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Information Needs

Heather O'Brien, Devon Greyson, Heather De Forest, and Kristina McDavid

Editor's Introduction

Chapter 5: Information Needs addresses users' information needs, how those needs are identified, and the essential role of the information professional in meeting those needs. Professors Heather O'Brien and Devon Greyson draw on their experience as researchers to shed light on how people access information and then use that information once they have found it. Librarians Heather De Forest and Kristina McDavid contribute to this chapter as well, using their experience at university libraries to further exemplify how information professionals can develop improved approaches to fulfilling the information needs of dynamic communities.

Throughout the chapter, the authors define what information needs are, explore the process of identifying those needs, and outline the tools and workflows to holistically meet those needs. Three case studies are presented to highlight the diversity among user needs and to offer a comprehensive view of how framing search tasks as information needs not only helps fulfill the need but also brings authenticity to the user's experience.

Information professionals are the experts in understanding how information is stored, organized, managed, aggregated, and used in a variety of contexts; however, meeting the need actually lies on a much deeper and personal level. Readers will glean a deeper understanding of how meeting the needs of information users extends far beyond finding information; meeting the diverse needs of a community also requires information professionals to be deeply engaged in the user community to understand the context and the underlying reasoning behind those needs.

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Information need is a fundamental concept in library and information science (LIS). Responding to the information needs of specific user groups and communities through programs, services, and information systems represents a substantial stream of research and professional work. Information needs evolve in different use contexts and, like information users, are diverse. Consider the following scenarios:

- An individual with a chronic health condition weighs the risks and benefits of medical and naturopathic therapies.
- A recent immigrant, an engineer in their country of origin, attempts to navigate professional credentialing in their new country.
- A nonprofit organization seeks to support older adults living alone in the community.

In each scenario, individuals' motivations and information-seeking strategies differ based on individual ("micro-level") characteristics, including:

- *literacy level or geographic location*;
- *relational factors ("meso-level"),* such as the accessibility of other people with expertise or lived experience who can provide information;
- *higher-level ("macro-level") influences,* such as national requirements for foreign credential recognition or stigma around illness or aging; and
- *task-specific factors*, such as the urgency of the requested information.

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Information needs are temporal and may evolve over time and place as people interact with, interpret, and make sense of information.[1] The needs of new immigrants, for example, will shift as they identify whether their profession is regulated in their new country and what steps are involved in acquiring a license or certificate to work. They may be forced to seek information about how to enroll in an educational program to obtain the necessary credentials or seek other employment in the interim. Thus, the information need—and the road to fulfilling it—may be more complicated than initially imagined and require different sources of information that operate in a complex sociotechnical infrastructure.

This chapter examines and unpacks the construct *information need*, using a combination of theoretical approaches and case studies of how information professionals can understand and respond to information needs in context. After completing this chapter, the reader should have an understanding of:

- the many factors that shape information needs; and
- how information professionals attempt to identify and meet the information needs of people and communities.

Defining Information Needs

"Information need" has been understood, defined, and applied in multiple ways. For some, information needs are responses to *problem situations*. Needs stem from recognizing a "problem" that is preventing an individual from moving forward. Information seeking is viewed as a natural course of action to reduce uncertainty,[2] fill a knowledge gap, or make sense of one's world.[3] The problem-centered approach suggests that people encounter situations that prompt them to acquire knowledge or skills, seek information, and engage in sense-making to determine how well the located information meets their need.

This perspective has been contested because it assumes that information seeking is the natural course of action following recognition of a gap or need. Yet, people who need information may not seek it because they:

- lack resources or skills to access information;
- do not recognize what others (e.g., librarians, family) perceive to be a need;
- do not believe that their needs can be addressed through information sources or that it is within their power to do so;[4] or
- have determined that the risks involved in seeking information outweigh the benefits.

Truly, there are a number of geographical, physical, and psychological barriers such as time, literacy and computer skills, economic cost, and systemic discrimination (see also Chapter 7: Social Justice) that deter information seeking, especially from formal information systems including libraries.[5]

Further, not all information acquisitions are needs-driven; for example, casual information encounters (e.g., channel surfing, checking social media) do not have an imperative "need" for information.[6] The relationship between needs and seeking is further complicated by the lack of clarity around the basic definition of information need. Who determines whether and when an individual or group has a need for information and the best course of action for fulfilling it? How do information professionals distinguish needs from what a person wants, demands, or expects? Thus, there is a great deal of ambiguity around the definition of information need and its relationship to activities such as seeking.[7]

An outcome-oriented definition is that an information need represents "the information that individuals ought to have to do their job effectively, solve a problem satisfactorily, or pursue a hobby or interest happily."[8] This definition considers a variety of tasks and contexts of use, focusing on what people need information to *do*.

Although some might argue that information needs are only needs when they are perceived by users, others have suggested that there is a state of "incognizance" in which one does not know enough to understand or articulate what their needs are.[9] Information professionals cannot always make decisions about programs, systems, and services based on well-articulated information needs; these may be the "tip of the iceberg" when it comes to the full information needs of individuals and communities. At the same time, information professionals must strive to meet the information needs articulated by their users. This may involve balancing traditional, staff-led approaches with community-led approaches when developing and evaluating services.

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Community-led approaches seek to center community members' ideas, concerns, and priorities, and emphasize collaboration in the planning and implementation of services and programs (see also Chapter 4: Information Communities).[10] Community-led approaches promote an asset-based orientation to engagement with communities that focus on existing strengths, capacity building and relationships, and social justice principles of inclusion and equity.[11] Traditional notions of information needs as "problems to be solved" can be interpreted as gaps or deficits in

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TEXTBOX 5.1

Discussion Question

How would you define information need? Is your definition aligned with a problem-based or community-led orientation? What are some of the benefits and drawbacks of each approach with respect to meeting information needs?

people's knowledge that lack an appreciation of the many factors that structure and influence information needs.

Ecological systems theory[12] is useful for adopting a multileveled view in which information needs are shaped by:

- *Individual factors:* socioeconomic status, literacy level, cultural background, motivation, interest, social role, prior topical knowledge, technology proficiency.
- *Relational factors:* the extent of one's social or professional network.
- *Environmental (community or societal) factors:* technology infrastructure, norms and values, culturally specific "ways of knowing" and communicating.
- *Task- and situation-specific factors:* that influence the purpose for which information is sought and characteristics of information and resources that are prioritized and valued (e.g., accuracy, timeliness, format).
- *Temporal factors:* as the passage of time influences and changes information needs.

These multiple factors influence information needs and interact with each other, creating a dynamic ecological system in which information needs arise, and are (ideally) resolved.

Theoretical Approaches to Information Needs

In his book *Information Need: A Theory Connecting Information Search to Knowledge Formation*, Charles Cole identifies three dominant perspectives within information-needs research:

1. Information needs are inferred from behaviors that imply a need for information.
2. Contextual factors give rise to information needs.
3. Information needs are a normative part of the human condition.[13]

Each of these perspectives are discussed next.

Information Needs as Implied by Information Behaviors

Information behavior is "the totality of human behavior in relation to sources and channels of information, including both passive and active information seeking, and information use."[14] Information activities range from formulating queries or questions, selecting information sources, and extracting ideas from sources through reading, skimming, and so on.[15] According to this perspective, information needs not only motivate information activities[16] but may also be analyzed according to the information behaviors they initiate. Because information needs themselves are not observable,[17] examining how people interact with formal (e.g., information databases) or informal (e.g., friends and family) information systems may allow us to infer their needs.

There are two main critiques of this approach. First, it does not account for what people are thinking and feeling, only what they are doing. When people recognize, articulate, and try to fulfill a need, they not only engage in different activities (e.g., consulting others, targeted searching) but also cognitive processes (e.g., perceiving, interpreting)[18] and affective states (e.g., uncertainty, frustration).[19] Second, some needs may remain covert or unexpressed due to shame around a topic, by members of stigmatized groups,[20] or due to lack of familiarity or anxiety with information systems, including library facilities, resources, and staff.[21] Other times, incognizance, defined as a lack of awareness of a need, serves as a barrier to seeking, encountering, and using information.[22] In other words, behavior is only one aspect of people's interactions with information and there may be needs without information seeking.

Information Needs and Context

Information needs are highly contextual: different social and material contexts give rise to different information needs and may therefore be approached according to "the user's life world."[23] The lifeworld is made up of various subworlds (e.g., home, school); each subworld contains different reference groups (e.g., peers, teachers) and human and technological information systems. Information needs arise from situations in the subworld and from the social roles individuals assume in these contexts.[24] The importance of context in shaping information needs and human responses to such needs may explain why there is such an abundance of information behavior research that groups populations based on occupation (e.g., lawyers, physicians), demographics (e.g., age, socioeconomic status), and role (e.g., patient, hobbyist).[25] The appeal of this is that it is manageable to consider a specific setting and the information needs that evolve for the people operating within that setting.

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Understanding the user's context is important not only in professional responses to information needs but also in the design of information systems and services. Design thinking is a multistep, iterative approach (i.e., empathize, define, ideate, prototype, and test) for developing information programs, services, and systems that reflect the users' perspective on both the "problem" and "solution" (see also Chapter 26: The Design Thinking Process).[26] An adaptation to design thinking, equity-centered design, involves designers noticing and reflecting on their own positionality to better empathize with end users.[27] Such practices result in information systems that emphasize not only usability but user agency. One example is Murkutu, an open-access content management system that provides Indigenous peoples with the means to describe and share cultural heritage materials in alignment with cultural protocols and knowledge.[28] A contextual perspective allows information professionals to consider various factors related to individuals, their circumstances, and their workplaces or communities that precipitate and influence their information needs.

Information Needs and the Human Condition

Information need as part of the *human condition* is rooted in positive psychology. Abraham Maslow's *Theory of Human Motivation*, first introduced in 1943, represents needs as a pyramid, with basic needs (i.e., food, shelter, security) grounding the hierarchy.[29] As basic needs are satisfied, people pursue higher-level needs such as love, esteem, and ultimately, self-actualization. Whether information need is a fundamental human need is an unresolved question, but it reminds us that library programs and services may mean different things for those struggling to meet basic needs (i.e., safety, shelter, and belonging).

Taylor built on Maslow's position that needs are conscious and unconscious by proposing that people move through stages of recognizing they have an information need (visceral), articulating that need in their own minds (conscious), and then determining how to turn that need into a question (formalized).[30] Taylor called the negotiation between the formalized need and the information system the *compromised need*. For instance, patrons may struggle with which library database to use to find a specific kind of information or how to select keywords to draw the most relevant results from a database. It is a key

Check This Out

For a visual and definitions of each level of Maslow's Hierarchy of Needs, visit *https://www.simplypsychology.org/maslow.html*.

task of information intermediaries (e.g., librarians) to help people in this negotiation process, typically through the reference interview.

Case Studies

To connect the theoretical discussion with real-world application, this section showcases three case studies related to the development and implementation of information programs, services, and systems. These case studies are drawn from the authors' experiences as researchers and educators in library and academic settings. The aforementioned section noted that user behaviors are often used to infer people's needs, but that this can be problematic. This idea is expanded on in Case Study 1 by highlighting a research method that can be used to learn more about how people engage with digital systems (see also Chapter 12: Virtual Resources and Services). Other theoretical approaches underscored the importance of understanding context in the identification and fulfillment of information needs and that people and communities may have more compelling needs than the need for information. Thinking about both context and the human condition, the need for information professionals to be skilled intermediaries is essential; this theme is inherent in Case Studies 2 and 3. In Case Study 2, the Community Scholars Program connects nonprofit organizations to research and in Case Study 3 an embedded librarian works in a complex health environment (see also Chapter 11: Different Information Environments: Special Libraries and Information Centers). Central to these examples is the recognition that the need for information is woven into more pressing, situational needs; information professionals must maintain an awareness of these broader needs through listening, relationship building, and collaboration to identify moments when information is truly needed.

Case Study 1: Evaluating Digital Information Resources with Respect to Information Needs

It is critical to understand how people use digital library and information resources to evaluate their utility in meeting users' information needs. Information organizations have access to usage data, such as the number of journal articles downloaded, "hits" on the library homepage, length of e-book interactions, and so on. These data may be useful for gaining a sense of the general use of library and information collections (e.g., most frequently accessed databases or subject guides) or use patterns (e.g., the volume of library database use during the academic term may indicate when students are working on assignments that make heavier use of library collections). Usage data, however, does not speak to the unique experiences of those locating and using library resources and how this relates to what they learn from or do with the information.

Interactive information retrieval (IIR) scholars often conduct experiments with potential system users to learn more about their cognitive and affective experiences and how these relate to actions performed using information-retrieval (IR) systems (e.g., querying, examining search results pages [SRPs], and selecting items for further exploration; see also Chapter 13: Information Intermediation and Reference Services). Such experiments typically create artificial "tasks" to be carried out.[31] This approach affords experimental control: all participants complete the same search tasks in a different order to minimize learning effects, allowing comparisons across tasks and participants.[32] Although empirically sound, this approach does not reflect the authentic needs of searchers.

To enhance ecological or real-world validity, Pia Borlund introduced the simulated work task situation to gather both quantitative usage data to evaluate the system's performance and qualitative data about the user experience.[33] The simulated need situation may be constructed using participant- or researcher-generated "needs" or search tasks. It consists of an indicative request and definition that outlines the information need (i.e., topic) and the simulated work task situation, which roots the information need in a specific environment (e.g., workplace) and describes the objectives of the search, including what will be done with the information (e.g., write a report, give a presentation) and the focus of the output (e.g., compare products). The simulated task scenario should be of relevance

to and personally interesting for participants. In addition, personal information needs may be used alongside simulated needs to act as a basis for comparison.[34]

Many IIR researchers have adopted the simulated task scenario in their studies. For example, Freund, Kopak, and O'Brien were interested in exploring university students' online reading behaviors with respect to the design of reading environments, specifically the presentation of readings and inclusion of interactive tools to highlight and annotate text.[35] The researchers asked student participants to engage with one of two sets of readings (each consisting of a journal article, website, and blog) as though they were completing assigned readings for a hypothetical "Technology and Society" course. More recently, O'Brien used a simulated work task scenario to explore participants' use of a digital library containing historical books.[36] Searchers with an interest in the domain of history and general searchers were asked to locate information about a local history topic. They performed three iterative search tasks to accumulate knowledge on the topic for the purpose of giving a presentation to members of a local history society. The researchers were able to compare how people with different levels of domain knowledge, interest, and search proficiency performed the same search tasks and what they learned as a result of their engagement with the digital library.

Borlund's method allows researchers to explore two components of information needs: First, there is generally a topic that an individual wishes to learn more about. Second, information needs arise from specific situations, and this situation determines why the person is looking for information, what they intend to do with it, and how they will evaluate the sources of information they find. It may not always be feasible for librarians to carry out elaborate experiments with patrons for the many different databases and repositories they host. However, it may be possible to perform small-scale interactions with users that draw on their own or simulated information needs. Such activities can help system developers move beyond the identification of glaring usability issues by bridging what searchers do (behavior) with the constraints of their situation and purpose for seeking information (context).

Case Study 2: The Community Scholars Project

The Community Scholars Program (CSP) is based at Simon Fraser University (SFU) Library but is a multiuniversity library initiative that connects staff of nonprofits and charities across British Columbia (BC) with access to scholarly publications.[37] In 2016, an SFU alumnus, who worked in social innovation, initiated conversations with SFU's president and its dean of libraries about the information needs of the nonprofit sector. The CSP was developed in response to these community-identified systemic information needs. Its core feature is a portal that allows participants (i.e., community scholars) to access more than twenty-thousand e-books and journals, anytime, anywhere, and without cost.

The nonprofit world routinely supports critical issues related to housing, education, health, and sustainability. Nonprofits design programs and interventions, deliver services, advocate, influence policy, partner with governments, academics, and corporate entities, and produce original research. Unlike their government, academic, and corporate counterparts, however, they have limited access to published research and do not have budgets to purchase these materials. Yet they are increasingly being asked by funders and other constituents to demonstrate evidence-based decision-making and practices. They are also interested in innovating existing practices, situating their experiential knowledge within a body of research, understanding change mechanisms, evaluating their work, and developing professionally. Although open access (OA) materials[38] and in-person guest access to licensed electronic resources at academic libraries[39] are options for nonprofit staff, they may not have time to physically visit libraries, be proximal to an academic library, or know how to discover relevant OA publications on different subjects in different digital repositories (see also Chapter 36: Open Access). Thus, although OA and on-site access to research materials meet some information needs identified by nonprofit staff, gaps remain. This may force staff to rely on summer student employees or credentialed contacts, download versions that are not copyright compliant, or do without.

In its pilot phase, the CSP worked with two publishers to provide access through their individual interfaces. Surveys of community scholars indicated that the content was valuable and highlighted two critical points: (1) a single-search interface was necessary and (2) more content was required. The process of logging into separate interfaces and replicating and adapting searches for each interface was cumbersome and outweighed the value of the potential information. The CSP responded by developing the Community Scholars Portal, a second-search interface and "skin" for the underlying databases in SFU's integrated library system. Additionally, participants could not find "enough" information or specific known items. In response, the CSP negotiated with additional publishers, bringing the current total to seven and added OA content alongside publishers' materials within the new portal.

The CSP has satisfied its central aim: nonprofit staff in BC can now access scholarly research for free and conveniently from their place of work. The CSP has evolved to include programming in addition to offering physical access to information. This has allowed CSP librarians to better understand how and why community scholars are using or not using the resources provided in the portal and how to adapt their engagement with the nonprofit sector in response to their rhythms and assets.

Nonprofit Workflows

First, the CSP initially offered one "seat" or user login per organization but soon learned that people operate within workplace teams. Having one staff member hold "the keys" (sign-in credentials) to portal access created pressure to act as the intermediary for coworkers or to act against the program's policies and share the credentials. The program increased the number of seats per organization to five. Second, nonprofits' research needs are episodic, with many community scholars using the portal every few months. Because patterns of use are varied from those of student or faculty researchers, the CSP must gauge program success differently and find new rhythms for on-demand research help options, like email support and personal consultations.

(Unmet) Information Needs

Some community scholars decide to withdraw after a period of inactivity, and there are fewer unique logins per year than there are participants. Evidently, access to research alone does not (completely) fulfill the information needs of all nonprofit staff. Program participants are diverse in terms of the work they do, job titles and responsibilities, level and recency of education, and familiarity with academic library resources or the conventions of academic research. For some, there is a sense that they *should* be accessing these publications, but the actual need (i.e., how they will use it, what they will solve with it) remains vague. In response, CSP librarians have created programs to demystify the search-and-retrieval process and build capacity for research utilization. Strategies include providing research consultations, tutorials (video, workshop) on conducting searches, workshops exploring critical appraisal and research-informed practice, and journal clubs that focus on connecting research findings to practice and building familiarity with the conventions of academic publications.

Expertise

Another factor in meeting the information needs of participants is librarian humility. Community scholars are experts in their fields, and there is a danger of alienating these participants if academic knowledge is not carefully positioned as an additional resource, rather than as higher quality knowledge. CSP librarians look for ways to decenter academic information privilege, both by deliberately interrogating their own positionality and centering the aspirations of participants. Some strategies have included providing research consultations at participants' places of work; hosting workshops in community meeting spaces (rather than at academic libraries); using facilitation strategies (versus lecturing) to deliver information; and creating ongoing feedback mechanisms to gather input into shaping the program. This additive, asset-based approach makes discussing "needs" with community scholars a challenge because the intent is not to position the program as a remedial measure.

In some ways, the CSP and librarian support are catalysts for articulating information gaps in the nonprofit sector. Community scholars express desires for other formats and genres of information. Some of these additional needs can be addressed through consultation, referrals, facilitated workshops, and guides. For example, CSP librarians have connected participants with records management and GIS experts and resources for copyright-free images, and directed them to existing data and scholarship, archival sources, and grey literature.

However, community scholars have also noted limitations to the CSP portal that cannot currently be addressed. The portal may lack specific articles they seek, and scholarly communication, in general, may not meet their requirements; this may be why some community scholars deregister from the program and get by in their work without these publications. Nonprofit staff have identified that they would be better served by clear language summaries of individual studies or research syntheses of current knowledge on a topic. At an even deeper level, nonprofits have information needs that have yet to be addressed through academic research and are looking for opportunities to shape research agendas or partner on specific inquiries. In this way, interactions with nonprofits may actually reflect the notion of information needs back on the academic community to inform what is researched and how.

Case Study 3: Library Services for a Large, Geographically Distributed Medical Program

This case study examines the work of embedded librarians, specifically the role of a librarian coordinator for a large, geographically distributed medical program. The program comprises four university sites and numerous clinical sites spread over a large geographic area. Students spend much of the first two years of the four-year program at the university sites, gradually transitioning to clinical sites. The program is complex and incorporates a range of learning modalities and a diverse group of instructors; many of whom are practitioners whose primary affiliation is with their hospital network. The librarian coordinator role was envisioned to be oriented toward students, encompassing many traditional library functions, including collections, reference, and instruction. Over time, library services have evolved into a broad and flexible service model that responds to a variety of information needs, including those of medical program leaders and staff.

Many of the hallmarks of community-led librarianship are evident in this context; the medical program librarians seek to listen to faculty, staff, and student ideas, concerns, and priorities. Collaboration is key in the planning and implementation of services and programs. Guided by a commitment to problem-solving, program librarians often serve as intermediaries, facilitating the exchange of information between the medical program and participating universities, libraries, and hospitals. Successful communication in all these contexts is enabled by knowledge of the terminology preferred and understood in each domain, whether the medical program, the library, or the information technology units.

Equally important is the shared culture of continuous improvement.[40] The medical program seeks out and acts on student feedback, and this extends to library resources and services. The library team regularly experiments with services, approaches to collections and course readings, modes of instruction, and learning supports for students. Relatedly, the group has become comfortable moving away from models or resources that fail to take hold or no longer work for the program.

The librarian coordinator manages library collections across the university and clinical sites. Each site purchases its own print materials, based on course requests that are collected centrally and communicated out to each site. E-resources are licensed centrally to enable access from any location. In recent years, focus has shifted decisively to e-resources based on student preference, improved availability of e-books, expansion into further clinical sites, enhanced visibility of e-resources to instructors, and cost. Robust and increasingly streamlined authentication options have supported this shift by enabling easy access to e-resources from anywhere. The medical program also seeks guidance from the library on nonlibrary e-resources (e.g., online case, virtual patient resources) with respect to privacy, licensing, and authentication issues. The librarian coordinator creates information packages to inform discussion and decision-making around new and existing resources and funding.

Program librarians provide many traditional reference and instructional services to students and faculty in the medical program. Librarians participate in the planning of new curriculum, answer reference questions, serve as advisors on self-guided student projects, contribute to instruction, and sometimes serve as case-based learning (CBL) tutors.[41] Due to the amount of one-on-one contact librarians have with students, they are often able to reflect student information needs back to curriculum leaders, informing curriculum planning and delivery. Much of the work librarians do with students goes beyond standard reference interactions. Because they are embedded, librarians have long-term presence. Many students return to the same librarian throughout their program, seeking input on searches, requesting reviews of manuscripts or guidance on publication options or just to talk through research projects. Relationships with students, faculty, and staff are key; one discrete question often leads to others or even grows into a longer-term collaborative enterprise.

The medical program has many unique characteristics that differentiate it from other programs at the university, such as the number of faculty and instructors, complexity of the program, its unique structure, breadth of learning environments (on multiple campuses, at clinical sites, online), how courses are administered, and most fundamentally, the web of partnerships that are the program's foundation (e.g., government, academic partners, and health networks). These factors lead to special requirements in many library-related areas such as e-resource licensing, identity and access management, course reserves, and faculty appointments. The librarian coordinator's role has grown to include participation in the development of many library web services and technical projects, communicating the unique needs of the medical program, coordinating requirements-gathering and testing, and communicating with stakeholders in the medical program. Authentication has been a key area of focus, initially as the library worked to address challenges experienced by users accessing library resources from hospital sites, then through several authentication system implementations. Upgrades result in overall improvements in access to library resources but also reveal the gaps in communication and administration that are inevitable across such a large and complex system. Trusting and collegial relationships are key both in understanding the university's multifarious and sometimes Byzantine information systems and identifying opportunities for improvements.

Equally, the librarians represent the library to the medical program, describing library-related systems and resources and identifying opportunities and constraints to medical program leadership. The librarian coordinator has coordinated collection and analysis of library-related information for two full-program accreditation cycles.[42] She collaborated on the development of two pilot Objective Structured Clinical Examinations (OSCE) stations and participates in construction or renovation planning of library spaces at clinical sites. The entire librarian team contributes questions to the medical program's question bank and has participated in two full medical program curriculum renewal cycles.

Despite its size and complexity, the medical program is constantly striving to improve and innovate. It has successfully navigated a number of complex changes, including curriculum renewal, information technology renewal, and more recently, an abrupt shift to an exclusively online environment during the COVID-19 pandemic. A culture of respectful communication and collegiality has allowed the program's numerous personnel (including librarians) not only to weather these changes but also to succeed. The librarian team is continuously working to adapt information services and resources to

TEXTBOX 5.2

Discussion Question

How does the theme of change and adaption play out in each case study, both with respect to how users' needs shift over time and how information professionals and institutions engage in program, services, and system design to respond to existing and emerging needs?

the needs of the medical program as it evolves. Although large changes are always challenging, much of this work has been relatively straightforward because of the degree to which the librarian team is integrated into the medical program.

Conclusion

Information need is a "fuzzy" concept, yet it is central to the existence and mission of information organizations. Needs relate to information behaviors, such as seeking, avoidance, and assessment, and are highly context sensitive. Information needs may be known and specifically addressed by users, or they may be unclear or unacknowledged. Expressed information needs must be taken at face value, but other needs are more effectively met when information professionals attempt to understand users' contexts, appreciate their diversity, and develop strategies to meet people where they are. In the information case studies, by framing search tasks as information needs, information professionals can bring authenticity to understanding the user search experience; by attending to the workflows, priorities, and language of nonprofit organizations or medical program constituents, information professionals gain a more holistic sense of needs and where the need for information specifically fits. Information professionals are knowledgeable about who is collecting information and why, how information is stored, organized, managed, aggregated, accessed, paid for, secured, analyzed, and used in a variety of contexts. Yet it is through deep engagement with user communities that information professionals are able to use these skills to address information needs holistically.

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