving to mentor those new to the setting to structures and priorities already in place. The level of attention paid to such elements is also conveyed, so that socialization into an environment coaches reactions, interactions, and political relationships.

Fifth, *sense-making is ongoing*: There is no point at which a surprise may not occur, especially since all elements and organizations change in themselves, in their relation to one another and to the environment. Similar to Dervin, where each step presents the possibility that sense-making will need to occur, in Weick's conception, so long as there are humans engaged in creating and maintaining organizations, sense making continues. According to Weick (1995), sense-making also "never starts" (p.43), as individuals find themselves, always, in the midst of a stream of change (or multiple streams), using made meaning, enacting, engaging discourse about events, and so forth. Because of the ongoing nature of sense-making, resolution for any event is by necessity a temporary one: the image here is of the pattern formed by a kaleidoscope, transitory capture of sense made for that moment, gone even as it is captured. One interesting aspect of sense making is a tie between emotion and physiology during the process, as a disruption in the flow of meaning provides stimulus or arousal, a signal "to which attention must be paid in order to initiate appropriate action. This

signal suggests that one's well-being may be at stake" (p.45). Another aspect of interest is the more obvious tie to knowledge management: if sense-making is evanescent, archiving is problematic, perhaps dictating that texts are doomed to be incomplete, and the results of attempts to reconstruct historical processes are always dependent upon memory. Sense made at any single time is a construction of prior understanding and any understandings achieved from that point in time (when an event was first queried) forward, with each potentially changed by contextual factors.

Sixth*, sense-making is focused on and by extracted cues*, or single elements symbolic of larger events, cues that signify points of reference (p.50) or attention, embedded with messages about the culture of the organization, and serving as directional signals for sense-making. The choice of cues is powerful, because it dictates focus, and thus decision-making about actions. In the narrative about the newborn, the cues provided to the nurse through her constant observation signaled a problem: lethargy, skin tone, belly size, feeding tolerance, and more. Clusters of cues, or the coexistence of these elements, led to further action, while the language used to alert the attending physician was itself a cue for sense making (p. 411).

Seventh, *sense-making is driven by plausibility* rather than accuracy. Rather than perfection, speed or efficiency -- the need to return to productivity -- drives the process of meaning making within an organization. Sense-making involves the production and maintenance of narratives about the nature of the organization and its members. In this way, plausibility finds more meaning and application than accuracy. The issue of plausibility in a medical setting is often centered on mission, and may be defined in terms of patient satisfaction or other quality initiatives.

2.2.3.1 Tacit Knowledge in Organizational Sense-making

The phenomenological perspective explored by Weick is echoed by Patriotta (2004), who describes the state of organizational knowledge as sedimentary, comprised of socially constructed, often tacit, interpretations which, in turn, are the "stuff" of which the organization is made (p.6). Regarding this model, differentiation from the idea or act of interpretation is clear: sense-making focuses on *how* meaning is constructed, as well as how it is read and interpreted. However, the nature of organizational knowledge as a basis for action is an issue well worth exploration in itself, though it will not be addressed in any depth in this work. Described by Choo (2006), the organization embodies three types of knowledge, shown in Table 5, below.

Tacit Knowledge	• The implicit knowledge used by people in organizations to perform their work and to make sense of their worlds. • Tacit knowledge is hard to verbalize because it is expressed through action-based skills and cannot be reduced to rules and recipes.
Explicit Knowledge	• Knowledge that is codified or made intangible and can therefore be easily communicated or diffused. • Explicit knowledge may be object based or rule based.
Cultural Knowledge	• The shared assumptions and beliefs about an organization's goals, capabilities, customers, and competitors. • The assumptions and beliefs that are used to assign value and significance to new information.

Table 5. Categories of organizational knowledge
(Choo, 2006, p.135).

Patriotta has grouped the "existing texts" of the organization taken from Weick according to their origin or realm, defining their visibility within the organizational discourse in sense-making. The categories assist in considering the possible use of such texts. As an example, tacit knowledge for a hospital librarian might include awareness of how the library is regarded within the larger setting. Explicit knowledge may include elements such as a

library budget, or regularly-scheduled meetings to the librarians' supervisors, while cultural

knowledge involves larger messages about mission and values. Of note, the overlap between

some elements of cultural and tacit knowledge; in tacit, the values are seldom documented,

while in cultural knowledge, mission statements and organizational goals are frequently

formalized.

2.2.4 Sense-Making in Libraries

> Where is the essence of practice to be found? Which moments of practice are most likely to give insight into practice? How can practitioners approach the reflective process in a conscious, learning way? Finally, can reflection driven by a single practitioner's need to know also illuminate more universal questions about practice? (Watson and Wilcox, 2000, p.59).

In the realm of librarianship, sense-making interview methods and their findings are

most frequently associated with information needs and use studies, including practical

applications in the context of reference interviews:

> The most extensive application of sense-making to date has been at the library reference desk. An estimated five hundred professional librarians at several locations have been trained to use the sense-making approach in the reference interview. Some reference librarians report that they have changed entirely to this approach, while others say they combine sense-making with other techniques. Librarians using this approach as a dialogic interface between librarian and patron focus on developing a picture of the user's sense-making triangle. To do so, they ask such questions as: What led you to ask this question? How do you hope to be helped? If you could get the best possible answer, what would it be like? What are you trying to do?" (Dervin, 2000, p. 48-49, in Jacobsen, 2000).

In other applications of her metatheoretical model, Dervin has explored how

public librarians use Sense-Making questioning techniques to understand patrons'

thoughts about videos in the collection (Dervin, 1992) and how Sense-Making can be

used by meeting participants to identify and share barriers and helps encountered during

work processes, eventually enhancing group consensus building and highlighting

information need issues; in reconceptualizing library marketing and in planning content

for library staff workshops (Dervin, 2000, p. 52, in Jacobsen, 2000); in measuring non-use of library resources (Williams, Nicholas & Huntington, 2003); and in designing digital libraries (Crabtree, Nichols & O'Brien, et al.,1998). Others have used Dervin's Sense-Making theory as justification for encouraging the activity of reflecting on the library professional life-world (Watson & Wilcox, 2000); and in understanding the mentoring needs for librarians of color (Cooke, 2010). Watson and Wilcox (2000) cite the classic work of Dervin and Nilan (1986) in depicting sense-making as "chaotic, subjective, and tentative … messy thought work [that may] appear elusive and untrustworthy" (Watson & Wilcox, 2000, p.58). However, readers are assured that efforts at enacting the messy process have rewards in providing a "repertoire of examples, images, understandings and actions" (Schön, in Watson & Wilcox, 2000, p58). In this process, the sense-made world of practice is explicated by rendering tacit knowledge about role expectations and power relationships more explicit, because more examined. In this, a difference is suggested between novices and experts in the scale of the repertoire available for prospective inquiry, as well as their interpretive perspectives (p.59).

The Weickian perspective of sense-making as it shapes organizational socialization is used by Simmons-Welburn and Welburn to explore and support the socialization and informational needs of librarians entering academic libraries (2003). Focusing on the ways in which newcomers "define their relationships" (p.2) within the new environments, the authors found that both formal and informal strategies were employed in acclimatization based upon assessments made about the growing costs associated with lack of knowledge about new job requirements. The authors conclude

that provision of basic job information will aid newcomers in their sense-making task and ease entry, potentially affecting retention.

2.2.5 Sense-Making and Sense-making: Crossing the Gap Between Theories

This study considers the work of both Karl Weick and Brenda Dervin in questioning the sense-making behaviors of hospital librarians, while engaging in more depth with the Dervin metatheory and methodologies. In this section, similarities between the work of these two theorists are discussed so that a better understanding of where they may meet and mesh will comprise a more solid frame for analysis in this work.

2.2.5.1 The Occasion for Sense-making: Gap, Stop, or Breakdown?

> There are many uses of the term sense-making as phenomena in the literature (spelled myriad different ways) which have no relationship to the Sense-Making Methodology. For example Weick's (Weick, 1995) *Sensemaking in organizations* proposed looking at organizational life by examining the phenomenon – sensemaking (Dervin, 1999, p.729).

Although Dervin draws a line of demarcation between her own Methodology and the work of Weick in the above quote, her reference is a questionable comparison between methodology and phenomenon; viewed from a different perspective, the model of Sense-Making behavior (represented as *Figure 1*, this document) provided by Dervin meshes well with Karl Weick's depiction of sense-making behavior (represented here in *Figure 3*). One key difference between the two is their conception of the external world, particularly organizations; because of this, using both as a perceptual lens enables a fuller picture of the phenomena of interest. Dervin recognizes that the individual is situated within, and responds to, cultural contexts in their sense-making processes (Dervin, 2002, p.67) – in other words, creating sense from the text of context, while Weick identifies both the individual and the organization as *creations* of ongoing sense-making. In saying that "sense making just

assumes that the individual is situated at cultural/historical moments in time-space and that culture, history, and institutions define much of the world within which the individual lives" (underlining my own)(Dervin, 1992, p.67), Dervin appears to explain organizations as external entities acting upon, and context for, individuals in their life journeys, while for Weick and Patriotta, all contexts are themselves artifacts and constructions (enactments) of a sense-made world.

Generally, the concept of a "breakdown" occupies the same territory as the concept of the "stop" as defined by Dervin in the instigation of sense making. While Weick, and after him, Patriotta, identify the event as a need to instigate the seeking of texts in constructing sense, Dervin focuses on more affective and highly personalized decisional processes, which she characterizes in terms of perception, such as "spinout," "decisioning" and "problematic" (Dervin, Harpring, & Foreman-Wernet, 1999). With regard to the idea of sense making as helping to reconstruct a narrative, Weick positions the action as central to identity construction for individuals within organizations, and for the organization itself, while Dervin brings her lens to "the moment of concern," placing the individual alone on a path. Dervin has viewed these sense-making gaps as integral components of a three-part, ongoing process, an inescapable and inevitable situation-gap-use triad that each step taken by individuals may face. In other words, each action presents the potential for a gap in understanding, necessitating sense-making, and to be resolved in some way so that the individual may proceed through his or her life.

For Karl Weick, sense-making provides the bricks and mortar of organizations, or groups of individuals: shared understandings of what the organization *is* form the organization itself, and are often explored, explained, understood, and shared by means of

narrative. Sense-making acts, thus, are *communicative* acts, as are the Sense-Making

processes explicated by Dervin. As a result, the organization is also comprised of legacy

interpretations, which comprise more tacit components of the organizational structure. Gaps

or breakdowns, which Weick views as "deeply troubling" to the organization's collective

sense-making ability, are the focus of examination using narrative reconstruction,

triangulation via accounts from multiple individuals (as was done in the Mann Gulch disaster

study), artifacts, and other perspectives gained from modeling or other data (such as the

mathematical modeling on how fire spreads). In this way, tacit understanding is unearthed,

becoming explicit in the process.

While Dervin and Weick characterize gaps differently -- Dervin as a normal aspect of

moving through life events, Weick as a disruption or breakdown -- both examine a "moment

of concern" (to borrow Dervin's phrase) in which individuals or groups are 1) involved in a

process; 2) stopped in their movement through or past the process, because the information

they have is insufficient in some way; 3) made to determine and evaluate resources as a way

to continue in their process, or to change direction. For Weick, this process is foundational

to individual and organizational constructions of identity, while Dervin focuses on the

individual's characterization of the nature of the gap, which may be interpreted and

explicated in highly contextualized ways. The two approaches are highly complementary,

offering an opportunity to situate the individual within complexly interwoven frames of his

or her own holistic self and worldview (integrating personal realms with work-worlds outside

the self), consisting of other individual constructions, and the sense-built world of the

organization – which itself is embedded within other constructions. This is very much the

case with hospital libraries. Consequently, an examination of individual sense-making in a

particular situation by a hospital librarian cannot properly avoid larger contexts, and can only benefit by seeking to understand not only how the individual views those other interwoven worlds, but how these worlds are understood in imposing norms for belief and action, how their sense-making constructs and is driven by a need to construct, salvage, or validate the identity of themselves and their organizations.

2.2.5.2 Individuals as Theorists

Dervin finds individuals engaging as theorists. For example, hospital librarians must engage continually in sense-making, and in interpreting the world imposed by broader environments in accomplishing their work. Examining a situation defined and theorized by an individual hospital librarian, using her micro-moment timeline methodology, offers an opportunity to build a portrait of the individual in his or her situation, nested within a series of constructed environments interpreted by the individual: How does this affect/ how is it affected by the environment? Expressing this understanding also highlights conceptions of individual agency by the librarian – often depicted in anecdote as highly vulnerable to economic and political pressures of the hospital environment. From a Weickian perspective, individuals engage in interactive processes with others in the organization that formulate their conception of the beliefs and expectations, often constraining their interpretations to those provided by the organization. In this way, individuals enact their understanding of the environments and situations, which may be understood as "theory-in-action"; in Patriotta, individuals query the prior sense-made environment, deriving necessary information for moving forward in new situations.

2.2.5.3 Categories for Analysis

Dervin and Weick both offer categories for analysis that were used as prompts during the timeline interview process in order to facilitate the characterization of stops, helps, and barriers, and in the reconstruction of a situation. The close attention of Dervin to affective aspects of this process affords perspectives not always enabled by the Weickian focus on interactive processes of sense-making, fleshing out both portraits around the circumstance, and helping to construct a reference for future sense-making. Narratives, reconstructed after the fact (as are those obtained through Dervin's timeline interviews), aided by artifacts and other pertinent information were used to better understand the situation as a sense-making path within its various contexts as perceived by individual librarians. For this research, artifacts such as job descriptions, project charges, process documents, and organization charts helped to flesh out participants' examinations of events. Such artifacts were not intended to confirm or refute the "reality" of the individual perspective or worldview, but to complement the information obtained by timeline interviews, building a context for comparison between study participants.

Dervin's perspective of the individual within their "situations of concern" is important to the overall question posed by this research. Her vision of information as something non-static, but produced by ongoing processes (and not one-way communication, but received, interpreted, and applied or ignored), fits well within the depiction of hospital librarians as individuals with often very unique roles and skills, in their volatile information-driven environment. Weick's framework of sense-making offers an important larger perspective upon this inquiry. With it, means are provided to view the organization as a shared construction that itself, as a collective effort over time, makes sense of exceptions to

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expected day-by-day events. As an example, library-related events such as the Duke Medical Library's loss of space, can be framed by a Weickian perspective, and explored to ask about employees' sense-making construction, potentially tracing how these events become fabric of the library in future sense-making.

Together, the individual and organizational sense-making approaches to conceiving, conducting, and analyzing the results of research add dimension serve to highlight discrepancies or gaps within the larger community's own sense-making about what it is that hospital librarians do, and why.

2.2.5.4 Weickian and Dervinian Properties, Meshed, as Analytical Lenses

In this section items are grouped that are related to the organizational contexts of the situation under examination. Because Weick has defined seven basic properties of sense-making within organizations, they are used to frame discussion of the librarians' situations from the organizational perspective, applied as lenses during analysis after the situations were mapped out. They are valuable in considering rationalization, affect, and the impact of organizational culture upon individuals' sense-making processes. Although the properties were discussed in section 2.2.4 of this document, each property is again briefly defined in order to compare it with Dervin's concepts.

2.2.5.4.1 Sense-making is Grounded in Identity Construction

The question voiced by Weick, "how can I know what I think until I see what I say" (1995, p.18) expresses the idea that the self is far from a singular, fixed entity. Rather, it is a shifting kaleidoscope that must be queried for sense at each step. If the step finds congruence with the present conception of self, then an additional step may be taken – but if there is something other than congruence, it must (however fleetingly or even unnoticeably) be

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queried by rummaging among the closetful of meanings. Finding one that fits the event means that there is alignment of the self with these external circumstances. Thus the sensemaker is an ongoing puzzle undergoing continual redefinition, coincident with presenting some self to others and trying to decide which self is appropriate (Weick, 1995, p.20). This property is congruent to Dervin's illustration of the process of identity creation as one that is "actualized in behavior" (Dervin and Foreman-Wernet, 2003, p.255), as is the institution itself and all procedures. Identity is a shifting concept, entirely situational and contextual, with the individual having to determine their identity with every act of sense-making:

> No individual ever acts like a single sensemaker […] any one sensemaker is […] a parliament of selves – a typified discursive construction (Weick,1995, p.18).

Weick illustrates his assertion by telling the tale of Port Authority employees (1995, p.21), who are comfortable in their understanding of their workplace as helpful and friendly, until they learn that customers see a different organization. This externally-provided perspective triggers sense-making activities, with employees querying the rationale for their view, and working to render the perspective of others congruent with their own positive perceptions. In this, the employees' identity is challenged, even threatened, and the sense of threat becomes motivation for action. In a real sense, the potential for sense-making gaps (as problems driving action) exists with each step simply because the identity cannot ever be completely congruent with how it is perceived by others, and because others (and through the process of sense-making, organizations) are constantly shifting ground. Ultimately, "who I am" is different from "who I want to be/how I want to be seen," and forever separate from "how I am seen" in any situation or setting.

2.2.5.4.2 Sense-making is Retrospective

Sense-making occurs only after the event, even if only moments have gone by. There is some basis for claims by others that sense-making can also be used in a predictive sense (Louis, 1980, cited in Weick, 1995, p.4), but the matter from which sense is made must be retrospective. Humans need context, argues Dervin:

> "Given lack of complete instructions, humans build pictures of reality. Pictures of reality are necessary to direct movement because movement is instructed by mind. And an empty mind provides no instruction. […] [T]hese pictures of reality have been conceptualized in past formulations as either authoritative statements about what is real … these pictures become strategies for gap-bridging " (Dervin and Foreman-Wernet, 2003, p.300).

There seems to be no incongruence between Dervin and Weick in the role of retrospect, as shown here: both agree that context is a sense-made construction.

2.2.5.4.3 Sense-making is Enactive of Sensible Environments

> To talk about sensemaking is to talk about reality as an ongoing accomplishment that takes form when people make retrospective sense of the situations in which they find themselves and their creations. There is a strong reflexive quality to this process. People make sense of things by seeing a world on which they already imposed what they believe. In other words, people discover their own inventions (Weick, 1995, p. 15).

Following on the idea of retrospect, sense-making is an act that interprets previously sense-made environments to creating meaning for new situations, changing the environment by the act of interpretation of context (enacted sense). The organization is constantly queried and interpreted to enact the interpretations by its members, thus creating the organization-in-situation as a shifting product of sense-making. Claims Weick, disagreeing with Dervin's depiction of environment as external to the individual (Dervin, 1999, p.729):

> There is not some kind of monolithic, singular, fixed environment that exists detached from and external to these people. Instead, in each case the people are very much a part of their own environments. They act, and in doing so create the materials that become the constraints and opportunities they face. There is not some impersonal "they" who puts these environments in front of passive people (Weick, 1995, p.31).

Humans in organizations engage in individual sense-making from cues of history, which itself is a construction of time and space interpretive action affixed into policy, procedure, tacit understandings, relationship expectations. Weick, focusing his gaze upon co-construction of sense, labeling it both an individual and a collective action (1995, p.6).

2.2.5.4.4 Sense-making is Social

A precondition for sense-making to occur is communication, a social construction using any channel including written communication. The Dervin premise that "structures are maintained, reified, rigidified, and changed through acts of communicating" (Dervin and Foreman-Wernet, 2003, p. 255) meshes well with the Weickian concept of social creation of sense. In Weick, perception of regard spurs action as a "constant substrate [of sense-making] that shapes interpretations and interpreting. Conduct is contingent on the conduct of others, whether those others are imaged or physically present" (1995, p.39). Furthermore, "Sense-Making assumes that people, even experts anchor and use facts in terms of an interplay of situational and psychological experiences" (Dervin and Foreman-Wernet, 2003, p.7).

2.2.5.4.5 Sense-making is Ongoing

There is no real beginning of the acts involved in sense-making. Weick finds that "people are always in the middle of things" (p.43, 199) saying that "To understand sensemaking is to be sensitive to the ways in which people chop moments out of continuous flows and extract cues from those moments" (p.43). Dervin agrees, saying that for "each moment, [there is] a new step" […] each moment potentially a sense-making moment" and that "the most fundamental of Sense-Making's metatheoretical assumptions […] is the idea

of the human moving from a past […] to a future" (Dervin and Foreman-Wernet, 2003, p.277-278).

2.2.5.4.6 Sense-making is Focused On and By Extracted Cues

> Organizational sensemaking is first and foremost about the question: How does something come to be an event for organizational members? Second, sensemaking is about the question: What does the event mean? (Weick et al., 2005, p. 410).

Cues from the environment are translated in the context of individual factors such as history, and suggest the need to make sense of a situation (Weick, 1995). By itself, an occurrence may be similar to an "incomplete sentence" (p.52) requiring completion by providing elements of meaning within context. Individuals, having completed the "sentences" of meaning, then act in accordance with it, and this concept implies the need to query action, rationale, and context in order to theorize from a researcher perspective, and also that the sentence may be forever incomplete from the perspective of history or the examiner. "The focus," claims Dervin, "is on how people attend to phenomena differently" (Dervin and Foreman-Wernet, p.7, 2003). In her model, Sense-Making is also

> "enmeshed in structures; occurring at specific moments in time-space; anchored on a time line linked to the past; and conceived by humans capable constructing and utilizing historical sense" (p.67).

2.2.5.4.7 Sense-making is Driven by Plausibility Rather Than Accuracy

This element of sense-making, described by Weick, is implicit in Dervin in the sense that the main focus of inquiry about individual sense-making behaviors is intended to be an antidote to the common approach based on the transmission model of communication, with individuals acting as receptors. Instead, individuals make their own sense, based upon individual judgments of contextual integrity: "constructions that are tied to the specific times, places, and perspectives of their creators" (Dervin and Foreman-Wernet, 2003, p.5). Weick

also rejects the positivist notion that "something out there needs to be agreed on and constructed plausibly" (1995, p.55-56), using the argument that it is not what *is* (if there can be said to be a single reality, interpretable in only one way) but what *works* for sense-making purposes: what works is congruence with prior knowledge.

The seven precepts defined by Weick and compared to Dervin's model appear to be definitive in describing human sense-making behavior in organizations. Based upon my own experience, and considering the historical sensitivity of hospital librarians (and librarians, overall) to their organizational contexts, it seems likely that the precepts are worth applying to the sense-making behaviors of the librarians in this study.

Chapter Three: Research Design

There are three ways in which Sense-Making's metatheory is implemented in method: in the framing of research questions; in the designing of interviewing; and in the analyzing and concluding processes of research (Dervin, 2003, p.148).

When researching from a Sense-Making perspective, which is intended to encourage respondents to build and elaborate upon their own narratives, it is the duty of the investigator to represent those narratives as authentically as possible. Rather than employing a more observational approach, the data-gathering method is a structured interview, with the full model termed the "micro-moment time-line interview" (Dervin, Harpring & Foreman-Wernet, 1999). In this section, the full model is described by examining a study in which it is used, with additional reference to several amended versions applied by Dervin and others. The primary focus for this research has been on the Dervin methodologies, but analysis of the time-line interviews has included consideration of the librarian within her organizational context, with attention given to cues and interpretations of organizational impacts upon individual sense making. By using questions at the start of the interview about the individuals' organizational structures, some focus upon Weickian perspectives was intended, but how the idea of collectivity in sense-making might be evidenced was unclear at the start. It was only after repeated reading of participant transcripts and returning to the Weick texts that the "sense" of his words became evident and even predominant in understanding the organizational aspects of sense-making.

3.1 Participant Recruitment and Selection

Lincoln and Guba explain that the sampling "mode of choice" in naturalistic inquiry is to select for maximum variability in order to provide as much of the "flavor" of the context as possible, as well as to provide the basis for "emergent design and grounded theory" (1985, p.201). This study employed purposive convenience sampling based upon the availability and willingness of individuals to participate in interviews.

3.1.1 Initial Hospital Librarian Selection Criteria

Prior to recruitment, approval for this study was obtained from the Institutional Review Board at the University of North Carolina, Chapel Hill. Efforts were made to recruit volunteers with Master's degrees in Library Science or in other fields, who were employed full time as librarians in hospital libraries. In order to recruit sufficient numbers of participants it was necessary to exercise flexibility on hours worked, as some librarians had experienced cuts in hours in recent years, yet functioned as the primary librarian within their institution, with administrative responsibilities. Individuals who met all criteria except for having earned a Library Science Master's degree were also considered eligible for participation if their responsibilities appeared to describe professional-level activities. This determination was made by screening interested potential participants with questions about their responsibilities, with the primary criterion entailing decision making responsibilities. Another screening criterion was the workplace, as only librarians employed in medical or surgical hospitals would be eligible to be interviewed. While purely academic medical libraries were excluded from eligibility for inclusion, libraries physically located in hospitals with patient beds, and with principle ties to universities were included if the reporting relationships were to the healthcare institution. Selection was not based upon gender, race,

ethnicity, age, or amount of experience as these attributes were not considered pertinent to the inquiry. Screening occurred during the initial recruitment phase, by using questions provided to potential participants by electronic mail. One participant of the original 25 was working in a Veteran's Administration hospital, but the funding issues, which were central to the librarian's chosen situation, caused the interview information to be excluded from analysis.

Initial recruitment followed the identification of suitable institutions in a large metropolitan area, with electronic mail sent to library directors identified by the ALA Directory (2007). After interest was expressed following an introductory inquiry (see Appendix C), a set of screening questions was provided (see Appendix A).

The first wave of recruitment resulted in less than ten participant agreements, including the use of snowball sampling, as recruitment was restricted geographically to the large metropolitan area. After several participants declined due to various reasons, including concern about possible impact on job security despite Institutional Review Board confidentiality protections, a decision was made to expand recruitment to hospital librarians in the United States. Amended Institutional Review Board approval was sought and granted to permit expansion of the catchment area for recruitment to take place through electronic mailing lists likely to be frequented by hospital librarians. A recruitment letter was distributed to the Medlib-L electronic mailing list, the principal list used by members of MLA, and to the HLS-L (Hospital Library Section of the MLA) electronic mailing list, an interest group of MLA for those involved in some way with hospital libraries. Respondents were encouraged to provide additional referrals, and several took the initiative to repost the call for participation in their own regional electronic lists, resulting in additional participants.

Following expressions of interest, the screening questions mentioned previously were provided, in some cases along with the consent form as it provided additional information about the study to potential recruits who had questions about the intent of the work. In total, 25 librarians were selected for interviews, although only 22 interviews were analyzed for this study.

3.2 The Interview Process

In this section the preparation and process for interviews using the Adobe Connect program is described. The process was amended from the originally planned in-person Time-line interview, so commentary also addresses specifics in terms of how they differ from what was planned.

3.2.1 Preparatory Contacts

Initial telephone calls, scheduled through electronic mail at participants' convenience, were used to set up interview dates and to allow for discussion about the topic for interview focus. Many participants were willing to be interviewed, but were unsure about the "task" focus, so that this interim step helped to alleviate confusion, and prepared the librarians for the longer interview session. This uncertainty also served to justify provision of the consent form with its expanded information about the intention and methods of the study. These preparatory calls lasted from 20-30 minutes, and were not recorded, although notes were made about the librarians' comments concerning possible topics, their work situations, and other pertinent aspects. During this call, librarians were asked to provide copies of their job descriptions and organizational charts, as well as supplemental documentation that would assist in fleshing out the situations to be explored. Follow-up contact verified interview appointments and served as reminders.

3.2.2 Adobe Connect as a Shared Space

Although pilot studies had been conducted for in-person time-line interviews, expanding recruitment meant that in-person interviews were not practical due to time and funding limitations. The interview method, which entails co-construction of a time line for the situation in question, was initially planned using a series of color-coded index cards to identify situation, gap, and uses, which would then be expanded by circling back around the framework for decision detail and affective recall about choices and perceptions. In order to provide similar shared space, and to enable co-construction and immediate verification of detailed information, a shared whiteboard application that could be updated in real-time was used, as was an application that would provide for archiving notes, scheduling meetings, and importantly, protecting confidentiality of participants.

The application chosen for this study was the Adobe Connect conferencing system, which resides on the Web. For a monthly charge, the "Professional" level system enables individuals to compile participant lists and to create and save individual "meeting rooms" that can be configured in a number of ways. Participants received two messages through the Adobe Connect system following the preparatory phone call. The first provided information about login and password, with the request to change the password after running a system check on their computer. The second communication provided a link to the meeting room, with information about date and time. Additional information about what would take place during the interview was given at this time:

> (Name), thanks so much for agreeing to participate! The time for our interview will be (beginning and ending time of day) (time zone) on (date) . Please try out the Adobe Connect before we meet and let me know if it won't work for you. (We can deal with things if it won't, no problem).
> If we lose contact, please wait for me to call you back.
> Here's what we'll be doing:

- checking the currency and completeness of documents you've shared with me (job description, organizational chart, other materials);
- describing the task/situation you have chosen to focus on;
- exploring the task/situation in some depth.

The Adobe Connect "meeting rooms" were organized prior to the interview date to enable their use as shared whiteboards, providing an instant messaging chat box in case audio contact was lost, an indicator of members present, and a note that gave a skeletal overview of the process and directions on what to do if the connection was disrupted. This information was identical to text sent in the previous step. Some participants did not enter the Adobe Connect meeting space until the interview took place, meaning that as much as 20 minutes, in some cases, was spent working through this process. However, the initial interview questions entailed a review and update of the job description and organizational chart, so in most cases, by the time time-line descriptions of the situation chosen were given, full access had been achieved. In two cases the librarian was unable to access the Adobe Connect meeting space due to firewall restrictions, so that any member-checking was done using the audio connection. With or without the meeting whiteboard, the process was the same.
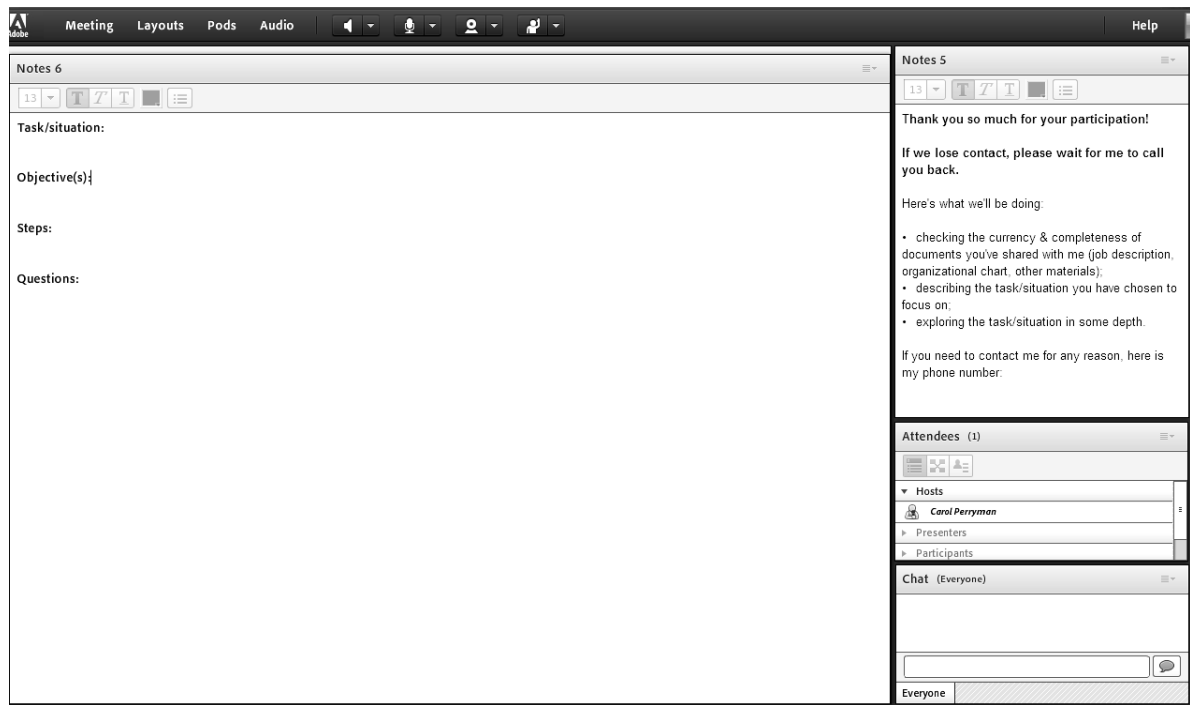
Figure 4. The Adobe Connect meeting space configured for an interview

The center of the "meeting room" (shown in Figure 4, above) was occupied by a whiteboard that would enable participants to view notes live as they were entered during the interview. A basic outline of the situation was entered on the whiteboard, listing the following cues:

Task/situation:

Objective(s):

Steps:

Questions:

The time required for each interview was approximately one hour, although the Adobe Connect meeting space was set for one and one half hours to allow for expansion as needed.

3.2.3 Technical Processes, Participant Confidentiality, and Transcription

Archived meetings are maintained by the Adobe Connect Corporation, but according to a representative (personal contact, September 13, 2010), the archives are not accessed by the corporation although staff does have the ability to do so. In order to protect subjects as much as possible, meetings were set up with unique URLs for each interview, with only those participants added by myself as the administrator. Participants also select their own passwords after the initial setup. In addition, recordings of the session available on the Adobe Connect system consist solely of relatively skeletal notes made during the session as audio recordings were separately captured. More extensive notes were made on paper, and the interviews were audiorecorded using a separate digital recorder to capture actual conversation. Thus the risk to participants was limited to outlines of their situation or task, which do not include names, opinions, or other information. The risk was further limited by the process of copying whiteboard notes immediately following interviews, then deleting the recording of the session.

The audio portions of interviews took place over Skype.com, a Web-based telephony application. Although Skype.com is capable of recording phone calls, interviews were audio-recorded using a separate digital recorder connected to a laptop computer via a USB port through an automobile speaker. This was done to ensure confidentiality, so that conversations were recorded (as much as possible) with freestanding equipment rather than the less secure Web-based recording capabilities of both Skype.com and Adobe Connect. Using a headset with a microphone and the automobile speaker enabled hands-free operation and digital recording. In most interviews, audio quality was good, although in some, sound quality was affected by line noise, requiring a new connection to be made.

Following each interview, files were uploaded to the NVivo software program and also backed up on password-secured, Web-based file storage (Box.net), then each was fully transcribed prior to analysis.

3.3 Task and Situation as Units of Study

As Solomon (1997b) points out, "Ultimately, information and information behaviors only "make sense" in a context of task and situations as they unfold over time." The frame for Sense-Making interviews in the proposed research was **task** or **situation**, retrospectively deconstructed and explicated by the participants. Described by Wood (1986) as a centrally important concept in the "study of human behavior in organizations" (p.60), task may be understood in several different ways, but may be generically defined as "activities undertaken to achieve goals" (Freund, 2008, p.2004).

Tasks associated with librarianship may be comprised of

- Administration (training and development; managing library units/activities; supervision and evaluation of personnel; planning and decision-making; developing policy; handling human resources planning and management; budgeting and financial management; managing space, facilities, and building operations),
- Professional development (participating in professional organizations, attending conferences and workshops, and researching and publishing in the field of librarianship), 3) Collection management (developing and evaluating the collection and electronic licensing),
- Information technology (developing software and applications for the web), and
- Marketing and public relations (performing liaison activities (8Rs Research Team, 2005, p.10).

Framing sense-making questions within task may enable participants to choose their own scope for examination, as well as enabling a more micro-focus for purposes of analysis. The proposed research is not intended to analyze or compare task types, as task itself is not the element of concern, but is instead the context loosely suggested for inquiry within the participants during the course of the interviews.

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Situation has been defined as the totality of context for an occurrence, or "the complete state of the universe at an instant in time" (McCarthy and Hayes, 1968, in Meissen, Pfennigschmidt, Voisard, et al., 2005, p.2), but as Meissen and colleagues recognize,

> Investigation of this totality is not possible or desirable; thus the authors find that "in order to define someone's situation we do not need the whole state of the universe but rather use a subset that is considered relevant" (Meissen, Pfennigschmidt, Voisard, et al., 2005, p.2).

That subset may itself be termed as a context (p.2) comprised of pertinent variables that characterize "relevant, observable real world parameters" (p.2). For this research, **Situation** is comprised of a time-bounded, workplace situated occurrence or series of events, identified by participants as one in which difficulties (or an information deficit) have been experienced.

Discussion about the possible tasks or situations for examination proved to be a central concern, as many participants expressed their uncertainty about the suitability of their own work for research purposes. While "task" was explained in the consent form, it was also necessary to use the term "situation" in describing the focus for the interview. In Table 6, below, information from the participant consent form is shown:

Before we meet for an interview, you are asked to think of a work-related task you have done in the past year. Tasks should not involve direct patron contact. Since the focus of this study is on how hospital librarians deal with problems encountered in tasks, I am specifically going to focus on a time when you encountered a problem in completing the task you set out to do. These could be in any of the following areas of responsibility (though there may be other areas not listed):

- **Administrative tasks**: training and development, managing library units or activities, supervision and evaluation of personnel, planning and decision-making; policy development, budgeting, space or facilities management
- **Healthcare administration**: activities related to the hospital or healthcare system (e.g., JCAHO, patient safety, quality assurance related work)
- **Professional development**: professional organization participation, conference or workshop planning or attendance, research and/or publication in LIS
- **Collection management**
- **Technology**: development, evaluation
- **Marketing/public relations:** liaison activities

Table 6. Description of focal task or situation for interview participants

3.4 The Sense-Making Interview Process

According to Briggs (1986, p. 51), initial question framing is an important element in establishing context in the interview process, and in lessening inevitable ambiguities in understanding between the asker and the respondent. Thus the interviews began with a brief explanation of the objectives and scope of the intended research, to comply with Dervin's perspective of respondents as theorists (Dervin 2008, p.11) who are fully capable of building and elaborating on their own narratives. The framing question is intended to "provide a referent but situate that referent within its larger conversational context—if procedural problems are to be avoided" (Briggs, 1988, p. 52). In addition, the framing question should provide a relevant scope for what follows, which "assists the respondent in assessing the quantity and the type of information being sought" (Briggs, 1988, p.54). In order to provide more immediate focus to the interview process, participants were asked to think of a recent library-related task or situation in which he or she was involved, and in which he or she faced a situation within the task where sufficient information was not readily available.

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The central feature of Sense-Making conceived by Dervin as a method of inquiry and explication is the use of the micro-moment time-line interview, a reconstruction of past events with the interviewer guiding the process. The intent is to elicit not only a detailed accounting of respondents' actions in identifying barriers, helps, and other occurrences in the process of sense-making, but their own perceptions about the situation being described.

The question asked in a full micro-moment timeline interview as described by Dervin is about a time or situation where participants experience a *gap* or *stop*, feeling that for some reason they do not have adequate information in order to continue along a desired path. An amended version of this basic framework was used in this study in order to help individuals construct a narrative. Probes, or probing questions, were used in order to assist the emergence of the narrative and to encourage reflection by participants by asking them to elaborate on a response (Luo & Wildemuth, 2009, p. 234).

Although Dervin addresses a broader context socially, the focus is primarily upon the individual, or more properly upon a situation which the individual experiences; little attention is paid to organizational contexts. Because of this, an organizational focus was added to the study through the lens of Karl Weick. From Weick, an inquiry into "extracted cues, or single elements symbolic of larger events" (Weick, 2001, p.50) may be made, from which individuals gain awareness of the need for sense making process instigation; as well as consideration of participants' awareness and use of available texts, decisions about salience, processes ensuing; and how organizations may dictate the choice of available texts. Questions about how organizations influenced the sense-making of their members were asked explicitly as part of the time-line interview process, and also functioned as post-interview categories for analysis. Other methods of data collection helped to flesh out

information provided via the interview process, including work documents, correspondence, and diagrams of administrative structures.

3.4.1 The Micro-Moment Time-Line Interview Process

Volunteers who expressed willingness to participate in the study were provided with partial explanations of the methods that would be used. As a way of saving their time, but also due to the complexity of the process, participants were asked in advance to identify a library situation or task within the past year where they had found they had insufficient information to find resolution. The relative recency was intended to aid recall, which was further supported by documentation about the task or situation. Each individual was interviewed using an amended time-line interview process in order to produce a narrative of sense-making processes from gap realization through gap resolution. All but one of the librarians preferred to participate from her or his workplace, with the remaining librarian choosing to be interviewed at home where she felt she would be less likely to be interrupted. While preparatory instructions included a suggestion to find a private space where interruptions would not occur, some librarians did not appear concerned about the possibility of disruptions. These rarely occurred, with only two occasions where librarians responded to brief patron queries, and one instance where an incoming phone call was answered. As librarians had described their work as increasingly taking place through electronic mail, with less direct in-person interaction, the relative privacy of interviews may have felt more likely.

3.4.1.1 Context and Currency: Situating the Librarians Within Their Environments During the Interview Process

The interviews each began with a shared examination of documents provided by the participant, which were the job description and the organizational chart. Following is the section from the interview guide (Appendix B) that includes these questions.

- Request that copies of supportive information be made available at the time of the interview to aid in task reconstruction, if possible. Documents may include the following:
  - Job description
  - Library organizational structure chart
  - Hospital/healthcare system organizational structure chart
  - Documents related to task as appropriate
- Questions: Check on currency of documents. Ask for information about any marked disparities, particularly as it affects the task being described.

In the absence of these documents, the librarians were asked to describe their job duties and report relationships in some detail. These questions served several functions. First, by talking about these documents, librarians were encouraged to begin a consideration of themselves within their libraries and their organizations, thus setting the stage for their narratives about situations chosen. Often the tales they told needed context, so this seemed a natural starting place, as well as a comfortably familiar one for participants. Second, discussing these documents was a preliminary step to asking about changes in duties, reporting relationships, organizational structures, and cost-savings or other initiatives that had occurred in recent years. Third, asking about job duties and organizational structures and changes (including autonomy, support, and frequency of contact with supervisors) helped to begin exploration of the person-in-place, a necessary building block for understanding the more Weickian, contextual elements of the situations being discussed. Having this base, questions could then more easily be asked later in the interview about the organization or other contexts mentioned as part of their situations.

3.4.1.2 Time-line Interview Probes About the Situation/Gap/Use Triad

The main portion of the interviews, after preliminarily situating participants in their job and the institutional environments, was focused on the triad of Sense-Making concepts identified by Brenda Dervin, or Situation/Gap/Use. Questions listed below were amended

from the work of Dervin et al., and used to direct the discussion, although priority was placed

upon allowing the participant narratives to emerge organically after it became evident that

stories (and storytellers) were unique, with unique needs for pacing and explanation (Dervin,

Harpring, & Foreman-Wernet, 1999). Not all questions provided by Dervin appeared suitable

to the interview circumstances. For example, whether the question was asked out loud and

whether a response was complete or partial seemed to be an extraneous issue after

participants described their actions in detail, and a specific question about assessing outcome

was addressed.

As questions listed below emerged spontaneously during the narrative, they were

checked off the list, while those not addressed were asked when the time felt right to do so.

- What were you trying to do when you asked this question?
- Did you see yourself as blocked or hindered when you asked this question? How?
- How easy did it seem to get an answer? Why?
- How important was getting an answer?
- Did you get an answer?
- Was the answer complete or partial? Why?
- How did you get an answer?
- Did the answer help or hurt?

Table 7. Interview probes for the situation/gap/use portion of the interviews

3.5 Ensuring Validity

Following the micro-moment time-line process for the interviews was intended to

ensure that the narrative constructions would represent, as closely as possible, the

experiences of the individuals involved. Recognizing that a brief interview cannot completely

capture the rich depths of lived experience, the time-line process places high priority on

enlisting participants as colleagues in the research process by providing explanations of the

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goals of the research, of the methodologies, and by employing member-check methods during and after the interview to encourage commentary and additions or changes to the narratives.

3.5.1 The Role of the Observer

As Solomon notes (1997), investigating information behavior brings with it the danger of confusing what is observed with prior biases of the observer. That said, there is hardly a way to find complete impartiality in research, nor is it desirable. There is, as Solomon also states, benefit to be gained from both emic and etic views, but "the challenge is to keep the two views separate as much as possible during analysis and reporting and to point out when a shift from one to the other takes place in the exposition" (p.1098).

With 20 years in libraries and ten in a hospital, my view of libraries is undeniably colored by my own experience with individuals and individual institutions, those they serve, their politics, their budgetary issues, and all those elements that form the cosmos of any library. Each is unique and non-representative of the profession and its work contexts overall. While an understanding of library procedures and culture aids my view and may have helped me to gain entry, it is important to be reminded of the singularity of libraries and library jobs. As well, the force and speed of technology means that last year's library may now be a different space, both physically and culturally. Changes may have been wrought by recent budget cuts. As has been argued by other investigators, the illusion of bias-free observation is seldom, if ever, achieved (Denzin, 1992). Renato Rosaldo (1993) argues that "the observer is neither innocent nor omniscient" and recommends that researchers should pretend neither but instead, should work to inform their "readers [as much] as possible about what the observer was in a position to know and not know" (p. 69). Bias could insert itself in

framing the initial research questions, in assembling an interview guide, during the conduct

of interviews, in categorization of responses, and in the ensuing analysis. As in sense-making

itself, which occurs in retrospect, awareness of bias may only be achieved in retrospect (and

then, only partially at best), requiring repeat visits to the question, framing theory, and above

all to the narratives of participants. In particular, sense-making research interrogates the

made world of its participants: Weick (1995) provides the insight that sense-making is

"driven by plausibility rather than accuracy" (p. 55), implying that individuals' own truths

are by necessity filtered through individual perceptions (p.57).

Within sense-making, the observer can be a participant, as with Solomon's three-year

study of a work planning group (1997, 1997b), or more distant, as was the case of Dervin

(1999), who interacted with a population of pregnant addicts solely for the purpose of

interviewing. With the first, the investigator participated in the work of the workgroup with a

defined role. For the intended study, my perspective will be closer to Dervin's, but my

closeness to the work and environment of a hospital library may assist in awareness of the

environment, understanding of job functions and roles, and politics.

While recognizing the likelihood that my own bias will enter into my choice of

questions to pursue and analytical choices, efforts have been made wherever possible to tie

reasoning to participant narratives. Where my judgment has been used to categorize elements

of the narrative, this is stated so that the reader can evaluate for him or herself whether bias

has affected decision making.

3.5.2 Member Checks

Participants were asked to review their own narratives at two points, both during and

after the interview. During the interviews at several points, participants were asked to review

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the notes being made on the Adobe Connect Whiteboard to ensure that the sequences and information noted were faithful to their accounts. This process replaced the originally intended use of color-coded index cards in laying out the sense-making paths of participants.

Following the interviews, participants were provided with copies of the narrative summaries (including quotes to be used) from their interviews, in order to ensure that their descriptions and thoughts were captured as fully as possible. Member checks assist in assuring validity of constructions (Lincoln & Guba, 1985, p.p.314), preferable to data triangulation methods in qualitative inquiry where narrative reconstruction is performed.

A tabular version of each participant's sense-making path was created using the Adobe Connect whiteboard notes, which had been validated during the interviews, and fleshed out with the aid of the transcribed narratives. In this process the non-linear form of most narratives was noted, so that it was very often necessary to read the transcripts repeatedly. The tabular summary of each participant was then supplied to each librarian in a final member-checking step, and each was asked to verify the path recreation.

3.6 The Process of Categorization

[…] Sense-Making mandates attention to the power and authority forces that impact those who make and use information (Dervin and Foreman-Wernet, 2003, p.149).

Of focal interest for analysis in the present study were the situations, gaps, and uses encountered and explicated by participants. In "Moments of Concern" (Dervin, Harpring, & Foreman-Wernet, 1999), the ten respondents identified unique situations (gaps) encountered as they worked to make sense of a question about their pregnancies. Analysis identified common barriers experienced by individuals, eventually building theory about how individuals might respond, how they might feel about the situations and choices to be made, and what they actually did. As one question of the present research is whether the Dervin

sense-making methodology is suited to inquiry about the sense-making practices of hospital librarians, having the Dervin categories of situation/gap/use enabled their later assessment. As with emergent categories, these broad categories were also open to question about their fit to the participants' sense-making narrative analysis. Table 8, below, depicts GAP and USE categories derived from Dervin and used as a starting point for organization in this study.

Category	Definition
GAP Categories	
Problematic	Being dragged down a road not of your own choosing
Spin-out	Not having a road
Wash-out	Being on a road and suddenly having it disappear
Barrier	Knowing where you want to go but someone or something is blocking the way.
USE Categories	
Waiting	Spending time waiting for something in particular.
Passing time	Spending time waiting for nothing in particular
Out to lunch	Tuning out

Table 8. GAP and USE categories from Dervin

Categorization of participant transcripts proceeded in a recursive process, with the use of NVivo "free nodes" to label chunks of transcript that appeared significant in ways that seemed consistent with their meaning. The NVivo software enables researchers to set up formal categories in hierarchical schema, but also to construct what it terms "free nodes" during active analysis, where categories are generated "on the fly." These free node categories can be integrated into "tree nodes," or more formal categories and subcategories. During analysis, the initial free-node categories were grouped loosely into person / situation / institution tree nodes. The resultant tree node schema was repeatedly examined, collapsed, and defined in order to generate a working index that was a next step for analysis. Trial, or working, definitions of the nodes were generated and compared with node contents in a validation step that was repeated over time.

Free-node generated categories were first loosely gathered under the broadest

possible headings: **Person, task/situation, and institution**. A separate heading, **Dervin**, was

created, in order to capture obvious occurrences of Dervinesque **situation-gap-use** categories

as they were observed. These broad categories were later realized to be iterations of Dervin's

own situation/gap/use triad, when redefined within the parameters of the study. Definitions of

each category are provided in the following section. Two additional broad categories,

process and **documents**, were used as reminder-generators for problems noted during

interviews, field notes, and participant mentions of external documentation. Frequently the

process felt disorganized, and there was a tendency to forget about earlier categories and to

create new ones that expressed exactly the same concept. Doing this, however, helped later

when categories were collapsed. As commonalities were recognized, they assisted in defining

the categories.

3.7 Constant Comparison and Theoretical Saturation

While the categories provided by Dervin served as an initial basis for analysis, the

researcher added others inductively by using the constant comparative technique of repeated

readings, double-checks, and enlarging and collapsing of additional categories as they

occurred and were repeated. This method was developed by Glaser and Strauss (1967) with

the intention of predicting behavior, and further refined as a way to track, monitor, and

develop grounded theory (Lincoln & Guba, 1985, p.339). A four-step process for constant

comparative analysis has been devised:

1. Comparing incidents applicable to each category,

2. Integrating categories and their properties,

3. Delimiting the theory, and

4. Writing the theory (Glaser & Strauss, p.105).

Conventionally, the consensus around whether sample size is an appropriate issue in qualitative research has been that as the intent is not to infer from representative samples to a larger population, due to the reductive nature of this approach. "[T]here is general agreement that the goal of qualitative research is *not* to generalize beyond a sample to the population" (Onwebguzie and Leech, 2007, p. 115). However, others feel that sampling is also an important concern in qualitative research, though the generalization being sought is one related to thematic consistency (Onwuegbuzie & Leech, 2005). Onwuegbuzie in particular expresses concern that of the data sampled from participants' words, the quantity cannot be representative of the individuals' truth space:[5]

> Thus, when conducting thematic analyses, inferences are made from the sample of words to the interviewee's truth space. Just as quantitative researchers hope that their sample is representative of the population, qualitative researchers hope that the sample of words is representative of the truth space. However, if the sample of words collected is not representative of the interviewee's total truth space, then the voice sampling error will be large. Consequently, any subsequent analyses of the sample of words will likely lead to untrustworthy findings (Onwuegbuzie, 2003, p.400).

Of particular interest during this process was content that appeared to represent or characterize the task or situation and the context within which it took place. However, themes were expected to emerge from the data that were unanticipated, and these were noted during the constant comparative process. At the same time, acknowledgement must be given to the reality that thematic identification for any study could well be endless, so throughout the process, the initial questions were revisited, and emergent concepts were considered in relation to their importance to those questions: individual sense-making experiences situated within nested contexts of task/library/institution were of primary importance.

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[5] Defined as "the *population* of words/observations […] representing the underlying context" (Onwuegbuzie, 2003, p.400).

Glaser and Strauss (1967) provide a clear explanation of the process of constant comparative analysis, which served as my guide in the proposed research. Of key importance in this analytical method is sensitivity on the part of the investigator to non-explicit concepts expressed by participants, as well as the ability to retain creative flexibility, while returning to the initial research questions. It was expected that themes would emerge, proliferate, become refined and delineated, and that from this process, substantive theory would emerge.

Sufficiency in data collection in this sense-making research was achieved through seeking theoretical saturation (Glaser & Strauss, 1967), a state reached as new information is added to other, previously coded information, and in addition to verifying the initial categories, and no new categories are generated. During grounded theory categorization, the number of categories expands, is collapsed, and then finally reaches a set number that satisfactorily and comprehensively captures the elements of concern. As the Sense-Making methodology provides an initial category set, analysis tested and defined those categories, and added new ones as they appeared from the data, and recursively refined and defined the entire set.

Chapter Four: Results and Discussion

In the first section (4.1), an organizational schema is introduced that is subsequently used to guide discussion about the four major components of sense-making: **participants**, **situations**, **gaps**, and **uses**. In each of these sections, descriptive results are shown and the categories used to understand each are defined. In Section 4.2, a model of participant sense-making is applied to several situations in order to frame an integrative discussion in response to the questions posed in this study, which concern 1) how respondents characterize problematic situations or gaps, 2) how respondents characterize the role of organizational structures in their situations, and 3) whether the Sense-Making methodology is a productive contribution to understanding the sense-making behaviors of hospital librarians.

The following image (Figure 5) displays an organization of concepts resulting from the integration of initial person, situation, gap, and use categories. The term "mind map" is understood in this research as a visual organization of concepts around a central idea, demonstrating relationships and hierarchies. Definitions and discussion of these themes is provided here in order to organize results of analysis about how hospital librarians make sense of their situations, in answering the main questions of this research. In the following sections, the four major branches of categories are described. These elements are derived from Dervin (1999), who describes Sense-Making as:

1. Ways respondents saw themselves in their situations;
2. Types of gaps which resulted;
3. Ways in which respondents sought to bridge gaps with something they called information; and
4. Ways in which the information constructed was used
   (Dervin, Harpring, & Foreman-Wernet, 1999, unp.).

Using such broad concepts, analysis in Dervin's research serves to identify common barriers experienced by individuals, contributing to theory about how people might respond, how they might feel about choices to be made, and more. The mind map was also used as a way to organize consideration of the elements of each librarian's sense-making situation, and will be used in the following section as an organizational schema for discussion. It illustrates resulting categories that began with NVIVO coding, expanding to ensure that pertinent themes were captured, but also the resultant categorical perspective of sense-making by hospital librarians.
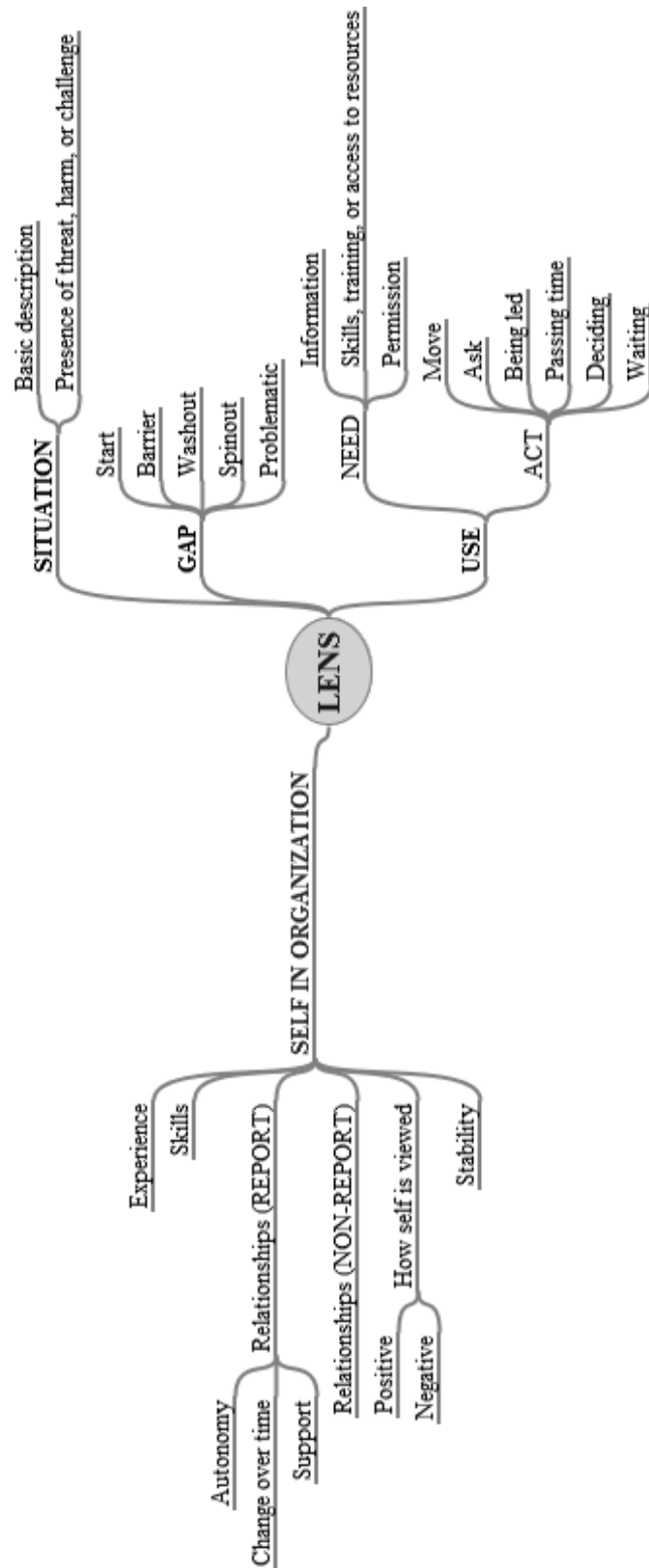
Figure 5. Sense-making category mind map

4.1 Results

An overview of each of these categories is presented first, followed by more detailed

discussion on important aspects of the Self in Organization. As shown in Figure 7, the **Self in**

Organization category includes **Relationships (REPORT), Relationships (NON-REPORT)**,

and four additional subcategories, **Experience, Skills, How self is viewed,** and **Stability**. Level

of supervisory support was categorized and is shown in Table 11. At the start of each interview,

job description and organizational chart documents were used as an opportunity to query changes

in job roles, report relationships, autonomy, and larger organizational changes and initiatives.

4.1.1 Self in Organization: The Study Participants

The first category, termed in the present study **Self in organization**, is described below

as one branch of the mind map. It is an interpretation of Dervin's first element, more suited to the

idea of self in organization, from which self in situation is viewed as a necessary component of

sense-making. Basic information about the study participants is shown in Table 9: Education

level, full- or part-time status, supervisory responsibilities, Academy of Health Information

Professionals (AHIP) certification, solo librarian status, and direct report relationship.

Education	Yes	No
MLS or equivalent	20	2
MS in other field	1	21
AHIP certification	8	
Employment status		
Full-time (35 hrs. or more)	20	2
Supervisory responsibilities	22	0
Solo librarian	7	
Library manager reports to:		
Medical Staff Director	5	
Hospital Administrator	3	
Nursing Administrator	6	
Education/Continuing Education	3	
Information Management / IS/IT Director	5	

Table 9. Participant descriptions

The proportion of MLS librarians for this population is higher than the number reported for the 2008 Hayes MLA Survey, which found that 83% of those responding to the survey had earned their MLS at the time of the survey. In contrast with the 42% of respondents who have earned AHIP status reported by the MLA survey, 32% of participants in the present study maintain AHIP status. All but one of the present survey participants were female, which is also a lower percentage reported by MLA (85%). Another difference between the Hayes MLA data and that provided herein is that while Hayes provides data for library type, responses to questions were not broken down by type. In that survey, 34.1% were employed by academic medical centers or medical schools, and 37.8%, by hospitals, whereas the present study only involves hospital library personnel.

In total, 25 hospital librarians were interviewed for this study, with the largest number employed in hospitals in California (6). New Jersey and Pennsylvania were each home to three participants; two librarians resided in each of the states of Texas, Idaho, Tennessee, and Wisconsin; and Montana, Utah, Virginia, North Carolina, and Louisiana were home to one participant each. Due to the unsuitability of three of the interviews, narratives from only 22 of the participants were used for analysis. For two participants, this was likely due to some confusion over the aims of the study, so that situations chosen did not represent gaps encountered in sense-making, but were more straightforward accountings of events that had occurred, offering little for analysis. For one librarian, funding was very different from all other hospital libraries, with little to offer to an understanding of hospital library settings.

All participants had decision-making responsibilities. Nearly one third had earned AHIP status, and one third were solo practitioners. Most participating librarians had earned MLS or MLIS degrees (92%) and were full time (92%), though two held advanced degrees in another

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field, and one had hours earned toward an MLS. Two were either working on or had earned a

PhD, one in LIS. All had supervisory experience.

Information about the hospitals and health systems in which participants were employed

is summarized in Table 9 and Table 10. Participants' healthcare facilities were mostly nonprofit

(19 of 22, or 76%) short term acute care (STAC) facilities (20, or 80%) (see footnote). One was a

children's hospital and one, a Critical Access Hospital (see footnote).

Profit status	No.
Non-profit	19
For-profit	2
Government	1
Type of care facility	
Short term acute care (STAC)[6]	20
Critical Access Hospital[7]	1
Children's	1
Number of beds in hospital	
101-200	3
201-300	5
301-400	4
401-500	8
501+	2

Table 10. Facility descriptions

These characteristics are compared with responses from hospital librarians in the 2005/06

Vital Pathways Hospital Library Survey (Funk & Thibodeau, 2009), who indicated that on

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[6] STAC hospitals appear to be defined primarily by their distinction from long term acute care facilities (LTACs), with the difference generally measured in terms of length of stay. "STAC hospital" means a hospital that is not an LTAC hospital as defined in this Act or a psychiatric hospital or a rehabilitation hospital." Illinois compiled statutes, Health Facilities: (210 ILCS 155/) Long Term Acute Care Hospital Quality Improvement Transfer Program Act.
http://www.ilga.gov/LEGISLATION/ILCS/ilcs3.asp?ActID=3251andChapterID=21

[7] A Critical Access Hospital (CAH) is a hospital that is certified to receive cost-based reimbursement from Medicare. […] CAHs must be located in a rural area and meet one of the following criteria: Over 35 mile distance from another hospital, or 15 miles from another hospital in mountainous terrain or areas with only secondary roads. Rural Assistance Center Online, accessed March 3, 2011 from
http://www.raconline.org/info_guides/hospitals/cahfaq.php#whatis

average, their hospital library is located in a private, not-for-profit hospital that is part of a larger healthcare system (Funk & Thibodeau, 2009, Table 5) and has between 100-400 beds (Funk & Thibodeau, 2009, Tables 5 and 6). Similar to Vital Pathways, all libraries functioned as freestanding departments, and all primarily served hospital and medical staff, although many also served patients, patient families, and health consumers who were not current patients; one library was specifically a consumer health library.

As a preliminary step in each interview, questions were asked about two documents that were provided (though not in every case). These were the individuals' job descriptions and their organizational charts. In some cases, the librarian could provide neither, so that questioning attempted to learn specifically about the context for each librarian's practice. While it was gathered, data coverage is not consistent across the group, so an attempt to describe each context would be incomplete. Context is highly individual, so that for Librarian #17, the context importantly included the closing of regional hospitals and her zero-budget library, while for Librarian #2, the budget and regional stability took a lesser importance against the poor relationship she had with her supervisor. Summative contextual information is not included for this reason. Although context is interesting and may have contributed in different ways to the sense-making of the librarians, imposing contextual categorization on each situation could be misleading. However, in each of the three longer narrative discussions, found in Section 4.3, unique contextual elements are included as part of the description.
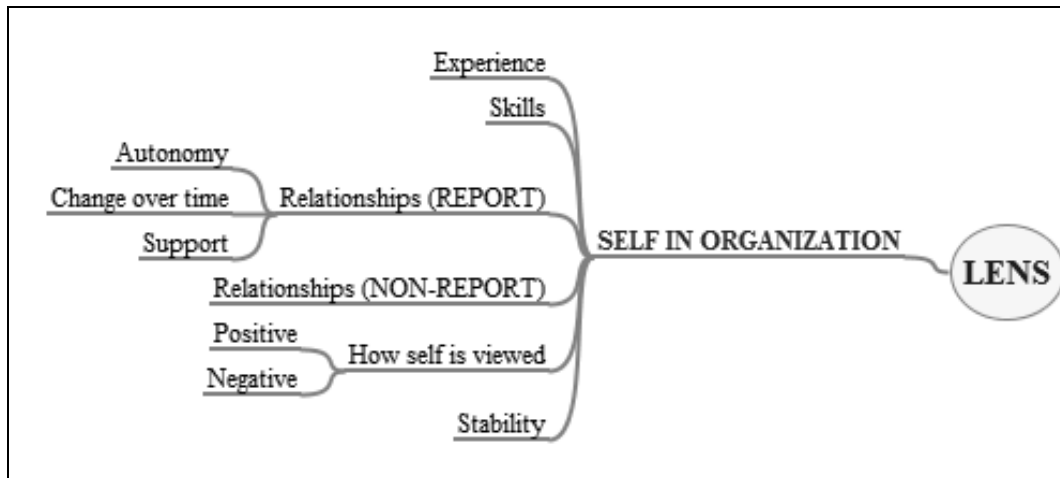
Figure 7. Self in Organization section of the mind map

Report Relationships

Report relationships were among these initial questions, including questions about

changes over time and perceptions of autonomy and support. Documentation in the form of job

descriptions and organizational charts was used to examine these aspects of individuals'

environments. **Changes over time** concerned any alterations in report structure (e.g., whether the

librarian had reported to the same person or level of the organizational structure over time),

while **Autonomy** indicates the librarian's ability to access and maintain the library budget (e.g.,

shifting expenses from one line to another), to expend funds by using her or his signature alone

or by obtaining approval. The librarians' perceptions and experiences of decision-making

autonomy extended to how frequently they met with their immediate supervisors, and the extent

to which supervisors wanted to be kept informed of day-to-day activities and decision-making.

Also grouped in this area are concepts such as the librarian's perception of the amount of support

received within the institution or from supervisors.

A number of librarians felt they had considerable budgetary **Autonomy**, but also

explained that their supervisors had no idea what they did (**Support**). As Librarian #12 stated,

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"That's what they hired me for!" but lack of involvement in library workings left others feeling alone, as was the situation with one librarian (#16) whose director was herself a former librarian, although she no longer took active part in the library. Understanding the wide variation of implications, the assessment of the vague term Support is nonetheless employed to report on whether (and how well) the librarians felt themselves aided, supported, understood, or listened to during the situations being described.

Among the 22 participants, half felt themselves "well supported" by their supervisors; 5 expressed a sense of being well supported but not within the situation being discussed; 3 were not well supported, and for another 3, an assessment of support within the supervisory relationship was unknown. In some cases, a judgment of support perception was made by inference from the transcript, but unless it was verified in other ways by the participant, supervisory support was categorized as UNCLEAR. Inferences were drawn from statements about the level of autonomy, understanding of library services and mission, and frequency or availability for consultation and decisions as needed.

Relationships (NON-REPORT) were not the focus of initial questioning, but are shown as part of the librarians' working worlds. In telling the story of their situations, librarians frequently referred to formal and informal relationships that affected their sense-making in some way. This portion of the mind map represents the presence of colleagues within and outside the library, hospital, or health system, as well as mentors and peers in library groups and organizations at local, regional, and national levels including participation on electronic mailing lists such as Medlib-L, previously described as the main electronic mailing list for MLA members

The librarians' understanding of how they (and their libraries) are viewed are shown here as **How self is viewed**, while **Stability**, **Experience**, and **Skills** are listed as additional elements. While the branches of **Self in organization** are depicted as separate categories, in practice, librarians' overall senses of self in their organizations may have been composed in part of the quality of their relationship with their supervisor, their experience and sense of self-efficacy, stability and regard within the organization, and other factors. To the right, the term **LENS** is used to indicate that librarians view the situations being described through the lens of their sense of self, within their organizations. These elements are also tabulated in Table 11 as they pertain to each study participant, where the concept of **Self in organization** is shown **as Community view**. A change from the Self in organization concept to a more etic **Community view** concept embodies the important role played by librarians' perceptions of how they and their libraries are viewed within their communities.

A situation was categorized as **Stable** in the absence of reported changes in the report or overall organizational structure, job losses, or budget cuts. There are other elements that may contribute to the idea of stability, but the changes here are enumerated based upon responses made during the first part of each interview, when questions were asked about job descriptions and organizational structure, and were accompanied by specific questions about change occurring during the past several years. Nearly half of the study participants (10) reported a situation of relative stability, with one "somewhat" stable, while an exactly equal number (11) reported situations of relatively less stability. As a concept, stability may be more relative than actual (for example, Librarian #17 describes a situation marred by job loss and library closings but may not fear closure of her own hospital, as others in the region have done), so "less" stability is chosen in preference to "no" stability. For those less stable situations, seven

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participants had experienced job loss in their libraries (as well as one who may have feared job loss); six had been affected by budget cuts, five had undergone major changes in the organizational structure, and three had encountered major changes in their own reporting structure, including loss of the library director and multiple turnovers, with one librarian reporting having had seven supervisors over six years. Four participants were in relatively stable situations and were also well supported by their immediate supervisors, three were relatively stable but not well supported in the situation, or had limited support, and one was relatively well supported, but the quality of supervisor support was unknown.

For Librarian #2, the history of harm was explicit, but the possibility of threat to identity was viewed (by the researcher) as situational, since the librarian explained that she felt very well supported by her supervisor. However, the support enjoyed generally in the relationship was viewed as positive in contrast to past report relationships, which had been extremely negative. During the interview, the librarian took care to explain that, relative to previous supervisors, the current one was supportive even though he repeatedly did not ensure that she received training to create a budget for the library and did not respond to her repeated requests to be added to the mailing list for hospital managers. This assertion was in response to a question about the level of support she felt, where I had expressed some surprise that she characterized her supervisor as "terrific" and "tremendously supportive," even though he had failed to respond to her basic need for support, training and communication.

> From my vantage point, from what I've been through, the support I have now I would say is a thousand percent better than what I had before. Maybe it's not completely there as it should be, but I am so happy for the support that I have now. If I compare that to what I had previously – I had a situation where I couldn't even leave for a death in the family, with my previous manager.

For each of the 22 narratives, self-image or perceptions of how they (or their libraries) were viewed by others served to drive the sense-making actions of the librarians in some way. In Table 11, perceptions of others' views of self or the library (**Community view**) are shown as they have provided motivation for identity remediation, confirmation, or assertion (of self or library) within the setting (shown in the table as **PURPOSE**). A discussion of these categories follows the table. The role of **Identity** in the situation is noted, with a brief explanation of how identity or others' views of identity may have affected, or been affected by, the situation. Assessments in the first column of identity **confirmation, assertion,** or **remediation** are my interpretations based upon the situation described and may not be supported by librarians' own agreement. These annotations are accompanied by a categorization of **PURPOSE**, shown in capital letters at the start of the description: **CONFIRM**, **ASSERT**, or **REMEDY**.

In the second column, perceptions of how the librarian or the library were accepted within the community of the hospital (**Community view**) are listed. These assessments were either made explicit by the librarians or were derived from the librarians' narratives. As an example, Librarian #1 feels positively perceived and integrated within the hospital community, an explicit assertion made by the librarian during the interview. Librarians' perceptions of how they are seen may concern the situation, or may refer to more general circumstances. The term UNCLEAR is used when community view is not readily discerned.

In the last column of the table, assessments of librarians' perceptions of **harm** or **threat**, my assessment of **challenge**, librarians' perceptions of the relative **stability** of the workplace, and their characterization of the **support** provided by their immediate supervisors, are summarized.

Participant #	PURPOSE/Identity	Community view (view of self or library within institution)	Harm, threat, challenge (HTC) STABILITY of workplace Support (by supervisor)
1	CONFIRM identity (possible)	Positive: Integrated within hospital and valued by community.	HTC: UNCLEAR
			STABILITY: STABLE
			SUPPORT: Well supported by supervisor.
2	CONFIRM identity and self-efficacy by finding ways to learn about budgeting despite lack of resources, communication, and training.	Positive: Supervisor sees librarian as politically savvy.	HTC: History of harm, possible threat to identity.
			STABILITY: Changes to report structure and staffing
			SUPPORT: Well supported by supervisor, but not within situation.
3	ASSERT: Librarian acted despite budget request denial for renovation.	Negative: Needs of librarian and library users unimportant.	HTC: History of harm, possible threat to identity.
			STABILITY: Change to report structure and duties
			SUPPORT: Poor support by supervisor both in situation and generally.
4	CONFIRM identity beyond the workplace in finding acceptance of limitations of effectiveness in situation.	Positive: Integrated within hospital.	HTC: UNCLEAR
			STABILITY: STABLE, some job loss at other campuses
			SUPPORT: Well supported by supervisor.
5	REMEDY: Librarian used survey to convince IT and supervisor of need for change, and to remedy perceived negative view of library by community.	Negative: Needs of librarian and library users unimportant.	HTC: Challenge, possible threat to identity.
			STABILITY: STABLE
			SUPPORT: Not well supported by supervisor within situation.

Participant #	PURPOSE/Identity	Community view (view of self or library within institution)	Harm, threat, challenge (HTC) STABILITY of workplace Support (by supervisor)
6	REMEDY:Librarian reminded self of value by referring to skills gained prior to this job.	Negative: Administrator would "rather have a playground than a library."	HTC: History of harm, possible threat to identity.
			STABILITY: STABLE
			SUPPORT: Limited support by supervisor.
7	ASSERT: Identity strengthened by affiliation with other librarians in system.	Positive: Characterized self as effective and savvy.	UNCLEAR
			STABILITY: STABLE but anticipating major change
			SUPPORT: Well supported by supervisor
8	REMEDY self-efficacy: Doing two jobs, as a result feels ineffective at both.	Negative: Self-assessment related to situation.	HTC: UNCLEAR, possible threat to identity.
			UNSTABLE – budget, fear about job loss.
			SUPPORT: Limited support by supervisor.
9	CONFIRM: Ability to show value despite dropping statistics is crucial to funding of library.	UNCLEAR, may be positive	HTC: Threat to library funding possible
			STABILITY: STABLE, but history of job loss
			SUPPORT: Well supported by supervisor.
10	ASSERT: Librarian asserts identity of library and self by "claiming turf"; refusing to work with IT in setting up separate access to resources for library users controlled by Librarian alone.	UNCLEAR, may be positive	UNCLEAR, but history of harm
			STABILITY: Organizational structure change, budget cuts, relative stability for library
			SUPPORT: Well supported by supervisor.

Participant #	PURPOSE/Identity	Community view (view of self or library within institution)	Harm, threat, challenge (HTC) STABILITY of workplace Support (by supervisor)
11	CONFIRM: Need to convince vendors to work with her to remedy problem situation.	UNCLEAR	HTC: Threat of possible legal action, loss of access to resources.
			STABILITY: STABLE
			SUPPORT: Well supported by supervisor.
12	CONFIRM: Need to preserve job(s) by serving needed functions – even if functions are not library work.	UNCLEAR, but probably positive.	HTC: Threat of possible job loss.
			STABILITY: STABLE, but general cost-cutting
			SUPPORT: Well supported by supervisor, not well supported in situation.
13	ASSERT: Potential threat to existence drives need to strengthen services to physicians.	UNCLEAR	HTC: Harm, challenge
			STABILITY: Loss of library director, loss of staff
			SUPPORT: Well supported by supervisor.
14	REMEDY: Shock at rudeness of Regional Library Network staffer affected ability to act.	NEGATIVE (within situation and generally).	HTC: Threat, harm
			STABILITY: Organizational structure change, Report change, staff loss.
			SUPPORT: Not well supported by supervisor.
15	ASSERT: Expecting to lose job, fought to preserve sense of power by taking control of space planning.	NEGATIVE (within situation and generally).	HTC: Threat, harm
			STABILITY: Major organizational change, budget loss
			SUPPORT: Not well supported by supervisor or administration.

Participant #	PURPOSE/Identity	Community view (view of self or library within institution)	Harm, threat, challenge (HTC) STABILITY of workplace Support (by supervisor)
16	ASSERT: Enlisted nurses, library committee, new medical director, and doctors to persuade the IT department of need for change.	UNCLEAR	HTC: UNCLEAR, but expecting "huge change in organization" this year that may mean job classification change.
			STABILITY: Organizational change, budget and staff cuts
			SUPPORT: Good support from supervisor.
17	ASSERT: Librarian is driven to "put the hospital on the map," which leads her to assert needs in confrontation with contractor.	NEGATIVE, generally	HTC: Threat, harm, challenge
			STABILITY: Major budget cuts and job loss
			SUPPORT: Limited support by supervisor in situation.
18	CONFIRM: Sense of security threatened then reassured; Librarian exceeded expectations for cost savings to show value	UNCLEAR	HTC: Threat, harm, challenge
			STABILITY: Major budget cuts, job loss, and area hospital closures
			SUPPORT: Good support from supervisor
19	CONFIRM: Unclear, but prevention of theft may reinforce sense of self-efficacy	UNCLEAR	HTC: UNCLEAR, but possibly challenge, threat
			STABILITY: STABLE, but some budget cuts
			SUPPORT: UNCLEAR
20	ASSERT: Presenting a business case for the new clinical area library will change the identity of the library and librarian.	POSITIVE: Feels valued, but acts with caution.	HTC: Challenge
			STABILITY: STABLE
			SUPPORT: Good support from supervisor.

Participant #	PURPOSE/Identity	Community view (view of self or library within institution)	Harm, threat, challenge (HTC) STABILITY of workplace Support (by supervisor)
21	CONFIRM: Unclear, but possible that Librarian acted to confirm image of library for primary users by ensuring access to resources.	POSITIVE: Explicit statement by librarian.	HTC: Challenge STABILITY: STABLE now, but history of staff loss. History of repressive hospital director. SUPPORT: Good support from supervisor.
22	UNCLEAR: Gathering survey responses from users shaped L's direction for planning and information gathering.	UNCLEAR	HTC: Challenge STABILITY: Recent disruptive change in hospital. SUPPORT: Weak support from supervisor.

Table 11. Identity, community view, harm or threat, stability, and support

4.1.2 Purpose and Identity

The identity-related concepts shown in the PURPOSE/Identity column of Table 11 are derived from Weick (1995, p.20-21), who treats identity in sensemaking as the first of seven precepts. The categories were assigned after comparing participant accounts, including their situation descriptions, descriptions of support, stability, and affective responses during interviews. Where this information appeared unclear, this is stated in the table. It is important to understand that the presence of these attributes is the result of my own perception, so that care was taken in trying to determine categorization, in order to try to avoid the imposition of unwarranted assumptions. This is especially true when the librarian did not state outright whether he or she perceived these attributes, and as the analyst, I made the judgment based upon the broader narrative.

For 9 of the 22 participants, the need to **confirm identity** may have spurred sense-making actions in various ways. **CONFIRM**, for the purpose of categorization, includes the need to confirm value or to enhance regard by others. Although for some librarians the need to confirm identity appeared to be derived from unstable perceptions of self or library, most often this action was in response to an external change. As an example, librarian #9 concerned herself with writing an annual report that would show the value of the library (and her services) despite plummeting usage and service statistics. While she felt valued and respected by the library committee who would approve her budget request shortly after the annual report was due to be distributed, her fear was that the numbers would not sufficiently demonstrate the value of the library.

The category of Identity Assertion (**ASSERT**) was used to indicate a possible intent on the part of the librarian to establish, persuade, or assert his or her role or power within the

situation described. Assertion is differentiated from the category of Identity confirmation, because in confirmation, the librarian expressed their sense of stability and well-regard within the community, so that their sense-making actions were intended to neither establish nor remediate self- or community-image perceptions. Eight librarians were driven to assert their identities in the situation they described. For example, for Librarian #10, the issue entailed "claiming turf," or control over the creation and maintenance of a resource access site that would deliberately curtail the IT department's control, even though the librarian had no experience or skills in doing so. Another "turf claiming" action was described by Librarian #7, who spoke of collaborating with other librarians in the system to prepare a statement to be given to the system administrative headquarters, offering to support their future decision making in vendor purchasing. This new collaboration followed a decision uninformed by system librarians, after persuasion by a "slick salesman" to purchase a large and expensive resource package for system-wide use. Expecting to lose her job anyway, Librarian #15 still fought to establish a remnant of power after the library was unexpectedly diminished by 75% and moved to a remote location.

The idea of **identity remediation** presumes that there is a negative or undesirable identity needing to be repaired or improved, and is based upon perceptions of identity conveyed by others in the hospital community, or upon a perceived threat to identity based upon the situation of concern. Four of the 22 librarians may have been acting to remedy identity in the situations they described. For one librarian (#8), a sense of self-efficacy was endangered after she assumed responsibility as webmaster for the hospital with no training or skills, while another (#6) was responding to an administrator's assertion that, if it had been his choice, the hospital would have a children's playground instead of a library. Librarian

#15, certain to lose her job and angry at loss of space, spoke of taking a stand to control at least the space planning of the new, much smaller library.

4.1.3 Community View

Six of the study participants felt that they were well regarded within the hospital; the same number express negative perceptions; and 10 gave no clear indication, either explicitly or implicitly, in describing their situations. Where this understanding was not made explicit by the librarian, cues that were sometimes described in the narrative. As an example, for Librarian #5, the assessment is made that **Community view** is negative. This is a situation-specific judgment derived from the librarian's description of how her request for software was denied and then ignored by the Information Technology (IT) department, after which her supervisor also dismissed her request. Understanding that the persuasive weight of her own word would not suffice to convince IT and her supervisor, this librarian decided to conduct a house-wide survey, expressing the conviction that this type of "evidence" will be impossible to ignore.

This librarian furthermore expressed frustration and anger at having attempted to remedy the problem for more than a year. The perception of regard may be linked solely to the situation under discussion or may relate to an overall sense of security within the hospital. Librarians who felt they or their libraries were positively perceived felt themselves well integrated within the hospital (#1 and #4), and all of the six who expressed or implied a positive community view depicted their relationships with their direct supervisor as positive and supportive. The actions taken by these well-supported librarians were either confirmatory (four of the six) or assertive (two of the six).
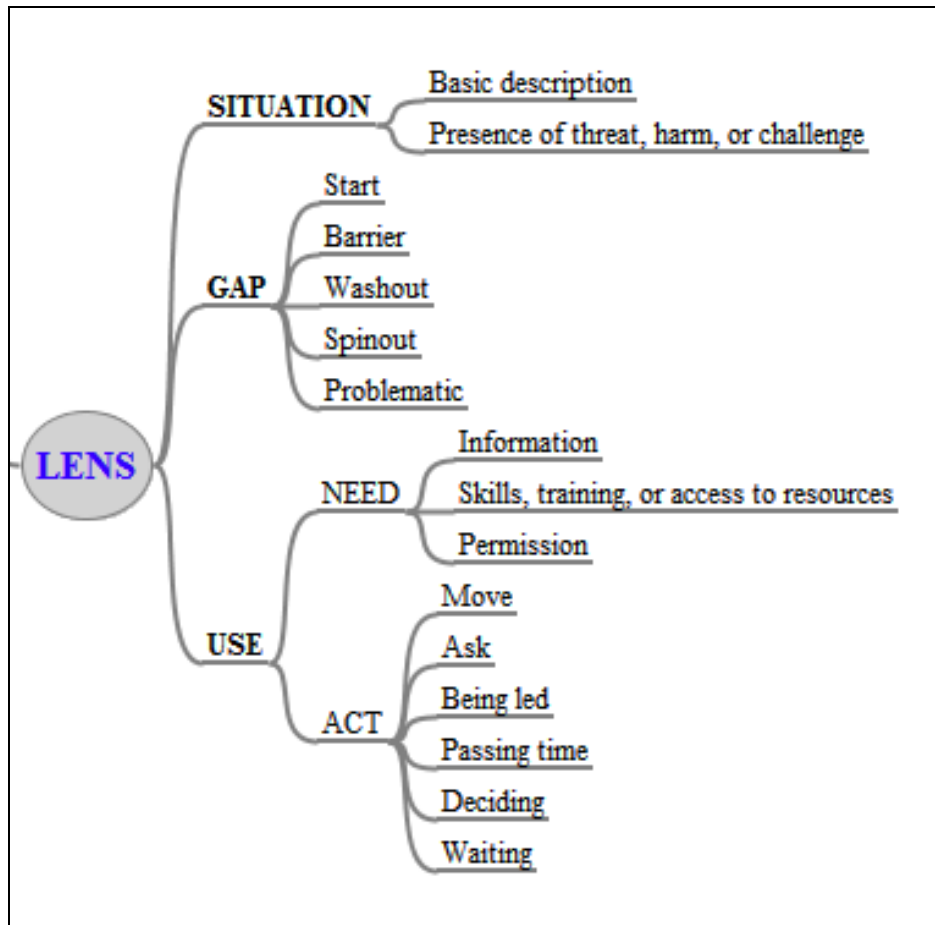
Figure 6. The situation, gap, and use triad

4.1.5 The Situation, Gap, and Use Triad

In the following sections, **situation**, **gap**, and **use** are defined and subcategorized as applied to the present study, with examples provided of their use. The broad terms of situation/gap/use are derived from Dervin as very general descriptors and have been used to structure elements of the situation. This is also true for most categories shown as branches of the GAP section, with the exception of **Start**, an emergent category, while under USE, the NEED branch subcategories are all derived from participant narratives. For ACT, the categories are again derived from Dervin and were used as they reflected participant behaviors.

4.1.5.1 Situations

In Table 12, broad statements about participant situations are listed. Although an attempt was made to categorize situations by type, I quickly realized such a grouping was unsuited to the content since the situations were more complex than a simple category could convey. As an example, Librarian #17 discussed the process of trying to get a contracted webmaster to implement a grant-funded survey on the library webpage. This situation could be categorized as a technology-related process, but in practice the entire narrative of the situation was about the librarian trying to persuade people to respect and act on her need for the survey. This does not easily lend itself to reductive labeling, so in the end, no categorization was done. The table below is provided to acquaint the reader with the most basic objective of the situation, as it was expressed by the librarians.

Participant #	Situation objective
1	How to implement procedures and planning for continuing medical education throughout hospital, in compliance with new accreditation standards?
2	How to create and maintain the library budget?
3	How to renovate one-room library space to provide more privacy and quiet?
4	How to set up a standard level of library service and resource access across five separate campuses?
5	How to get MSOffice suite installed on library patron use computers?
6	How to develop and sustain interest on the part of hospital staff in recommending the library to patient families?
7	How to integrate holdings list with newly available full-text articles through a number of online vendors.
8	How to create departmental websites for entire hospital?
9	How to create annual report when all statistics are declining?
10	How to enable off-campus access to resources for affiliate and house staff?
11	How to immediately remedy problem caused by overnight emergency merger of system-wide hospital resources that also made site-only access to library resources system-wide?

Participant #	Situation objective
12	How to manage hospital intranet?
13	Merger of consumer and medical libraries into one location located farther away from main library users. How to maintain and enhance relationships?
14	Got grant for user training from regional medical library association. How to fulfill?
15	Library space will be reduced by ¾. How to proceed?
16	Hospital will be implementing new electronic health record system in one month. How to persuade IT and management to upload the point-of-care product (already subscribed to by the library), to the system?
17	How to get survey onto library web page in time for grant-funded research?
18	How to cut library costs in compliance with house-wide savings initiative?
19	How to get missing books back and prevent future loss?
20	How can the library make a business case for expanded resource center in the clinic area?
21	How can people off-campus access electronic resources without having to use multiple passwords?
22	How to renovate library space?

Table 12. Participant situations

In this section, the types of situation described by study participants are enumerated and discussed. **Situations**, as used in this study, are understood to mean situations or **tasks**, and are the primary focus for the Time-Line interviews conducted in the study. During the preparatory phase, participants were asked to think of a situation in which they found themselves, within the last year, when they did not have sufficient information to move ahead. A more complete description of this preparatory request is available in Chapter 3 of this document, and in Appendix C, as a part of the Consent Form provided to participants.

As both Dervin (2003) and Weick (1995) agree, sense-making is an ongoing process. One observation worth noting here is that as sense-making is ongoing, situations (as well as gaps) are bracketed in a Weickian sense as set apart in some way from the flow of events as they

concern a particular issue. Situations are differentiated from gaps in that gaps are *stops* to sense-making, while the term *situation* encompasses the whole narrative of a process. However, situations themselves may be viewed as gaps, when perceived as part of a differently-bracketed sequence of events. As an example of this, the situation for Librarian #1 represented a gap in moving forward with continuing medical education processes at the hospital with existing understandings. In this ongoing series of events, a borderline accreditation report forced members of the committee to examine the CME processes anew, in order to ensure continued accreditation given the new guidelines for CME. Within this situation, Librarian #1 described several questions (gaps) that needed to be answered in order to continue with the sense-making work of the Continuing Education Committee and herself, as a member.

Just as they defined gaps, participants also defined the perimeters of their chosen situation for the purpose of the interview. As part of the process, participants were asked to describe the situations they had chosen in their own words. Some provided very detailed bullet-pointed lists prior to the interview, while others supplied extended institutional, departmental, or career prehistories in order to explain the situation better. For categorization purposes, **basic description** meant a succinct statement of the "facts" of the situation, expanded upon with questions about the importance and urgency of finding resolution. Explication of motivation for the situation or its resolution depended upon participants' unique situations; some were self-driven (e.g., the librarian decided to renovate the library), while others were dictated by external events (e.g., a cost-saving initiative led to budget-cutting processes). Affective responses to the situation itself included expectations, concerns, or other reactions. Questions about motivation, importance, historical context, and affective aspects of the situation were not used as cues in the interviews, but are included in the mind map as they assisted thinking about the situations during

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the process of analysis. Generally, participant references to these aspects of their situations were addressed more meaningfully in their narratives, so a decision was made to permit this more natural emergence. This decision was strengthened after responses to direct questions were unremarkable, often pro-forma (e.g., "not difficult at all"), while the librarians' narratives told a different tale.

4.1.4 The Presence of Threat, Harm, or Challenge

The presence of fear in many of the participant narratives was evident during the interviews, and post-interview analysis confirmed this perception. As categories emerged, attention was paid to factors contributing to the sense-making of each person in his or her situation. Situations are not decontextualized, but instead, are bracketed, framed, interpreted, and enacted events and actions, with interpretation based upon retrospect. A slightly closer examination led to teasing apart a sense of fear or threat: What might be the cause, if it did exist, and how might it play a part in sense-making? If two individuals appeared to have negligible support or negatively perceived situations, what might have made the difference in their own perceptions about how the situation should be viewed and dealt with? A jumble of possible factors emerged in thinking about this, including change, role ambiguity, career and workplace tenure, autonomy and support. In order to consider fear more systematically, I turned to the field of workplace psychology, and discussions about workplace stress. The terms and definitions for harm, challenge, and threat (bolded by me in the following passage) were used to categorize librarians' fear, or the lack of it, that I perceived and then derived from post-interview analysis:

> Harm refers to damage that has already occurred, as in a loss of job, a poor job evaluation, a failure to be promoted, or disapproval by management or one's peers. Challenge refers to a condition of high demand in which the emphasis is on mastering the demands, overcoming obstacles, and growing and expanding as an individual. In threat, the focus is on protecting against harm. In challenge, the emphasis is on the positive

outcome possibilities. We like challenge, but dislike threat. The attitude of challenge allows us to feel enthused, engaged, and expansive rather than endangered, defensive and self-protective (Crandall & Perrewe, 1995, p. 6).

In considering these terms, it appears that challenge is a difficult but positive experience, while harm is retrospective damage and threat is an apprehension of prospective damage. The evidence of harm may contribute to the likelihood of prospective damage, or the sense of threat may be alleviated if events are sufficiently different (or differently handled) than they were in the past, harmful event. In the case of Librarian #18, evident harm had occurred in the form of major budget cuts and job loss, including the loss of the former library director. Yet when the sudden news of additional, major budget cuts was announced, this librarian found her fears alleviated after 1) understanding that no job loss would occur, and 2) understanding that the person assigned to work with the library to enact the cuts was known to her as a "good guy." With this knowledge, she was able to move forward and contribute to (and even exceed) the hospital's budget goals.

For Librarian #6, the statement by an administrator that he would rather have a playground than a library constituted a very probable threat to the sense of job security felt by the librarian, and certainly spurred her to remedy the situation (which concerned the Community view) of the library or librarian. In her narrative, this librarian used this anecdote at the start (in describing the situation) and at the conclusion, and as a post-script to the interview:

> Things can always be improved. And we always have to make sure that we're showing that we provide value for you know, for patients and families. Otherwise, as that senior director said to me, "It's playground time!"

An assessment of harm was made if, in describing the situation or more broadly referring to the changes within the hospital, the librarian mentioned job losses, budget cuts, or other negative past occurrences. The assessment was reinforced if what appeared to be fear or

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apprehension was expressed in reference to the situation being described. Ten of the 22 participants described past events that were construed as harm. Using the category UNCLEAR – no sense of threat or harm can indicate a sense of stability (as in three of the participants' descriptions) or may indicate that this information could not be readily determined from librarians' explicit statements, as was the case for another three participants. As an example, Librarian #18 described the library's loss of its director, linking this unfortunate occurrence with fear when new and major cost cuts were announced. In making sense of the situation, one of the first questions to be addressed was whether this past harm might be repeated.

 Harms included prior report relationships, cutbacks and staff losses that had left the librarians wary, hesitant to confront even when support was needed. This was true for Librarian #2, whose previous supervisor left her relieved to have any support at all from her new supervisor, and hesitant to damage the relationship by confrontation when her basic needs as a new manager were unmet. Librarian #15 experienced harm in several ways, beginning with an incident while on maternity leave, when her replacement librarian was pressured to weed huge chunks of the collection. During cutbacks, the library staff was halved, then finally – this most recent event comprising the situation of concern for the study – the librarian was informed that the library was to be relocated, losing three quarters of the current square footage. After having been laid off several times in her career, this last event was a devastating blow. Describing her current supervisor as an improvement, she nonetheless took what he said "with a grain of salt" after having learned several times over "that I have to be proactive and not reactive."

The remaining three librarians have each experienced loss (e.g., Librarian #18 became library manager after her former manager was demoted and then quit), and they shared story after story about negative relationships with supervisors who knew little or nothing about

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libraries or library services. For one librarian (#14), the harm caused by a regional library network grant supervisor's negativity resulted in a near-paralysis of will that was still felt at the time of the interview, with the librarian hesitant to act on the terms of the grant.

Presence of Threat

Of the 8 librarians who perceived their libraries or jobs as threatened, most had little (3) or poor (4) support from their direct supervisor. For these individuals, there was a slight tendency to a corresponding negative perception of how they or their libraries were viewed within the hospital. Four of the 6 librarians who expressed their sense of general threat also felt unsupported by their supervisor and had a sense that they (or more commonly, their libraries) were negatively viewed within the hospital. Librarians who felt that they or the library were negatively viewed within the hospital acted to remedy (4 of 8) or assert (3 of 8) their identities, while only one acted to confirm her identity. This librarian (#9) felt herself to be well supported although the situation itself was perceived as negative and even frightening. For 8 participants, there was no explicit statement about how they or the library were viewed within the hospital. However, a number of participants made comments about the lack of revenue generation, frequently using the same terminology used by Librarian #6: "And, you know, we're not revenue producing, and we have to work toward our mission […] Basically, we're, of course, the low men on the totem pole."

The idea of **Challenge**, as it is identified in this study, is not understood in the sense of confrontation, but rather as an affirmative assertion. This category was determined by extrapolation from librarians' actions, as will be explained below. An outright assessment of Challenge was made for 9 librarians, with a further 8 librarians "probably" having been challenged within their situation. A difficulty in making this assessment was that *all* participants

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could be considered to have participated in their situations with a sense of challenge, when the term is understood as a situation faced with the willingness to learn, persist, and go beyond the walls of the library to enlist support, find mentorship, track down information – in general, act like librarians. Challenge is considered to involve a state of being driven to learn new skills or information, a lack of hesitation to move forward even in situations where threat was present, and being willing to go beyond normal practices or even personality traits when the need was perceived.

As an example, Librarian #12 took on the hospital intranet, and immediately immersed himself in the previously foreign world of servers and SQL. This was not the first time he had taken on a role outside of the library. Librarian #2 persisted against an overwhelmingly negative perception of the library, deciding that in order to remedy that identity, it would be necessary to "not eat lunch alone" for at least a year even though she claimed to be normally reticent, in order to increase awareness of the library and herself as the librarian. In other examples, librarians learned about portal sites to be able to bypass the IT department, with neither skill nor experience; regarded denial of funding as a spur to action in order to renovate the library; and three librarians used the exact phrase (or one similar) to talk about how they had decided to "pick their battles" to accomplish their goals. Use of this category was not helpful, except as it appears to have identified what may be a behavioral trait of hospital librarians. It is applied almost regardless of the presence of threat or history of harm, and may be independent of the quality of support accorded in the supervisory relationship.

Certain elements of this assessment may vary, including the source and strength of the challenge, and the response to perceived challenge. Personality traits, unexamined in this research, may account for some differences. At least five librarians identified themselves as

"fighters," explained their stubborn natures, or attributed their actions to persistence over years. Librarian #17 was "driven to put the hospital on a map," and was further spurred by anger at the contracted web designer, as well as by the importance of the grants she had received, using their weight as persuasion. In much the same way, Librarian #8 borrowed the "pull" of the corporate web development office in acting as a liaison to create and maintain the entire hospital's intranet and all departmental websites without any conferred power or sufficient training.

Not all the participants felt successful in facing the challenges they experienced. For Librarian #15, shocked by circumstances (loss of library space), the challenge eventually became one of holding the last bit of remaining ground despite confirmed loss. For another (Librarian #14), a near-paralysis of will (as described by her) caused the loss of any sense of direction, and she explained that she felt unable to act in any way.

4.1.5.2 Gap Categories

Following Dervin, **Gaps** are conceptualized as ways in which "respondents saw themselves as hindered or stopped in situations of concern (Dervin, Harpring, & Forman-Wernet, 1999). In Sense-Making's meta-theory, the idea of a stop or gap points to a moment of discontinuity, which is then interpreted by the actor in determining next steps or options. How the person interpreted, attended to and construed details, events, or connections is central to the idea of Sense-Making. Categories used to characterize gaps are Start, Barrier, Washout, and Spinout. All but the first are taken from the "Situation Movement States" categories defined in the work of Dervin, et al. (Dervin, Harpring, & Foreman-Wernet, 1999, p. 262).

- **Start: What's needed?** is where most librarians in this study began their sense-making paths, according to their narratives. It is used to indicate their initial assessment of a

situation, including questions about where to look or ask for information, or for recognition of pertinent elements in preparation for next steps, and was not among those categories described in the work of Dervin, et al.. Nonetheless, this category is viewed as a gap, as a "stop" must occur in order for the librarians to be able to determine ensuing actions.

- **Barriers** are defined as "knowing where you want to go, but someone or something is blocking the way."

- A **Problematic** gap is one in which individuals are faced with a situation not of their own making.

- A **Washout** is "being on a road and suddenly having it disappear."

- A **Spinout** indicates "not having a road" (Dervin, Harpring, & Foreman-Wernet, p. 262).

In the following table, gaps encountered by the study participants are shown as they were categorized, accompanied by a listing of the particular questions or concerns that occasioned the gaps.

Participant #	GAP CATEGORY	Notes: Questions and problems
1	Start: What's needed?	What does the borderline accreditation report mean for the hospital? Beginning assessment to evaluate report in comparison with local CME practices. Sense-making among committee: What is the current practice, and what problems are apparent? Where to start? Observe and ask in hospital community: Practices, problems, perceptions. What are other hospitals doing? What organizations have solution and ideas?
	Barrier	Opposition by Committee Chair to need for change.
2	Spinout	Access to software not provided. No access to manager's mailing list.
	Barrier	Person who would normally provide training inaccessible.

Participant #	GAP CATEGORY	Notes: Questions and problems
3	Barrier	Budget request denied for renovation.
	Start: What's needed?	How can I do renovation without supervisor's approval? What are safety and accessibility regulations? Who can I ask for further information? What are the possibilities for space design?
4	Problematic	Consolidation of resources was done at system level, without librarian input.
	Spinout	"I really think it's beyond me to resolve"
5	Barrier	Turned down by IT dept. and supervisor for software/licensing request.
	Washout	Out of options through normal channels.
	Start: What's needed?	How to persuade IT and supervisor of need?
6	Barrier	How to counteract negative perception from hospital administrator?
7	Problematic	Not the choice of librarians in system to acquire package. Corporate office got sold by a slick salesperson.
	Start: What's needed?	How to integrate new resources with existing ones, and with paper holdings? What choices are available? What are others doing? What is needed and affordable in this setting?
8	Start: What's needed?	What is needed to create and maintain hospital department websites? What do webmasters do? How to act as liaison between corporate web development and hospital departments?
	Problematic	Corporate office does not provide advice on liaison role.
9	Spinout	No examples available for measuring library activities.
	Washout	Comparison statistics formerly provided are no longer maintained by regional library system.
	Barrier	Supervisor will not provide access to library budget so cannot participate in LIBQUAL.
10	Start: What's needed?	How to set up web portal for off-campus access to resources, bypassing firewalls and avoiding IT involvement? What products are available? What are others doing? Without skills, how can I do this?
11	Problematic	Emergency computer system merger between healthcare system hospitals may cause legal or access problems for library resource subscriptions.
	Start: What's needed?	What are the potential legal, budgetary, and access ramifications of the situation? How can I approach or negotiate with vendors?

Participant #	GAP CATEGORY	Notes: Questions and problems
12	Start: What's needed?	Have no knowledge or experience of programming in order to act as hospital intranet manager.
13	Start: What's needed?	How can we maintain contact with our primary users (physicians and nurses) after the library is moved away from hospital?
14	Barrier	Time limitations, no rooms available for training, and personal hesitation.
15	Problematic	How can we deal with a ¾ loss of library space?
16	Start: What's needed?	What information is needed to persuade IT and management of need to load point-of-care product onto hospital's upcoming electronic health record system?
	Barrier	IT denies request, supervisor not convinced of feasibility.
17	Barrier	Contracted webmaster dragging feet on putting grant-funded research survey on webpage. Cannot get persuasive support from Public Relations or IT departments.
18	Problematic	Will there be job loss with the new, huge cost-savings initiative? If we cut subscriptions and stop binding, will this affect patron access or material retention?
19	Start: What's needed?	What solutions are available and affordable that can effectively prevent material theft? What are other libraries doing? Will security cameras work?
20	Start: What's needed?	How can we convince the clinical department to work with the library on a different vision for their own departmental library? What convincing evidence is available?
21	Start: What's needed?	What are other libraries doing to enable remote access to resources without complex firewalls? Are there ways I can control portal site?
	Spinout	Other libraries' situations (including funding) are different from our own.
22	Start: What's needed?	How to renovate library? What are others doing? What do our patrons want?

Table 13. Participant gaps

As shown in Table 13, participants sometimes encountered more than one instance of a gap per category. For Librarian #18, for example, at least two problematic gaps were described in connection to efforts toward cost savings. The emphasis in this table is not on frequency counts, but on occurrences. However, a relative count of the number of participants who

experienced types of gaps, and an examination of their types and circumstances, is meaningful

for sense-making analysis purposes, especially when combined with other elements of the person

or situation categories. In Table 14, a numeric count is shown for each of the gap types.

GAP type	No. of times experienced	Most frequent NEED	Other NEED
Starting	14	Info (12)	Advice (1) Skills (1)
Barrier	9	Info (4)	Advice (1) Skills (1) Permission (3)
Problematic	5	Info (4)	Advice (1)
Spinout	4	Info (2)	Access (1) Other (1)
Washout	2	Info (2)	
Total gaps experienced	**34**	**Info: 24 70.5%**	**Advice: 3** **Access: 1** **Skills: 2** **Permission: 3** **Other: 1**

Table 14. Gaps and needs

Participants experienced an average of 1.5 GAPS each, which are characterized as shown. By far

the most often-expressed gap type was one I call "START: what's needed?", in which 14 of 22

librarians, assessed their information needs and options. Regardless of the type of gap

experienced, information was also the most frequent type of NEED expressed. For both GAPS

and NEEDS, the totals equal more than the number of participants, since people frequently had

more than one type of GAP and used more than one type of resource to try to resolve their need.

4.1.5.2.1 Start: What's Needed?

Fourteen of the 22 librarians described a **Start** gap that occurred at least one time during

their progress through the situations. In every case, this involved an assessment of options,

methods, and information needed. As an example, Librarian #12 described a **Start** gap when he asked about what might be needed to assume webmaster duties for the hospital's intranet.

4.1.5.2.2 Barriers

Nine participants characterized a gap as a **Barrier**. In these circumstances, librarians met with roadblocks comprised of opposition and denial of access to individuals and resources. For 4 participants, the barrier was a denial of funding (1) or resource access (3), while one participant encountered a barrier involving a person refusing to speak with them, one dealt with a person who was actively opposing the idea of change, and one person's barrier was a grant expenditure deadline. How individuals chose to deal with these barriers was in many cases limited by circumstance.

4.1.5.2.3 Spinout

Three people experienced something they described as a **Spinout** in which no options appeared to be available. This was the case for Librarian #4, who realized she had no way to deal with the system merger – in fact, it was out of her hands.

4.1.5.2.4 Problematic

Six people described a **Problematic** gap. These circumstances were uniformly created by the imposition of unwanted problems upon participants, as with Librarian #15, who was unpleasantly surprised to learn that instead of renovation, the library space would be reduced by 75%. In these cases, the librarians' affective responses were shaped in part by whether they felt that the circumstances were within or beyond control of those imposing the problems, and also by how sympathetically those individuals dealt with the librarians' concerns or enlisted their input and participation.

4.1.5.2.5 Washout

Only two people described experiencing a **Washout**, in which options that might have helped to resolve a situation were not available. For Librarian #5, after asking both the IT department and her supervisor for approval of software licenses (and then offering to pay for them and still getting turned down), all apparent options were gone. For #9, statistics that used to be collected by a regional library organization were no longer available, and there no apparent remaining options.

4.1.5.3 Uses: Needs and Acts

The major category term, **Uses**, as defined in this research, is akin to the idea of action, in which individuals move in some way from a point of being stopped (**Gaps**) toward resolution. This action could be a decision *not* to act. For example, two types of **Use** categories derived from Dervin are described which entail no action (**Passing time** and **Waiting**). In Figure 6, shown below, this category includes **Need** and **Act**.
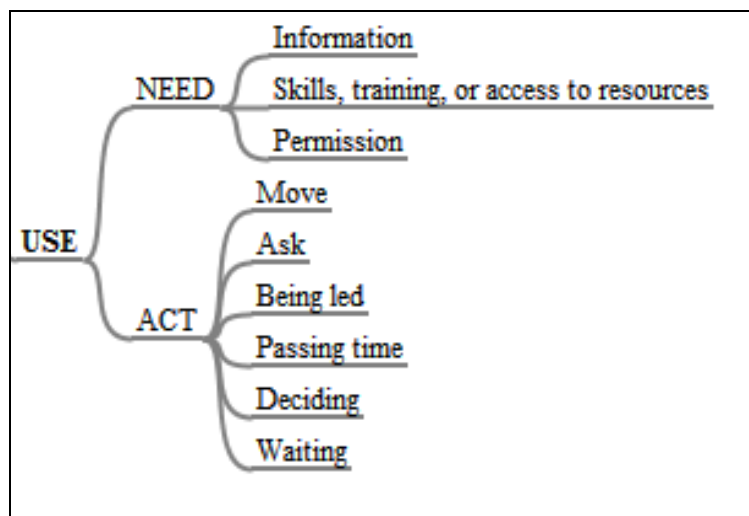

Figure 6. Use categories

Subcategories for each of the Use sections are described in terms of what is sought, and action taken. For the first subcategory, needs have been further stratified as follows. Table 14 illustrates the number of participants who have expressed needs falling into these thematic areas. This data is a summation of a longer table, located in Appendix H.

USE	NEED	ACT					
		Move	Ask	Led	Pass	Decide	Wait
Information	32	6	38	5	2		4
Skills or training	5		5				
Access to resources: Persons, materials, or equipment	5		4				
Permission or approval	7	1	4	2	1		
Other					1	6	
Totals do not match between NEED and ACT, as the figure for Decide is not shown as a responsive action for a need. See discussion below.							

Table 15. Uses: Needs and acts

Categories from the mind map for NEED are shown as a column on the left, and are enumerated based upon the number of participants who expressed a need for information in that category, shown under the second column, NEED. The remaining columns to the right represent participant actions (ACTs) taken in response to NEED. Although more detailed information categories for both NEED and ACT (information sought and acquired) was considered in terms of format and source, it is beyond the scope of this study to analyze the information behavior of hospital librarians. Instead, this aspect of librarians' sense-making process is considered in terms of a more general type of information needed and how librarians attempted to acquire it. In the first column to the left in Table 14, the category of Information is shown. The first category, **Information**, shows most use, with 32 separate expressions of need for information, comprised of the following:

- Information from surveys, feedback from individuals or observation
- Catalogs or information from vendors, more directly
- Information from websites, including MLA, SLA, and other associations

- Materials from searching databases (5) or electronic list archives (e.g., Medlib-L)
- Information from seminars, webinars, or conferences (e.g., MLA)
- Information from browsing LIS journals directly
- Information from people: library staff, friend in-house, mentor, committees, monitoring community, direct supervisor, self, and in-house, other (room booking system).

The information sources listed above describe sources queried (DID), but not acquisition (GOT: this category has not been enumerated). As an example, Librarian #9 searched the Member's Only section of MLANet.org, hoping to find information, as well as the Medlib-L archive and JMLA tables of contents. The number of resources queried or of materials acquired is beyond the scope of this research.

With the exception of **Ask**, the column headers to the right of NEED are abbreviated versions of categories derived from the work of Dervin, and are defined as follows. The Ask category emerged during categorization as a very frequent action on the part of the librarians.

- **Move**: Seeing self as proceeding unblocked in any way. For Librarian #1 and the CME Committee, information was derived without hindrances from the accreditation report, past CME survey responses, and hospital staff.
- **Ask (Ask or Seek):** Asking or searching for information from someone or some source. In this category, participants looked for examples of what other libraries had done in renovation, searched database, and requested input from others (including mentors, peers, and hospital staff).
- **Led** (Being led): Following another on a road because he or she knows more and can show you the way. Includes seeking information from others with known skills or information expertise or experience.
- **Pass** (Passing time): Spending time without waiting for something in particular. Librarians whose actions involved passing time had often run out of options, as when Librarian #3 had her renovation budget request denied. Seeing no choice at the time, she waited without expectation (while observing as problems with noise and lack of privacy got worse) before deciding to take action (MOVE) without budget approval.
- **Decide** (Decision): Being at a point where you need to choose between two or more roads that lie ahead. Librarian #8 did not get a satisfactory response when she asked the corporate web development staff how to handle her new liaison responsibilities, so she decided to "borrow" their authority when needed, suggesting that what she was saying about template use and webpage content was the decision of the corporate office.

- **Wait** (Waiting): Spending time waiting for something in particular. In this category, librarians often had no choice except to wait for information to be made available. When Librarian #18 worried that library services might be adversely affected by cuts in the number of user licenses for electronic resources, the only way to know the outcome was to wait for feedback (or complaints) from users.

Subcategories for each of the **Use** sections are described in terms of what is sought and actions taken. Similar to the uses and needs shown on the previous slide, participants – unsurprisingly – responded to information needs largely by asking others or seeking information. However, they were also more likely to reach out to ask for advice, skills or training, access to resources, or permission. In contrast, few librarians found themselves **passing time, being led by others, or waiting**.

Librarians sought information largely from within the organizational structure itself, but also from non-library professional organizations, 'back roads' or in-house resources, and company vendors. While it is beyond the scope of this study to explore the use of networking by hospital librarians, one finding has been that 17 of the 22 librarians used networking to gain information from in-house connections, peers in library groups, or mentors. **Mentors** were available for Advice or ideas, encouragement or support, and shared sense-making, while **networked library or health system peers** were used for access to information, skills/training, encouragement/support, commiseration, and shared sense-making. Only 5 librarians did **not** use either networking or mentors in dealing with their situation, but there is no apparent correlation between this and other elements, such as stability, support, or community regard. Instead, the 5 situations were handled by the librarian on their own because there was no need or – in one instance – because the librarian did not appear to have any peers or mentors.

Librarians searched various resources for information, including bibliographic databases, specific LIS journals, the Medlib-L archives, the MLANet members-only area, general Web

searching, and the SLA site. Measuring the use of resources has not been within the scope of

this research, so the numbers shown in Table 16 represent a count of the participants who

searched or browsed in databases or journals, rather than the total number of resources searched.

The Table is an expansion on the ASK category in Table 15.

Who/where asked	No. of people using resource	Where searched	No. of people searching resource
Organizational structure	14	Database search (PubMed)	5
Professional group (non-library)	2	Specific journals	4
Organizational "back roads"	4	Medlib-L archive search	2
Vendors	3	MLANet.org members-only area	1
Total	**23**	Web search	2
		SLA site	1
		Total	**15**

Table 16. Resources or people ASKED or SEARCHED

In the next section, the information provided by categorizing responses will be discussed,

in order to attempt to answer the questions posed by this research.

4.2 Discussion: How do Hospital Librarians Make Sense of their Worlds?

The questions posed by this research are as follows:

Q1 How do respondents characterize "gaps" in sense-making as they engage in their work?

Q2 How do respondents characterize the role of organizational structures in their sense-making processes while engaged in their work?

Q2 Does the Sense-Making methodology offer a means for insight into the sense-making behaviors of hospital librarians?

In the following sections, each question will be addressed as it is answered by analysis of

participant narratives. The first question is inextricably linked to the second, and both are really

an attempt to deconstruct the overarching question of how hospital librarians make sense of their

worlds. It is understood in this study that results are ungeneralizable to any individuals but the

ones whose narratives are text for inquiry. How respondents characterize gaps could be viewed

as a simple question about what is seen, but it is not so simple. Hospital librarians occupy a

complex environment, and an attempt to describe it is incomplete and – to the outside observer –

inaccurate for reasons that will be discussed later, in Chapter Five.

To begin with, a model that integrates Dervin's original Sense-Making path, and my

conceptualization of the Weick sense-making path is shown and used as a way to frame

discussion. Next, several participant narratives will be discussed within a framework provided by

the path model, with discussion about their sense-making journeys. Following this section, a

discussion of emergent themes will expand upon the intermingled, emergent concepts of

librarian identity and librarians within their organizations, viewed from the perspective of how

these elements appear to have affected their sensemaking. Question three will explore and assess

the use of the Dervin metatheoretical model in conducting this research.

4.2.1 An Integrated Sense-making Path

The work of Weick and Dervin and their models of sense-making paths were previously

discussed in Chapter Two. These models have been used to guide understanding of the sense-

making paths of hospital librarians interviewed in this research, attempting to mesh the

organizational perspective of Weick with the categorical approach of Dervin, as well as melding

the seven Weickian precepts for sense-making with compatible aspects of Dervin's Sense-

Making metatheoretical perspective. It was not until I attempted to rebuild the sense-making

paths of hospital librarians that I understood the compatibility of the two theories. This

understanding is illustrated by use of several participant narratives, shown in the framework of a

unified sense-making path, and then fleshed out by discussion. By using these narratives I hope

to answer the questions posed in this research. Although the limitations of time precluded in-

depth discussion of each of the 22 librarians' situations and sense-making, a tabular format is

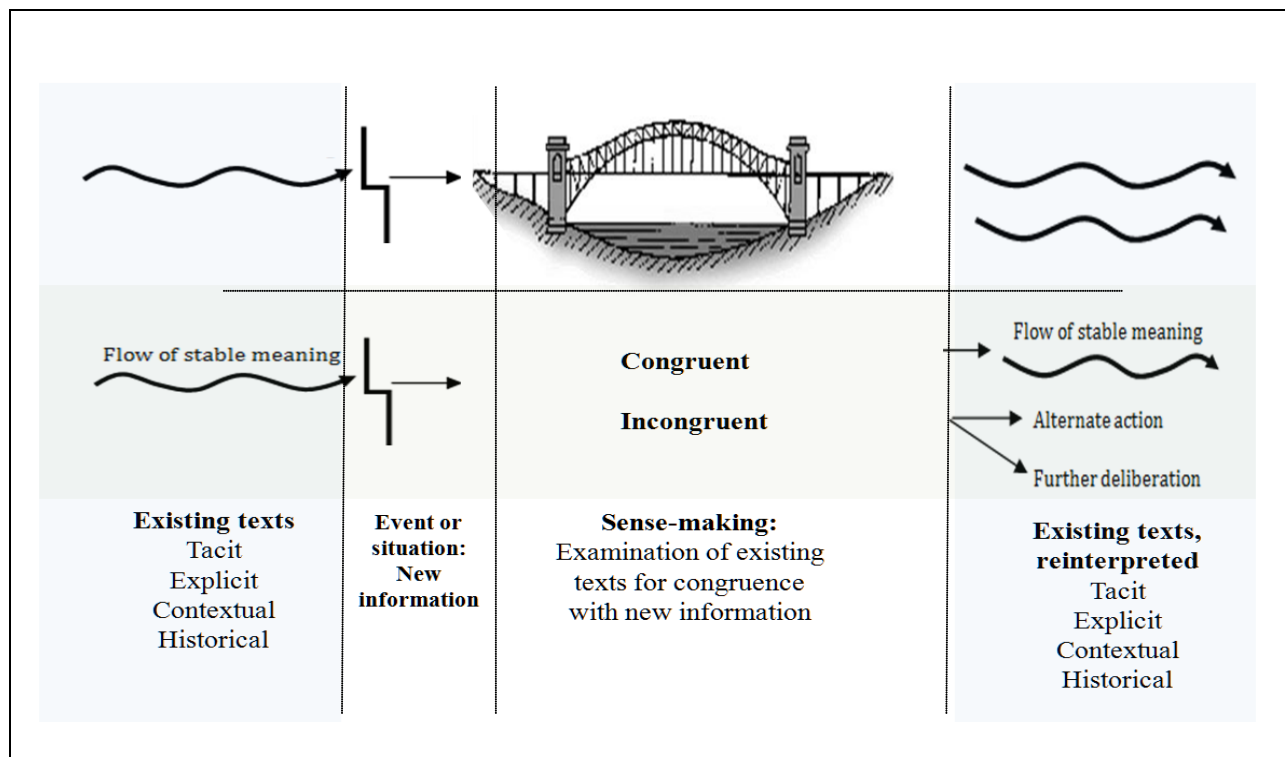used in Appendix H to provide more information about each narrative.

Figure 7. The sense-making path, overview

The Model

Figure 7 is an expanded version of the Weick sense-making path shown earlier in this

document (Figure 3). The image shows a partial conception of the sense-making path used by

hospital librarians in this research. The entire pathway depicts the process of sense-making,

which is continuous.

The Sense-Made World

To begin with, Weick posits the prior existence of an individual's sense-made world, which differs from the Dervin model only in that Weick names the world (but does not interpret its meaning) and Dervin supports the idea that individuals must name their own worlds. In Weickian terms, the individual's sense-made world is shown here as "the flow of stable meaning," with meanings made during prior events comprising the text of the world. The existing sense-made world is built of tacit, explicit, and cultural information, and it comprises this moment's understanding. This point is made carefully in order to lay some ground for the next part, which is an event that occurs, affecting the individual in some way. While people may constantly query their understanding without losing a step, for the purposes of this research, the **Stop** of sense-making mandates a more noticeable pause.

The Event or Stop

When an event occurs, the individual recognizes its existence because he or she often has no choice. Some element of the world has shifted, and in order to continue, the next part of the sense-making journey must be taken. The new information of the event is never context-free, and so it is not solely an object; instead, it contains a collation of meanings.

Query of Congruence

Weick describes the act of noticing a difference, using the tale of an ICU nurse who (nearly unconsciously) is made aware of differences in a neonatal patient's state (2005). This awareness is held up against known patterns, and if the pattern is sufficiently discrepant, a change of attention on the part of the observer is made. Signals (cues) are queried, and these are collated to compare with known texts (neonatal infants with problems, or healthy neonates). Lack of congruence is the point at which sense-making is often depicted as occurring, for it is at

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this time that individuals realize their deficit situation, or a clash between what is understood and new information. However, the act of sense-making is communicative, as defined by Dervin, and organizational, in terms of the same meaning imposed by Weick: The sense-making of hospital librarians is done with awareness of the collectivity, and this awareness is an important textual component in sense-making for each of the participants who shared their narratives in this research.

The Gap

The gap consists of that time when attention is drawn to a difference, and it continues through interrogation of circumstances held against the texts of tacit, explicit, and contextual understandings in order to remake sense. In Dervin's methodology, questions are posed about how this gap is viewed in terms of how it affects the ability to resume movement; what choices are seen as feasible in order to move beyond a stopped state; and expectations about the effects and difficulty of choices that are available. Limitations were encountered in identifying the actual effects of acquired information, as for a number of participants, the situation was still ongoing at the time of the interviews.

The Resumed Flow of Stable Meaning

Figure 8 depicts a return to the flow of stable meaning. However, rather than being a return to the original, pre-gap state, the new state is comprised of a changed collation of information. Changes that have occurred might include additions of new information, formerly tacit information made explicit in some form, and formerly explicit information now interpreted using new, changed understanding. The concept of enactment is demonstrated here from gap realization, to interrogation, to returned stability, with new (changed) information; if the world is sense-built, it has now been rebuilt, or at least altered.

4.3 Q1: How Do Respondents Characterize Gaps in Sense-making?

In order to respond to this first question, an examination of several respondent situations is performed with attention to the sense-making journeys made. Selections for this discussion are made with the intention of demonstrating disparity between narratives and situations. Three participants were selected in this section as they illustrate several key factors of interest.

In the first, Darlene Rico (Librarian #1) appeared to exemplify a secure and confident librarian who felt herself well regarded within her community, which had suffered little or no harm. Sense-making for Rico was a shared process, with her mentor-supervisor and with colleagues on a committee. Rico's narrative, if placed on a spectrum measuring self-efficacy and regard, would lie at the extreme uppermost range.

The situation of Sarah Namath (Librarian #2) served to illustrate the possible sense-making actions of those hospital librarians who did not feel themselves able to achieve their situational objectives through support from their organizational structure. Her use of "back roads" connections to learn how to use accounting software and to gain access to e-mail and budget templates exemplified the actions of others in this study who were not directly supported in their needs by their supervisors. More than other librarians, Namath's narrative also clearly illustrated her sense-making as she rationalized the relative lack of support from her supervisor and her own need to confirm her identity or self-efficacy in her own eyes and those of her new supervisor. As well, she spoke directly to the concept of post-sense-making changed stable meaning, in discussing lessons learned for future dealings with her supervisor.

In contrast to Rico, Sherry Bowden (Librarian #17), may have exemplified the lower end of the spectrum. With no budget, Bowden had experienced both harm and threat, and while her supervisor wished to be supportive, he was not able to help in her situation. Bowden's sense of

community regard was repeatedly damaged in the situation described as she attempted to garner support for needed action. Like Namath, she used "back roads" connections by seeking out a friend in the Public Relations department to gain persuasive support for her objectives, but in this narrative, the outcome was not achieved, and cues derived from the situation were about her lack of support within the community.

4.3.1 The Model in Use: Librarian #1 Darlene Rico[8]

The sense-making path of Librarian #1, Darlene Rico, is shown in Figure 10 and discussed at more length in this section. The figure is an attempt to illustrate the journey taken from the point prior to an event (also called a **Situation**) that was chosen as the focus for the interview. It is intended to be read left to right, top to bottom.

Darlene Rico was employed in the library for 20 years as a contract employee whose salary was paid through a library consulting firm for which she still occasionally worked as a consultant. Having earned an MLS for over two decades, Rico had held AHIP certification much of that time. As a long-term MLA member many years of activity, Rico belonged to a number of national MLA committees and had presented poster sessions and conducted published research with co-authors, as well as blogged at an annual meeting. Rico had also served in many leadership and task force capacities through several decades for several different NN/LM and regional groups. Her decades of experience included professional consultation in needs analysis, benchmarking tool development and grant proposal support for hospitals, foundations, and other non-profit entities.

Collegial relationships between librarians within the large healthcare system were fostered by the presence of an electronic mailing list and online meetings with networked HCA

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[8] Rico and other names, including the names of hospitals and health systems, are pseudonyms.

librarians across the country. As a group, members of the network had identified goals that include encouraging Wellness System corporate headquarters to purchase corporate-wide subscriptions to electronic resources, including the UpToDate database and the *New England Journal of Medicine*. Rico found their assistance occasionally helpful in making decisions about library resources and services, and mentioned that the for-profit status of the institution put a unique perspective on practice.

Rico was employed at Pennington Care as the sole medical librarian, with responsibilities for all daily operations of the library. Although she had limited budget authority, Rico enjoyed a high level of autonomy in decision making for the library, due to her long-term employment, report relationship, and unique expertise. While she had no assistants or volunteers, occasional help was provided by employees in the Medical Staff office, because of their close working relationship: Rico backed up some of their staff operations when needed, and in turn, Medical Staff personnel checked in journals and reshelved materials if Rico was unable to do so. Rico's primary responsibilities were for day-to-day operations of the medical library, including literature searching, interlibrary loan, collection management including electronic resource subscriptions, continuing education programs for all healthcare professional and administrative staff. Rico reported that changes to her   responsibilities have included more time spent doing one-on-one instruction, more focused and complex literature searching and "data extraction," because doctors were doing more of their own searching, and much more time spent with support of Continuing Medical Education (CME) documentation and credentialing involvement. The last item listed here was described as "basically data entry" for medical credentialing as the hospital was moving the process into an automated system under the leadership of the Medical Staff Director.

As library director, Rico reported to the Medical Staff Office Director, who in turn reported to the hospital President/CEO. She characterized the direct report relationship as unusually close, saying that the Director was a personal friend and mentor to whom she talked on a daily basis. Staffing and report relationships in the hospital have remained relatively unchanged over time, except for normal turnover. There have been no cost-cutting initiatives. While the health system had undergone various changes, the hospital was described by Rico as a stable work environment with support from above and laterally. The Medical Library was not listed on the overall organization chart, a discrepancy that was unexplained. The Medical Library "basically did not have a budget" and materials did not circulate. Updating the library webpage was among Rico's goals, as the current site, which resided on the hospital intranet, was inadequate for user needs. Changes were planned as the hospital's intranet was upgraded, so that users would have a better idea of the library's services and collections, rather than the existing portal link to a journal subscription agency. In making changes, Rico expected good support from the centralized IT department, which has proven over the years to be reliable and understanding of library needs; she did not have authoring capabilities. Rico was involved with a number of administrative committees and task forces, notably the CME Committee, the hospital's Institutional Review Board (where she served as an alternate), and the Copyright Compliance Committee.

The Task/Situation

Part of the library's mission was to support the CME needs of the medical staff by providing materials, access and services. Rico served on the hospital's CME committee and is very involved with accreditation compliance and reporting. When reviewers from the Institute for Medical Quality (IMQ) and the state medical association's Committee on Continuing

Medical Education performed their most recent review for accreditation, Pennington Care received a rating of "continued" accreditation, although noncompliance was shown in 9 of 15 areas, and the hospital was informed it must provide an interim, 6 month report demonstrating the institution's plans to address deficits. Among identified deficits, there was no current plan in place to identify CME needs for physician practice. At the time, an annual CME evaluation survey was conducted along with program evaluation forms completed during weekly programs, which adhered to a loose scheme for each month. Based on survey responses, a quarterly program review was performed by the hospital's Education Committee. Accreditation review found a number of concerns, which were to be addressed:

> Deficits arising in practice are not identified as they occur. Topics for education are generated by physicians' suggestions (expressed needs), instead of observed need arising from practice. The review process report suggests that mechanisms must be in place throughout the practice environment to capture needs as they are recognized.
> There is no plan to assess outcomes in terms of effect upon practice. Ideally there will be mechanisms for follow-up to measure changes in practice and to establish linkages to patient care.
>
> Materials and content conveyed during CME show insufficient evidence of being independent of commercial support. Lack of ties to commercial interests (i.e., pharmaceutical marketing used as CME) must be made transparent, with documentation as part of the speaker review and also, the actual presentation[9]: "We have to show a screen on the Power Point or somewhere, so that everybody knows that this has been done independently of any commercial support" (Rico, interview transcript).
> Physician core competencies identified by the Institute of Medicine (IOM) and the Accreditation Council for Graduate Medical Education (ACGME) should be an explicit part of CME content[10].

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[9] Concerns about the influence of commercial interests in medical education and continuing medical education and recommendations for the careful distinction of such interests have been addressed in reports to Congress, such as that "in general, industry financial relationships do not benefit the educational missions of medical institutions in ways that offset the risks created" (Bernard Lo and Marilyn J. Field, Editors; Committee on Conflict of Interest in Medical Research, Education, and Practice; Institute of Medicine, 2009, p. 123. Available online at http://www.nap.edu/catalog.php?record_id=12598).

[10] "The Committee believes that a competency-based approach to education could result in better quality because educators would begin to have information on outcomes, which could ultimately lead to better patient care.

As a member of the CME Committee, Rico was tasked with the creation of the interim report, and has been instrumental in identifying methods for compliance. The interim report was submitted in time to meet the first report deadline of August 1, 2010; a second interim report was be due in August 2011. Thus far, a draft agreement had been created, and pending approval, would be used for all CME activities that were regularly scheduled. Plans at the time of the interview included the creation of a "network of allies" between parties responsible for CME provision, the Quality Assurance department, and department and specialty committees, and calling for ways that topical needs could be identified from "epidemiological and surveillance data, accreditation guidelines, diagnostic trends, government or legal requirements, and trends expressed in the lay press" (Rico, report document, shared March 3, 2011). As well, Rico discussed the need for the Education Committee to be able to remain informed of possible noncompliance and need for change, suggesting that achieving this goal would require "adjustments to the structure of the committee," including a "committee co-chair to assist in aligning the program with current standards," and the possible hiring of a person to oversee and document compliance (Rico, report document).

Sense-making in Action

The borderline CME report, along with the need to be accountable for change within a time frame, constituted an event that had to be analyzed in order to continue operations. In sense-making terms, the event itself is a gap in sense-making. Much of the librarian's focus for the interview was in two areas. First, the single largest barrier to continued action was seen as

Defining a core set of competencies across educational oversight processes holds the potential for reducing costs as a result of better communication and coordination across oversight bodies, with processes being streamlined and redundancies reduced" (Ann C. Greiner and Elisa Knebel. (*Eds.*). Committee on the Health Professions Education Summit. Health professions education: A bridge to quality. Institute of Medicine, 2003, p. 122. Available online at http://www.nap.edu/catalog.php?record_id=10681).

opposition to the change itself, and second, Rico had questions about the ways in which physician awareness and compliance might be improved. Having to create a report outlining plans for action meant that Rico and the Committee had to query their interpretation of the externally provided information (the accreditation report), and find ways to operationalize the new guidelines, under threat of damage to the hospital's accreditation. An additional task for the committee was the interpretation of more local texts, which consisted of staff practices, procedures, and expressed needs. The Committee's major objective was not only to comply with the new guidelines, but also to try to bridge any gaps between local, established practices and the guidelines by understanding the local culture and then constructing procedures, which make sense to hospital staff. There was an expectation that change would meet resistance, but it was hoped that by finding allies among the hospital staff, understanding present practices, establishing new channels for gathering information about specific, care-centered CME needs, then marketing CME needs better, participation and a new loop of information from practice to CME and back to practice would be forged.

The workgroup identified a number of questions or gaps as concerns to be dealt with in order to accomplish the mandated objectives. These included marketing CME programming, ensuring attendance compliance, determining how needs for CME can be identified in practice settings, and then, determining how the effects and efficacy of CME programs could be assessed as they supported patient care. One concern was whether CME needs were derived from actual practice setting needs, rather than being more generic, and unlinked to practice.

> We don't – for example, we don't have a documented process to identify where the knowledge is lacking. So when we go to set up an educational program here, it's just the topic that could be you know popular. It's not based on an educational need, and that's one of the requirements for being accredited. It needs to be based on a need that's come directly from patient care. Or for example, if there's a new procedure for injecting a drug

and you know there was a need on the pharmacy department that you know the clinical pharmacists have to learn to do this. It would be incumbent upon us to provide that education for them, instead of just taking the topic you know out of thin air.

At the time of the report, an annual survey was given to staff physicians to assess topical interest, with CME planned based upon this feedback and other expressions of interest. An additional problem was that physicians were known to attend classes just long enough to sign the attendance sheet, then leave. Under new compliance guidelines, the hospital would need to demonstrate increased compliance with attendance throughout the entire program, as well as gathering evaluation information demonstrating outcomes in terms of patient care.

A depiction of Rico's sense-making journey is shown in Figure 8, and is meant to aid the detailed discussion that follows. The figure is mostly a representation modeled on Weick's sense-making path but it has been amended to show Rico's existing texts (shown on the extreme left) as well as how she characterized gaps encountered, and efforts made to make sense of the situation.
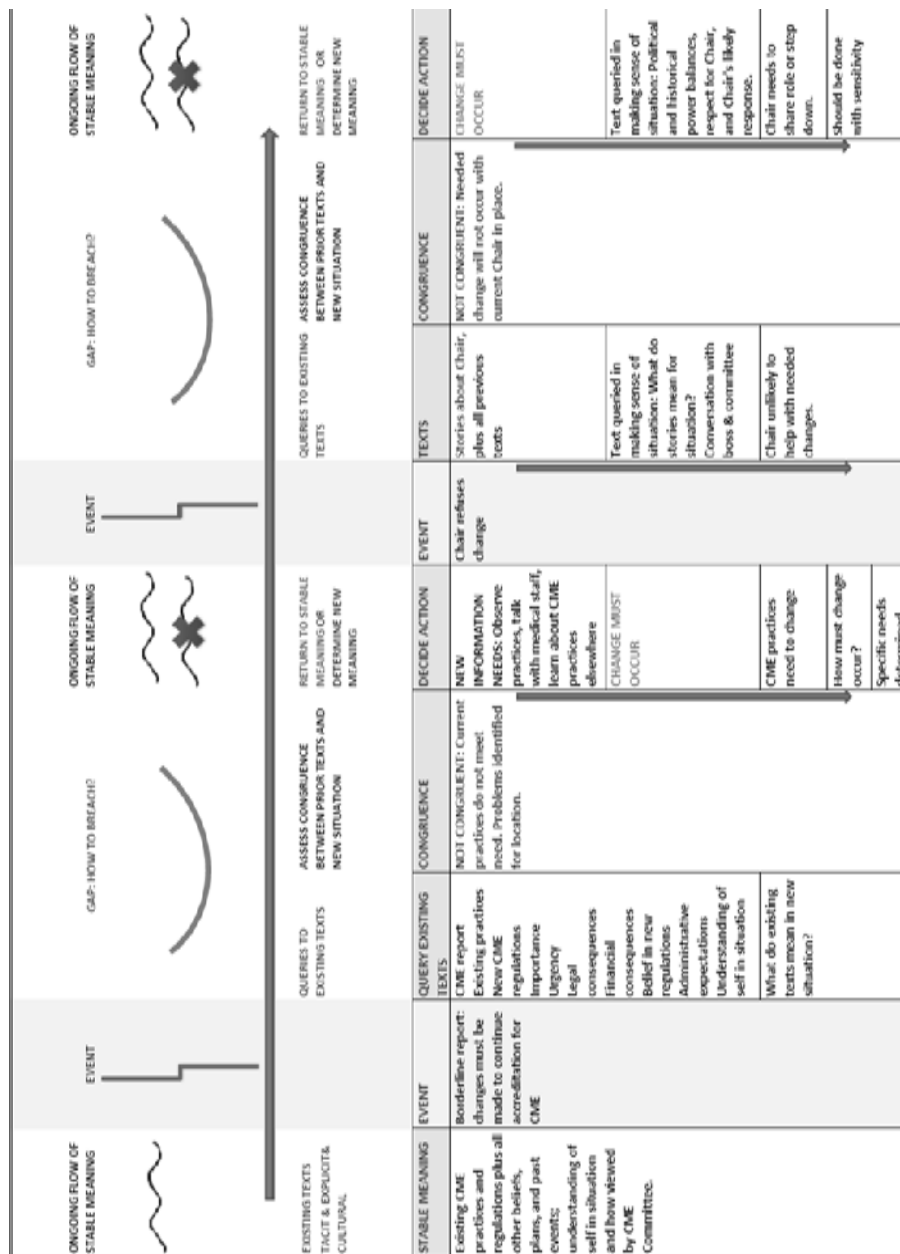
Figure 8. The sense-making path of Darlene Rico

Information Sought and Found

Rico and members of the Committee took multiple steps to investigate the current state of compliance in practice, including considering the results of the hospital's annual CME survey. In addition, Rico used her membership on a number of electronic mailing lists to inquire among

colleagues in the health system network, contacting those who had dealt with similar issues. From this query, she learned what to expect, staffing and cost factors to be considered, and an understanding that ideas would likely be met with initial resistance followed by a smoothing-out of processes. Information she gathered from colleagues was considered in relation to the needs of her own location, including the fact that less funding was available at her site to bring in outside speakers.

In order to find information, Rico searched online for publicly available slides and documents. Sites that were located provided contact information she used, and she joined several local and state CME associations in order to gain access to contacts, archived information, and workshops that Committee members could attend. Rico also searched bibliographic databases, but found that "There's not much in there on that, on this type of thing. I'm thinking it's not something you can search, you know, like in a database." Information Rico found was shared with other Committee members.

Gaps

The major gap identified by Rico was in the opposition of the CME Committee Chair, an older physician who remained unconvinced of the need for change even if mandated by the borderline accreditation report and its interim monitoring requirements for areas of noncompliance.

> The person who is the chair of the CME Committee… has been doing this for 30 years, and is totally outmoded. We need a whole fresh start to this program. He's a wonderful guy, but he's in his 70s and he does not believe in the process… has a lot of difficulty with the process. So that's been a huge barrier, making changes in that way. You know, there's personalities and feelings that you deal with. So that's been a big barrier in getting this moving forward. That's been one issue, and the other … you know, hospitals, by nature, they're run just like a business and getting anything through corporate approval -- well, actually, this doesn't need to go corporate, but even getting anything through our

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own administration, takes time. What is difficult is dealing with the different personalities involved.

Rico was sensitive to the perception that the Chair was well respected in the hospital, and had been there for a number of years.

> I have a very unique situation here because I really feel like an integral part of the medical staff – so I feel like – I think that the biggest problem I have personally here is the barrier of dealing with the chair of our CME Committee, because – he does command respect, you know, he's been around a long time. I don't want to see his feelings get hurt, I don't want him to get upset with the program, but that's going to be – that's my biggest problem, is having to force him to see that we will not be accredited unless we take this seriously, unless we start to follow the rules. And he doesn't see that as an effective way to educate. So this is the biggest challenge I think I have.

It is worth noting that Rico labeled the Committee's problem as her own "biggest challenge" in the situation. Throughout her narrative, Rico demonstrated her sense of being integrated into the hospital community with her language, switching back and forth from "I" used for the self to "I" or "we" for the Committee or the hospital community. Negotiating the situation, Rico assessed the sense-made consensus, and consciously aligned herself with the "newer, younger" approach.

In saying, "I think that the biggest problem I have personally […]," Rico made the problem of dealing with the older physician her own although the situation was one facing the entire CME Committee. Having stated earlier that she felt herself to be "an integral part of the medical staff," as well as recognizing the uniqueness of her position, it was not surprising that throughout her narrative, Rico referred often to "we," shifting comfortably back and forth from the "I" to the "we" voice, seemingly without a discernible line between her own professional persona and the aims and mission of the Committee.

The delicacy of the situation was stated outright, as Rico explained that the Chair was a well-respected senior member of the medical staff, presumably with accumulated power within

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the organization. The power that he held may be expressed in the amount of time given over to concern and care not to hurt his feelings. Evidence of the group's sense-making activity is also found in her use of an anecdote, which underscored the idea that the Chair supported outdated notions that needed to be addressed in order to move on: "From a technology standpoint, we're getting there, but he's still… the slide projector went out a lot of years ago, so – (laugh) - and he would still be doing it that way."

There is a suggestion in this anecdote that the Chair's preference for photographic slides over computer-generated slides functioned as a cue, so that when later, there was a divergence of opinion over whether change in CME methods was necessary, the slide anecdote was brought to the attention of other group members. Used as proof of the outdated views held by the Chair, the anecdote also confirmed the growing consensus among most Committee members that needed change would have to involve the departure of the Chair or a lessening of his power. Consequences for failing to change had already been made clear by the accrediting bodies, so there was an external force driving the need to make sense of the situation within a certain time frame, with externally imposed objectives or criteria. As an example of this, former laxity over attendance throughout the CME programs offered would no longer to be accepted, so that the role of the Committee was also to find a way to improve attendance throughout the programs.

Discussion among Committee members was open, with the general feeling that the Chair would need to step down or at least share the role with a younger, more progressive doctor. Together, the Committee has talked about the political issues, such as the need to change the balance of power in making this change.

> Well, one of my suggestions, and there have been a number of young physicians who have come forward, and would be interested in co-chairing. He's not an easy man to work with, so this would take a specific type of person. But, you know, bringing in a co-

chair would at least shift the balance of power a little bit, to where we have somebody who's in an authoritative role, who could make some of these decisions, in favor of looking at the accreditation process.

Rico's own actions included meeting with her direct supervisor to strategize about the situation, in preparing for the upcoming report that was hers to write. Rico's direct supervisor functioned in this situation as a mentor, advising her on the intricacies of the hospital's political culture and acting as a conduit for information as she had important ties to other department heads. In this particular situation, there was a tie to another department with whom Rico also worked, so her supervisors' connections strengthened not only Rico's position, but also her understanding of other important aspects of the situation as interpreted outside of the Committee's interactions. Assessing outcome, Rico felt that hurt feelings are inevitable, and she based this assessment on past experience.

> I think what's going to happen is there's going to be some hurt feelings. Because I've approached this with him before, in terms of – he had his feelings hurt about part of the process during a meeting and he felt alienated. So I have talked to him one-on-one about it. My guess is that he's going to basically relinquish it, and give it –and someone, a younger physician will come in, and we'll be able to move forward much faster. We're going to have to address it pretty soon. It's getting to the point – we're going to have to respond to our survey pretty soon, and we're going to have to come up with some answers.

Throughout this process, which remained unresolved at the time of the interview, the hospital librarian's sense-making processes stemmed from the needs of the CME Committee and her alignment with progressive Committee members. Clearly secure in her role, Rico assumed a key position in helping the hospital get on track toward improved processes for CME.

The narrative of Rico provides a good example of sense-making by a group as well as by an individual. Initially, the borderline compliance report drew the attention of the Committee, especially when hospital administration mandated that it do so. The Committee then met to

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examine the report and to work together to understand the "sense" of the report in a number of ways. These included new mandatory guidelines that were provided in some detail and members' observations and anecdotes about practices and problems. Observations were further reinforced by re-examination of annual survey responses and visits to clinical practice settings. Information thus gathered was shared among the Committee, and consensus was achieved about the need for change, with some more specific thoughts for the ways this might happen.

The exception to consensus was the Chair, who disagreed with the interpretation of the mandate. His own interpretation, which had historically carried strong significance due to his tenure and power within the hospital structure, was understood to be different and further bracketed as a divergence from the interpretation agreed upon by other committee members. Rico shared an anecdote about the CME Committee Chair and his preference for "old fashioned" slides and projectors as a way to convey his refusal to modernize, proof of his ultimate inability (in the estimation of the rest of the Committee) to contribute to needed change, and undergirding the shared understanding that, to move ahead, there would need to be a shift in power. Although not explicitly stated, the discussion about how the problem of the Chair might be handled did not seem to have taken place in his presence. Although taking action would be "delicate" and would likely cause him distress, the need to change is seen as more important still. The opposition of the Chair helped the other members of the Committee to interpret the need for change, building consensus and coalition that found clearer direction for change. Rico had primary responsibility for the creation of a summary report, which constitutes a formalized documentation of how the committee interprets (makes sense of) the situation and intended to comply with the directive for change. The report, supplied to the hospital CEO, cements the enactment of sense-making and

committed the Committee to action as described unless there was either strong disagreement

from the CEO or a competing argument from the Committee Chair.

Information Sources Used in Making Sense

Rico explained that she did not search bibliographic databases because she did not find

that they meet her information needs for this purpose. Instead, she used general web search

engines to access regional and national CME association websites and contacts, and conference

or webinar materials. Her information was drawn from these documentary sources, but also,

importantly, from queries into the texts of the organization itself. These queries were performed

in discussion with her mentor/supervisor, and with members of the Education Committee as they

worked toward consensus about the need for a power shift but also in reviewing annual CME

survey returns and talking with hospital staff on the medical floors.

Rico's use of her information universe was also quite explicit in her narrative. She

demonstrated understanding of the roles played by interpersonal connections and documentary

information in the following ways. From her interpersonal communications with her supervisor,

members of the Committee, other librarians, and CME directors outside the hospital, she drew

valuable information in the form of ideas, validation and more formalized approval, experience

narratives, different perspectives, organizational history, and insights into the power structure of

the institution. From her more documentary information acquisition processes she gained

examples of policies and procedures enacted in other settings that could be tested theoretically

and practically within the local environment.

The Librarian's Role in the Institution

Rico recognized that her integration within the hospital's structure is unusual: she felt

"like an integral part of the medical staff." She explained that daily practice involves talking with

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her supervisor, the Medical Staff Office Director, and the two are good friends. Her relationship

provided her with a mentor and also with a shared perspective from a higher administrative level,

as well as benefits from relationships her supervisor has. This is illustrated in the mention of a

report relationship both she and her supervisor have to the Quality Assurance department:

> She reports directly to – well actually she reports through our Quality Assurance
> Department, and I work with them too, in fact we will be working with them on the CME
> issues too. And then it will go right up to the CEO, to Administration.

Having the benefit of this network (both formal and informal) helped Rico to make sense

of the ways in which change can be effected, and her continued strategizing with her supervisor

about the Chair enabled in-depth consideration of hospital political sense-making. Rico conveyed

strong self-assurance in her description of her own role and involvement with the Education

Committee, fully confident that her contributions are rooted in the hospital environment. Further,

her repeated use of "I" and "we" in explaining problems encountered demonstrated her close

identification with committee members and the work of the group, and her own influence as a

member of the community. Talking with others about the more tacit aspects of the situation

worked to shape her thinking about the politics involved.

> It's forced me to realize that he's going to have to jump on the bandwagon with us, or
> he's going to have to relinquish his duties. So that's pretty much what this process has
> shown, and I've documented the process, and I believe that the medical staff sees it the
> same way. … I think some of our physicians now, especially our executive board, are
> seeing that there's a need to change the way we do CME.

The sense-making path of Darlene Rico demonstrates the collective and singular sense-

making activity involved in dealing with both the accreditation report and the second gap, the

barrier, of the CME Chair's refusal to change. In her narrative, the shared query into existing

texts about direction (e.g., whether the Committee would move forward to change in compliance

with the new guidelines) is supplemented with individual discourse between Rico and her

mentor/supervisor, interpreting the more tacit elements of hospital politics. Because of this, Rico aligned herself with the interpretation of the Committee about the Chair's refusal to support change. The group was described as committing to action when Rico was authorized to write a report detailing the Committee's plans, which were to be reviewed by top-level administration. In her narrative, Rico clearly expressed her role within the hospital and on the Committee, as well as her sense of how she was seen and supported.

Weick's model for sense-making is useful in exploring her actions and rationales. The model provided by Dervin provides direction that is less evident in the path illustration (Figure 9), but Rico's own characterization of the Chair's attitude as a barrier is important, and with the model, two gaps are recognized. First, the larger gap caused by the initial CME accreditation report began inquiry into how (and whether) the situation should be addressed, while second, the aforementioned gap caused by the Chair led to both individual and collective sense-making. USE in this case, comprised of information needed and information acquired, was comprised of ASKing others (both mentor/supervisor and other Committee members) and queries by Rico into her own needs within the situation (CONFIRMing her sense of self-efficacy, since there was no harm or threat).

4.3.2 The Model in Use: Librarian #2 Sarah Namath

Sarah Namath had been employed for over a decade as a medical librarian in the same hospital, but had a change of job responsibilities within the past two years when she was promoted to library manager with duties that include budget maintenance and reporting. Prior to her current position, she worked at a much larger hospital system with a sizeable library staff, but in the present position she had been solo, with several part-time librarians added in recent years. With an earlier degree in business administration, Namath acquired basic information about

finances and management. She characterized herself as very detail-oriented, saying "I am one of those people that balances my checkbook to the penny."

At the same time her job duties changed, Namath's reporting structure was altered. Without giving details, Namath made clear that the previous supervisor was not a source of support; in fact, the relationship was described as horrendous. In comparison, the new supervisor was much better.

> It's amazing because I've been here for [more than 10] years, and I had forgotten what it was like to be completely supported. And now I can honestly say […] not only am I supported very much, I'm also encouraged to grow.

The Situation

Newly promoted, Sarah needed to plan and submit a departmental budget for approval, and track expenditures using the approved hospital templates. Although Namath had past experience dealing with budget items in the same organization, her previous manager had dealt with the use of the software and reporting processes. The educator responsible for providing training failed to do so due to what may have been a history of difficulty ("[T]he person who I would ideally go ask for help I feel is not approachable for me to ask for help"). To make things worse, although her new supervisor was "fantastic" and supportive, Namath never got added to the management team at the hospital, especially for the electronic mailing lists shared by managers.

> And that's a little bit of a sore spot for me, and is also a communication gap for me, because all managers are required to attend a budget training session, and I would miss those emails because I'm not considered leadership management, even though I am the Medical Librarian and I'm doing performance evaluations and budgets.

Sensemaking in Action

Figure 9, shown below, is a depiction of the situation described by Namath using the model created for the sense-making path. The path corresponds more to the Weickian path model (shown in this document as Figure 3), although in characterizing GAP types the Dervin model is used in discussion.
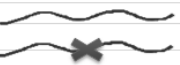

STABLE MEANING	EVENT	TEXTS	CONGRUENCE	DECIDE ACTION	STABLE MEANING
Role related skills HARM: History of previous bad boss IDENTITY: Views self as very detail-oriented. Has need to prove self as new manager STABILITY: Changes to report structure and staffing SUPPORT: Much better relationship with new boss than with previous boss.	SITUATION: Need to create library budget	Relationship with boss is valued, especially compared to previous boss. Need to protect relationship and demonstrate effectiveness.	NOT CONGRUENT: Need to maintain relationship and also complete budget	Find ways to accomplish goals without endangering relationship: Take "back roads"	Boss views librarian as politically savvy.
	BARRIER: Person who would normally provide training and resource access is not approachable		NOT CONGRUENT: Need to create budget in compliance with hospital guidelines, Need training.	Ask friend in other dept. for training on one of two programs needed	New skills acquired
				Ask person in corporate accounting for training on second program needed.	New skills acquired, person available for help when needed; has added librarian to manager mailing list so needed communication is also achieved.
			NOT CONGRUENT: Need to use hospital's templates and programs	Friend who provides training also provides template	Software access provided
	BARRIER: Not included in e-mailing list for leadership management	Boss says he will keep librarian apprised as he considers fit, but then doesn't provide timely, accurate, or complete information.	NOT CONGRUENT: Need to keep up with important announcements and meeting information in order to be an effective library manager. Cannot trust boss to provide important information.	Ask other managers for updates to double-check information given by boss. Continue to remind boss, but don't be too insistent.	NEW TEXTS Existing skills enhanced Success and failure depend on use of communication channels Cannot assume boss understands my needs Need to be more direct and proactive to be effective Picking the right time to insist on support is important

Figure 9. The sense-making path of Sarah Namath

To comply with departmental procedure, Namath had to find a way to get communications that were made available to hospital managers or leaders (GAP), to learn about use of the two budget software programs (GAP), and to gain access to the budgeting templates in use at the hospital (GAP).

And I just knew it was a recipe for failure for me. I felt like I was being set up. [I]t affects me professionally because I am not getting the background training and support in how to run this budget program that we have here at our hospital.

Wanting to be put in the loop, Namath asked her supervisor, repeatedly, to put her on the mailing list for department directors. Her expectation was that he would do so, and that being subscribed to the list would help with important information about meetings and notices. His permission was necessary for the distribution list, but after a year, he kept telling her "I'll keep you posted," updating her on information he felt she needed to know. Namath interpreted this by deciding that it wasn't worth the risk to confront the situation. However, this created other problems, as often the information was incomplete. Namath dealt with this by "discreetly" inquiring among other department managers in order to learn about upcoming meetings and directives important to her own department functioning.

I feel I finally made progress when I missed a mandatory budget process meeting for all managers, and my direct report was contrite. [My supervisor] said he'd keep me in the loop and I trust that he is telling me the information. Sometimes I don't know if I'm getting all of the information, but I have no basis to prove that other than when I discreetly ask other colleagues who are friends who happen to be in the management group. And I keep asking to be put on that list and it still has not materialized.

After being in the hospital for over a decade, Namath decided to take a "back roads, roundabout kind of way" to get the information needed. She contacted a personal friend in the IT department who maintained the budget for that department, asking for help.

So it's kind of like a back roads, roundabout kind way to go, 'Okay, if I can't take this direct route to where I need to be, how else can I get to where I need to be?' And that's where it kind of helped that I have been in this organization for over a decade so I kind of know the different avenues that I think I can use to get to where I need to be.

As a result, her friend gave her multiple training sessions, as well as access to the budgeting template for one of the two programs needed. Namath next asked the "main contact

person" in the corporate accounting department for help with the second budgeting program. He agreed, and provided her with private training sessions after checking with his administrator. Communications between Namath and her corporate trainer remained open (as they did with her friend in IT), so that she had a new resource person if questions came up. As an added bonus, he added Namath to his own email list, so that she was now on the same communication route as other managers, for messages about the budget.

At the time of the interview, Namath was in her second year of preparing budget reports. Having overcome the hurdles of communications gaps and lack of training through her actions, she felt she was in "maintenance mode" now, and said she learned a few things from the experience:

> Perhaps that's how, that's the main gist of my success and failures, is the way I use my informal communication channels, I suppose.

> Sometimes when I think something's obvious to me, I have to be careful and not assume that it's obvious to everyone else from their vantage point. So I need to be very clear about my expectations and needs, stating my needs. And I feel I have been very direct with my administrative person I report to. And the response I get back is he'll keep me in the loop. If there's any new information he'll let me know. And there were a few times where I didn't get the information and he was appropriately contrite that, "Oh, I'm sorry you should have had this information," and then what he would do is follow up for me so that I get the same information as everyone else.

> You're right. You're right. For an outsider looking in it looks like, what is she saying? It's not this – I don't do the support because being part of the communication is integral to support. However, from my vantage point, from what I've been through, the support I have now I would say is a thousand percent better than what I had before. […] If I compare that with everything I've got currently and compare that to what I had previously. I had a situation where I couldn't even leave for a death in the family on my previous manager. And now this new manager allows me to work and be off every other Friday. To me that's huge. So just because I'm not getting the communication of being recognized as leadership, I feel like I need to pick my battles.

Namath's response to still being out of the direct communications loop for managers after a year was to find her own communication channels to ensure she was kept apprised of meetings and other events or announcements. While trusting her supervisor, she was aware that what he tells her may not be all the pertinent information she needs, so she became accustomed to employing alternate tactics while continuing to hope for change. Namath characterized herself as an experienced navigator within the hospital community. Her supervisor recognized her political skills, as well:

> I was able to actually talk candidly with the person I report to, saying, 'You know I'm thinking about taking a class about politics behind closed doors' and that's one of the C.E. classes coming up for [a regional library conference]. And the administrator looked at me and he said, 'Do you feel that you need this?' I said, 'Well, I do.' And he actually said, 'No, I think you're [doing] very well and very involved'.

The interpretation Namath had for events involved her perception of her own responsibility in this and other situations, her understanding of a discrepancy between how she and others view her, and also, of events taking place in the hospital. First, Namath explained her responsibility for keeping her supervisor aware of her needs, mentioning that at times other librarians complain about how their own supervisors don't support them:

> I feel that sometimes when I talk to other librarian colleagues that they get caught up in the 'they should have known – administration should know', and I would be the first one to say, "well have you told them?" and they'll look at me blankly and, "well, they should know these things." And they operate on the basis of assumption, and I'm learning especially with recent events that I cannot assume that my administrator should know my vantage point. I have to keep him in the loop. And so I'm learning to be much more proactive in explaining the kind of information I need from him.

First, the narrative was framed by Namath's explanation that the situation taught her important lessons about how she needed to communicate. Second, Namath felt there was a discrepancy in her own self-image and the image of her held by other people. The anecdote

shared about her political awareness was used to illustrate the point that "sometimes I may need

to check in to see exactly how do people see me and not how I think people see me." Her

expectation was that her supervisor would eventually come around and put her on the mailing

list, or at least, get much better with keeping her apprised of important notices and meetings. In

making sense of his failure to respond, Sarah explained that she understood he was busy, and that

he may have felt that some information was not what she needed to know; he may also have not

had the same understanding of her information needs that she does, so that it was her

responsibility to keep him "in the loop" by actively letting him know of her needs. As a result of

the situation described, her understanding of these lessons learned was now part of her new

knowledge about being an effective department manager.

> I believe my manager feels that he is giving me all the information he thinks I need to
> know; whether I agree with that might be a different story but I don't want to challenge
> him too much…

The gap experienced between information shared and information needed was a concern

for this librarian. There was a gradual lessening of anxiety over missed information as she

became more familiar with the procedures and policies of being a manager. Sense was made of

the situation as the librarian explained that her supervisor was very busy: This was why

information was not shared, or was shared inconsistently.

> I'm, my – I guess you could say I am participating in that battle, but I'm choosing my
> time carefully …because I've also made a point to be aware of what is on the plate of my
> administrator. In other words, I am aware that they've lost two people in Administration
> and so instead of replacing those positions, the person I report to has been given a lot
> more responsibility. He is now in charge of the construction for the entire facility, and he
> wasn't before. And so now he's overwhelmed with keeping up with all of that. And so I
> don't, you know, I recognize that hospital has a new library that's being planned and he's
> very overwhelmed with that. So I recognize this is not the time to push. I had my
> evaluation in November and I touched on the subject, but I sensed it wasn't the time. So
> I wouldn't say I'm not fighting that battle; I'm just picking the right time.

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For these reasons, Namath chose to continue reminding her supervisor, to ask him directly when there is an information need, and to continue using alternative communication routes to learn what she needed to know to be an effective manager.

Namath's sense-making path exemplifies an individual's use of historical text in sense-making. Her decision to seek help through first, her own personal connections, and second by forging a new connection, was made in order to avoid confronting her supervisor. At the same time, her need to reinforce feelings of self-efficacy were very strong, because she was in a new managerial position and had a supervisor who (despite his failings) was still far better than the previous supervisor. Namath clearly explained how she felt about the gap, saying she felt set up to fail. In retrospectively making sense of her situation, she also explained how for her, the text of understanding had been altered.

4.3.3 The Model in Use: Librarian #17 Sherry Bowden

Pritchard Memorial Medical Center is a stand-alone, faith-based teaching hospital and a private, not-for-profit general medical and surgical hospital with around 500 beds that serves the acute, tertiary, and long term care needs of its customers on two campuses along the Eastern seaboard. Identified care centers include cancer care, sleep disorders, cardiovascular care, diabetes, pediatrics, and women's health (Hoover's Company Records, 2011). Established over a decade ago as the result of a merger between two local hospitals, Pritchard Memorial is host to residencies in internal medicine and anesthesiology, as well as to a nursing school (participant transcript). The state is one of the harder-hit regions of the country, verging on bankruptcy as the result of economic downturns in recent years, and this is having an impact on Pritchard and other regional hospitals: half a dozen hospitals have closed in the area in the last several years due to

Medicare and Medicaid reimbursement declines. Unfortunately, even elimination of local competition has not saved the institution from its own severe cuts in funding.

> Bowden's sense of how the library is viewed within the hospital was that it runs
>
> "hot and cold. Some are regulars, and couldn't live without the library, while there are also those who go, 'huh, a library? Do you have videos?'"

Senior hospital management appears to be oblivious to the library or its needs, a situation the librarian blamed on poor hiring decisions. Bowden mentioned having seen much discussion on medical library listservs about how to serve the needs of administrations, but unfortunately, administration at this hospital just "basically ignores us. So I have had a number of times where I've had to go and justify our existence."

Bowden felt she had a good relationship with her new supervisor, but she realized he has little understanding of the library or its needs; she viewed part of her job as educating him about library services. A sense of fear ran through her description of the library's place within the institution, and provided strong justification for the research study that framed the situation being discussed in the interview. With a budget that had, in her terms, "imploded" and "disintegrated," there was every reason to think that the library might be under threat. There was never a mention of the possibility for an increased budget, just a continued effort, year after year, to do damage control as costs rose but the budget did not. In fact, there was concern that the new supervisor may have been brought in to do the "hatchet job" of closing the library, lending more urgency to her "sales job." Bowden clearly viewed herself and her new grant-funded project as benefitting the institution, framing some of her frustration in terms of her responsibility: "This was not just the librarian who wanted a little project for her department, this was now how I was representing the institution."

The Task/Situation

Shown below is the sense-making path of Sherry Bowden, followed by discussion in more detail.
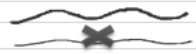
STABLE MEANING	EVENT	TEXTS	CONGRUENCE	DECIDE ACTION	STABLE MEANING
Got grant and IRB approval to conduct multi-site study. Need survey created and placed on library webpage. Expectation: No problem.	BARRIER: Contracted web developer refuses to comply with deadlines, not happy with doing work at all.	Grant work can put the hospital library "on the map"	NOT CONGRUENT: Surveys important to grant deadlines and focus.	Repeatedly ask webmaster to help. GOT no reponse	NEW TEXT: Will have problematic relationship with webmaster from now on, but will have to deal with him. Better understanding of importance of library in hospital priorities: "We're considered a low priority."
HARM History of losses. Reason for worry that library might be closed.		Grant project is important and interesting. Public Relations dept. is interested in furthering reputation of hospital. Contact in PR is congenial and reasonable.	CONGRUENT: Grant project is important and interesting. PR contact will be able to help persuade webmaster to comply with request.	ASK Public Relations to help persuade webmaster to help. GOT excuses. CUE: Library is not important enough.	
IDENTITY Have a number of contacts in-house. Worried that job may be lost. Confident that library contributes to patient care.		New boss seems supportive, and as part of the 'guy' network, he'll be able to get this done. He knows that if I come to him with a problem, I've done all I can.	CONGRUENT: I have no choice but to complain at this point. Time running out on grant project, which is important: This fight is worth fighting.	ASK boss. GOT: Boss talked to head of IT Dept.. GOT: IT Head says "Not her domain" - contractor doesn't report to her. GOT: WASHOUT. No other options.	
STABILITY Major cuts and job losses; all hospitals in area have closed; have no book budget and other budgets are static.				Webmaster, made aware of complaint, complies - grudgingly. Work done badly, behind deadline. Refuses to do parts.	
SUPPORT Limited support in situation. New boss supportive, but doesn't really understand library needs.				"Study is pretty much a failure"	
COMMUNITY VIEW Limited visibility, but longterm in hospital.					

Figure 10. The sense-making path of Sherry Bowden

Bowden's long term involvement in a multi-user virtual environment gave her the idea of comparing the effectiveness of outreach methods between the use of a virtual environment and through the hospital library webpage, so she obtained IRB approval and got regional medical library funding to conduct a research study using surveys for data collection. Motivation for the

study was strong, as she was very aware that no other hospital in the region or even the state had

done much with the virtual environment, but an even stronger drive was to heighten awareness of

the potential of the library, and to make it more visible. With all the cuts ongoing, there was no

reason to think the library wouldn't be on the chopping block as well. Visibility might persuade

hospital administration that the library has value, and her interest and involvement in the virtual

environment might even put the hospital on the map. "There's only a very small window of time

you can be the first. And I don't want to be second," she related.

Bowden's hope was that the research project would add to the visibility of the library

within the hospital and beyond; she identified the need for enhanced visibility as a primary driver

for many of her actions, at the same time clearly communicating her awareness of a threat that

she saw toward hospital libraries:

> Honestly, everything I do tends to be calculated for a goal to get us visibility; to make us
> entrenched in the hospital mission. That's the reason why I aligned ourselves with
> nursing research, to get in bed with these people so that we have value. So they can't
> imagine being without us. […] I guess as I'm getting a little bit more street smart I'm
> realizing that we have – there's just some many libraries been closing left and right and I
> see it and I feel it.

Sense-making in Action

In order to conduct her study, Bowden designed a survey to run simultaneously in the two

locations, and set up the virtual survey herself. However, for the library webpage, the

cooperation of the hospital's contracted webmaster was crucial, as she did not have the skills to

set up an interactive survey or permission to do so via the hospital's firewall-protected server

system. Assuming that there would be no problem, she contacted the webmaster. While she had

experienced some past delays in getting work done, she had a good relationship with him, and

had no real reason to think there would be any problem, especially with the added urgency of a

funded grant with a deadline for completion. The online portion of the survey was set to launch in November, and this happened with great fanfare and success. According to the plan, the web-based version of the survey was intended to run at the same time, for the same period of time, so that data would be coming in at the same time. But in Bowden's words, "Well, that didn't happen."

Unexpectedly, she found herself encountering resistance, as the webmaster wanted to dictate design. Bowden repeatedly contacted the webmaster about getting the survey posted to the site, with no results. With a tight time frame, the work was still uncompleted three months later, although she had mocked up the page she wanted.

> And despite repeatedly emailing the web master, pleading that this was important to our study, that these months' gap was going to create a problem with our data, I was either being ignored or he was telling me it couldn't be done.

Deciding to take action, Bowden had to think about where to go for support, and chose to talk on a casual basis with a person in the Public Relations department with whom she had a very good relationship.

> First I went to our P.R. Department because I had a very good relationship with that person, so on a casual basis, I just decided to just have a conversation. Not as a complaint, but more as a, you know, did you know I have this study that the hospital's really excited about. We will be the first hospital in [the state] to have done this. How exciting is this? And then once I got him excited about the project then I started mentioning how, but you know I do have obstacles. First I have to get it up on the library web site. But I'm not getting it done in a timely fashion because I keep getting bumped for other projects. What do you suggest I do? So I tried to elicit support that way.

After this conversation, Bowden fully expected a good response. What she got was "a lot of excuses." She found that the project was bumped repeatedly in favor of work for other departments – and when she explained that she understood the need, but that she had a grant she could lose if the deadline wasn't met, she continued to find her need unmet. Bowden expressed

her understanding that this response was due to the library's lack of importance, and recalled

another problem encountered in the past, which only reinforced her understanding that it might

take more than her own words to get her objectives met.

> Well that's been an ongoing problem. Every time [we needed something, it took a while], like it took almost a year for the library's new holding list to be put up. So once it was up, I think it was like November of one year that that year's holding was put up, (Laugh) you know. And the next year's was the same, because we're considered a low priority. I don't know who has set the priority, whether that's the web master or somebody else behind me is doing the priority list, but we're never a priority.

By this point, it had been nearly six months, and "panic set in." She had provided the webmaster
with three months of lead time.

> I kept saying to him, I gave you three months, I don't understand. But you were bumped for this piece for education, this piece for nursing, this piece for H.R...

> There was really nobody else to go to, because he's an outside contractor. So the only person I had left was my immediate supervisor. And I finally had to complain. I am so resistant to doing that, I don't like going over people's heads, but [prefer] to resolve on a person to person level. So finally I had to go over his head, and I complained.

Bowden had a decision to make about whether this was something she needed to pursue, before

going to her supervisor.

> I decided, you know, this was something I needed to fight, it was a battle. And I was going to win, because I felt I was armed with the institutional approval to get this job done. This was not just the librarian who wanted a little project for her department, this was now I was representing the institution and we also now had several grants for this. So armed with that, I felt I was going to have to, unfortunately, make some enemies

> Bowden explained that she believed her supervisor would get farther, saying that

although she was hesitant to ask for his assistance, and a little uncertain of his response, her

feeling was that he would know she had done all she could up to that point. Having done this a

few times before, she had confidence that he would trust her word and take action on her behalf

without trying to take the project over. Part of her reasoning was that as a member of

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management, he was a part of the "guy network" so that when he had taken action in the past, it

generally worked: "I don't know if it's a guy thing, like a guy network; it's weird how it works."

> He went right to the V.P. of the I.T. Department. That didn't resolve [the situation]
> because she felt it was not her domain because the contractor is not reporting to her, he
> doesn't really do any work for her. They're pretty much internal programs you know
> firewalls, the network, all that kind of stuff, not design. So we really didn't have
> anywhere to go with this.

When Bowden's supervisor immediately took action by going to the head of the IT

department, the frustration continued: As a contracted employee, the webmaster was not

governed by the IT head. Nonetheless, word of the complaint filtered through to the webmaster,

and there was finally a response from the webmaster. He began to create the survey, but did

things sloppily, even though she had provided him with a mockup.

> And once I complained, then I was given what I needed, but barely. Things were done
> wrong, things were left off, again him trying to do it to his own needs versus what I
> needed and it was a struggle. It was actually a horrendous struggle. I don't want to ever
> repeat it. But I had to ruffle some feathers and I had to go up through the chain of
> command and his hand was forced. But like I said, he only would do exactly what he
> wanted to do and then that's it. He dug his heels in, that was that. So I had to at some
> point decide, you know, which battles I wanted to fight to continue in what I was willing
> to then accept. So what you see now is what I decided was okay, not okay, but I
> accepted. I just couldn't waste any more time with this.

The situation left its scars. Bowden felt that things could not be easily smoothed over,

although they would continue to have to work together if she wanted any changes made to the

library webpage, and she had no control over the hands-on part of that work. She also understood

that the congenial relationship they had had would be different, moving forward, as at that point

it was "very, very strained." There was a lack of trust on her part, which she felt will also affect

their interactions.

A question she still faced at the time of the interview was how she would compile results that were tainted by the problems, and which were not limited to having the survey posted late. She assessed the survey portion of the study as a complete failure.

> I don't know if you've looked at it on our web site. The box, the quiz box, looks like a kindergartener did it. It's not very inviting, it's confusing. The text box is small. It gives so many barriers on that end,that I'm not surprised that we got very few returns. I finally gave up. It got to the point where the struggle was so hard, I finally had to reassess my goals.

Gaps

Bowden's approach to the problem of how to deal with the contractor was unique among study respondents, as she did not ever seek information from peers, as others did. Instead, her sense-making processes were internal: "How can I handle this? How important is getting this done, and why? Is this a battle I choose to fight?" Finally, the question was, "How can I satisfy the terms of the grant-funded research study, when the reality of the survey is so different from what was expected?" Her actions in sense-making involved queries of her known text, including who might help based upon past interactions, and who might be able, when all had been tried and had failed, to talk with the head of the IT department like "one of the guys." The barriers encountered in attempting to complete her project ultimately were insurmountable, particularly after the IT head's response. Frustration was evident in Bowden's assessment that there was really nothing more that could be done to alleviate the problem.

Information Sought and Found

Bowden expected the contractor to respond to her needs, and his hesitation and lack of compliance was an unpleasant shock. Using the framework of Dervin's situation/gap/use triangle, the essentials of the journey are mapped out. From the perspective of a Weickian sense-making path, the narratives shared in describing the situation and her library budget shed more

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light on the importance of the grant funded study. A bigger barrier than even the lack of response from the contracted webmaster is how the importance of Bowden's study was perceived. Strong cues were derived by Bowden about the priority her work was given by others in the hospital, even from the staff member in Public Relations, with whom she understood she had a congenial relationship. Even enlisting the support of allies and finally her own supervisor, was unsuccessful and she was forced to accept the reality that her planned action would not be completed to her specifications. An amended text for future sense-making included these new understandings and, in her own words, would affect her interactions with the webmaster. Rather than alleviate her fear by helping the library become more visible to hospital administration, Bowden's reminder of a problematic Community view may have deepened her sense of threat.

Conclusion

For the participants in this study, situations are viewed through a lens that incorporates elements of community regard, stability, and support. As these perceptions contribute to identity, they appear to affect librarians' interpretations of the situations faced. The first two questions asked by this research might be rephrased as, "Who am I, and who am I within this organization? From that perspective, how do I perceive and negotiate the gaps?" If individuals, such as the librarians interviewed for this study, enmesh their sense of selves even partly with their work, and that work lacks value in others' eyes, a need to remedy perceptions of the library may be a strong motivator for action. If remediation is not the objective, there is nonetheless a strong sense of awareness of community regard in every librarian's narrative, and that awareness affects every aspect of sense-making because it is part of how the organization is enacted by the librarian.

4.4 Q2: How Do Respondents Characterize the Role of Organizational Structures in their Sense-making Processes While Engaged in their Work?

According to Glazier and Powell (1992, p.189), theory is "new knowledge which is the product of research […], that is, generalizations about relationships among phenomena." Identifying a general theme that can be explored with each study participant may be limited due to the small size of the population, but it may be tested by consideration of its congruence with evidence provided by their own words. An overarching theme that has emerged in all interviews in this study has been how librarians find that they *fit* within the world they occupy. One question asked in this research is how hospital librarians perceive they and their libraries are viewed by the communities they serve. This information is often interpreted from implicit cues, but also from direct statements. That the study participants consider the extent to which they are integrated within their worlds is made clear in each narrative.

As understood in the work of both Dervin and Weick, an individual constructs the organization according to their own sense-making. In the present research, participant situations are viewed through the lens of their narratives about the organization. As the organization is enacted by sense-making, so too is the situation defined through a lens of the individual's own understanding. In Figure 11, the self is shown as completely enclosed within the organization, although the self has more aspects aside from those incorporated into the working world. For that reason the self that is shown in Figure 11 is entitled Self in organization to indicate this separate view: It is shown in comparison to the idea of "self outside of the organization," aspects of which may color sense-making within the work setting, but which are not discussed except as they occur in participant narratives. In the next section, the idea of self-in-organization is expanded by consideration of language use by participants.
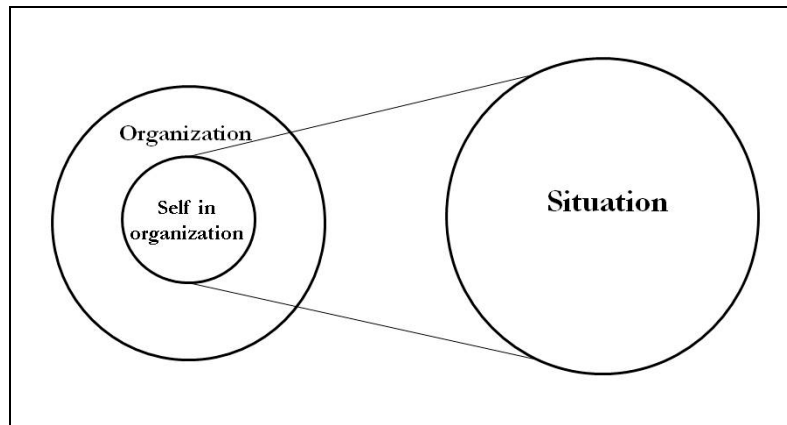
Figure 11. Self in organization

4.4.1 Conceptions of Self

> Identities are constituted out of the process of interaction. To shift among interactions is to shift among definitions of self (Weick, 1995, p. 20).

Two properties of sense-making described by Karl Weick appear to serve as particularly powerful drivers for action in the sense-making behaviors of the librarians included in this study. First, Weick finds that sense-making is grounded in identity construction: An individual's sense of self is constituted of a "discursive congress" of selves contextualized to time, place, and situation. Beyond this, the individual is driven to act based upon the need to affirm and enhance self-image, efficacy, and consistency. Queries in contextualized sense-making ask, "Who am I in this situation?" reaching for the texts of previous understandings in order to construct sense in particular situations. The second precept, of focal interest in this study, is that sense-making is social in nature (Weick, 1995, p. 39), an expression of the idea that individuals do not make sense of their worlds without consideration of others, even when their presence is implied, imagined, or perceived. The two precepts are interwoven in sense-making, as individuals' identities are not independent of external perceptions. To add additional complexity, the individual's perception of how they are viewed by others is a creation of their own identity-

generation process, and is contextualized to elements such as environment: "I see who I am when I understand how I am seen."

Conceptions of Self in the Organization

Not discussed in Dervin, but present in Weick's model, is the idea of what Weick terms the "collectivity" as a component of the text involved in sense-making. Weick is aware of what, in this research, is termed the "Community view," or the idea of self/organization within a broader community, but the weights assigned to this and other elements in sense-making processes is likely to be individual and relative. In considering the sense-made worlds of hospital librarians, a key finding appears to be the relative importance of Community view as a factor in the sense-making behavior of hospital librarians.

Disparities between self-identity and perceived image by others are meshed in many ways which are not teased apart here except as they affect the situation, or are affected by it. Generally, the librarians' use of "I" and "me" in the interviews may mean themselves, their libraries, and sometimes, groups or even the institution, but there was sufficient lack of clarity to treat statements possibly related to either self or library alike, unless the statements were very explicit in meaning. Weick discusses the frequency with which confirmation of one's identity is enmeshed with the conception of identity of the community or organization (Weick, 1995, p. 23). In citing Chatman et al. (1986), Weick considers the idea of reciprocal influence, meaning that the individual can simultaneously embody "the values, beliefs, and goals of the collectivity" (Chatman, 1986, in Weick, 1995, p.23). For the purpose of this study, the presence of such embeddedness (or "slippage") is recognized, but the "I" meaning the self is not distinguished from the "I" meaning the collectivity, unless by such use, the participant appears to be signaling a sense of affiliation. This is the case with at least one participant (Librarian #1), who repeatedly

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refers to the CME Committee and the hospital itself as "I" or "we," seldom referring to either as "they."

This discussion is appropriate as part of a broader discussion of individual and social constructions of identity because language use may signal affiliation or identification with individuals, groups, and their sense-made constructions. For some librarians, when talking about themselves in committees or groups, the constant reference was to "we." An example of this is found in the narrative of Librarian #1, who repeatedly referred to "we" or "I" when talking about the Continuing Education Committee and the hospital:

> My [individual self] biggest problem is having to force him to see that we [the hospital] will not be accredited unless we take this seriously, unless we start to follow the rules. […] And for a younger, fresher look at this, we need to upgrade the way we do education programs. From a technology stand point we're getting there […].

Throughout her narrative, this participant fluidly switched from "we" or "I" meaning the institution, groups within and external to the institution, to "we" or "I" meaning self or library. In the above example and others, the librarian appears to identify strongly with the institution, or its culture, unsurprising in that she has worked there for several decades. In other discussion, she states a sense of having been well integrated as a part of hospital management, well respected and involved with key activities. In contrast, the narrative of another participant (Librarian #6) uses "we" only to refer to coworkers in the library and in a local group of hospital librarians who serve as mentors and colleagues, and "I" or "we" as referents only to self rather than the collective, when speaking about her interactions with those within the institution. Hospital staff and administration are always 'they,' a use of language that may express a sense of distance or isolation that also appears throughout her narrative [brackets are added]:

Well, basically we're [the library] of course the low men on the totem pole.

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I [self] didn't want them [hospital administration] to think for a minute that I [self and library] was, you know, a nice appendage that could be cut off when the funds got shortened.

While the use of "they" or "I" may signal distance or affiliation, references to self also supported the deliberate creation of distance, when needed. Reminders of another self outside the hospital, not solely identified with the setting, sometimes appeared to add perspective to troubled or frustrating situations. When Librarian #6 talked, during the interview, about her realization that she (and/or the library) was viewed as not only unimportant, but disposable, to an administrator, she shortly thereafter described a self who had real value and experience in other settings (both life and job experience, with a previous career in marketing). When Librarian #4 realized that there were limits to her effectiveness, she reminded herself that other aspects of her life were also (or more) important:

> Yes, (laugh) […] you have your own personal goals and it gets frustrating sometimes when working the politics out. And I keep thinking, jeez, retirement sounds great, and you just keep putting everything else in perspective and you keep saying but it's just – so many things that are a lot more important in life than figuring out systems pricing with vendors. And you pull everything back, […] – I have a picture of my brand new granddaughter sitting on my credenza that's just opposite my desk. You start pulling things back from what you deal with in work life and pulling things in that truly matter in life. And it just creates that balance that you need.

Self-Efficacy in Sense-making

The words of this senior librarian, quoted above, serve as a fitting introduction to turn to discussion of how librarians' perceptions of community view may affect sense-making behavior. Weick expresses the understanding of a need to create and maintain a stable sense of self in quoting Erez and Earley (1993), who list three requirements of self-concept as a need for self-enhancement, a "motive for self-efficacy," and for "self-consistency" (Weick, 1995, p. 20). If individuals, such as the librarians interviewed for this study, enmesh their sense of self even

partly in their work, and that work lacks value in their or others' eyes, a need to remedy

perceptions of the library may be a strong motivator for action. Librarians in this research

repeatedly expressed their understanding of how they (and their libraries) were viewed in their

narratives, as shown in Table 10. The powerful drivers of identity construction and social

awareness are discussed as they were demonstrated in the sense-making behaviors of study

participants. Of interest in this study is not so much that librarians *do* act in ways to repair,

confirm, or assert their senses of self (as such behaviors have been identified as universal in

sense-making), but rather, how individual and social constructions appear as elements in their

actions.

A sense of being well-regarded or integrated into the work setting may be an important

part of self-efficacy. Darlene Rico, embedded within her hospital for 20 years, explicitly

addresses the idea of integration in saying, "I have a very unique situation here because I really

feel like an integral part of the medical staff." Rico's language is also continuously and fluidly

shifting from using "we" to mean "we" within the library, "we" within a group of system

medical librarians, and "we" within the hospital, repeatedly signaling identification with the

organization that is strengthened and expressed in her narrative about the Committee's efforts to

deal with the barrier embodied by the Chair. The only "we" not expressed in her narrative that

might be expected is that of herself as part of a professional collective outside of the

organization, but this may be contextual. The strongest use of "we" and a signal indicator of

coalition-building is a statement made in response to a question about barriers experienced,

where she identifies a group problem as her own personal barrier. In this single sentence, the

librarian identifies herself as one of the group as well as singling out the Chair as, increasingly, a

discrepant voice:

My biggest problem is having to force him to see that we will not be accredited unless we take this seriously, unless we start to follow the rules.

Examining Rico's actions along with her words shows that she not only feels herself integrated, but she is empowered within the situation, uses the existing organizational structure as if she is entitled to the mentorship of her supervisor, and to the collegiality of members of the CME Committee as a full, even powerful partner. When asked, Rico described no sense of threat or history of harm, and while there have been changes within the hospital, it is a stable workplace with no losses to the library budget or staffing. She has expertise that is recognized within and beyond the hospital walls (due to her long term employment as a consultant), and is a late-career librarian with a history of connections among hospital departments and peers in library organizations.

As a comparison, in the situation of Sarah Namath, the central gap is comprised of an information deficit, because as a new department manager, she was not given access to budget templates and software, or provided with the training ordinarily given to new managers. In her own words, she was "not part of [a] support group" (participant notes), and felt herself an outsider:

> And at the same time, while I have wonderful fantastic support with my new administration report, I'm still not part of what we call a leadership or management team here at the hospital.

After a change from a previous report relationship where Sarah felt valued ("[The previous supervisor]… used my services; I felt "useful" and she capitalized on my willingness to help – I felt good"), a new manager was assigned who "never used Medical Library services; [she] kept forgetting the library; I became frustrated and disillusioned" and finally, a new report relationship was established with an administrator who " *gets* it and his listening skills are

phenomenal – and is very supportive in helping me and the library grow" (notes provided by participant). Namath's assessment of the situation is that this is a relative "outsiderness," as in comparison to problems in the past, the present situation is vastly improved, "a thousand percent better than what I had before." Her sense that this status is transitional and necessary, and that she needs to fit in to norms expected within the organization is expressed in a final summative statement:

> I know that you probably sensed over this phone conversation I need to work on communicating like an administrator, instead of talking like a librarian, where we have to give all the background information and we lose the administrator's attention. (Laugh)

Namath feels herself to be well-supported by her new supervisor, but in the situation described, her objectives cannot be met (and thus, her own sense of self-efficacy as a new manager) by working outside of the reporting structure. She is adept at finding support when needed, which saves the situation from possible disaster, but her approach to her supervisor is shadowed by a past, harmful reporting relationship, making her hesitant in asking for support. Instead, she asks other managers ("discreetly"), a friend, and goes out of her way to find training at the corporate office. The new text of her understanding, reflected in the quote shown above, is that in order to succeed, she will need to be more direct in her communication with her supervisor.

The sense of self-efficacy felt by Valerie Henry (#3), a solo librarian with 20 years of experience in the same hospital, has been harmed by a new supervisor who not only fails to recognize her value, but has restricted her connections to others. Henry's anger and disaffection with the situation is strong enough that she has plans to retire early. She no longer is a member of in-house committees because her supervisor sees no reason for her to be involved, while she is in attendance at numerous non-pertinent meetings to which she is not a valued contributor. With a

new quality assurance / cost saving initiative, the most valued aspects of her job have been affected:

> Well, the part about my job that I've enjoyed the most always has been how creative – you see a need, you see an opportunity and you can just jump on it. You have that flex, and now when you have all this other stuff [to do] and all the time it consumes, it really cuts into that.

Feeling no support from her administration, Henry uses what she describes as "back roads" to improve the library space even after her budget request is turned down with no explanation. Her focus on patron needs is strong enough that she continued to pursue change, eventually succeeding at the cost of her manager's ire. With a history of harm, threat to her sense of identity, and clear anger, Henry's actions seemed more intended to assert her sense of self-efficacy by finishing her career with an improvement of the library space – for the sake of the patrons – despite opposition and lack of funding.

Mary McFarlane (#4) is also a relatively senior librarian who ended her interview with musings about how frustrations within the present situation (which she decided was beyond her power to resolve, ultimately) were to be viewed in perspective. Her grandchild's picture, on her office credenza, is symbolic to her of another important world beyond the work environment. In that work environment, however, McFarlane feels herself to be extremely effective within a recognized range of influence. Perhaps political differences between several newly-merged community hospitals are properly the realm of top administrators, but she is well connected to various administrative and health care staff, which provides direction for her well-supported and funded decision making. For McFarlane, collegial librarian connections function to brainstorm solutions, offer benefits of experience, and provide valuable network links to funding and information needed to improve library services: she is well integrated within her communities.

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It seems possible that the perception of integration is dependent upon a number of factors such as career and workplace tenure, which may dictate how effectively individuals have learned to navigate their environments, and in turn, affects their sense of self-efficacy. Rico finds herself well integrated, and is supported in this claim by her relationships with her supervisor and within the Continuing Education committee, while Donna Titus (#6), entering the new world of a hospital library as an older new MLS graduate, feels herself an outsider and works tirelessly to remedy that state. Titus also tells a tale of having been reined in, her role forcefully redefined in two separate instances as a new hospital librarian. In her tale, Titus talks about coming to terms with this different role. In describing her efforts to counteract the negativity of a hospital administrator, Titus describes repeated and prolonged efforts to become an integrated part of the hospital community, and in doing so, steps outside of her normal reticence.

The librarians also occupy a world beyond the walls of the hospital and health system, by participating in professional organizations to a greater or lesser extent. Here too, they frequently find the integration of values and (especially, perhaps) applicability of shared information is limited, and this awareness preconditions their approach to information seeking. While Earle (#7) considers librarians at the local university library her mentors, asking for assistance in reference questions, there is a delineation she clearly understands as she explains that she cannot expect help from them on certain questions more suited to a hospital library environment, or with a very different budget. This experienced librarian consults network resources in the same manner one might consider published reference resources, by considering their usefulness and the conditions under which they might be queried.

As demonstrated by the three narratives discussed at more length, librarians interviewed are aware of how they are perceived by the communities they serve. It is very likely that there

are a number of additional contributing factors to the derived PURPOSE, and their own sense of self-efficacy may be incompletely reflected in the relatively shallow categorizations shown here. However, the information provided is derived from participant narratives and was shared in connection to their described situations. A judgment that connections exist between the elements discussed here and librarians' sense-making appears to be supported within the narratives and would need to be tested with more extensive research.

Stability in Sense-making

Librarians in this study repeatedly described their actions in a number of ways, but especially by sharing historical accounts as a way to explain a more current situation. Awareness of user needs is formed not only by direct query to the users and (traditionally) by usage statistics, but also by observation of behaviors, monitoring directly or through agents that may even have been assigned to pay attention. This behavior is well-entrenched for some librarians, who tend to be late-career, well supported by their supervisors, and active within their various regional and national associations.

The flipside to environmental sensitivity is that as dark currents are discerned, librarians in hospitals, whose constant awareness may be that "after all, we're only overhead," are also more sensitive to negativity. Many in this study of just a few hospital librarians have worked through at least one devastating crisis involving high turnover, job loss, volatile administrative change, and economic uncertainty – in addition to wholesale alterations in the main cloth of their existence, the access to and organization of information.

Given the above context, librarians in this study have acted in the face of gaps in their sense-making journeys by justifying actions based upon their understandings (interpretations) of context: as an example, #2, who finds her new supervisor to be extremely supportive in relation

to her old one, takes exceeding care not to do anything to change the relationship while simultaneously resolving her need to get training, connections to other hospital managers, and even access to basic budgeting software.

A sense of threat may be reflected elsewhere, in other hospital libraries, as libraries are faced with loss of space and budget, and are challenged to establish value or driven to accept new roles. Examples of this may be seen in the narratives of two other respondents, who both took on the role of hospital webmaster. For example, Librarian #12 expresses his sense of the library's role in the institution, presenting this view as the rationale for taking on Webmaster responsibilities:

> Well I was talking to somebody yesterday. Actually I was talking to our Director of Pastoral Care Services and you know we sort had some things in common in that we're both small departments and somewhat on the periphery of things because we're non-clinical. So we share some of the same anxieties. But I said, you know part of it's my own personality. I've always felt I need to do as much as I could, not just to provide good library service, but to be part of the life of the organization and make myself personally as valuable as possible, because I always feel so vulnerable. The truth is, in the last analysis, if they don't want me, they'll get rid of me. You know, it's as simple as that.

A sense of stability was assessed in the previous section, shown in Table 11, in order to attempt to understand how change might affect the librarians in their sense-making. Stability was judged against accounts of staff and budget losses, administrative or reporting structure turnover, and a reported history of harm or presence of threat, particularly in the situation being discussed. For those participants who felt themselves (or their libraries) well regarded (shown as Community view), employed in environments of relative stability, integrated within the community, and supported within their direct report relationship, there appeared to be a tendency to use the existing organizational structure in working toward objectives. Librarians in this

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enviable position (#1, 4,7, 9 and, 20) described working within committees, with supervisors and librarian groups in the healthcare system, and with experts in the hospital. While they were not always able to achieve their objectives, they found their sense of self-efficacy reinforced by planning, waiting for the right time to act, or finding balance by reminders of other parts of their lives that were more important.

For some librarians whose work environments were less stable, there is a possibility that sense-making texts employed were defensive in nature, by which I mean that their fear of harm affected their perception of choices. Acting to save the library, preserve their role or space, or save their jobs, situations described by seven of the twenty-two participants demonstrated their awareness of potential threats to their existence. These librarians took on jobs beyond their normal roles, even though doing so negatively affected their primary roles; this was also true for some whose workplace stability was unclear. They also bypassed denial of funding, software access limitations, or other support by working to find their own "back roads" to meet their objectives.

4.5 Q3: Does the Sense-Making Methodology Offer a Means for Insight Into the Sense-Making Behaviors of Hospital Librarians?

However informative it might be to describe resource selection and use, no examination would be complete in the absence of understanding of the highly contextualized environments within which librarians work, and of the effect these environments may have upon the decision making processes which librarians follow within their settings. In this section I discuss the benefits, problems, and observations made while attempting to use the Time-Line interview method with this sample population, and using an online setting together with a phone to conduct interviews.

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During the full version of the time-line interview process described by Brenda Dervin, basic questions are asked and then queried repeatedly, in a process Dervin has described as circling around the steps taken, until participant and interviewer have reconstructed the sense-making path, rationale, and results of the process (Dervin and Foreman-Wernet, 2003, p.258-259). In this way, an interim validation step is added to the interview process itself. However, people tell stories in their own way, and I frequently found that the narrative path took wide historical loops, which were valuable additions to the stories being told. While this happened, I used the Adobe Connect whiteboard to lay out a series of simple notes that were an attempt to recreate the steps in a manner similar to the time-line interview, but this was not always possible – or even desirable.

Reconstruction of the path had to wait until after the interviews in some cases, meaning that, while interim validation occurred, the ideal time-line process was difficult to follow and was reconstructed without the direct participation of the librarians. Dervin has described the use of modified Sense-Making research: "Around this model, a variety of adjustments have been made depending on both the funder's and the researcher's purposes" (Dervin and Foreman-Wernet, 2003, p.257), but I could find no description of its use in an online environment. As a result, though I had planned to use colored index cards in laying out what was conceived as a Micro-Moment Time-Line interview, I was forced to depart from this in conducting all interviews online. Alterations to the process would include portions of the preparation of participants, the co-creation of the time-line path (problematic, online); and concerns with access through firewalls when all but one of the participants were at work in hospitals which usually have firewalls.

Questions about the librarians' perception of task or situation difficulty, their thoughts about whether others might have similar problems, and their expectation of outcome, were incorporated into the interview guide (shown as items 1-6, Appendix B of this document) as probes to be used if the information was not provided by the participants. I found that when the questions were asked, responses tended to be somewhat dismissive of aspects such as perceived difficulty, and that if this information could emerge more naturally, it was much more descriptive of the pertinent context. As an example, one participant (#2) described her situation by mentioning that she received little support from her supervisor in dealing with difficulties encountered, but that in comparison to her previous supervisor, this one was very much better. In her explanation, information was shared about the history, how she made sense of her supervisor's lack of support, and why she had sought the information needed through "back roads" methods. As interviews progressed, the probes became more internalized as elements of interest, but were not often used.

Because the use of Dervin categories in this study was mainly descriptive rather than explanatory, the Dervin Sense-Making metatheoretical model and methods were only one part of the exploration. As a frame, an understanding of participants as theorists first encourages a necessary view of librarians as individuals, rather than as groupings of categorical checkmarks. Describing is not understanding, but it should be understood that without description, understanding falls woefully short. Even with description, understanding is contextual and imperfect. Dervin's unique lens was invaluable in framing this study. However, without the additional perception provided by Weick, exploration might have been more limited and specific to individual situations and gaps, rather than upon librarians within organizations (ironic, because Dervin's own starting point is with the insistence that sense-making is a process of

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communication). Weickian sense-making processes, largely writ, are very close to those illustrated by Dervin, but his work permits focus on the sense-made fabric of organizations.

The basic categories provided by Dervin served well as a point of departure, but needed to be understood within the context of this research, and readily discarded if they did not fit the emerging narratives. In performing post-interview analysis, I found that the GAP categories were less than meaningful. This may have been due to lack of familiarity with the processes, particularly online, but a number of categories did not work to describe what I was hearing. At the same time, emergent (and intriguing) categories to do with information behavior beckoned but would have taken the research off-track.

Librarians, unsurprisingly, are trained to seek information in their work, used to circumventing information deficits, and seldom encountered a dead stop by their own accounting, so that the frequent behavior of assessing information needs shown by this group (shown as START in the table found in Appendix H) was far more common than Dervin's own Spinout, Washout, or Barrier. Because START was so frequently used, it is possible that this category should have been further expanded, at least with more description about how librarians considered their possible responses or resources. However, this struck me as a step too far toward a different sort of inquiry into more detailed information behavior, and away from the more preliminary and broad exploration this study needed to be given the lack of any prior understanding. Using Dervin's categories and approach was problematic at times, even chaotic. Definitions of gaps and uses provided in her work did not serve my understanding or did not seem applicable (e.g., librarians seldom addressed or even really appeared to respond to questions about how difficult they thought it might be to find answers. At times this left me to speculate about how the practice-reinforced characteristics of librarians may have affected their

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situational assessments, including tendencies to regard information needs as generally solvable! Again, this was not the purpose of the study, and insufficient data were gathered to hypothesize about personality characteristics or the psychology of individual librarians. As I considered such difficulties, the importance of Dervin's categories receded, in favor of a more Weickian perspective on elements better supported by the data I did collect: self-efficacy, community regard, and the possible need to confirm, assert, or remedy regard. These were elements far more evident in participant narratives, and the emergent, common themes of harm and threat lent themselves readily to hypothesis generation in a way that made Dervinian gap-characterizations recede. One possibility here is that gap and use characterizations and categories will support future inquiry into information behavior based upon data collected but not explored fully in this preliminary inquiry.

Attempting to understand the sense-making of hospital librarians would have been problematic without the supplementary concepts of Weick. As hospital librarians function within and in the service of organizations, it is important to consider their sense-making within context, and the precepts and model for sense-making researched by Weick supported this research well. However, Weick does not supply the well-described methodologies explored and illustrated within the work of Dervin and many others who have followed her Sense-Making research. With Dervin's categorical structure, even though there were problems with fit, I was given a doorway to begin my exploration.

4.6 Conclusion

The narratives examined in this section were chosen in order to discuss themes of hospital librarians' sense-making behaviors in more depth, in answering the questions posed in the research. Narratives demonstrate librarians' characterizations of the gaps encountered in the situations described, and in examining these narratives, we can begin to understand how organizations are enacted in the process of the participants' sense-making.

Darlene Rico allows a glimpse into the collective making of sense, in describing the actions of the CME Committee as they together (except for the Chair) recognized the gap comprised of the Chair's opposition to change. Together, they talked about what it meant, using retrospect and the cue provided by an anecdote in order to arrive at several acceptable options for moving forward in a newly enacted organization viewed as forward-moving and rational. Rico, in her tale, explained her own identification with that mindset, as well as how she arrived at meanings with both her mentor-supervisor and members of the Committee. Taking action based on their sense-making would entail upsetting the Chair, so that care should be taken, but the sense of the situation had been (for that moment) understood.

Namath showed us how, in a more solitary sense-making journey, she read and interpreted the text of the organization, finding a way to meet her objectives by aptly finding her way through the hospital's "back roads" - an organization whose workings emerged from her understanding, connections, and history. From her journey, she came away with a new text about the organization and its workings. This is equally true of Bowden, who explained that she will not trust the webmaster in future dealings, has a different understanding of her relationship with the staff member in Public Relations, and has reinforced a sense of how the library lines up in terms of priorities.

For all participants, awareness of the community view was among the major motivators driving sense-making. For those whose organizational experience included harm or whose present existence felt threatened, affiliation and support may have made a difference in how they chose to approach sense-making. This is demonstrated in Rico's confident use of the administrative and Committee structure as mentors and peers as much as it is by Namath, who interpreted the text of retrospect and decided not to endanger her relationship with her new supervisor, so proving herself to be what she wanted to be: a savvy and effective library manager.

Through use of emergent categories, with the methods outlined by Dervin, it was possible to identify important aspects of participants' sense-making provided not by pre-existing categories, but through participants' own voices. In this way, the current of fear was detected, explored, and deconstructed in a limited way in order to begin to understand the presence of harm and threat and the role they might play in participants' sense-making. With this lens, the confident sense of integration enjoyed by Rico contrasted with the role that harm may have played in how Sarah Namath dealt with her situation, and the role of both harm and threat in Sherry Bowden's fight to try to get survey forms on the library webpage - and perhaps, ensure the library's continued existence. Understanding this, the work of Weick began to assert itself more forcefully as finally, a view was obtained of individuals within their organizations, interpreting and enacting their worlds.

In this chapter, the sense-making behaviors of hospital librarians have been examined in order to try to respond to the questions posed for this research. In the next, and final, chapter, conclusions will include assessment of the study's weaknesses, contributions, and suggestions for further research.

Chapter Five: Conclusion

In this chapter, discussion centers on summarization of my research findings as they address the main questions of the study. Limitations, assumptions, and bias are explored, followed by significance of the findings and consideration of questions for future research. In this summary statement, recognition is given to the necessarily preliminary nature of the research for reasons of time and resource limitations, but also due to the scope of the inquiry as it was understood over the course of the work. I consider this study to be a starting point, contributing to understanding about the needs and practices of hospital librarians at a time when change threatens their existence. An additional contribution is an understanding that the implementation of Dervin's model is insufficient as used in considering the likely impacts of organizational context upon the sense-making of the study participants.

5.1 Limitations of this Research

"If distance has certain arguable advantages, so too does closeness" (Rosaldo, 1993, p. 169).

Our inquiries are limited in their reach. By asking any question, we do not ask others; by framing inquiry, we limit our potential gaze. Boundaries of time mean that things may go unasked or unsaid, but also, that perceived lack of time may change the inquiry, the inquirer, and the respondent. By this I mean that people may gloss their explanations, and time may alter perspective on what was sensed during commission of the selected task. Charles Briggs states that

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the goal of oral history is to solicit information about past events. Researchers have noted the selectivity of memory. … [O]ral history interviews produce a dialogue between past and present. Interviewees interpret the meaning of both the past and the present, , including the interview itself. Each query presents them with the task of searching through their memories to see which recollections bear on the question and then fitting this information into a form that will be seen as answering the question (1986, p.14).

In addition to losing detail, some may be added in a sort of assumptive embroidery. It is with acknowledgement of these inevitable limitations that we ask anyway.

It is also important to recognize that the findings of this study are not generalizable to a broader population. Hypotheses generated here about the importance of community view in sense-making will need to be tested in further research in order to expand beyond this sample of hospital librarians. As well, due to the inevitable constraints of time, data collected from participants have not been fully analyzed, leaving much to be said about the potential connections between settings, hospital and library setting changes over time, and other undiscovered elements that may have affected sense-making.

While the issue of non-generalizability has been addressed to some extent in this research, the problem of working to capture one, or a handful, or one hundred accounts, presents its own problems. Entering the world briefly as a stranger, individuals' history and political roles, even within a small world such as a hospital library, are unknowable. It is no danger to accept the interpretations of the individual being interviewed, because after all, it is the interpretation that is of interest, rather than an external truth. Such things do not exist except by shared agreement, sediment and structure. This study is not intended to be generalizable beyond the twenty-two individuals studied or even beyond the sense-making situations selected by study respondents. Instead, it is hoped that the

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categories assigned to participants' sense-making activities and their affective responses to their situations can be used to expand inquiry beyond this initial study to understand librarians better.

The two main research questions asked were about how hospital librarians characterized gaps, and what role might be played by the organization in sense-making. The full Micro-Moment Time-line interview examines a complete spectrum from situation through gap to use, implying resolution has been achieved of some sort. In this study, the focus was on only situation and gap. As inquiry evolved, focus on the organizational elements in sense-making assumed more prominent roles, and the Dervinesque categorization of use receded. In order to conduct a full time-line study, focus would need to be narrowed to only the situation/gap/use triad. Because of this the study might be classified as an exploration of *some* of the elements involved in the sense-making behaviors of hospital librarians, providing basis for further analysis using the existing participant narratives or beginning a new study. This issue is discussed at more length in section 5.5.

5.2 Assumptions

> We can walk through a room without referring to an internal map of where things are located, by directly coordinating our behaviors through space and time in ways we have composed and sequenced them before" (Clancey, 1992, p.5-7).

An assumption I make, based upon several decades of library practice that includes work in many of the domains of practice identified by Crumley, Koufogiannakis and Slater (2004) (education, management, marketing, information access and retrieval, reference, and collection management) and several types of libraries (including public, legal, and hospital libraries), is that library work is both mundane and complex. By

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saying library work is mundane, I mean that much of the daily work may be done automatically, using standard, preferred methods and resources: if choices are to be made, they are often between known entities, embedded in the sediment of custom and policy. This accords with Patriotta, who describes the workplace as an often tacit cosmos made up of understandings constructed over time, some the legacy of a previous era, disrupted when new information is received (2004, p.3), and with Gioia and Mehra, who note that organizational life is largely comprised of non-novel, unsurprising events (1996, p.1229). Even these ordinary circumstances present opportunities for sense-making, albeit on a nearly unconscious or automatic level. However, for at least the last two decades, change brought about by increased automation, including a migration from paper to electronic texts, budgetary megrims, changing channels for communication, and the always-paramount requirement to respond to the volatile environments of practice for those we serve, means frequent disruptions or discontinuities in the operating environment, making librarians' work more complex. To Patriotta (2004), discontinuities in organizational understanding enable examination and explication of previously tacit aspects, constructing a new narrative about why things are the way they are. According to Weick et al., change occurs in tandem (and due to) a sense of equivocality about whether existing texts function to make sense of the way things are at this new moment (Weick, Sutcliffe, & Obstfeld, 2005, p.414). This narrative becomes part of the previous text of the organization, and so it continues.

Outside of the prescriptive standards set by library organizations, each library is its own microcosm, with political realities often dictating procedures and decisions in ways beyond the reach of professional ideals. Without licensure or mandated

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certification, each practitioner develops a highly individual understanding of librarianship, making practice a constantly changing, particularized cosmos. The relative proportion of assumptions and tacit knowledge governing various roles or tasks within the disparate settings of hospital library practice may vary, although whether those proportions can be measured is not a question I was prepared to address in this study.

Selecting sense-making as a lens for examination of human information behavior, and Sense-Making methodologies as pioneered by Dervin, as tools for inquiry, was motivated by my desire to utilise a methodology that encourages a richer narrative from respondents, and a theoretical perspective that asks "how?" and "why?" and (as much as possible) lets the respondent tell their stories. Beginning to acquire such an understanding about library practitioners is important, because without it, library practice is something of a "black box."

5.3 Bias Inherent in the Interview Process

The interview process functions to decontextualize communication from its environment (Briggs, 1986, p.118), resulting in a certain distance between the sense-made environment of the participant as it exists in process, and attempts to reconstruct even a small part of processes as they are experienced. Briggs expresses concern that

> interviews… are designed to extract this social-cultural or linguistic information from the contexts in which it is usually conveyed... We are, in effect, asking the natives to reduce the information to precisely the type of forms that fit our native-speaker bias … (Briggs, 1986, p.118).

Briggs' concern seems no less valid applied to hospital librarians asked to participate in the sense-making time-line interview process than it is to Mexican natives in their home village. As the focus is by necessity selective, from the start the respondent

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is asked to step aside from the complexity of the organization, as well as from the interwoven or enmeshed nature of personal experience within the organization, from confounding pressures and norms, which cannot possibly be completely explored even in the lengthiest of studies. Simultaneously with the decontextualization of interview content, the same content is contextualized to the "exigencies of the interview itself" (Briggs, 1986, p.118), presenting the likelihood that not only the focal issues, but the language, format, and other elements are changed to conform to the interview questions and contexts. In this study, the setup of the Adobe Connect whiteboard space with headings of situation, objectives, and other elements may have constrained or reframed participants' thinking and sharing of their narratives. While participants may in the course of the timeline interview explain some parts of the complex context within which their actions took place, the distance of time and memory, as well as the constraints of the interview itself, limit the contents of communication. Because of this, the results of analysis suggest concepts that require further testing. However, this is not the end of it. I do not suggest merely that interpretation may introduce bias. Instead, the interview is itself an opportunity for intrapersonal sense-making as the librarian shares his or her narrative and as that narrative is queried by the interviewer.

> Sense-Making […] implies a use of self as a site and tool for the bridging of discourses and the development of dialogic procedurings that make this possible. This does not imply that researchers suppress their own interpretations or the access to understandings that the privilege of their chosen life paths gives them. Rather, it implies that these are humbled and tested in dialogue and that the researcher becomes a vehicle of dialogic practice. Further, it implies that just as Sense-Making assumes that ordinary human sense-makers struggle with multiple verbings in myriad conditions with myriad outcomes and uses, researchers as human sense-makers are likewise involved (Dervin, in Dervin and Foreman-Wernet, 2003, p.145).

In other words, interpretive and analytic action simultaneously construct meaning that may be different from the original moment- and situation-bound meaning, but any analysis by the original actor or others is different from the original – and it has its own purpose in the process. It is not only a case of "How can I know what I think till I see what I say?" but also of "How can *we* know what we think till we see what was said?" Interpretive action thus becomes a *joint* dig through sediment, unearthing transitory, contextualized, and ultimately incomplete sense.

An additional concern related to bias is the illusion that specific methodologies used in interviewing and later, in analysis, will eliminate bias in any degree. When this occurs, the researcher is prone to considering that "what is said is [a] reflection of 'what is out there' rather than as something constructed by the interviewer's questions" (Briggs, 1986, p.3). By identifying the respondent as theorist, Dervin and colleagues suggest that the interviewer should enlist these individuals as partners in research (Dervin, Foreman-Wernet, & Lauterbach, 2003). However, a "truth" is only the truth of a moment, and can never be complete. Research respondents, however completely they become involved in the research, are still not researchers; they remain at a distance from the background of the research, they have not been involved in the design of the interview, and they can only respond during a member-checking phase to information provided. Recognizing these issues is an important element of conducting the research.

5.4 Significance of the Research

This study builds upon the sense-making research of Dervin and Weick by applying their perceptual lenses to a small group of people working in particular environments, within contextualized situations. Methods used for inquiry provide a base-

point for further inquiry with this and other populations by integrating consideration of those intra- and extra-organizational communities that comprise the working environment and text for sense-making for librarians, particularly during a time of change.

Rationale for this study included reports about the rapidly changing environment of healthcare and especially, changes in the spaces, collections, and roles of libraries and librarians, and the sense there is a danger that changes proposed for the profession that will not be adopted because they are unsuited for use in the practice environment; in addition, there is no real exploration at present of ways in which hospital librarians can move from their present, sometimes embattled positions, into very different roles.

The challenges faced at present call for hospital librarians' full participation in deliberation, at the very least. The narratives of participants in this study reflect the findings of reports such as Vital Pathways (Tooey, 2009), discussing slashed budgets, loss of staff, changes from paper to all-electronic collections, drastically altered patterns in foot traffic, and loss of space, among other concerns. Along with these concerns, many participants conveyed a palpable sense of fear that – in their own words, often – served as a motivating force or at least a force that was perceived as dictating choices. Findings of this study may also indicate that many hospital librarians perceive themselves to be alone, with time and information deficits restricting their abilities to promote, advocate, and provide convincing reasons for their existence, or to consider how, in their unique organizations, they might revise their roles to continue serving stakeholders. While most used the Medlib-L electronic mailing list and archives to try to find information that would inform their understanding and support decision making, a significant number appear to find that this information is only partly applicable to their unique settings.

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In the realm of healthcare, inquiries about the infusion of Evidence-Based Medicine show that it has successfully been incorporated into at least medical education, with rapid incursions into allied health fields, although some research has found that in practice, physicians still prioritize local and political interpretations of best practices that are not founded on broader industry standards. However, the crisis in healthcare is not one in which the practitioners must justify their presence and value at the risk of losing all, unless they change. Although changes must indeed occur, no one suggests that there may not be a need for physicians' presence in hospitals. The situation in hospital librarianship has added urgency. Responding to the broader healthcare environmental changes, the livelihoods of hospital librarians are at risk.

While librarians may sometimes wish to protect the status quo and fight against change, there is often recognition that change is needed, and many librarians have repeatedly adapted to losses over the years, challenges to their worth and purpose by taking on roles not traditionally understood as part of the professional duties, often doing so expressly to protect their budgets. This change is not always supported within the organization, nor within the extra-organizational, professional organizations of librarianship, and may leave librarians stranded. The study's findings suggest that library education and continuing education must support this population in their struggles, and that asking questions about librarians' own sense-making practices is a worthwhile pursuit that will help to build that support on solid understanding rather than on speculation and potentially maladapted models borrowed from other professions.

If the librarians in this inquiry are replaced as they retire, their replacements are likely to enter the hospital settings without their predecessors' decades of networking

knowledge and adaptive skills. Existing practitioners are frequently insufficiently supported by their organizational structure, some leaving the profession with a sense of defeat after years of practice. It is beyond the scope of this study to examine solutions for their support beyond those suggested for education, but the situation should be of grave concern to library associations and to colleagues who may be in more secure situations.

5.4.1 Implications of this research for LIS Education

Librarians interviewed in this research have benefitted from networking in many different ways. These include information gathering in support practice, including unbiased (by commercial interests) accounts of software used for practice, access to demonstrations of space planning, mentorship. Among librarians, networking has taken place in person (at conferences and regional gatherings), online (in web-based meetings and seminars as well as through electronic mailing lists, particularly Medlib-L), and by phone. Non-library networking has included connections to professionals in other areas of practice outside the healthcare setting (e.g., professional CME organizations), relationship building with vendors, and to people throughout the hospital and broader health system. Clearly, creating and using a network of connections has been important in the situations described. Librarians should be informed about existing formal networks and their importance, and while still earning their graduate degrees (or as part of continuing education), they should be exposed to the various relationships that may play a role in practice. Additionally, focus on the communication practices of healthcare and administrative staff during graduate education or as part of continuing education would ensure that librarians are made aware of the importance of these connections and how they might be made and used in promoting the library's objectives.

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While it may be common knowledge that librarians need to be flexible in their work roles, the situations described by participants may demonstrate the importance of self-directed education or skills enhancement in areas that are not limited to traditional librarian roles. Among other activities, participants have discussed their responsibilities in file server maintenance, budget maintenance, interdepartmental liaison communications, and intranet creation and maintenance: In each, the librarian had little or no training support, meaning that the time taken to learn may have been ineffective and took more time away from the library. As a result, in several cases, librarians felt their self-efficacy weakened, as they had to perform too-disparate roles, being completely effective in neither. Librarians need to know that they may need to advocate for themselves in getting access to training and other support.

Some participants talked about the lack of supportive data that would have enhanced their persuasive marketing efforts. If librarians are not trained in means of conducting surveys and measuring use of library services, they risk loss of funding from those who value hard data. With support for learning in these areas starting in the LS graduate programs and extended to continuing education offerings, librarians may be more likely to share local solutions for more general benefit. Many participants spoke of using the Medlib-L archive as a primary source of information, making this resource valued among the individuals in this study, and possibly beyond. From graduate study and beyond, if this type of resource is often used, librarians need to know how to critically evaluate and utilize information found.

5.5 Future Questions for Research

Motivation for the proposed research came from a variety of experiences,

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including my own practice in various library environments. Questions worth exploring about our own professional practices seem endless, because to date, so little has been asked. Although change has been a constant factor in my own practice settings for twenty years, events of the past several years appear to be leading to more global change. All we have previously known about collections and services may deserve scrutiny. Simultaneously, we look to replace our graying population – if jobs are still available. Unless LIS students are invited to the discussion about change – transparent, observed and desired -- we may unknowingly insert larger wedges into the already-recognized gap between research and practice. Following, I provide a set of questions for further inquiry, recognizing their incompleteness:

As stated in section 5.1, not all data gathered have been included in the analysis. Information about participant settings, and job and health system changes over time has been collected, but not considered for all but 3 participants. Future research will involve fleshing out the sense-making narratives for all participants in order to discover whether the hypotheses generated here are supported. It is possible that additional hypotheses may emerge from considerations of these elements, particularly health system size, geographical location (e.g., geographical isolation, as is the case for Librarian #17), and cost-saving and other large-scale initiatives. Also not considered is the possible impact of situation upon solo practitioners, and whether mentors or other networking might alleviate or alter sense-making gaps viewed as problematic.

Do the sense-making practices of librarians engaged in task work, and their more administrative tasks, generally, differ from the sense-making practices that they engage in, intended for patron service? This question cannot be asked until a baseline for

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methodology has been established, and it is my hope that this study will help to do so by providing a model that integrates the Dervinian metatheory with Weickian contextual considerations.

Do the resources used for practice-focused research differ from those used for non-practice focused research? The librarians in this study consult with peers, search the Medlib-L archives, and otherwise have described limited use of LIS and other bibliographic database resources. While LIS is recognized to draw from other disciplines for practice (e.g., business administration, education, and communications, and for medical librarianship, health literature), the administrative literature may be an uneasy fit for highly contextualized practice decision-making of librarians in many settings. Questions must be asked, with each use of information derived from sources beyond the setting, about the applicability of that information, but there are no, or at least very few, resources that specifically would aid in this process.

How can practice-focused research be supported and encouraged in LIS education? To address this question, an exploration of existing course content in order to understand whether there was a match between practice and resources would be necessary. If research finds that librarians in practice use casual sources like electronic mailing list archives, then tools for the evaluation and application of casually-derived evidence should be built, tested, disseminated, and taught in LIS education.

Part of the impetus for this work comes from questions I have about whether the model currently described for EBL is a good "fit" for hospital librarians, based upon my own observations and experiences, upon judgments made of librarians' non-use of

research in the workplace. By inquiring into sense-making behavior I hoped to begin to understand who we librarians are, as a way to understand where we may be going. Weick wrote about organizations as built from the sense-making activities of their members: sense-made structures, constantly under examination, changed by and explicated by that scrutiny. Tsoukas and Chia (2002, p.569) suggest that we need to view change itself as the predominant state of organizations, rather than viewing organizations as monolithic entities in which change is something "done to" them. It is possible that by beginning this inquiry, I can make a start toward understanding change within hospital libraries as a consequence of our sense-making (or in understanding how librarians can work to effect and respond to changes, even those beyond control); and that this understanding may aid in directing purposeful change in an uncertain era.

Appendix A: Participant Screening Questions

These questions will be sent to interested participants by email or used as part of a phone conversation (depending upon the preferences and availability of librarians) as a way to determine eligibility for inclusion.

This research study is intended to examine practices of librarians who are working full time in hospital libraries. Please respond to each question with a 'yes' or 'no,' adding comments if you would like. For several of the questions, you are asked to provide a description.

4 Do you have an earned Master's in Library Science?

5 Do you have an earned Master's in another subject area?

6 Are you currently employed full time (35 hours or more) in a medical library?

7 Do you have supervisory, administrative, or decision making responsibilities in the library?

8 If you answered yes to question 4, please briefly describe your library-related supervisory, administrative, or decision making role briefly.

9 Please describe the larger institution with which your library is affiliated (e.g., hospital, university).

10   Are you willing to participate in an online interview using Adobe Connect?

11   Are you willing to permit audio recording and data capture of interview content?

Thank you for taking the time to respond to these questions.

- Index information for audio recording: date, time, participant and location information

Prior to interview:

- During recruitment phase after participant has passed screening: Request that copies of supportive documents be made available at the time of the interview to aid in task reconstruction, if possible.

- Ask participant for director contact information in order for PI to obtain permission from library director to provide supportive documents described above.

- Documents may include the following:
    - Job description
    - Library organizational structure chart
    - Hospital/healthcare system organizational structure chart
    - Documents related to task as appropriate

- Gather signed consent from participant and permission from director. Restate participant ability to discontinue interview at any time and the possibility of deductive disclosure. Restate that interview is to be audiorecorded.

- Mention need for follow-up interview by electronic mail and phone. Explain expected timeline (3-4 weeks following interview) for provision of transcript. Explain member-check step.

- Initial questions leading into interview:
    - ask for supportive documentation
    - check on currency and accuracy of documents
    - ask for information about any marked disparities, particularly as it affects the task being described
    - specifically ask how documents are connected to the task.
- For online-only participants:
    - Provide specific directions to participants via Adobe Connect invitation to participate in meeting.

Interview:

Probes to be used if information is not provided by participant.

1.   Description of task
    - Timeline

- Urgency
- Priority
- Impact expectations (importance)
- Problems perceived

2. Respondent role in task
- reporting relationship(s)
- skills and experience in dealing with similar tasks
- perceived difficulty
- decision-making agency
- Expectations

3. Ask participant to describe task (narrative) briefly.
4. Retrace steps in task, labeling each as an event on an index card (EVENTS)
5. Description of problem(s) encountered (GAPS)

Probes:

- What were you trying to do when you asked this question?
- Did you see yourself as blocked or hindered when you asked this question? How?
- Is there anything else you say that explains why you asked this question?
- Did this question stand alone or was it related to other questions? How?
- How many other people in similar situations would ask?
- How easy did it seem to get an answer? Why?
- Did the ease change? How? Why?
- How important was getting an answer?
- Did the importance ever change? How? Why?
- Did you ask the question out loud? If no, why not?
- Did you get an answer? When?
- Was the answer complete or partial? Why?
- How did you get an answer?

6. Information sought (USES)
- Did you expect the answer to help? If the answer: did it help in ways expected or other ways?
- Did you expect the answer to hurt?
- If participant got answer: did it hurt in ways expected or other ways?

Appendix C: Recruiting Letter for Electronic Mail and Electronic Mailing Lists

Dear _____

I'm recruiting for a study about the 'sense-making' practices of hospital librarians as they engage in task work that's unrelated to direct patron service. I am a doctoral candidate in the School of Library and Information Science at the University of North Carolina at Chapel Hill, and this study will provide the basis for my doctoral dissertation.

As a former hospital librarian myself I have been very much aware of problems currently faced by hospital librarians, and of the calls for change: informationists, re-purposing of library spaces, new relationships with our key stakeholders.

With this research study, I'm hoping to move toward better understanding that may inform planning for medical library education and change that takes our real behaviors and needs into account.

You will be asked to commit three hours of your time. Part of this time will require your participation in an interview that will take place in your workplace, or using online meeting applications, or in a location most convenient to your location and availability; the interview will be audiorecorded and if online, documents generated during the interview will be saved for transcription. During a follow-up, which will take place by email or phone, I may need to also record the conversation as part of the process. Participation is completely voluntary: you may decline to participate without consequence to employment.

Please respond to this email if you are interested in helping with this research study.

This study is approved by the Office of Human Research Ethics; IRB #10-2114. Questions concerning the approval process or ethics of this study may be addressed to the following:
919-966-3113 or by email to IRB_subjects@unc.edu.

Carol Perryman MSLIS, TRLN Doctoral Fellow
Instructor, School of Library and Information Studies
Texas Woman's University
P.O. Box 425438
Denton, TX 76204-5438
Fax: (940) 898-2611
Email: CPerryman@mail.twu.edu

Appendix D: Director Permission Form

Dear ___ ___,

I am a doctoral candidate in the School of Library and Information Science at the University of North Carolina at Chapel Hill, and this study will provide the basis for my doctoral dissertation.

 I'm a former hospital librarian myself and have been very much aware of problems currently faced by hospital librarians, and of the calls for change: informationists, re-purposing of library spaces, new relationships with our key stakeholders. However, the prescriptions for change are not based on evidence: we have done very little research on our own information behaviors! With this research study, I'm hoping to move a little way toward better understanding. It is my hope that what I learn can inform planning for medical library education and change that takes our real behaviors and needs into account.

I am interested in interviewing a member of your library staff, (participant name), about the thought processes entailed in performing a task that is unrelated to direct patron service. In order to characterize aspects of information behaviors of hospital librarians, questions will be asked about problems encountered during performance of the task. My approach is based on the work of Brenda Dervin, whose research has helped to inform library reference services for patrons.

If possible, I would appreciate your permission to meet with and interview participants on the premises, especially if a private meeting room can be secured. Time release for participants for approximately one hour would also help to encourage participation during normal working hours.

As a part of the interview, which will be recorded, I will be asking for copies of supportive documentation, including the following:
- Job description (needed prior to interview)
- Department, hospital, and healthcare system organizational charts
- Supportive documentation pertinent to the task being examined

The documentation will be used to help reconstruct the task under examination and to place the participant's narrative description in context of the library and the hospital. This valuable contextual information will inform the analysis but particulars will remain confidential. Libraries, staff names, and other identifiable information will be removed or changed to ensure confidentiality.

This study is approved by the Office of Human Research Ethics; IRB #10-2114. Questions concerning the approval process or ethics of this study may be addressed to the

following: 919-966-3113 or by email to IRB_subjects@unc.edu.

My dissertation supervisor is Dr. Joanne Gard Marshall. Her contact information follows:
School of Information and Library Science
Manning Hall Room 301, CB3360
Phone #: 919/843-7883
Fax #: (919) 962-8071
Email Address: marshall@ils.unc.edu

Many thanks in advance for your consideration of this project.   Please let me know if you require further information.

Carol Perryman MSLIS, TRLN Doctoral Fellow
Instructor, School of Library and Information Studies
Texas Woman's University
P.O. Box 425438
Denton, TX 76204-5438
Fax: (940) 898-2611
Email: CPerryman@mail.twu.edu

Title of Study: The Sense-Making Practices of Hospital Librarians
Principle Investigator: Carol Perryman

Director Consent

Please initial each statement to indicate your permission:

__   I am willing to permit supportive documentation (such as job description, organizational charts, and materials related to the task being discussed) to be provided by my employee for the purpose of this research study.

 __ I am willing to allow my employee to meet during normal work hours.

__ I am willing to allow the use of the premises for the purpose of this research study.

__ I am willing to permit use of a private meeting room in or near to the workplace for the interview.

Dear _____,

Thank you for agreeing to participate in the study, entitled The Sense Making Practices of Hospital Librarians (**IRB Study #_10-2114**). I have attached a consent form for you to read and sign. The form provides you with information about the study and how it will proceed, and I will need to have a signed copy before we meet for an interview.

I am also wishing to contact your library director (if you are not the director) to obtain permission for your provision of documentation, and to ask for work time release. Ideally we will be able to meet in a private space at the library or within the hospital, but alternative meeting spaces can be arranged if needed.

Among the supportive documentation I will need is a copy of your job description. I would like to have this prior to our interview, as I may need to ask questions about your overall job duties. Please provide this as an attached document in response to this email.

Any questions you have about this study are welcome. I will be contacting you by phone very soon to set up an interview time and date. Please respond to this email with your preference of day and time for this brief conversation. I want this to be a comfortable and convenient process for you, so if your preference is to talk after work hours (including on the weekend, I am happy to accommodate.

Thanks for your time,

Carol

Carol Perryman MSLIS, TRLN Doctoral Fellow
Instructor, School of Library and Information Studies
Texas Woman's University
P.O. Box 425438
Denton, TX 76204-5438
Fax: (940) 898-2611

Attachment: Consent form

Appendix F: Follow-up Interview Request by Electronic Mail

Dear _____,

I have attached a transcript to this email for your review. You are asked to read it and add any notes or comments you would like as a way to make sure that I have accurately captured your thought processes during the task we explored in our interview. If you think that there is any additional supportive documentation that may help with analysis, I would appreciate receiving copies.

Please respond with a time and day convenient to you for a brief phone conversation about the transcript. I will be audiorecording our phone call as a part of the interview.

Thank you for your participation,

Carol
Carol Perryman MSLIS, TRLN Doctoral Fellow
Instructor, School of Library and Information Studies
Texas Woman's University
P.O. Box 425438
Denton, TX 76204-5438
Fax: (940) 898-2611

Appendix G: Interview Guide for Follow-up Interview by Phone

Materials
- Transcript provided to participant
- Digital audiorecording equipment for phone

Index information for audiorecording: date, time, participant information

Prior to interview:
- Provide transcript and ask for participants to read and note any changes or additions they feel would make the data obtained more complete or accurate as a reflection of their thought processes.

Interview:
- Ask for feedback on transcript, including accuracy of transcription.
- Ask whether reading transcript has brought any new thoughts to mind about their task processes, their feelings about the processes, or other aspects of the task processes.
- Ask whether there are additional supportive documents that may help to clarify task or the institutional context for purposes of analysis.

Librarian #	Gap: What (what is needed?)	USE: Info needed	USE: Action	USE: Who/What Where sought?	Notes
1	What are areas that need improvement?	Information or examples	Moving	WHO: Extra-org Other	Accreditation report
	What processes are currently in place?	Information or examples	Ask or seek	WHO: Org structure	Previous annual suveys, feedback, observation on units
	What are other hospitals doing?	Information or examples	Ask or seek	WHO: Extra-org Libgrp	CME organization and Web search
	What problems might be expected?	Information or examples	Being led	WHO: Extra-org Profgrp	CME organization and Web search
	How to convince Chair of need for change, or work around his opposition?	Advice or ideas	Being led	WHO: Org structure	CME Committee, mentorship from supervisor
2	Received no training or access to budget templates in use in hospital	Skills or training	Ask or seek	WHO: Org, back roads	Asked friend in IT dept. who does budget
	Have no access to in-house electronic mailing list for department directors	Access to resources	Ask or seek	WHO: Org, back roads	Got put on another dept. manager's list for management mailing list
	Person who would normally be a resource is not approachable	Access to resources	Ask or seek	WHO: Org, back roads	Asked friend in IT for access to budget templates and programs
3	Budget request denied	Approval or permission	Passing time		Situation got worse
	What can be done? What are options? Are there safety and access issues?	Information or examples	Ask or seek	WHO: Org, back roads	Asked housekeeping, engineering departments for information
			Decision		Borrowed and bought resources under budget approval amount

Librarian # (contd.)	Gap: What (what is needed?)	USE: Info needed	USE: Action	USE: Who/What Where sought?	Notes
3		Access to resources	Ask or seek	WHO: Org, back roads	Supervisor angry, won't use space for meetings now. Library patrons are happy and confirm L's sense of efficacy.
4	What are the needs of staff at the different locations?	Information or examples	Ask or seek	WHO: Org, back roads	Got info from relative, got info from staff member who knows everyone, got info from listening/monitoring, constantly. Confirms/validates her understanding of need at other locations.
	Given the differences in awareness and use at locations, how to find agreement on cost sharing?	Information or examples	Waiting		Have to wait, cannot do herself. Puts things in perspective.
5	How to get MSOffice suite installed on library patron-use PCs? Requested site licenses & installation of MS Office	Approval or permission	Ask or seek	WHO: Org structure	Got BARRIER: turned down by IT
	Ignored by IT department, no response to offer.	Approval or permission	Ask or seek	WHO: Org structure	Sitation kept getting worse.
	Needed support and intercession	Approval or permission	Passing time	WHO: Org structure	Frustrated. Needs clearly not a priority to supervisor.
	What else can be done?	Advice or ideas	Ask or seek	WHO: Extra-org Libmentors	Encouraged to keep trying by mentor. Also asked library peers at regional meeting. Got moral support/commiseration.
	How to persuade supervisor and IT to approve site licenses and installation?	Information or examples	Moving	WHO: Org structure	Conducted survey of house-wide staff. Got responses. Will take to supervisor and IT, simultaneously as proof of need.
6	How to counteract negative perception from hospital administrator?	Advice or ideas	Being led	WHO: Extra-org Libmentors	

Librarian #	Gap: What (what is needed?)	USE: Info needed	USE: Action	USE: Who/What Where sought?	Notes
7	How to integrate holdings list with newly available full-text articles through a number of online vendors.	Advice or ideas	Moving	WHO: Self	Made up spreadsheet, but that's only a partial solution
	What applications can help with this process? What elements are needed in my unique setting?	Information or examples	Ask or seek	WHO: Extra-org Libgrp	Saw what others were using. Got demonstration, assessment of products.
8	No experience	Skills or training	Ask or seek	WHO: Org structure	Asked corporate Web development. Got added to access list for resources - but material there was too overwhelming.
	What do webmasters do?	Information or examples	Ask or seek	WHAT: Web	Web search for information about intranet creation and management
	How to deal with being put between corporate office and hospital departments?	Advice or ideas	Ask or seek	WHO: Org structure	Asked corporate office for advice; GOT told that this was her responsibility.
			Decision	WHO: Self	Decided to "borrow" corporate authority.
		Skills or training	Ask or seek	WHO: Org structure	Corporate trainer is new, too - one step ahead of L.
9	How to show library's value on the annual report despite downward-trending use in every area?	Information or examples	Ask or seek	WHAT: DB	Searched in JMLA, Medlib-L Archive, MLANET.org "Members Only" area. Expected: Not much, because issue not perceived as newsworthy." GOT: One chart that would help.
	How to measure services I provide?	Information or examples	Moving	WHO: Extra-org Profgrp	Everyone was having the same kind of issues but nobody felt real comfortable about how to most positively present what they do, other than it's not all online, and it's definitely not free, and that you need a qualified librarian […]"

Librarian #	Gap: What (what is needed?)	USE: Info needed	USE: Action	USE: Who/What Where sought?	Notes
9 (contd.)	Do not have access to library budget information, so cannot participate in LIBQUAL	Information or examples	Passing time	WHO: Org structure	
		Skills or training	Moving	WHO: Extra-org Other	Attended MLA Webinar on "showing the value of your library"
10	Have no skills or experience in this area	Access to resources	Ask or seek	WHO: Extra-org Libgrp	I do know that the local chapter of our library group has interns that are savvy in that sort of thing, so I was […] just going to tap into their knowledge, see what they're doing.
	How to convince supervisor of feasibility of plan?	Information or examples	Ask or seek	WHO: Extra-org Libgrp	If I could get some really hard, tangible evidence on how this can work, I can get a green light from him. (Supervisor).
11	What are potential legal ramifications?	Advice or ideas	Ask or seek	WHO: Org structure	Information from hospital attorney confirmed need to move quickly
	How to bring together system libraries, when each is very different in terms of informaiton use and awareness of resources and services?	Information or examples	Ask or seek	WHO: Extra-org Libgrp	ASKED: Question on Medlib-L. GOT connected with other library directors with similar experiences; GOT assessment of problems, time frames, processes.
		Information or examples	Ask or seek	WHAT: Web	DID: Browsed in J Hosp Librarianship, JMLA, etc. GOT: nowhere. DID: Searched SLA site. GOT: Information on licensing. "SLA is a very good resource for me."
12	No knowledge or experience, no idea what was needed. "I thought […] maybe we could send [assistant] to some classes.	Advice or ideas	Ask or seek	WHO: Org structure	The person that helped me down in IT didn't think that was feasible. She felt that the prerequisite knowledge was too considerable.

Librarian #	Gap: What (what is needed?)	USE: Info needed	USE: Action	USE: Who/What Where sought?	Notes
12 (contd.)	"I find myself with no knowledge of programming going in and trying to understand this ASP page…"	Skills or training	Ask or seek	WHO: Org structure	GOT: Little support. "So the guy who's currently our IT security person down there… he's still learning his job, too. He says to me, "I've got to tell you, you know more about this than I do."
		Advice or ideas	Ask or seek	WHO: Org, back roads	Asked IT person who has been reassigned, but who knows a lot about the issues. "She has full time responsibilities in her position - her supervisor didn't want her spending more time on this." GOT: Some tips on searching files and dealing with the server.
13	How to continue to serve library users?	Information or examples	Ask or seek	WHAT: DB	Librarian is a doctoral student and had been searching for literature review; found article on "evidence cart" used in hospital. "I knew if I could infiltrate the physicians' loung, then you know, it would be a score."
		Approval or permission	Moving	WHO: Org structure	DID: Applied for technology grant through RML; went to Chief of Staff and got permission; put materials in doctor's lounge; began to staff lounge, with laptops, just to kind of be there in case they had a research request. GOT: "We ended up seeing about a 27% increase in the number of our search requests because of them actually seeing us in person there."
14	The nasty attitude of the grant supervisor caused near-paralysis for this librarian		Passing time		"I didn't do anything for weeks"

Librarian #	Gap: What (what is needed?)	USE: Info needed	USE: Action	USE: Who/What Where sought?	Notes
14 (contd.)	Are rooms available for training?	Information or examples	Ask or seek	WHO: Org structure	EXPECTED: "I figured I'd just be able to get a classroom to hold my meeting." GOT: "It seemed like the rooms were filled, which is something that never occurred to me when I put in the request."
	Should I report grant supervisor?	Advice or ideas	Ask or seek	WHO: Org structure	Asked supervisor about what to do. Advised against reporting staffer.
			Ask or seek	WHO: Org structure	DID: Talked to a few people, GOT commitment to attend a training in the upcoming weeks.
15	How to deal with 3/4 reduction in library space while ensuring that the needs of library users are met?	Information or examples	Ask or seek	WHO: Org structure	Did survey: "Because I thought my point of view meant nothing to them, but if they could see what users felt." GOT: "I got in trouble for doing that. But we got the feedback that we wanted. I figure if I don't act now, then - you know, what can I do, lose my job?
			Decision	WHO: Org structure	"I'm thinking I'm just going to step back and re-look at whatever space might be available [...] to try to retain as much of heavily used content as possible. [...] And they're dictating how [the new space] will be laid out right now."
16	How to get point-of-care resource onto the hospital's intranet in time for integration with new system?	Advice or ideas	Ask or seek	WHO: Org structure	DID: Got champion in Nursing. "I kept getting referred to the same person in MIS." GOT: MIS person wouldn't work with L. Up to a point she would listen, but then it just sort of stopped."
		Information or examples	Ask or seek	WHO: Extra-org Other	DID: Went to product vendor. GOT: Slides, showing solution would work; list of places already using application.

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Librarian #	Gap: What (what is needed?)	USE: Info needed	USE: Action	USE: Who/What Where sought?	Notes
16 (contd.)		Information or examples	Ask or seek	WHO: Extra-org Libgrp	DID: got names so MIS could contact them if needed; conducted literature search (PubMed), looked at JMLA.
		Approval or permission	Ask or seek	WHO: Org structure	DID: Went to an MIS executive director. GOT: "he said to me, 'What do you get out of this?' […] I thought, 'why does he think I have a personal axe in this. I don't. I mean, I have no idea."
17	Need to get contracted webmaster to create and post survey on library webpage, based on librarian's design		Ask or seek	WHO: Org structure	EXPECTATION: Cooperation. GOT: Webmaster nonresponsive in extreme: ignored L, or told her it couldn't be done.
	Running out of time on grant - what to do to get compliance?	Advice or ideas	Ask or seek	WHO: Org structure	GOT: "I got a lot of excuses. Well, you were bumped for these other departments because they now have this particular need, and then I had to counter that with well, yes, I understand, however, I have a deadline, I have a grant."
		Access to resources	Ask or seek	WHO: Org structure	GOT: Supervisor went to head of IT, but "That didn't resolve it, because she felt it was not her domain […] so we didn't really have anywhere to go with this."
			Decision	WHO: Org structure	L complained through IT. GOT: "I was given what I needed, but barely. […] It was actually a horrendous struggle."

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Librarian #	Gap: What (what is needed?)	USE: Info needed	USE: Action	USE: Who/What Where sought?	Notes
18	Will we lose our jobs?	Advice or ideas	Waiting		GOT: Assurance from administration that job loss would not occur. AFFECTIVE: "I guess when we got the news we were like, oh my God, this is the end of library services. First they take away our director, now this. There won't be anything left. You kind of hear that announcement [...] and then you think, well, maybe we can slip under the wire."
		Advice or ideas	Ask or seek	WHO: Extra-org Libmentors	GOT: Former director reminded L that the person assigned to work with the library in planning for cost savings was "a good guy" and would be good to work with.
			Decision	WHO: Self	DID: A cost-per-use study. GOT: Statistics put information in terms that made sense to Administration. AFFECTIVE: Once assured job loss would not occur, L felt more secure. "You know, through that whole process? They didn't lay anybody off. They were committed to that."
	What will the impact be of cutting user licences to some applications?	Information or examples	Waiting	WHO: Org structure	GOT: Not really a problem.
	If we stop binding, will we lose materials?		Waiting	WHO: Org structure	GOT: Not really a problem.
19	What solutions are affordable - and work?	Advice or ideas	Ask or seek	WHO: Org structure	DID: Talked with security, GOT advised to put in a camera.

Librarian #	Gap: What (what is needed?)	USE: Info needed	USE: Action	USE: Who/What Where sought?	Notes
19 (contd.)	What have other hospital libraries done?	Information or examples	Ask or seek	WHO: Extra-org Libgrp	EXPECTATIONS: I wasn't sure. I just know that several times when I've had a problem [...] when I have looked on the MedLib archive or posted a question, other people who have had the same problem will often tell me what worked or didn't work." GOT: "I couldn't find anything that was -- it's not something people write about very often, but I did do some searchingto see if anybody had come up with a recent study or talked about it in the literature or made any suggestions. I didn't find anything."
		Information or examples	Ask or seek	WHO: Extra-org Libgrp	DID: Posted on Medlib-L "asking if people had any luck with security cameras or other things. You know, I described our situation and it's real typical of hospital libraries." GOT: Knowledge that others also have this problem. GOT: Opinions from others that cameras were not a good solution.
			Decision		Decided to mark books and continue to monitor situation.
20	What elements should be included?	Advice or ideas	Ask or seek	WHO: Org structure	DID: Met with community and patient education director, ("She's really good at planning and kind of seeing how things can be put together and have them happen.") GOT: Ideas and support.

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Librarian #	Gap: What (what is needed?)	USE: Info needed	USE: Action	USE: Who/What Where sought?	Notes
20 (cont'd.)	What information is needed?	Information or examples	Ask or seek	WHAT: DB	EXPECTATION: "We're hoping [to convince them] with research that has shown outcomes, positive outcomes where patients are getting information more at the point of readiness or at the point that they're received a diagnosis…"
21	What have other medical libraries done? What would help streamline access, and be affordable?	Information or examples	Ask or seek	WHO: Extra-org Libgrp	GOT: "Understanding that others have same issues. At that time, nobody had an answer. They kept doing what they were doing, which is that they were spending a lot of time doing it, or they just told the physicians, look, it's outside our scope of service."
	What would work?	Ideas	Ask or seek	WHO: Self	"I thought to myself, what if I put all of those articles on the home page, made up my own little thing, and then all the docs could authenticate through it [the portal application]?" DID: Asked company representative about innovative use of portal application. "Nobody had mentioned [this idea] because nobody thought of it."
22	What issues and elements need to be considered in library renovation? What have others done?	Information or examples	Ask or seek	WHO: Extra-org Other	OBSERVED: Took field trip to another library, GOT ideas, information from library staff about the experience. Monitored Medlib-L. EXPECTATION: That posting a general question wasn't appropriate or productive; that books would not help.

Librarian #	Gap: What (what is needed?)	USE: Info needed	USE: Action	USE: Who/What Where sought?	Notes
22 (cont'd.)	What do our library users really want?	Information or examples	Ask or seek	WHO: Org structure	"It turned out they really weren't interested in some of the technology-related services that we were - we probably would have done [them] if left to our own devices." GOT: more specific ideas, more specific questions.
		Information or examples	Ask or seek	WHAT: DB	Also had attended MLA conference, saw poster about "very similar process […] had similar questions. And I remember reading the poster veryy carefully and trying to remember everything, but it's hard when it's not a paper. You know, it's not durable."

Appendix I: Participant Narrative Flow Diagrams

4.5 Brief Tabulated Narratives: Situations, Gaps and Uses
1.Darlene Rico
Situation/task background: I was part of the review process as part of continuing medical education, and sat in on the accreditation meetings with the reviewers, and discussed areas in which the library was participating. And our survey came back that we were noncompliant in five out of the nine essential areas. And we had to submit a report, a six month report last August. [Basically] I was asked to review the summary of the areas of noncompliance and comment on them and asked to create the document that went back to them, our interim report and ways in which we would address these areas of non-compliance. So I put together the interim report and from that we are putting together a proposal, basically kind of a long term, or initially a short term strategy, and a progress plan for upgrading our continuing medical education program, so that we can be compliant in all areas.

I'm the one that's going to be putting together the proposal for and implementing a new CME program here. So what that entails is basically going through the areas of non-compliance that were in our survey report, and looking at the ways in which continuing medical education programs have to address the educational needs of the profession. And one of areas that we were non-compliant in was called practice gaps. And what a practice gap is, is basically a need that is identified, that a physician identifies or is identified in a department or on the floor. And this need has to be addressed in terms of an educational opportunity for the staff to attend in order to answer these educational needs.

So what we – and we are non-compliant in that area. We do not identify the gaps in practice. We don't measure the outcomes of our CME programs; there's nothing in place that does that right now. We do have a very skeletal evaluation form which our physicians fill out, but there's no – and it's basically you know if you attend, then you fill this out and you know, did this program meet the objectives? But where we're lacking is - it's not qualitative enough and also there's no follow-up. So there's no mechanism in place right now where two weeks from now we go back to the person who attended the educational activity and say, have you put this into practice? Has this worked? So we aren't measuring to see if what we're doing is actually working. And that's required for us to be compliant.

Importance: Continued accreditation depends upon compliance with new state and national standards.	

GAPS	ACTIONS	GOT
What processes are currently in place?	ASKED: What are perceptions of hospital staff about needs and processes? Reviewed annual survey, visited practice areas. OBSERVED: Talked with practitioners and with members of CME Committee	Understanding of the discrepancies between hospital practice and new CME requirements
What are other hospitals doing?	ASKED or SOUGHT:	Understanding that process will be smooth after implementation

What problems might be encountered? What information is available??	Other librarians in health system	Comprehension of factors involved (time, money, politics, administrative issues, expectation of initial resistance) Benefit of experience and setup at other locations. Understanding of specific information needs. Examples of other programs, slides, documents,
	Joined regional and national CME associations	Examples and ideas posted on the members-only sites Connections with other CME directors Concrete direction, examples, and ideas
	General Internet searching	Examples of other programs, slides, documents, forms in use
	Database searching	"There's not much there […] I'm thinking it's not something you can search, you know, like a database."
BARRIER Chair of Continuing Education Committee opposed to change **GAP**: How to convince Chair of need for change?	**Strategized:** Talked with mentor/supervisor and with other Committee members	**Decision:** Process needs to move forward with or without Chair's agreement. **Validation.** "It has sort of solidified, in my mind, the process that we need to stay accredited. It's forced me to realize that he's going to have to jump on the bandwagon with us, or he's going to have to relinquish his duties."
	Submitted progress report to Administration outlining plans for implementation.	Waiting on approval

2. Sarah Namath		
Situation/task: How to create and maintain the library's budget?		
GAPS	ACTIONS	GOT
BARRIERS: Received no training for budget programs in use at hospital Person who would normally be a resource is not approachable Not included in the hospital manager electronic mailing list		"I just knew it was a recipe for failure for me. I felt like I was being set up." "She pretty much threw me out in the water and said, 'okay you want to be on your own, here you go', and she's not as helpful." "That's a little bit of a sore spot for me, and is also a communication gap for me, because all managers are required to attend a budget training session, and I would miss those emails because I'm not considered leadership management, even though I am the Medical Librarian and I'm doing performance evaluations and budgets."
	Repeatedly asked direct supervisor to be put on manager/leadership mailing list	GOT: No action for more than a year, still not done. Supervisor says he will tell Namath what information he feels is pertinent
	DECISION: "Maybe it's not completely there [communication] as it should be, but I am so happy for the support that I have now. And what I mean by support is I have someone who listens to me. So that, to me, is huge support. Granted I don't have the communication that I need and it's little more of a – a little – it's a struggle to get all of the communications. […] So just because I'm not getting the communication of being recognized as	

	leadership, I feel like I need to pick my battles."	
	Discreetly ask other managers for information	Supervisor doesn't always provide information in a timely or complete manner.
	"And so that's why I contacted – coincidentally I had a personal friend in the IT Department who's been very familiar with the budget program, because her manager has her doing it. "	"She tutored me 3 different times on "as needed" basis"
	"I actually went to the corporate accounting department and the main contact person for the second budget program."	Private training after his manager approved "[He] actually put me on his email list, so now instead of using just the management leadership email distribution list, he also includes my name on that list, so that I'm in the same communication as everyone when he sends out an email about the budget."

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3.Valerie Henry		
Situation/task: How to create a quieter and more private space in the library?		
GAPS	ACTION	GOT
Barrier: Turned down for first renovation proposal, no reason given	Did nothing	"The problem just continued, it just got worse. And for me the most frustrating thing was that I had to referee my patrons, a, and b when people would come in for a meeting, they'd take over the whole space and then the quiet people couldn't come in, you know. And also they made so much noise I couldn't think. I had to, you know I had to do my literature searching there and I couldn't think."

How to remedy situation? What are my options?	"I thought about getting a sound wall to wrap around my desk."	GOT: "No, that wouldn't work."
	So I began to look at it [the space and the shelving] and I thought if I just moved this one, we could make a wall.	
"I wonder if they'll allow me to do that. Is there an earthquake issue with this?"	"So I measured [the space and shelving"	GOT: I thought, you know that's fine. It's the same distance as the bookcases are apart, so that will be fine. That will apply. And this could work perfectly. I kept thinking if I could do it for cheap I bet I could do it out of my budget. And it just occurred to me, I'll just put – I measured that thing and I said I can just make a wall out of that. It's packed, just absolutely packed without spaces and with journals it will be two sided, it will be a perfect sound wall. And I kept measuring and thinking and I thought, I'll ask them, I'll just ask them. I needed them [engineers] to come and tell me whether or not we could do it."
	"I did seek information from the [engineering and design] people."	"They did come in and check out the space to make sure that a) they had enough outlets in it and you know that kind of thing." GOT: helpful, unsolicited design idea.
	"I consulted with Housekeeping [and asked] if I could have two of the tables they use for every conference, everything."	"They brought [the tables] and they worked well with our furniture." Also got chairs that were unused from elsewhere. "It worked out very well."

4.Mary MacFarlane		
Situation/task: "We'd like to have sort of a standard level of library service and resource access amongst all the campuses."		
GAPS	ACTIONS	GOT
What are needs of staff at the different locations?	Ongoing: "Well, a lot of it is just talking with people […] kind of hearing their frustrations, trying to work with and trying to resolve how to best serve them.	Awareness of needs in some detail.
	"I also have like a back way of finding out about things. My [relative] is [a member of clinical staff] at one of the other campuses."	Awareness of needs of different, underserved user population: "That's given me a whole new perspective." I realized […] that we need to step up our game a little bit on promoting and marketing our services to [this population]
	"We have a great advantage in [having a library staff member], who's been here 30 years, and knows people at every campus."	"In the loop" [ongoing]
BARRIER: Given the differences in awareness about library services between the libraries, how can we agree on cost sharing? 5 different hospitals, each with their own culture and politics: "One can't do that if we're five separate campuses, one without people there, another one or two run by	Decided: I truly think it's beyond me to resolve it.	"It gets frustrating sometimes when working the politics out. And I keep thinking, jeez ,retirement sounds great, and you just keep putting everything else in perspective and you keep saying but it's this – so many things that are a lot more important in life than figuring out systems pricing with vendors. And you pull everything back, like I'm just – I have a picture of my brand new granddaughter sitting on my credenza that's just opposite my desk. You start pulling things back from what you deal with in work life and pulling things in that truly matter in life. And it

people that are not librarians, they've been given these library-oriented tasks."		just creates that balance that you need."
How can we get system-wide electronic resource access? What is involved? How to negotiate with vendors? "It gets very difficult when you're trying to add titles on for the other – or products on for the other two campuses that nobody wants you to take the price that you paid for one and times it by six. Well that gets to be very expensive sometimes."	Networking: talking with librarians at MLA or regional meeting	"And nobody seems to have [any idea how to deal with this]."
	Networking: developing relationships with vendors.	Shared licenses among institutions for some resources.
	Networking: membership with regional coalition	Vendor perspectives, ongoing relationships.
	Monitoring: "You monitor MEDLIB[-L]; I mean there's always conversations coming up on there.	
	Asking [on Medlib-L]: "I don't want to post anything that could be seen by my other colleagues on the other campuses. I tend not to post things that might be misinterpreted, misconstrued on another campus."	"There was one a little bit ago I heard there was somebody posting something - I want to say on MEDLIB, I can't remember how recent, but it had to do with issues with pricing in a system. But I had – that's – I think it was like just one post a while ago.
		HELP/HURT? "It was just reinforcing exactly the issues that I was having - but no solutions."

5. Susan Batson

Situation/task: How to get MSOffice suite installed on library patron-use PCs?

GAPS	ACTIONS	GOT
Existing software installed on patron PCs is not familiar to patrons.	Requested software user licenses from the Information Technology department for two years	Told it was a budgetary issue
	Offered (to IT) to pay for 6 site licenses: "They just keep putting more projects involved before me, like putting me off. I said, 'I'll take it out of	No response (for 2 years) Clear impression that library is not a priority.

	my budget'. I'm like, if you can't take it out of yours, I'll figure something out and I'll take it out of my budget."	"This was one of the most frustrating parts, that they haven't answered anything, and I'm like, okay that's just, I'm like, okay."
How to persuade IT to approve purchase of site licenses and installation of software on library PCs?	Asked supervisor to support request	Negative response. "I don't want to say they haven't done anything, but it hasn't been a priority for them." Supervisor feels that since there is already software in place, there is no need for change.
	Consulted mentor Talked with other librarians at regional meetings	Encouraged to keep trying Commiseration
	Surveyed hospital staff.	Overwhelmingly supportive response for new software.
	Will share results with IT and Administration	**EXPECTATION:** "[With] everything right now they want evidence to back what you're saying up. So before I didn't have evidence, now I actually do have evidence. So hopefully this evidence will push them to the opposite side or push them over the mountain to say yes."

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6.Donna Titus
Situation/task: How to develop and sustain interest on the part of hospital staff in recommending the library to patient families? "I wanted the staff to say to patients, you know you really should, why don't you go down to the library, we've got a wonderful collection there. I didn't want them to think for a minute that I was you know, a nice appendage that could be cut off when the funds got shortened." **BARRIERS:** Administrative perception. "A top director said […] 'please don't take this the wrong way, but if I had to choose between a library or a playground, I'd choose the playground.' **BARRIER:** "We couldn't spend any money."

GAP: Little awareness of library or library services. How to improve awareness?		
GAPS	**ACTIONS**	**GOT**
New to hospital setting and practice.	Looked for a mentor	Mentor; support and ideas; nonjudgmental listening.
"I knew absolutely nobody"	Talked with colleagues DECIDED: "So, in terms of what my task was, I decided I had to meet as many staff as possible and look for ways to help them with finding information."	Ideas for marketing AFFECTIVE: "I'm really kind of a private person […] it was a bit difficult for me to go up to total strangers and invite them to have lunch with me."
	Reached out to meet people throughout hospital.	"Well, what I felt was […] if I stayed here in the library waiting for people to come to me, I could wait a long time and people would gradually just sort of blow me off."
	"My director really wanted to see the library open regardless of whether I was here. I had every excuse under the sun for why it should only be open if I was here."	"She was right."
	DID: Went to nursing units, gave away books Put out a cart full of [free] books [in the library] Conducted training sessions for patient safety	GOT:"And it worked! And it continues to work. The library's full of people, staff as well as patients looking for something for free."

7.Cathy Earle

Situation/task: How best to integrate holdings information for paper and online resources? "At the beginning of last year it became obvious we were adding these major databases. Well we had to figure out what journals were we picking up, not just for the library staff. We had to know you know, if we got a request for an article, were we going to have order this for the patron, or was this something we could find ourselves. Well how could we do that? We've got journals spread across seven different databases now."

PROBLEMATIC: Unwanted direction. "We had really been trying to get some input into these decisions and about the packages because that decision was made without consulting with a single librarian. The headquarters just pretty much got sold a bill of goods by a real slick [vendor name] sales rep."

"So now what we're doing is playing a little bit of catch-up and we're trying to maybe once a quarter or twice a year have someone put together a joint statement from all of us and send it to the Chief Medical Officer back there to try to let him know that we're all ready to help with decisions and input and testing and anything like that."

GAPS	ACTIONS	GOT
Needed way to integrate holdings list with newly available full-text articles through a number of online vendors.	"What I did, not having much money, was to build an Excel file that was color coded so that with each title you could see which database you would have to go to find that journal."	"But it was sort of a thrown together job, because you didn't – it's not like a big university library where you know, everything is integrated. You click on it and you go right on through. It was a two step process, first you had to go to the Excel file then you went into the database. And this just wasn't optimal."
What elements are needed? What are the budget ramifications? How to market and increase awareness? "What about training?"	Asked other librarians in health system.	EXPECTED: "High hopes. Well, I knew that there were at least two or three librarians on there from libraries that were larger than mine and then there's another librarian in [state name] who runs a smallish library, but oh she is just a sharp cookie, and she's very much on top of all the current library issues. And I thought, you know I'll bet if anybody knows, [librarian name] is one of them. So I had hoped that I might get some ideas from a larger library that had already implemented things."

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BARRIERS: "This is a one-person library, so there is little time."		
"I don't have the technical expertise."		GOT IDEAS: "And in fact the [State] library had and then a couple others chimed in and said that they had tried this as well. And then there were one or two that were also in the same boat I was, that were you know kind of in effect left behind, you know less far along than I was." GOT RECOMMENDATION: "Several of them said that they were using the [product name] database for that. I was open to any suggestions that they might have, and then kind of had this listen to the different comments and things and they just had what I felt we could use." GOT DEMONSTRATION: "And this particular product, from what they were telling me, and then they showed it. They showed it to me online; you know I could see it. During the teleconference we had it up on the computer, and it really looked good. It was a product that you could customize to your own location and it was sure a heck of a lot better than the Excel files." HELP/HURT "It did help and I think actually being able to see it and not from a vendor, but from a group of librarians that I trusted. You know, they didn't care; they didn't try to sell me the product."
GAP: "I still need to figure out how to market and train for use." GAP: "I figured out how to upload the		

different batches of journals that we subscribe to, but I still haven't figured out how to list in there the print titles we get that aren't online, because we still have some print."		

8.Margery Zaragoza

Situation/Task: Situation/task: How to create departmental websites for entire hospital?

"My I.T. Department doesn't like to have ownership over web sites, they just want to work with the technical networking side of things. So I.T. doesn't want to have anything to do with the web site. And P.R., until very recently didn't want to have anything to do with the web site."

[The corporate web design department staff] don't really give me training on how to do [anything]. Like if I say, 'Why isn't this working, can you tell me how to fix it?' they'll just email me back and say, 'We fixed it'. So I don't move to a higher level of functioning."

Their whole thing is like, we're here to support you and you're in charge of the web site for your institution, you make the decisions, you tell people how it's going to be. "Probably the biggest part of the project is creating department web sites; because the clinical units kind of use that, use the web site, for directing their staff to education, information, forms, patient care. "I don't know anything really about clinical. […] I don't have any understanding of the level that they do and what they need to tell or how they need their information to get out."

GAPS	ACTIONS	GOT
"Well in the very beginning, when they were like, 'Okay, you're going to be the webmaster, I was like, 'oh my god, I don't know anything about being a webmaster."	"And so then I went online and I did research about like how you start up a website, how you do this."	"And then I learned that there was something called governance and you create the governance, which is essentially like telling people how the website is going to be structured."
BARRIER: Limited support and training. PROBLEMATIC: "So I've also been put in between the people at the corporate level that are like, this is how web pages are going to be structured, and you need to fit in what the people at your	ASKED: "So I asked [the corporate web development department] about it, and the director said, Well, you know we have that, and I'll add you to the list, because […] we use that all the time.	"I never looked at the material, it was too overwhelming." AFFECTIVE: "I feel like I could essentially be a full-time web master person at the corporate, at the institution and somebody else could be a librarian. I can – it's really two different jobs, that I do both of them half well and not either of

institution need within our design structure."		them totally well."
BARRIER: "It's been hard because […] I have to find the people [in the hospital departments] who do the webpage. And some people […] have a very strong web presence and some […] are kind of freaking out because they have never had a webpage before."	**ACTION**: "So instead of waiting I actually just kind of override this or I […] just do what I need to get done for these various people and then I figure out what must be cleaned up later." (laughs)" (Laugh) I kind of use [the corporate web development department]. It's kind of like when you say, well my mom said I couldn't do that. So I'll just say, well [Corporate] said we can't do that, then people just won't go any further.	**GOT**: "I did a lot of one on one trainings with this woman that is like the direct contact for me that does a lot of training. But what is interesting is the woman that is directly in charge of you know, kind of training me and doing stuff with me, she actually got hired just when I stepped into this position, and she does it as a full time job, but never worked in web developing before."

9.Judith Billings		
Situation/task: How to show library's value on the annual report despite downward-trending use in every area? "It's my […] opportunity to try and show how the library fits into the hospital setting and what our goals are, and how my activities improve patient care." "Last year, the discussion [by the Library Committee, included comments that] the attendance at Friday morning conferences is not that great. […] most of the Committee seems to be physicians around my age, so they're noticing the newer physicians are not as not as dependent on the library." IMPORTANCE: I'd say it's probably more [important now than it used to be], because we are in survival mode.		
GAPS	ACTIONS	GOT
BARRIER: I don't' have a good way of counting what I provide. I really would like real definite comparisons to show that for a hospital my size, these are the services that are normally done. And I would love to be able to say, well with your little one person library, you're doing, I'm doing three times what	"What I do instead is just to try and frame this as positively as I can." DID:	AFFECTIVE: "When I present the statistics, those actual hard numbers, it's discouraging to see the downward trend." EXPECTED: "I thought I might [find information that would

similar sized libraries are doing. We used to have [information gathered and collated by a central regional medical library] but we don't have that anymore."	Looked in JMLA Searched Medlib-L Archive Looked in MLANet.org Member's only area	help]. But I wasn't anticipating that it would be there because it's not really newsworthy." GOT: "I did find a chart that would match mine."
BARRIER: "I am a member, but I didn't submit to that benchmarking thing [LIBQUAL], because I don't know my budget, and don't control it. I haven't been able to fill out that form. I tried it one year and I didn't have all the data I needed, so I can't participate. And my supervisor doesn't provide me with financial numbers."	"We meet, our state group of medical librarians that used to keep the comparative statistics - we've all discussed this."	"Everyone was having the same kind of issues but nobody felt real comfortable about how to most positively present what they do, other than to continue to stress that it's not all online, and it's definitely not free, and that you need a qualified librarian to help manage and distribute the information more equitably across the organization to everyone that needs it, not just the physicians that have more resources." "I think it's gotten a little harder [over time]. As I said there used to be some specific examples once in a while things in the print issue of the Journal of Medical Library Association of people's specific calculations, ways to show value, ways to determine Journal values. And I haven't seen as much of that. Right now you just see more about evaluating electronic resources and negotiating contracts and some of those things. They're absolutely timely, but it doesn't help me with my annual report. I think it's because they are not, it's not looking positive for us. I think people are trying to ignore some of it." "So I'm going to use that story this year."
BARRIER: "What I've done in the past […] was try and [go into] the story-telling narrative thing of showing the impact [of the library] in a	"One of the [patient and family advisory council] members, his wife has a really rare neurological problem, and he has since come in and used, with my help, PubMed, and we've pulled articles for him, and a couple of interlibrary loans […] which	

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	had to be approved, because we limit that service to employees."	
	Attended Webinar on "showing the value of your library"	GOT: "A little bit on how to frame how the library works with the goals of the whole institution. , and it did help on that, to make sure I was aligned. But I use the same key words that they used in the hospital's report and try and align myself very closely with that our model has improved the lives of those we touch. And so I try and make sure that even though I'm using dry statistics, we talk about the, these are people's lives and it makes a difference."

particular way that affected quality of care. I really didn't have a good one in mind [this year]"

10. Clara Ammons		
Situation/task: "What I wanted to do was create an offsite website and have all the medical literature funnel through the off-site or off-network website, not even related to the internal network here at all		
GAPS	ACTIONS	GOT
BARRIER: IT department would want control.	**CONSIDERATION**: Working with IT has been a problem in the past. […] their main concern is hardware, and I have to keep reminding them that within that hardware is a lot of data […] that is more important than [their] system. It's almost like, you know you do it this way and it's only this way." "Need to convince [supervisor] of feasibility of plan."	**DECISION**: Access for users needs to bypass hospital intranet and be completely within librarian control.
BARRIER: "I don't think that he [librarian's supervisor] saw the feasibility of the way I wanted to do it.[…] I think he wanted to		"If I could get some really hard, tangible evidence on how this can work, I can get a green light from

work more internally within the system."		him."
BARRIER: Have no skills in this area. **NEED DIRECTION:** Who to ask for help?	**Decision**: Need to get help. "I attended this conference and whether you were actually doing this sort of thing already and you know discussing the transition of traditional libraries into electronic libraries like that. And I modeled this after one of the hospitals that actually did this."	**GOT OPTIONS**: "I do know that the local chapter of our library group has interns that are savvy in that sort of thing, so I was going to see if I could get an intern to work with me and help me with these sort of things to get this up and running, and to help map out the security and what's involved,

11. Jeanne Palmer		
Situation/task: How to immediately remedy problem caused by overnight emergency merger of system-wide hospital resources that made site-only access system-wide?		
GAPS	ACTIONS	GOT
What are potential legal ramifications? How should I proceed in order to ensure that we are legally as protected as possible? How can I approach vendors?	**Expected**: Worst from vendors (loss of access, legal actions). Hoped that previous relationship building would help. **ACTION**: Consulted hospital attorney	**Advice**: Situation should be remedied as soon as possible. Need to work with vendors to remedy situation. Need to work with other hospitals in system to figure out ways to provide access and fairly share costs.
How do I deal with the merger of the libraries? How to bring system libraries together, when each is very different in terms of information use and awareness of library resources and services? "We need to break down those barriers somehow."	"I did put a question out on a listserv [Medlib-L] about two other library systems who had run into this. I talked with a couple of other library directors for systems that had done this, and how they went about it."	"[Information about] how they did it and how difficult it was and what was the time frame involved. Because I knew the way our processes were set up as far as getting new contracts and agreements signed. It was usually a four month thing, time frame from beginning to end. So we had to work faster than that."

	"I don't remember that I did a specific search for this type of information. I know I looked in different – you know I kind of just perused the Journal of Hospital Librarianship and JMLA and those types of things, just to see what I could find. And I was a member of SLA at the time, so I did get some good things from SLA as well."	From SLA site: "[GOT] information on licensing because a lot of industry libraries were doing the same thing. You know they were down-sizing and moving to one location and there were several things on licensing content across you know different enterprises and that thing that I found through SLA. SLA is a very good resource for me."
	Had been very active in deliberately building relationships with vendors in the past. Talked with vendors, beginning with those who she felt would be understanding.	"I only went to one or two of the vendors, like I said with that kind *of thing*. Because you know the others were iffy to me. They were all very understanding, except for [vendor name]. "We were able to work out – one thing most of them were willing to do was to see the third, smaller library not as a separate facility, that they could piggy-back off of us. So even though we did have slight – our cost increased […] but it wasn't as substantial as it could have been."
BARRIER: "But like I said, one day a week it's very hard to do."		**GOT**: Understanding: "Probably so many of these people have worked together for so long. But what can we do? I know they need us. I know they need us."
Might I have to cancel resources at my library in order to cover costs for resources at other libraries?	**ASKED**: "I did put a question out on [Medlib-L] about two other library systems who had run into this. I talked with a couple of other library directors for systems that had done this, and how they went about it."	**GOT**: "[Information about] how they did it and how difficult it was and what was the time frame involved. Because I knew the way our processes were set up as far as getting new contracts and agreements signed. It was usually a four month thing, time frame from beginning to end. So we had to work faster than that."
	"I don't remember that I did a specific search for this type of information. I know I looked in different – you know I kind of just perused the Journal of Hospital Librarianship and JMLA and	From SLA site: "[GOT] information on licensing because a lot of industry libraries were doing the same thing. You know they were downsizing and moving to one location and there were several

	those types of things, just to see what I could find. And I was a member of SLA at the time, so I did get some good things from SLA as well."	things on licensing content across you know different enterprises and that thing that I found through SLA. SLA is a very good resource for me."
	Talked with vendors, beginning with those who she felt would be understanding	"I only went to one or two of the vendors, like I said with that kind of thing. Because you know the others were iffy to me. They were all very understanding, except for [vendor name]. "We were able to work out – one thing most of them were willing to do was to see the third, smaller library not as a separate facility, that they could piggy-back off of us. So even though we did have slight – our cost increased […] but it wasn't as substantial as it could have been." GOT: Understanding: "Probably so many of these people have worked together for so long. But what can we do? I know they need us. I know they need us."

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12. Fred Hatcher
"Our Intranet was started about six or seven years ago, and it was done on less than a shoe string. We had a committee, it was actually initiated by our Director of Marketing at the time, and we, I had been involved in the development of our website in past years. And we had you know, developed sort of a rudimentary Intranet. And this fellow who worked in I.T. found some software that was really cheap, it's called [product name] and it's used for like doing corporate newsletter kind of stuff primarily. And the way it works is it's a home page and then every department can have their own page, and you train people to go in and post their own materials on the pages. "And so it is kind of rigid in a sense because you know, you've got to slide into one of three or four places. But the idea was that each department could have their page and develop it as much as they felt a need to or wanted to. And then we tried to build it so that there's a lot of functionality for a lot of people across the system, so there's things like phone directories and doctor directories, links to key resources, links to things that people use all the time. You know whether it's the medical library page, or the software that we use to do our payroll, you know budgeting process, all those thing. Try to make sort of a portal approach I guess for the day to day life of the organization. "And it's been a pretty successful project. We have – the steering committee that I was a participant on, but not the chair of at that time. And we got it

set up and it came a long way. The Director of Marketing, her responsibilities changed and so she stepped down from chairing that, and I took over. The guy that did this, that supported over in I.T. used to work in the library prior to moving to I.T., so he and I had a relationship, a good working rapport. And so when issues came up, you know we would get them attended to. What happened was, when his position was eliminated I.T. didn't really realize how many customized functions had been developed. They weren't purely the Intranet, but they sort of were. By that I mean that they weren't – they didn't actually run on the [product name software], they might be linked from it, you know on somebody's page or on the homepage, but they didn't really run on it.

"I.T. actually eliminated a position, one particular fellow, and it turns out that he was the guy that did the Intranet. And I don't think that they realized when they did that, how much he actually did. […] At the same time I was, you know my department gets looked at every once in a while, now there's just two of us. That's the way it's been for ages. And I really felt for a while that my support position was in jeopardy. And the Intranet saved it. That new responsibility definitely saved it."

SITUATION/TASK: How to maintain hospital intranet with little or no expertise?	

IMPORTANCE: "It was a pretty big priority because there are a lot of day to day functions that work through [the intranet, like] payroll every two weeks, people doing their timesheets. If the link doesn't work everybody's up in arms. There's just a host of things like that. And so it is deemed to be a vital communication link.   So there was a lot of support for getting it taken care of. I honestly think that they just didn't realize what they had on the other end of the line."

GAPS	ACTIONS	GOT
	Expectation: "What I originally thought was that maybe we could send [name], my assistant to some classes. And you know, she could learn some of the basic stuff that she would need to know. You know basic HTML and basic web page creation and database support and that sort of thing."	The person that helped me down in I.T. didn't think that was really feasible. She felt that the prerequisite knowledge was too considerable to even get into that."
	"Sometimes I have to go back [to the person in IT] and say, you know, I'm sorry what did you say? What did that mean? It was - the problem was that she wasn't - because she has full-time responsibilities in her analyst positions – her supervisor didn't want her spending more time on this. And that was part of the – frankly that was part of why we were successful in being able to	**AFFECTIVE**: "So, yeah, that was the first big learning hurdle, was trying to just understand once they gave us access to the server. I was kind of amazed that they did. Like, I'm in the library; I've got access to a server! Cool."

	pick it up and take it on. Because they simply didn't have anybody who had time to do it. She's got clinically-related responsibilities to take care of I guess."	
	"The initial look at the database, the people we outsource to - they looked at it they said well you know the web page looks correct what they just changed recently, the database appears to be functioning correctly, but we couldn't get to it. You know, we get error messages."	'That is always where you run into trouble. You know the vendor says, well everything's fine here, we can't replicate your problem and your people say, well we didn't make any changes here that would make that happen. It's what they always say. It's the knee-jerk response."
"We learned very early on that the software was cheap for a reason. It's got some glitches and support from the people who created it is pretty slim. And add that to the fact that we have all these customized functions anyway. So this young lady down in IT had spent quite a bit of time getting the new one to work."	"And so then I talked to my friend in I.T. …"	"[…]and you know we started looking at it and I went in myself and found the database finally. Anyway, she said you know, I think you should have our network people take a look at it because I think something has changed. […]And you know it's incredibly complex, I don't know how these things work.
	"I find myself with no knowledge of programming going in and trying to understand this ASP page that redirects you to somewhere else that does something else and then…"	"… you know it's just really nuts."
"The [problem] that we were working on last week that was the online requisition form for pharmacy. So a department that orders drugs or other things from the pharmacy department can go online put in their cost center number and the requestor's name. It's a very simple form and they choose what they want, click submit, and it goes to the pharmacy and they fill the order. There's a database behind that and it stopped working this week. So we were faced with the issue	"So I put a ticket in to I.T. and didn't hear anything for a day. And the next day I sent a follow-up and I got a phone call, a couple of phone calls…"	"…and you know, they didn't know what to do with it, because they don't have anybody whose expertise is in that area." "So the guy who's currently our I.T. security person down there, he's been in his job about six or nine months and he's still learning it too. […]"

of how to get it working again. And it turned out to be really complicated because – how do I say this?"		"And this guy, he doesn't know everything either, he says to me, I've got to tell you [name], you know more about this than I do." (Laughs)
	"I finally called the lady down in I.T. again and you know, I said I hate to ask you to do it, but I really need some help. I found the database, I thought, but it turns out I had found an older version of it on the other server. And so I called her up and I said can you explain to me how should I have figured that out."	"So she came up and spent a couple of hours with us and gave us some tips on looking at the – I guess the default is indexed on ASP, is the active server page that starts things. […]And [she] kind of told us where to look first and how to figure out – it turned out that there was an ASP file that was a redirect through the other machine and that's how I had to backtrack [to] the database. The funny thing was, I also had to go through that for the guy at the outside firm later in the week because he was lost, too."
"But the biggest problem I have sometimes with I.T . is trying to figure out who is responsible for what. Yeah, with a question like this, the next think I know they're saying we should have those server people. Well, there's network people, there's server people, there's software people. But that's part of the fun." What is the budget for this?		
	Asked supervisor. "We talked about budget a while ago."So my supervisor said, ok, we're going to do that. And I said ok, it's not in the budget. And she said, I understand that, but we have to do it. So I thought that right there spoke a lot to the importance it was given on the part of the administration. […] I mean, she wasn't saying, spend all you want, but she was saying, spend what it takes."	Told to wait: "We'll know more after the capital budget process. I have no reason to think they won't fund – still cheaper than hiring another person.

13. Tammy Hartfield

Situation/task: How to combine two libraries into one, located farther away from main library users?

"In 2008 …we were informed that more than likely [the consumer and hospital] libraries would be combined, and eventually moved to […] a building that's separate from the main hospital. It was really a difficult time for us, because we were being told that maybe would happen we were having resources cut because of a maybe situation, losing 1.25 F.T.E. We lost that in the 2009 budget but we weren't given any kind of directive as far as when or timeline as to when this was going to happen. It was like they [hospital administration] couldn't make up their minds on what they wanted. It was really a strange time. […] I would say that that was the typical communication style for many departments, not just ours, but things would be mulled over […] and you'd kind of get leaks of maybe what they were thinking about. In the summer of 2009, they made the decision. And at that time we were told to start kind of getting ready and planning for [the move]. Objectives would be to combine two library collections into one in the most efficient way, losing the least amount of resources, and also, setting up processes. We were combining the two, but we've still got all the different user groups that we have to serve."

AFFECTIVE: "It was a very fast thing. We were hauling journals to the dumpsters daily. It was a very fast thing. It really hurt. I don't know if you've ever had to do a major weeding, but wow, it hurts to throw away all that paper."

GAPS	ACTIONS	GOT
"I guess one of the things that I was most concerned about with the move out of the main hospital building, was the fact that we would be away from one of our biggest sets of users, which were the nurses and the physicians. We were really concerned about them continuing to make the effort to come out and use the library."	"I was trying to figure out, what could we possibly do to still connect with our users. And I knew that the physicians' lounge would be a good place to be if I could figure out a way to be there. Because like I mentioned before, the library used to be the physicians' reading room, and then a while back – I don't even know how long ago, maybe ten years – they built the physicians' lounge. And so that was one of the points where we didn't get as much walk-in traffic into the library anymore."	"I knew that if I could infiltrate the physicians' lounge, then you know, it would be a score."
"But of course a lot of our resources have become available electronically from the desktop or office in the last few years. So it's not – we had lost a lot of foot traffic anyway the last five plus years – but still we still had people using our back room for meetings.		"There was an article written and I, it was written by one of the big names in evidence-based medicine. The guy's name escapes me at the moment. He wrote an article a while ago. I'm going to say, I'm going to say late eighties or early nineties… And what he did was a cart, an evidence cart is maybe what he called it."

We had – it was - it used to be the physician reading room in the beginning, like in 1985. So docs would still continue to come in and go in the back room and sit in one of the LaZBoys and read a journal; we still had people doing that. So we were really concerned about that."	"I kind of had been doing a lot of literature searching on information-seeking behavior in physicians anyway, just because of my dissertation. And so that may have been where I ran across the article, the evidence cart article, in the first place."	
	"[I] thought, well why don't we get a cart, why don't we get a cart with a laptop, a printer and cruise into the physicians' lounge, and just see if we can be of service."	
	"What we did was we applied for one of those technology improvement awards through the [regional Medical Library Association]."	Got grant
	"I went to the Chief of Staff and asked him for his permission to be there, and of course, squared it with my V.P. and my Director and let them know what we were doing." "And what we did was we created a couple programs. First, we purchased some textbooks, reference books - and actually physicians suggested – we asked for their suggestions for titles, put those back in the dictation room in the physicians' lounge in the main hospital, and then we started to staff the physicians' lounge weekdays from eight to nine in the morning to just kind of be there in case they had a research request they wanted to put in." "I went to a few of the major medical committees and kind of told them what was up, so they would be informed."	Got permission

		Got suggestions
		"And so we were in there for a little while and we kept getting a lot of stares from the physicians and we answered a lot of questions about why we were there."

"And eventually everybody kind of came around. And actually we ended up seeing about a twenty-seven percent increase in the number of our search requests because of actually seeing in person there and having them see us. So we feel like we've been able to keep contact with some of our user groups even though they're not coming out here to us."

AFFECTIVE: "[I]t would have been really easy to get real negative about [the situation]. Because we were feeling very, well I don't even know if I can say the words, we were just rather demoralized. And just feeling really devalued for a while. |

14. Kimberly Wilson		
Situation/task: Got outreach grant from regional NLM organization for training, but in the interim, lost a full time position: "My objective was to secure a place to hold training, and then actually hold the training, but also in there, a part of it was to advertise properly so that people would actually come to the training.		
GAPS	ACTIONS	GOT
		"When I got the grant I was really excited because I was going to be able to you know buy a laptop and hold these trainings. Because before that I had a desktop computer, so I didn't have any way I could take my show on the road. So I

		was really excited about that."
		"Then I got a call from someone from the [regional NLM] office and she (remember, now at this point I'm really, really excited because they told me that I was approved for the money) and she calls me and she tells me how poorly I prepared my application."
		AFFECTIVE: "I was so shocked that I was like dumbfounded. I was on the phone with her and she was saying, you know you're trying to do too much, this is like too big of a project, you shouldn't have submitted it this way, she told me that she voted against actually giving me the grant."
		"And she said, 'you know you need to dial it back; you're planning too much, you should only try to do this many' and she came up with some different number, and I felt totally demoralized at this point. I mean I got off the phone with her and she was my contact, I was supposed to call her and keep in touch with her and she was supposed to help me, and she was supposed to come out if I needed her. Well, I'll admit I didn't ever want to see her. And I didn't want to talk to her again. So after I got the grant, you know I had all these big ideas in my head…… because I felt really demoralized!"
		"I met varying amounts of resistance or you know,
		AFFECTIVE: I'll admit I got kind of overwhelmed in that I really didn't know. Well I was sort of paralyzed with indecision because I didn't actually know when I should hold the

	I didn't do anything for weeks…'	training. And I didn't have any money for food. And everyone said no one w*ill come unless you feed them.."*
	"So I would talk to people about how I would roll this out - *a*nd I would talk to people about well, when should I do it? When should I hold the training so people could come? "	"People would say, 'Oh, that would be so great, I would definitely come to that'. And some people would say, 'Well you would have to do it at night, because you know the night nurses are going to want to come' or 'you have to do it during the daytime' or 'you have to feed people'"
	"So then when I started working on it my objectives were you know, like I said to have a place for the training would be and to advertise. And I was holding this training because nothing like this had ever been done here. So I started looking at when the rooms were available…"	"…and it seemed like the rooms were filled, which this is something that never occurred to me when I put in the request. I thought, you know I saw people would hold different meetings in classrooms so I figured I'd just be able to get a classroom to hold my meeting. And I realized that that was going to be challenging and I don't have anywhere that I can actually do it in the library, or essentially hold the trainings here."
		"Well I feel like I did nothing, because every time I would try to start like going in one direction it would seem like I didn't really know what I was doing or there were pieces to it that I didn't really have.."* "So I probably should have realized when I applied for the grant that I should know if there's a place to actually hold the training before I asked for money to buy a laptop to do the training. But I was kind of confused about that because that wasn't what I planned. […] Now because – I feel like this sounds horrible, like I just from this one conversation with this person that went so badly, that I just abandoned my project."

	"So mostly I did nothing."	
"When I applied for the grant I thought that I could train on anything that I wanted. Like what I intended to do, was like search training classes where I would show the different databases that we subscribe to, how to search them."		
BARRIER: "But when I was on the phone with that person from NLM, she said that – she made it sound like I was supposed to be teaching PubMed, which is not you know, what I understood it to be."	"And I wasn't against that because I use PubMed, but that sort of changed my thinking about it, that I was going be training really just one database and not you know my library products, the ones that we subscribe to. Because I never really successfully did it, that didn't become an issue." "I hesitated to call her back because she was just, what I thought was really just nasty and impolite, that I never called her and said, 'Does that mean I can't teach like CINAHL or Nursing Consult, you know other products?' I feel like I should have asked her that, but the way this form is you just check a box and they're all .gov websites."	"I found out that I'm not the only one that she did that to. It didn't actually make me feel any better, but when that happened I was still reporting to the C.I.O."
	"…. and I had a conversation with him and I said, 'You know, I'm not sure what to do' because if this was not work related and someone spoke to me that way, I would absolutely report it to their supervisor."	"And he said, 'Well, you could do that, but are you going to have to work with her?' And I said, 'Yes, she's my contact for the whole project.' And he kind of sort of like, I'm doing it right now, not that you can see it, you know he kind of tilted his head like, well, do you really want to go there then? And he was right, I mean it helped to actually vent to him about it." "I'm actually hoping that after talking to you today I'm so motivated that I just throw this together and make it work."

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		"…and *[she]* said you know after this other person left I can't find your report. And I said that's because I don't have any report. And she said 'You can do an abbreviated version, you know any portion of it that you do, you could still ask for reimbursement for the laptop.'
	"Well, I did actually buy the laptop. And it was, in fact it's the laptop I'm using right now. And it was charged to the I.S. Department and I haven't received reimbursement from the grant. So that's an issue because I need to do something in order to request the reimbursement. And my timeline is almost, I mean I only have, I think, a month and a half."	
"I gotta tell you I hate to admit how much it impacted it. Because I kept thinking I was going to have to deal with her, and I didn't want to deal with her. I mean I make – I'm purposeful about that in my personal life, I don't deal with people that are like that. The logical part of me says that that shouldn't matter; she's got nothing to do with me. I should have done what I wanted to do instead of let that have such a big impact."		"But I do feel more motivated though I haven't actually done anything yet. Just really like talking to people and I've talked to a few nurses about asking them if they would actually come, because I'm afraid that I'll set it up and no one will show up. So I'm sort of getting these like agreements up front, saying, 'Oh I'll definitely come.' And I say, 'Oh okay I'll definitely hold it then', which is maybe a weird way to get around that, but I feel like insecure about it, that I let it go this long and I didn't do what I said that I would do, and that sort of thing."
	"But I did talk to somebody at [regional NLM] about my grant because she contacted me …"	
	"So I have actually just recently, pretty much since I talked to you [in our preliminary phone conversation] and sort of got this in the forefront again, I have talked to a few people about holding some trainings over the next few weeks. That	

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15. Catherine Shields

Situation/task: How to deal with ¾ reduction in library space?

"There was a quick switch in 2004 to the new report structure […] and they appointed another physician. But that really didn't work out very well, because he had no time for the library. And that's when the focus on E only started […]. And that's kind of the start of this situation. I went on […] leave that summer when the reporting structure changed and my interim director was a retired librarian from [university name]. And I had known her during my studies at [university] and she – they put pressure on her to weed our book collection and make room for – we were hoping to put a computer training room in and some conference rooms into the library space at that point. But that was my plan for remodeling and it never happened. […] And so when I got back, I said no, you know I put an argument together for the use of the journal collection. And he [administrator] agreed, and they stopped, we didn't toss anything else."

Shields attended a meeting with hospital architects after the "surprise" weeding of the collection occurred, having been told that the purpose was to plan for library renovation. At that time, she was informed that the library would be relocated and downsized by 75%.

GAPS	ACTIONS	GOT
How to inform hospital management about actual use of the library?	"We did [a] quick survey, because I thought that my point of view meant nothing to them, but if they could see what the users of the library and the people that manage those users, because the first group that we released the survey on was the management team. […] And I had two library staff members passing it out to everybody as they walked in the door, personally handed it to them. And asked them to fill it out and hand it back to us when they left, and then they were there to collect it at the end of the meeting. And I didn't waste time at the meeting talking about it. I just you know let people fill it out."	"And then I got in trouble for doing that. But we got the feedback that we wanted." AFFECTIVE: "I figure if I don't act now then, you know what can I do – lose my job? I'm probably going to lose my job anyway. They cut my staff in half. The top salary and the lowest salary, and so fifty percent of us were laid off. And the people that made that decision didn't really understand, I don't think, the organizational chart. So it was kind of similar [to the situation now] that decisions are being made

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<td>by people that really aren't knowledgeable."

AFFECTIVE: "It has been extremely difficult. Yeah, it's definitely an uphill battle and I've been trying to be optimistic."</td>
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<td>"And then I continued to distribute it, you know in the library at our point of service and at other meetings, because I just wanted to get as many – as much feedback as possible from the user base. So I kind of ignored management. I just figured you know if I don't take the risk now then it will be way too late later."</td>
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<td>"I had - at one point my supervisor assigned one of his other managers to work with me and I don't think this ever went anywhere. I spent some time with her and she kept saying, '[name] this isn't going to - you're not going to be able to undo the decisions they've made. You know you are losing the space'. You know she had to sit down and tell me that, and I said, 'Well, you know [name] it hasn't happened yet'. And she said, 'No, no, no – it's going to happen'. So and then she had to show me the floor plan, the concept drawing. Which you know it was the first time I'd seen a drawing. So she gave me [the floor plan] - …and I brought it to the meeting because I wanted to kind of have something to show people that I was talking to here what's happening."</td>
<td>AFFECTIVE: "And you know because it – this is going to be – we're the main teaching hospital in this region – so if this can happen to us, all the little hospitals all over [state] it will happen to [them, too]."</td>
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<td>"Yeah, what I'm doing now is I know the space is gone. And on Tuesday, right before I left for a business meeting, I had one more meeting with them, and they're giving me information on a need to know basis, is what I've discovered. That there is more information and even my supervisor is on a</td>
<td>"So I'm thinking now I'm just going to step back and re-look at whatever space might be available around the hospital to try to retain as much of a use, heavily used content and different content as possible, and how I can negotiate use of that space. Because I will have the two thousand</td>
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	need to know basis. He was in charge of making this, making the plans for this reallocation of space. He was pulled off of that and the Chief Operating Officer took over. So now my supervisor is on a need to know basis. And they assigned an I.S. person to manage the actual move, the transition that will occur. And a facilities guy to facilitate making the changes and talking to vendors for furniture and such."	square feet across the street, it's about twenty-five hundred square feet. And they're dictating how that will be laid out right now. So my next plan after sitting at this meeting and thinking, having down time to think, I'm going to turn around and dictate to them how I want it laid out. I'm going to try to take back the control and just be a little bit demanding on you know that we need that space laid out in a way that it can be reconfigured as needed. I'm going to talk to my supervisor and present it to him, because he likes to be in charge, so I'm going to present it to him, and get him to own the ideas and present them to the Chief Operating Officer."
	"I learned that I have to be proactive and not reactive. To get information I need to have that information ready to go when it was needed. So I've been collecting these statistics since I started And so I can show growth you know this is before automation and after, so I can show return on investment of the automation. Because that's an added cost every year, we pay for the online resources and the physicians and the clinicians have to leave their pharmacists or whatever their nursing titles. But they think everything's available on line. But they don't realize that you can't just buy the online book or the journal and then that doesn't mean it's available to everybody. We have to put in a catalog and a resolver product and a federated search engine and access technologies that cost money." Talked with other library staff about changes and ideas for action.	

		"It's giving me new ideas that I didn't think about myself. It's helped me understand the users of our library, and you know we like to call them clients, because you know we work for them. So the new ideas that you know that they've brought up we've talked about then evolved them into what we've actually done. You know what content are we going to try to salvage, and what content because we don't really have control over anything too much. Are we just going to you know feel comfortable about letting go? And then: how are we going to communicate these changes to our population so that they're going to be comfortable with them too. How to try not to upset people when there's not much we can do about the changes. And then talking through this has reaffirmed my thought process and what I was thinking about doing. You know, say 'Yeah that will work', you know they think that will work. So it's just been helped me really know that I'm headed in the right direction."

16. Yvonne Milburn

Situation/task: How to get point-of-care resource (DynaMed) onto the hospital's intranet in time for integration with new electronic health record system (EHR)?

"I honestly did not have a timeline in mind, because I'd been working on it for a while. [I] always had a plan B and a plan C, so I knew – I guess I knew – it was a critical situation that was coming up. 'E-Chart' is right now our current electronic medical records [system] and the nurses all put stuff into it, but it's not system-wide for some reason, and it's a GE product and they've been having a terrible time with it. So they decided to move to EPIC, which is, will be the electronic medical record, but it also interfaces with all sorts of other EPIC products and you can do the whole thing system-wide. So we were moving to that and that takes a tremendous amount of personnel and resources to do. And we had – one of the reasons they had put me off before was they said, '[You know, we don't like] e-Chart so much and it's not stable', ya-da-ya-da-ya-da, - they wouldn't use it. So I knew that there was a window, and if I couldn't get [my point-of-care product] onto e-Chart it's going to be another two years before I can even broach the subject again and get it on EPIC. I figured I had about a month."

GAPS	ACTIONS	GOT
"We already had DynaMed and we already had it system-wide, so there was no library website, but the question was to get it on to E-Chart.[…] People had to know to navigate to the Library's site to get to Dynamed. We needed to have more visibility and to get easier access to Dynamed for our clinicians."		
	"I mean I originally went – didn't go directly to [MIS, to ask about getting the product on the Intranet], I went through Nursing and got a champion in Nursing. I kept on getting referred to the same person in MIS …"	
BARRIER: "MIS wouldn't work with me. Initially it was because they were too busy with H.R., things were unstable and one person told me that URL's changed so they wouldn't put DynaMed, you know, on the Intranet."	"So then I went to an Executive Director of MIS thinking she could help and she just said, 'Well you know we don't really need that because people can look up what they want, there's a nice little product that comes with it'. So it was that, it just had interest in this last round during this month I was - I had to go talk to one of the other directors at MIS … […] [I knew at the time] that the work on EPIC was beginning, I talked with the CIO telling him that we were already paying for systemwide access to Dynamed and there would be no additional cost to link it through the medical record."	"…and she just wouldn't work with me. Up to a point she would listen, but then it just sort of stopped."
	"And I just said, 'Well, maybe I can retire happy, it's the right thing to do."	"…and he said to me, 'What do you get out of this?' I mean that stunned me. But when he said that I thought, 'why does he think I have a personal axe in this, I don't. I mean, I have no idea [why he said that]!

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		"He laughed when I said that, but it got done. It got done the next day. He got the right analyst to work on it and it was done overnight." "Once I got the right combination of people, and I hounded them and hounded them, I was able to get it in. You know, within a month. It just took – it took some changes that happened here and my getting to those people. I don't think it could have happened earlier with the people that I was dealing with before. But I took the opportunity with some new people and it worked. And actually MIS who gave me all the trouble before; she put it up overnight, so. It just had to be, it has to be the right people at the right time.""
	"I went to the vendor …",	"…and got all sorts of slides that showed that it works. And that it would work in E-Chart and in EPIC. And I got a list of places that are already doing what I wanted to do in E-Chart and in EPIC. So they could see that we weren't just doing something for the short term. She sent me some Power Point slides I guess I had seen at a meeting…"
	"…and I talked to people, and got names so that our MIS people could talk to other people you know if they needed to. So I tried to do some more homework around it. I just – and I looked at literature to see who had been doing it. I used PubMed because I figured I could get into the library Journal, the Journal of MLA, whatever they call that. Mostly I wanted to see who was doing it. Who had put a point of care product in electronic medical records, or I even broadened it because I wanted to see maybe an academic situation, an academic university you know how they have, how	

	they interface with their clients." "I can't remember whether it was MLA or NLM did a Webinar on electronic medical records, and they had three or four librarians talking. And I got, I went to – I went and watched that." "This was protracted over a long period of time. You know we're talking almost five years. And you know when something would happen, I'd sort of step back and regroup and I knew I had to wait for a new cast of characters or find a new cast of characters." "I'm wondering now why I didn't [talk with librarian colleagues]. I would just tell them what was going on or maybe they would tell me what was going on with them. But I didn't actually ask for advice or ways to approach the situation. Maybe it would have taken less than five years if I had. I don't know. "I kept reading so I knew what was happening in the world. I kept on waiting for it to happen here. But I had to look at the politics of where I was."	
		I found that there was a variety of systems out there. And that a lot of people spent tremendous amounts of money developing their own systems and in some cases the librarians were involved with it. And then I learned that mostly an academic that they have what are called 'hot buttons' from their electronic medical records, which would somehow either interface with libraries, librarians to answer questions or some library resources." "I figured that I didn't know that – I didn't know

		EPIC was so big then, but I expected to see larger systems like Kaiser or Mayo Clinic would have something like that. It's just the right thing to do, and I knew I wasn't inventing the wheel. I found pretty much what I expected. You know, that some people were doing it." "I don't think I found the arduous story [about having to convince people] that I had. I don't think anybody wants to write about that, but mostly what they were doing and what different ways they were doing things. I thought that was interesting. And that was very useful. It gave me an idea of what's going on in the world, and that was important to know. I didn't see much [about convincing people to implement the system]. I mean I did see things where people [said] that you need a champion. I thought, ach, ach another champion."
	"I did [try to increase awareness about the possibilities] when I was talking with the nurses and I did when I was talking with the physicians." "I kept going. This year also I got the library committee – had a new library committee, a new chair, and I got him involved. And then I got the medical – they just hired a new Medical Director, and I got him involved."	"I think it did [increase the level of support]. I know for the physicians it did. Because their first question is well who else, you know, what else, who else, what can we do? So I think it probably did, it's just getting through the politics here."
	"We have a new Vice President who's a physician. And I met with her yesterday and she just got all excited and started coming up with all these ideas on how to link to certain things within the chart. And so she's having conversations, and she told me to get prepared to have conversations with them. So I mean it just – it's going to go into EPIC."	"And I think all that had a lot to do with it – getting successful this time."

		"Today, DynaMed is on E-Chart, we're getting over five thousand hits a month."
		"As it turned out, the week after it came up they put a moratorium on adding anything to E-Chart. So I got in just under the wire."
		"I'm not sure I would call myself savvy […] I just work around the politics in the system. I think I believe this was the right thing to do. I don't know what my reputation is, I might be [considered] the 'queen nudge' in the system. Well, and I purposely try not to do that. That's why I would wait between, because I know people would get their back up or something. It's one of the reasons I think it took so long, I just said, 'Alright, I'm going to regroup and just wait a little bit'."

17. Sherry Bowden

Situation/task: How to get survey onto library web page in time for grant-funded research?

I had to do a lot of preparation work [for this grant]. Setting the seed, watering it, it took almost three to four years before I was even given the green light to do some of the things I wanted to do, because my old supervisor just wasn't getting it. So I had to justify [things to] the new supervisor, I said to him, this is what I would like to do. He said, 'Fine, go for it.' The research project is in two parts. One part you know [in an online community], I had complete charge over. That was if it failed or succeeded, it was completely on my shoulders, there was no I.T. Department there to help me. Except other than give me access to the firewall that was the only thing. The other part is that we wanted to study was put this interactive quiz on our library website, so the Web 2.0 you know interactive, the traditional, very traditional site. My IRB study was supposed to connect and launch November of 2009, and that was done intentionally and it was a huge send off. It was supposed to also be launched on the library web site, and we would have then a dual study going on at the same time. And have our data coming in at the same time. Well, that didn't happen.

GAPS	ACTIONS	GOT
Had IRB approval, needed to get survey onto	Asked webmaster to set up survey. "Despite repeatedly emailing the web master, pleading that	"…I was either being ignored or he was telling

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library webpage	this was important to our study, that these months' gap was going to create a problem with our data…"	me it couldn't be done."
Why isn't this happening?		Expectations: "I didn't think I would run into the problem of our Web master digging his heels in, one to have the IRB I said okay, fine, you know I waved this, that's my [invitation] card and he would have to follow, - and that wasn't the case."
Running out time: What can I do to remedy situation?	"First I went to our P.R. Department because I needed a special license that's contracted through the P.R. Department. And I had a very good relationship with that person, so on a casual basis, I just decided to just have a conversation. Not as a complaint, but more as a, you know, did you know I have this study that the hospital's really excited about. We will be the first hospital in New Jersey to have done this. How exciting is this. And then once I got him excited about the project then I started mentioning how, but you know I do have obstacles. First I have to get it up on the library web site. But I'm not getting it done in a timely fashion because I keep getting bumped for other projects. What do you suggest I do? So I tried to elicit support that way."	"I got a lot of excuses actually. Well, you were bumped for these other departments because they now have this particular need, and then I had to counter that with well yes, I understand that, however I have a deadline, and I have a grant deadline that I'm going to lose this grant if I don't have this up there. So there was a lot of excuses going on. I don't know who has set the priority, whether that's the web master or somebody else behind me is doing the priority list, but we're never a priority."
	"So then after that then I involved my supervisor in that. There was really nobody else to go to, because [the Webmaster is] an outside contractor. So the only person I had left was my immediate supervisor."	"I really wasn't sure [how my new supervisor would respond], at that point I hadn't gotten a real grasp of how he resolved issues, how he even accepted issues. But he's a pretty no nonsense person."
	"He went right to the V.P. of the I.T. Department."	"That didn't resolve because she felt it was not her domain because the contractor is not reporting to her, he doesn't really do any work for her. They're pretty much internal programs you know

| | | firewalls, the network, all that kind of stuff, not design. So we really didn't have anywhere to go with this." |
| | "I decided … this was something I needed to fight, it was a battle. And I was going to win, because I felt I was armed with the institutional approval to get this job done. This was not just the librarian who wanted a little project for her department, this was now I was representing the institution and we also now had several grants for this. So armed with that, I felt I was going to have to, unfortunately, make some enemies and our relationship is not the same." | "And once I complained, then I was given what I needed, but barely. Things were done wrong, things were left off, again him trying to do it to his own needs versus what I needed and it was a struggle. It was actually a horrendous struggle. I don't want to ever repeat it. And then we got billed four thousand dollars for every single correction that he did based on not following my direction. "I have to say that [the relationship now with the WebMaster is] very, very strained, it's very polite, civil, but it's not the way it was. And I also don't trust him to go forward with helping me with any future projects." |

18. Vicky Lenoir

Situation/task: How to cut library costs in compliance with house-wide savings initiative?

"'Hoshin' is a Japanese term that basically means a big project – everybody's going to focus on this, on what we have to do, or we're going to sink. This project ways, the Vice President of I.S. got this mandate [from top-level administration] that said we're going to save a hundred thousand dollars from the I.S. budget. And he didn't care where it came from, he wanted everybody to look at what they were spending money one, and figure out where we could save something. I mean with the economy happening that year, that's why we ended up doing all this. Because the money that we expected when we made that budget that year wasn't coming in because the economy crashed. So we had to come up with this other, this plan B, because the budget that we had planned for was garbage."

GAPS	ACTIONS	GOT
Will we lose our jobs? Where can the library save money without adversely affecting services?		AFFECTIVE: I guess when we first got the news, we were like; you know the first response was like, oh my God, this is the end of library services. First they take away our director, now this. There won't be anything left. You kind of

		hear that announcement throughout the division and then you think, okay well maybe we can slip under the wire." "I mean you always – you hear about how bad things are everywhere else in the economy, and we didn't – now people left on their own, you they didn't probably fill those positions. But again, they looked at them hard and said you know, is this one we can live without? Can we fill it some other way? But we were worried about layoffs, but they communicated to us that that was not on the table. Which was really nice. It wasn't top level saying, we're cutting this, this and this. It was them coming to us and saying, you know what we can live without, so we want your suggestions."
	"So [other librarian] and I got together, and [name] is the business analyst guy that we report to, he contacted us and got our thoughts and our input."	
	"So [other librarian] and I looked at it and took out duplication where we could. If we had print journals, but we also had it online, we dropped the print. […] somewhere in there we stopped binding journals. We just couldn't, you know we got everything ready, put in the order …"	
	"I did call up my old library director for lunch one day and ask her what she would do. Because she had, like, thirty years, thirty-five years of experience. So, you know, she's seen everything. [The situation was] so particular to us, that you know, I didn't think the other libraries [in the library consortium], you know they couldn't tell me what to do in this margin improvement Hoshin situation, so I just talked to [my old director]."	"So she gave me some moral support. I know she was sympathetic. And of course, I think her initial response was, oh boy, this is the end. The library that she spent thirty years building was now going to fall apart. The one I came up here to work with. She knew that [name] was a good person to work with. We both knew [name] was a good person to work with. Because you know, I think [name] started shortly before I did. He was always the I.S. guy we worked with. If one of the

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		databases, you know back in the days when you got <u>Medline Plus</u> from <u>Ovid</u> on CD and they had to load that to the tower? He's the guy that did that. So we were working with him, way back them, and so we had that part of the team was used to working with each other."
		"And I've kept that up so we can compare that year to year and for the most part, things are moving in the right direction."
	"I did a cost-per-use study. So we had never done that before. We had always gotten our usage statistics and kind of looked them over, but didn't really do anything with them. So out of this project, I actually looked at what we were paying for things, looked at the usage and you know, actually divided cost divided by the usage, and got a cost-per-use number."	"So these [cost per use statistics] put it in terms that made sense to [Administration], I think."
"You know, I think my supervisores would have liked to have some ROI numbers, what is that, rate of return, return on investment. But those numbers are really hard to come by for libraries and stuff. I mean, it's tricky to come up with those numbers."		"That doesn't really seem to be happening."
"[I had a lot of concern about library users]:I mean it looked like <u>STAT!</u>Ref and the eBooks, you're always wondering, well if we drop it down to fewer users, you know, are people just going to be frustrated because they can't get in, they're bumping us out. "		"But that isn't really a problem because people just want to get what they can get online these days. They don't come in here and take your journals anymore. So that hasn't really been an issue to worry about either, with no longer binding."
Other concerns: "Or with binding, I mean, gosh we've always bound our journals! Then you worry about things disappearing and you		"Usually that didn't go very far. Because they have it all worked out, so that they're going to make a certain amount of money off of you. Well

know, you're never able to replace them."		when we asked OVID about that a la carte option, they came up with a price that cost the same as the 160. So some of our ideas didn't actually pan out in achieving anything."
	Talked with vendors: "Sometimes we came up with a plan, and then we found out, oh about when that wasn't going to work. Like I think we wanted to look at our costs at OVID: we get this collection of about 160 titles, and we thought, well maybe we could just get this handful of twenty-five of the ones that we actually use, instead of the whole big collections. And maybe that would cost us less.' "So as we went through the year every new invoice that came through, rather than just renewing it, we really looked at it hard and said, you know, are we getting benefit from this? Can we live without it? Is there something else that will substitute? So it really made us look at things harder, more from a business perspective." And then we said, you know we came back and said, we can come up with thirty thousand dollars out of the library budget, and we wound up coming up with almost twice that, so we make him very happy."	
		"You know through that whole process though? They didn't lay anybody off. They were committed to that. No layoffs. You know they just looked for ways they could save money in Operations and just other places without, because we had been through that a couple years before, where people got laid off. It was really ugly. Yeah, we lost our director at that point, and they didn't want to do it that way again. So they did

		it this way, and they asked us how they could save money, and I wish the government would do that."

19. Christina Lawler		
Situation/task: This librarian found that thousands of dollars in materials, particularly expensive neurology core texts, were missing when she performed an inventory: ". In previous years I've been able to do one every year. But since the library's gotten bigger and I've gotten busier, you know and last year the other librarian had come on already, but of course I was busy training her and we were kind of working out how we would share the work and it was just, plus that, last year was when two more nursing programs started rotating through here and so it was just crazy last year. The dust had not settled in time for me to do an inventory last year. So the loss of the books could sort of represent more than one year. But I don't have a way of knowing that."		
GAPS	ACTIONS	GOT
How to get missing books back and prevent future loss?	"The first thing I did was email the Program Director for Neurology because it was clear that somebody in the Neurology program, the medical education program was doing something here. And so I let him know about the Neurology books that were lost and I emailed all of the Neurology residents saying if you accidentally walked off with these, please return them." "Whenever I've done an inventory, the first thing I do is put up some signs and send out emails just to see – because I know some of the stuff probably weren't actually consciously stolen. Somebody probably had the book in their hand and walked out without thinking about it. So I just, I always do this when I do inventory. I send the list out after; you know and wait a month to see if anything comes back" "I have an article from a few years ago from The Journal of the Medical Library Association called	

		Controlling Hospital Library Theft…"	
		"…and I went online to see if I could find any more recent articles of that nature."	"Yeah, this was something I found the first year I did an inventory and discovered, you know our – how much we lost, and I kind of wondered, well what do other hospital libraries do? And so I searched the literature and found this article from 2003 and it was helpful in a way because just to find out it wasn't just me, something I was doing wrong, that everybody has this problem. And to find out that it's real typical even in libraries with fancy security systems to lose between two and five percent of their print materials each year, according to this study."
		"So then I posted something to MedLib asking if people had had any luck with security cameras or other things. You know I described our situation and it's real typical of hospital libraries. A lot of us have to be open to at least some staff twenty-four seven and most of us don't have very many staff. So there's lot of times when some people can come in but nobody's here. So that's just a reality."	
			And I couldn't find anything that was – it's not something people write about very often, but I did do some searching to see if anybody had come up with a recent study or talked about it in the literature or made any suggestions. Didn't find anything."
			Expectations: "I wasn't sure. I just know that several times when I've had a problem that I didn't have, I couldn't think of a solution for, or wasn't sure of the best solution, when I have looked on the MedLib archive or posted a

| | | question, other people who have had the same problem will often tell me what worked or didn't work for them."

"And so you know people talked about yeah, it might act as a deterrent for some people, but it's ultimately not that effective. And the cost wasn't - to get one installed was going to be around twelve-hundred dollars. And we'd sort of have to depend on our security people monitoring it and it's partly because we have like five study rooms and we have a photocopy room, and you couldn't have cameras for all of that."

Help/Hurt: "It was clear from what, you know from what everybody said that probably a security camera would not be a really good deterrent for book theft. You know people, often people do have security cameras inside their library, but people mention that unless you've also got a security system in place, you know with the magnetic book tape on the books and alarm systems and everything that it's too – there's too big of a gap between the time you figure out something's gone and what might be on a security camera tape." |
| | "I tried PubMed and then I have access through our local public library system to <u>Academic First Premier</u>, which is EBSCO database. And it includes some general social sciences literature including some library journals. So I tried both of those. I don't have access to LISA."

"I mean I looked some on the you know users only part of MLA, that had that – they have little resource things for different topics, but I don't | |

		think I've ever seen one on hospital library theft. Or security."
	"When I had talked to the administrative folks about the big loss, they suggested I talk to the person who's in charge of hospital security for this location. And see if he could recommend anything, like a camera or any other ideas."	"And the only thing he really suggested besides possibly a camera, if we thought it would be helpful, was to put up a sign – because our library entrance you know you need a badge swipe thing to get through, and he said you know people come in without looking to see if the door closes behind them and he said he suggested we put up a sign reminding people not to let someone without a badge come in. And you know that sounded okay, but I don't think that people that are stealing the books would be people off the street."
		"You know, I mean occasionally - this is an urban hospital in the downtown area, so we have – and we serve a lot of indigent patients, so we do have street people in the building sometimes, and occasionally people like that have gotten in, our patient family members have gotten in somehow and you know they can't really use the computers and we, you know we basically we see if they actually have an information need, and we try to help them, if they don't we ask them to leave. Because the computers are all HIPPA, there's HIPPA stuff involved and all. So we – that doesn't happen very often and when it does I just don't see that those are the people who would want to take the books that have gotten taken." So it just – we ended up deciding that a camera probably wouldn't be that effective unless we could also purchase a general security system and those security systems start around ten or eleven

		thousand dollars. And then, just for one doorway. And then there's also the issue of because we're twenty-four seven if people want to check out a book when they're here – when we're not here, those you know they make those self-service check out things now, where somebody can swipe a card and demagnetize the book. But those systems, the last time I priced those, which has been a couple years – they may be coming down in price, I'm not sure but – the last time I priced those it was like twenty-five thousand. It was really expensive. And I thought, you know given that the – so far the amount of our loss per year – this is the biggest loss we've had. Prior to this I wouldn't of even considered spending you know a lot of money on anything. It may be that it's this kind of loss continues into the next few years, I will advise the hospital to plop down money for an honest to goodness security system. But at this point it seemed like I couldn't justify that financially."
	"Well, one of the things I've started doing is I had this chisel-point Sharpie marker in red and every new book that comes through here I now write on all three sides of the – you know where the edges of the paper? [Name] Library in big letters."	

20. Irene Belew
Situation/task: When a clinical area asked Belew to consider staffing a small resource center within the clinic, Belew recognized an opportunity to expand the library's reach, and to set precedence for its future within the institution. Her situation concerns how the library might make a business case for expanded resource center in the clinic area. "I think it's very timely you know, if this had been two years ago, I don't know, you know it wouldn't be as much of an opportunity, but right now there's a stage that's being set for the future of health care that this venue, this consumer health library that they're looking at and really tie into it."

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GAPS	ACTIONS	GOT
"They have a few handouts, and […] computers, and a […] couple of things bookmarked on their for patients to use, but what they're really looking for, is for someone that will greet that patient who comes in, help them get to the computer if there is someone who is not computer literate, maybe have some models, anatomical models […] the major thing they're looking for is staffing. […] I did say that we would meet with them actually Monday, this coming Monday the 21st we have an appointment with them to bring our recommendations. And actually we haven't gotten very far with that yet. [My colleagues and I] are going to be meeting tomorrow afternoon to determine what it is that we would like to recommend to them."	"I met with [name and title] – because she oversees community and patient education. Wanted to talk with her about this health and wellness venture and what she might suggest that we do or what some opportunities she would see in there. She's really good at planning and kind of seeing how things can be put together and have them happen."	
	Belew will look back at earlier work she had done in proposing options for another institutional library: " I think that's actually part of what I would like to use, kind of that formatting [for the proposal] to help figure out what we wanted, how to put together and present the information for the	

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	[clinical institute]."	
	"I'm thinking right now that we're going to present to them a recommendation for building the business case for this. Which means we need a lot of information, we need some data from them on their patients, the demographics, you know, all of that information in order to build the business case. And that takes time. But I'm more than willing to work with them and to pretty much, I think I would take the lead on that, using them as the resource for getting the data."	
	"I'm thinking right now that we're going to present to them a recommendation for building the business case for this. Which means we need a lot of information, we need some data from them on their patients, the demographics, you know, all of that information in order to build the business case. And that takes time. But I'm more than willing to work with them and to pretty much, I think I would take the lead on that, using them as the resource for getting the data."	
	"I need to do a really good literature search. And I need to synthesize that information. I need to have research. I also need to look back at some of the healthcare reform information that I've been reading about the accountable healthcare organization information. Just really kind of looking at the – what is up and coming in health care so that I can really tie it together. You know when they talk about reimbursements – when hospitals are showing statistically that they have high amounts of readmission for a particular disease or condition and then they may begin to receive less reimbursement based upon that. You	

	know, using that type of information to build the business case.	
	"The librarian here and I will be meeting with them. And I'm pretty much letting her take the lead. I'm helping with the strategy piece, but she is the librarian on the ground here. I want her to work most directly with them."	**Expectation**: "We're hoping to do that with research that has shown outcomes, positive outcomes where patients that are getting information more at the point of readiness or at the point that they've received a diagnosis to try and find some literature or research that helps to support following that process."
	"I think it's setting precedent. Because I think you know we could run this as a pilot, and you know if we could really come up with some way to document positive outcomes, it gives us the opportunity to expand it in organization. You know if we could show that it saves money that would definitely be an asset."	

21. Wilma Arnette		
Situation/task: "[How can] people off-campus get access to things without having all these passwords?"		
GAPS	ACTIONS	GOT
"Because of how the IT system is set up, it was a nightmare."	I talked to some colleagues who also had that [application name] system and how it worked there, that were from hospitals.	[…] my situation was so specific to this campus, and nobody knew what to do.
"We're not a university. Our physicians don't have their offices here."	"The other librarian [in the system], she was like, well, we could get [the application] or not. And I [said], no, we really need to get it. I said, your folks, they get access through Citrix. […] The nursing staff [at this location] is complaining	Understanding that others have same issues: "Everybody on MedLib-L was like, what are we going to do with these [CME] articles that all these guys need? You know, are you going to provide service or not? […] At that time, nobody

	because even though we pay for CINAHL and some online titles […] because I didn't have Internet access. When we went to [application] we could put it on the intranet and then everybody could get access to it."	had an answer. They kept doing what they were doing, which is they were spending a lot of time doing it, or they just told the physicians, look, it's outside our scope of service. Too bad, so sad."
Secondary task: "How can physicians that have to fulfill these [CME] requirements… [get access to articles they need] without putting such a burden on me?	**ASKED**: "I tried to ask people what they did."	Information about what others were using: "A lot of universities, they use [name of application], and they [universities] had [resources] on their websites." "Nobody had mentioned [using application for this purpose], because […] nobody thought of it."
	"I just tried to think to myself, ok, I've got this problem […] what else could I really do that I can get out of this situation that I'm in?" "And I thought to myself, what if I put all of these [CME] articles on the home page, made up my own little thing, and then all the docs could authenticate through [the application]?"	
	ASKED: "I said to [company representative name], "Do you think we could do this, because we have your product already, put these [CME articles] on here and get these links for our physicians?"	"She showed me how you can use their software to put up the links [to CME articles]. She's, like, if you get me the PDFs for these, I'll put the links up for you. So she did it."
		"And so it just worked out, like, it's kind of something where you're looking for an answer, and you're thinking you're going to get 2, and you end up with like, 12. I wasn't expecting [application name] to be able to work with the [CME] articles, but when it did, it just worked out really nicely."

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22. Christy Roth		
Situation/task: How to renovate library space?		
GAPS	ACTIONS	GOTS
	Observed: took field trip to a nearby library where renovation had recently been completed.	Got more complete example, information from library staff about the experience.
	Conducted survey of hospital staff.	Feedback about expectations of library users.
		Specific ideas for renovation
		HELP/HURT: "Well, we wanted to find out what the users thought. And it's a good thing we did because as it turned out they really weren't interested in some of the technology-related services that we were – we probably would have done if left to our own devices." "People were interested in group study rooms. I wanted to find more information about groups study rooms specifically. And look at pictures – I really wanted to see pictures of examples of ways you know that people had made this happen, because it's interesting how much variation there is between different libraries. You wouldn't think - you don't realize that until you actually get into it that there's so many choices even just in how you build a group study room."
	"Once I realized that I wanted a group study room, and that that was one of the main things I wanted to do with the renovation, then I did have questions about group study rooms particularly, and also questions about journals as far as [what to weed, how to deal with materials]."	GOT: More specific questions.

	INFORMATION SEEKING: Considered types of materials Conducted database search Literature search (BROWSING): "I think I was just in sort of an information absorbing mode before I even had any specific questions. I just wanted to find out as much as possible." Monitored MedLib-L	EXPECTATION: That books would not help. GOT: Articles EXPECTATION: that posting a general question wasn't appropriate
	Conference attendance	GOT: "I remember another thing I did was one of the posters at another conference that I went to – somebody had a poster about a very similar process although she I think was at an academic health sciences library. But she was getting rid of thousands of linear of volumes and had similar questions, you know challenges she was working with. And I remember reading the poster very carefully and trying to remember everything, but it's hard when it's not a paper. You know, it's not durable."

Table 17. SITUATION/GAP/USE summaries

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