

**Approaches for Understanding Community Information Use:
A Framework for Identifying and Applying Knowledge of Information
Behavior in Public Libraries**

Final Narrative Report (Grant #LG-02-02-0082-02)

**Dr. Karen E. Fisher
The Information School, University of Washington**

**Dr. Joan C. Durrance
School of Information, University of Michigan**

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Overview

The revolutionary changes in information technology seen in the World Wide Web and Internet applications have both increased access to information and an information glut. While this radically changed information environment has increased the potential for people and organizations to get and use relevant information, it has also confounded the understanding of information needs. Never before has it been so important for librarians to be able to show the impact of their services on the community. Approaches to determining impact have eluded librarians, in part because librarians have not incorporated information behavior (how people need, seek, give and use information in different contexts) into their planning tools. By and large they have failed to determine how people find everyday information and, equally important in such a rapidly changing information environment, how they would prefer to find information. The third problem that has eluded librarians is how people use information, for it is use that results in benefits. Solving these problems will provide librarians with the knowledge and approaches they can use to effectively evaluate library services from the user's perspective and determine the elusive personal, economic, social and cultural contributions to a community.

The following report will examine the components developed to address the goals as well as summarize the contributions of the field studies toward meeting the goals. Each of the eight field studies are summarized highlighting the contributions to the field. Following the discussion of the field studies an inventory of publications and presentations is included as well as a summary of the broader impact of the study on the field. Concluding this report are appendices which contain samples of the instruments developed through the course of the research project.

Goals and Objectives

The purpose of our study has been to gather empirical data regarding (1) citizens' community information needs and seeking behavior in order to (2) facilitate our design of approaches for studying information behavior that will help librarians both understand the needs of their communities and the effectiveness of their services from users' perspectives. The stated goals and deliverables for this project are as follows:

Goal #1 To assess current techniques, models, approaches and instruments for determining the public's community information needs and seeking patterns.

Goal #2 To identify community information and community service best practices by public libraries.

- Goal #3** To use the results of Goal #1 to design and field-test the usability and quality of a minimum of three approaches for studying the public's community information needs and seeking patterns for use by librarians.
- Goal #4** To edit the approaches/tools developed under Goal #3 and to disseminate them effectively among the LIS community, including through our IBEC (Information Behavior in Everyday Contexts) project website, which is also used to disseminate information about our findings along with other materials.
- Goal #5** To contribute to the LIS field's general knowledge of information behavior by disseminating the results of our field research at conferences and through journal articles in the academic and professional literature.

In addition to the eight field studies, there were many elements of the study that contributed to meeting the goals. The IBEC website is an important vehicle for this study and reflects the range of information behavior problems undertaken as well as the range of techniques. Another important result of the study is the development of the field's first comprehensive monograph on information behavior theories.

IBEC exceeded the expected three case studies and completed eight case studies that all contributed to the development of the models, theories, and best practices generated through the research work. The models developed through the Hartford study and the WIN 2-1-1 study are expected to make important contributions to the development of serving communities.

IBEC Website

Using the slogan "IBEC: Helping to maximize the impact of information in communities," the IBEC website located at <http://ibec.ischool.washington.edu> represents a comprehensive effort to disseminate information regarding the research generated through this study. Its purpose is to provide libraries and other organizations with:

- Research on how people need, seek, give and use information for everyday living
- Research and best practice examples of how organizations foster the use of information
- Guidance in how organizations can create and facilitate information grounds to better meet client needs.

The primary purpose of creating this site was to merge our past and current work coherently such that visitors can easily understand our research agenda and access our tools. While all of our publications and presentations from the current and past projects are listed on the site, PDFs are available for select items.

Efforts have been made to assure that the website appears when relevant information is search via search engines such as Google, Yahoo, and MSN. The results of the efforts to

create a comprehensive information resource on current research as well as to encourage use of the website has resulted in active use. Current analysis indicates that there are over 5,000 page views by over 1,500 users per month on average. This traffic originates primarily from U.S. domain names but also includes significant traffic from domain names throughout the world.

The IBEC website has proven to be a very active and important method for not only disseminating information but also as a means of establishing dialogue with practitioners and opening up avenues for two-way communication. The website has been a very effective means of disseminating the methodological tools developed as part of Goal 3. The website is updated several times a month with new information being continually added. We believe this approach has helped us to develop a following of researchers and practitioners.

The IBEC website has also played a pivotal role in meeting goal 5. The website has been demonstrated during conference presentations and referenced in all publications. This approach has been effective in supplementing presentations and publications as a place for posting additional information such as instruments that could not have been disseminated otherwise. By integrating the website into presentations and publications it has also served to increase the reach and following of these disseminated materials.

Lastly, the IBEC website has been important in meeting Goal 1 and Goal 2 by providing a place to collect information from the field. This process occurred formally and informally. Several studies incorporated data collection techniques using online surveys to collect data from practitioners. These data collection techniques involved not only collecting data but also collaborative coding techniques of the data collected. We believe that collaborative coding techniques may provide important new ways of analyzing data incorporating greater involvement from stakeholders. Communication is also encouraged by requesting visitors to submit details about their own “information grounds” along with suggestions regarding practice in the field.

Fisher, K. E. Information grounds. In K. E. Fisher, S. Erdelez, S., & E. F. McKechnie (Eds.). *Theories of information behavior*. Medford, NJ: Information Today.

Theories of Information Behavior Monograph

Fisher, Erdelez, and McKechnie (2005) edited the first comprehensive book on theories of information behavior. This unprecedented researchers’ guide has been recognized as a landmark contribution toward making 74 theories of information behavior accessible to practitioners. With 85 contributors from 10 countries, it represents not only an important bridge between academic research and practice but also identifies best practices for utilizing the theories described. This book was created as a necessary means of deriving several conceptual frameworks from the IMLS project, namely information grounds and proxy searching behavior.

Research Overview

Our research builds upon Harris and Dewdney’s (1994) six principles of everyday life information behavior that they derived based on an extensive literature review: 1) information needs arise from the help-seeker’s situation, 2) the decision to seek help or not to seek help is affected by many factors, 3) people tend to seek information that is most accessible, 4) people tend first to seek help or information from interpersonal sources, especially from people like themselves, 5) information-seekers expect emotional support, and 6) people follow habitual patterns in seeking information. Each of our eight field studies builds upon these six principles.

The following report contains detailed descriptions of the field studies conducted over the course of the past three years. The following table establishes linkages between each of the five goals and these field studies. Details of these linkages are discussed in greater detail as part of the field study description.

	Goal 1 Models, approaches, and instruments	Goal 2 Best practices	Goal 3 Approaches for studying community information needs
Hartford Community Information	* Model for anticipating community needs	* Active community problem-solving * Engagement with the community at multiple levels	* Approaches are practice-centered and depicted in the model.
Pacific Northwest Information Ground Study	* Created the first instrument for identifying information grounds. * incorporated online methods of data collection and data analysis.	* Established findings regarding assumptions of information grounds. * Established knowledge on information behavior utilizing information grounds.	* Identified importance of information grounds and information habits as a part of the broader context of community information needs.
United Way Information Ground Study	* Further tested original information ground instrument,	* Identified best practice efforts by the United Way and	* Developed methods for assessing both

	and developed way of incorporating qualitative research analysis into large-scale surveys.	other human service organizations to assess community needs and understand the information behavior of citizens.	information needs and understanding information behavior
College Student Information Ground Study	<ul style="list-style-type: none"> * Refined information ground instrument developed in PNW and UWKC studies, and developed an IG typology. * Also refined online data collection and analysis methods. 	<ul style="list-style-type: none"> * First study to examine the feasibility of studying best practices in terms of a tightly defined population. * Suggested ways to utilize ways of understanding information grounds of a defined population to meet community information needs. 	* Findings suggest that an information ground approach may serve as an important technique to understanding the information behavior and information needs of a defined population.
Migrant Workers in Yakima Valley	<ul style="list-style-type: none"> * First everyday life information behavior study to target primarily non-english speaking population. * Developed methods to address particular cultural and language barriers to collecting information from this population. 	<ul style="list-style-type: none"> * Established important information on the information habits of migrant farm workers. * Findings indicate distinct barriers to information sharing based on particular work and cultural issues. 	* Established the benefits of an information ground study to improve the understanding of information behavior of populations with distinct cultural and work issues.
WIN 2-1-1	* Comprehensive model for understanding impact of community	<ul style="list-style-type: none"> * Review of current I&R approaches * Recommendations for improvement 	* Development of methods for continuous evaluation of information

	information systems.	and enhancement of existing practices. * Recognition of practices such as information intervention and the time sensitive nature of information	processes. * Development of measures to be used to expand the view of cost/benefit analysis.
North Carolina Consumer Health Information Network	* Introduction of web-based instruments on a large-scale. * Included web usage data to support analysis. * Also, involved the development and utilization of randomization techniques to elicit feedback based on site traffic.	* Prototype digital library considered by NLM as model for other funded health websites.	* Established proxy searching as an important factor to consider when studying information behavior and community information needs.
Homeless Teenagers Study	* Identified techniques important to consider when addressing marginalized populations.	* Identified best practices regarding addressing specific needs such as housing and food in terms of better understanding the “world view” as described by Chatman’s small world theory.	* Identified ways of understanding community information needs in terms of the way a marginalized population might perceived their surroundings.

Field Studies

Hartford Study

Conceptual Framework and Methodology

Until the 1970s public libraries did not emphasize the provision of community information. During that decade urban libraries, in particular, expanded their capabilities to provide community information through the development of a range of approaches to providing access to community information (Durrance 1984). In the 1980s and 90s, computing advances and the Internet gave librarians an armament of powerful tools to enhance the delivery of community information; these have been documented in recent years (Durrance 1994; Durrance & Pettigrew, 2002; Durrance & Pettigrew, 2000). HPL's strategies build on the technological advances of the past decade by combining high tech with high touch.

IMLS has recognized that librarians have had difficulty in anticipating community information needs. We posit that in part this difficulty emanates from the fact that librarians lack appropriate models to guide their work. Therefore we sought to include at least one study in this IMLS-funded grant in which we could develop and present a model that arises from best practice in a public library. We reasoned that many librarians are more likely to adopt new modes of practice that have been shown to be effective in another community. Thus we sought—and found—a best practice library whose staff have devised effective approaches for understanding community information use.

The Hartford study is a departure from our other IBEC work and from those of most information behavior researchers in its focus on mining best practice for approaches to anticipating information needs. We chose Hartford Public Library based on its national reputation for community-focused library services, including having been selected by IMLS to receive its National Award for Service Excellence to honor its community-focused service approaches. In addition, its Chief Librarian Louise Blalock was recognized by *Library Journal* as its 2001 “Librarian of the Year” for her work on creating innovative services that focus on “building community connections and family library service” (Berry, 2001). The Hartford Public Library system is made up of nine branches with an annual budget of more than \$6 million. Each month, the library answers 36,000 reference questions; its family literacy programs reach 2,000 children, parents and day care providers; 1,000 people attend educational and cultural programs, and 5,000 children use the Library's Homework Centers.

Thus the Hartford study focused on determining the nature of the practice that has produced a nationally recognized public library. The next three paragraphs summarize the methods used in this study which was carried out in two data collection rounds using

a grounded theory approach to inform study design, sampling and analysis. Round 1 identified and determined the information behavior of community groups active in the city of Hartford. Round 2 focused specifically on explicating the library's approaches to interacting with the community and anticipating and responding to its needs. In both rounds we used a variety of data collection methods—one-on-one interviews, focus groups, observation, and analysis of supporting documents. The research team worked with Hartford Public Library leadership to determine an initial set of community and library stakeholders and then identified additional interviewees through the course of data collection via snowball sampling. Round 2 interviews were concerned primarily with how the staff does its work, *focusing specifically on how community information needs were anticipated and responded to in the course of library activities.*

Data were analyzed using NVivo qualitative software. A coding team worked to code all data, conducting frequent checks to ensure inter-coder reliability. We chose to code passages, not single lines or paragraphs, as evidence of a particular code because we felt that an entire passage provided more contextual clues for the evidence of the code. Each transcript was assigned a primary and secondary coder. All discrepancies were discussed between the coders and coding decisions were made at that point. For each round, an initial codebook was created, using a combination of deductive and inductive methods. Our knowledge of information behavior and professional practice provided an initial set of categories for coding patterns in the data. At the same time, an open, inductive process was maintained to make sure that themes germane to the relatively unexplored area of community information provision could emerge.

Grounded theory approaches were particularly helpful in identifying elements of a potential practice model. Coding, analysis, and model development was highly iterative—a codebook was constructed based on what we were seeing, and then after all documents had been double-coded, node reports were run on each code and passages compared to our definition of the code. Several rounds of reviewing, cleaning and recoding of the dataset provided a validity check on code definitions and the integrity of the codebook structure. This repeated process led to the reorganization and refinement of the coding scheme to produce an integrated, cohesive analytical framework. This process led to the development of the model discussed below.

A Model from Practice for Anticipating Community Needs

The Hartford Public Library's mission statement indicates that HPL seeks to “To promote and support literacy and learning; to provide free and open access to information and ideas and to help people participate in our democratic society” (HPL Mission Statement). HPL has developed a group of distinctive community-focused library services (discussed in more detail under our Goal 2) as well as an array of community databases, including a new initiative, HartfordInfo, an ambitious effort to comprehensively and collaboratively digitize community information. HPL's Neighborhood Team Initiative was chosen as the basis for this study.

Started in 1998, The Neighborhood Team Initiative is one of HPL's main vehicles for both understanding and responding to community needs. Under the program, staff members are assigned to a neighborhood-based team. Each team functions in a city neighborhood that is served by an HPL branch. The primary focus for the teams is to know their neighborhood – its concerns, issues, organizations and people. A key component of the Neighborhood Teams initiative is actively working with community groups by actively participating in community meetings and in outreach to citizen groups.

The final Hartford Report, details the approaches we used to conduct the study. Here we focus on what we found. The figure below, "A Model for Anticipating Community Needs" presents the key model components developed from our study of HPL's Neighborhood Teams Initiative. Briefly, the overarching force that drives the model is found within *a set of strategies* that creates a community focus (both external and internal) within which the librarians operate.

The model components, outlined below, are synergistic. We found that staff had a community-focused *philosophy and ethic*, a key framing component that appears to influence the ways that the other components are carried out. At the model's center we have placed *strategies for anticipating and responding to community needs*. In a departure from traditional reference activities, the staff not only *respond* to needs brought to the library's reference desks and websites, they also engage in various activities designed to *anticipate* community information needs including participating in meetings and using other innovative community-focused strategies. The model is made complete through various *library mechanisms* that have been put in place to support the library's community-focus as well as the *staff qualities* that undergird the model, supporting the anticipation and response strategies.

A MODEL FOR ANTICIPATING COMMUNITY NEEDS



The Model Discussed

Louise Blalock, the director of Hartford Public Library, states that “today's challenge is *to reinvent the library* to respond to community needs and aspirations, and yet to retain the core values of intellectual freedom, free and equitable access, and trust and mutual respect. The social change we are experiencing is as powerful as the technological change, and equally a driving force in the need to reinvent ourselves. *How do we do that? By getting as close to the community as we can, paying attention to what they say, and participating in community organizations: listening, learning, linking*” [italics added]. Blalock and the library’s leadership team have shaped Hartford Public Library’s transformation into a library that appears to be fully engaged with its community.

As researchers studying the approaches used by the library’s Neighborhood Team initiative, we created a need-focused service model presented earlier in this report as Figure 1, “A Model for Anticipating Community Needs.” Figure 1 graphically presents the key model components. The distinct, complementary and synergistic approaches that

come together in the model serve to help Hartford Public Library staff to anticipate community needs and in the words of Louise Blalock, to reinvent the library. We grouped these approaches into several “families”— a shared philosophy and ethic, strategies for anticipating and responding to community needs, mechanisms that serve as the model’s infrastructure, and staff qualities.

Below we synthesize the extensive examination which appears in the Hartford Report. The first set of approaches, *a shared philosophy and ethic*, shapes the rest of the model. Hartford Public Library staff share a can-do philosophy that builds a community-focused outlook that values the role of the library as both a vital part of and a contributor to the community. This institutional philosophy guides HPL toward engagement and contributes to an organizational culture that values the library’s community work. It appears to this group of researchers that this component helps the staff remember why they provide the kinds of services that were recognized by IMLS and First Lady Laura Bush in 2002. In short, HPL has a shared philosophy and ethic that serves as a compass and rudder for the library’s community-focused activities.

The second and third set of approaches—*strategies for anticipating and responding to community needs*—incorporate several well-honed strategies used by librarians to carry out a range of community information services. They are the core of the model and to an extent are shared by other community-focused libraries. While they build on approaches developed by community information librarians, these strategies go beyond what most libraries do and are key to HPL’s ability to meet community needs as well as develop optimal approaches to information provision in response to community problem solving needs. For example, both the active networking approaches used by HPL staff and the propensity toward developing partnerships with other organizations are often seen in public libraries. Likewise community-focused databases and collections are found in other libraries as are targeted need-based services and programming. Other libraries recognize meeting attendance as valuable, but in most libraries it does not play the central role it plays at Hartford.

Importantly, HPL breaks the mold by striving to make active participation in community problem-solving meetings a vital, effective strategy *for understanding and responding to real needs*. Attending—and more importantly participating—in meetings brings the library and its staff into contact with the community outside of the library *in settings where decisions are made and problems are solved*. This strategy is key to the library’s ability to anticipate the needs of problem-solving groups. In fact, the neighborhood team leaders we interviewed recognize that the relationships that they have developed with community groups allow them to more effectively anticipate information needs and even reframe the problem.

As we developed the model we separated the strategies themselves from model’s fourth component—*mechanisms* that have been put in place to assure that the strategies and

activities discussed above are carried out and supported. The mission of the neighborhood teams, visible on HPL's website, states: "We, the Hartford Public Library connect to the 17 neighborhoods of the City and are committed to being part of the daily lives of the people. Using the entire resources of the Library, we encourage growth, development and achievement through innovative and responsive programs and services." It is through a set of carefully crafted mechanisms—including dedicated administrative leadership in a position devoted to coordinating the work of the teams, job descriptions, performance expectations, communication mechanisms, policies and approaches that foster community meeting attendance, and a number of communication, sharing, reporting and marketing mechanisms—that the library assures that this function will be carried out. In short, engagement is expected, supported, and valued.

The final model component, *staff qualities*, isolates a set of qualities that characterize staff who are considered exemplary by their colleagues in carrying out the community-focused roles essential to anticipating community needs. The individual qualities that emerged from our staff interviews suggest that the kind of work associated with neighborhood teams is most likely to be carried out by professionals who are proactive in their approach to the community.

The Model's Synergistic Effects—Community Engagement As a Vehicle for Anticipating Needs

Importantly, our study shows that HPL uses the model components *together* to strengthen their ability to anticipate real needs in the community. The model shows that each of the components contributes to the others. *Separately* the model components discussed in this report are exemplary best practice examples. *Together, they foster multifaceted community engagement and its synergistic effects that transcend the separate strategies and position the library to meet real community needs.* Engagement implies visibility in the community and credibility among key stakeholders—in this case those who are primarily concerned with solving community problems—non-profit organizations and neighborhood groups, the mayor's office and other government leadership—as well as individuals whose lives have been enhanced by the activities of the library. This effect is seen in the ease with which the library engages with other organizations in the community and in the variety of partnerships between the library and a range of governmental agencies and nonprofit groups. Hartford Public Library is well connected in its community.

These innovative, externally focused strategies may require that staff gain new skills. While some staff find that these roles come naturally, others need to learn how to become more actively engaged in community processes and more proactive in the provision of information without losing the library's valued neutrality. Our Round 1 of data collection (that focused on community non-profits) showed that community leaders see the library as a neutral organization existing in a territorial community. One leader commented:

One thing I can say about the library is that they're not territorial. In Hartford you notice that. And I don't think I ever called down there and had someone be rude with me or refuse to help me or just point me to someone else. That's a big deal. People in Hartford are territorial, but the library has not been like that it has branches everywhere and is mindful of being inclusive and open. That's a real asset in Hartford.

Conclusion

The purpose of this research has been to identify the attitudes, practices and strategies that have allowed one library to become an integral part of and an active community participant in its community. The model of intervention that we have presented here culminates in an increased ability to anticipate community needs. The model shows how the various strategies used by Hartford Public Library in its Neighborhood Team Initiative work together and form a framework that serves to help to "reinvent the library to respond to community needs and aspirations." In taking on this challenge, HPL has created holistic and contextually driven services.

By immersing itself in its community, the library has developed complementary approaches aimed at broadly understanding the community's needs. All of these approaches share common qualities, they:

- take place out in the community as often as they do within the library walls;
- recognize the existing community organizational framework;
- comprehend and take advantage of the face-to-face nature of the community's activities;
- incorporate careful attention and sensitivity to their target populations; and
- reflect the importance of collaborative activities and partnership building.

It is clear to us that this theoretically derived model of proactive practice that characterizes Hartford Public Library's Neighborhood Team Initiative can be used as a blueprint for replicating in other libraries these successful approaches to anticipating needs. It can be used as well to show how other library services such as programs for new immigrants and refugees, job centers, literacy or consumer health programs can, by applying it, more effectively anticipate needs.

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Pacific Northwest Information Ground Study

Introduction

In Chapter Two of their landmark book, *Barriers to Information: How Formal Help Systems Fail Battered Women* (1994), Harris and Dewdney proposed six principles of everyday information seeking that they derived from an extensive review of several literatures, including library and information science, communications, sociology and social psychology. According to their sixth principle (p. 27), “people follow habitual patterns in seeking information”—meaning that people tend to adhere to deeply engrained patterns or habits when seeking information much the same as they do when carrying out other routine tasks, such as driving to work. As Harris and Dewdney further explain, people “tend to seek information that is easily accessible, preferably from interpersonal sources such as friends, relatives or coworkers rather than from institutions or organizations, *unless* (an important qualification) there is a particular reason for avoiding interpersonal sources.” Case (2002, p. 289), remarked similarly that “many people use formal sources rarely, relying instead on informal sources such as friends and family, or knowledgeable colleagues at work,” which he included in his summary of “eight lessons” of IB research. On these bases, one can conclude or at least hypothesize that barring special circumstances, people turn to other people when seeking everyday information.

While the notion that people habitually engage in interpersonal information-seeking can be viewed as one of the IB field’s tenets, a conceptual newcomer is the idea of information grounds (IG), which was derived from Pettigrew’s (1998, 1999) field work at community clinics. A student of Dewdney and Harris, Fisher, then writing as Pettigrew, used Touminen and Savolainen’s (1997) social constructionist approach to define IGs as synergistic “environment[s] temporarily created when people come together for a singular purpose but from whose behavior emerges a social atmosphere that fosters the spontaneous and serendipitous sharing of information” (1999, p. 811). In Fisher, Durrance and Hinton (2004), the propositions of the IG framework were given as follows:

- #1 IGs can occur anywhere, in any type of temporal setting and are predicated on the presence of individuals.
- #2 People gather at IGs for a primary, instrumental purpose other than information sharing.

- #3: IGs are attended by different social types, most if not all of whom play expected and important, albeit different roles in information flow.
- #4: Social interaction is a primary activity at IGs such that information flow is a byproduct.
- #5: People engage in formal and informal information sharing, and information flow occurs in many directions.
- #6: People use information obtained at IGs in alternative ways, and benefit along physical, social, affective and cognitive dimensions.
- #7: Many sub-contexts exist within an IG and are based on people's perspectives and physical factors; together these sub-contexts form a grand context.

As shown in Figure One, these seven propositions can be summarized as eight concepts and—as further shown—given Wilson's (2000) definition of IB as “the totality of human behavior in relation to sources and channels of information, including both active and passive information-seeking, and information use,” along with Pettigrew, Fidel, and Bruce's et al., (2001, p. 44) definition: “how people need, seek, give and use information in different contexts,” IB can be viewed as phenomena that can occur within IGs.

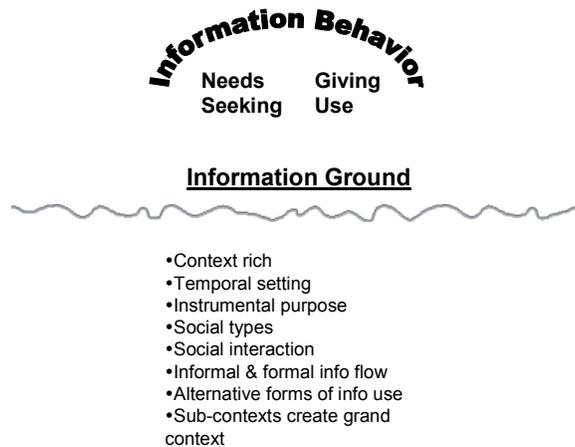


Figure 1
Information Habits and Information Grounds

Beyond health clinics, Pettigrew (1998) proposed that IGs might occur in such settings as barber shops and hair salons, quilting bees, playgrounds, tattoo parlors, metro buses, food banks, etc. Recently, she further hypothesized that IGs “hold likely regional and global impact in that they occur across all levels of all societies, especially as people create and utilize IGs as they perform tasks in the course of daily life” (Fisher, et al., 2004), which has parallels with Oldenburg’s (1999) notion of the “third place” (i.e., people’s third locale of habitude beyond the home and workplace). The premise behind a deep understanding of IGs, from a systems design perspective, is that it can suggest ways of effectively delivering or facilitating different types of information, especially through utilizing specific social types such as opinion leaders and gate keepers. Examples documented to-date include the dissemination of health and human services information (e.g., breast cancer and HIV/AIDS) at community clinics and hair salons in Canada, the southern and the northwestern U.S., as well as via master huts in Indonesia, children’s storytime hours at Ontarian public libraries, bike shops for teens in South Seattle, community technology centers in rural Washington, and literacy skill centers in Queens, New York (IBEC, 2004).

Methodology

In the fall of 2003, University of Washington researchers developed a survey to better understand the concepts of information habits and information grounds. It was designed to be administered to a broad group of participants and to collect specific information regarding sources, habits and preferences of information seeking behavior. The survey instrument was designed to take approximately 10-15 minutes to administer. The study was guided by the following questions:

1. What are people's preferred or default ways of seeking everyday information?
2. Why do they prefer these sources?
3. What do they obtain from these sources?
4. What drawbacks do people associate with these sources?
5. What are people's information grounds?
6. What characteristics make an information ground opportune for acquiring information?
7. What types of information do people obtain at information grounds?

Approximately 35 University of Washington MLIS researchers were trained to conduct face-to-face interviews of 276 participants. Participants were all over 18 years with approximately 21 percent of participants falling within each of the following age ranges: 18-25, 26-35, 36-45, and 46-55. The remaining 15 percent of the participants were over 56 years of age. Approximately 55% of the participants were female and 45% male.

Findings

This preliminary study indicated that when people were asked where they turned to find something out they generally turned to the Internet (41%) or to someone with whom they have a strong relationship (28%). These respondents indicated that the reason for using these sources of information is that it is quick or easy to access (40%) and is reliable (17%). Further analysis of this data indicated that more females preferred turning to someone with whom they have a strong relationship than males and that more males preferred the Internet than females.

When asked what participants didn't like about their identified source of information the most common responses were that information not always reliable (23.7%), "is not quick to contact/access" (12.0%), and the source "not expert or authoritative" (11.3%). When asked what they did like about their identified source of information the most common responses were "quick to contact/access" (40.0%), "gives reliable information" (28.7%), and "easy to use or communicate with" (27.6%). These responses indicate participants were most concerned when choosing a source with "quality" and "ease of use". The identification of the key dimensions of "quality" and "ease of use" have informed future work to better understand the relationship between these dimensions.

Conclusions

This study provided the foundation for future studies of information grounds and information habits. This study further supported earlier findings suggesting that information grounds are widespread and an important element to understanding information seeking behavior. Based on the results and methodology used for this study subsequent studies were conducted to further our understanding of this phenomenon.

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United Way Information Ground Study

Introduction

In 2004 the United Way of King County (UWKC), the second largest branch of the United Way in the USA, wished to study the everyday health and human services needs of people who live on the eastside of King County. In exchange for assisting the UWKC with designing a user-centered survey instrument that reflected the latest approaches used in information behavior research, we were permitted to include several questions about residents' information habits and information grounds. The survey, which was conducted with a rigorous sample of the general public, provided us with an unprecedented opportunity to further refine our information ground research program.

Methodology

While surveys and questionnaires are credited as the second most frequently used research method for investigating information behaviour (McKechnie *et al.* 2002), Case points out that 'very few surveys of information seeking behaviors (whether by mail, telephone, or in-person) have involved samples of over 500 respondents' (Case 2002: 198). Citing, in particular the Baltimore study by Warner *et al.* (1973), Chen and Hernon's (1982) New England Study, and the California study by Palmour *et al.* (1979), to which may be added the Seattle study by Dervin *et al.* (1976) and the Ontario Ministry of Culture and Communications Review (1991),

Because we were interested in exploring two simple or straightforward phenomena; information habits and information grounds, a large survey was very appealing, especially in light of rich findings reported by Harris and Dewdney (1994), whose research team went door-to-door in several communities in studying information needs and battered women, and Marcella & Baxter (2000, 2001) who engaged in a 'random walk around Britain' to understand citizens' information needs. Costs associated with a telephone or door-to-door approach, however, were prohibitive. At the same time, we learned that colleagues at the United Way of King County (UWKC) were planning a telephone survey that dovetailed with our research interests in people's everyday information behaviour.

Thus, a telephone survey was designed and directed by UWKC research staff in consultation with faculty from the local University in an effort to understand residents' health and human services needs for the purpose of informing public policy. The survey instrument included approximately fifty questions addressing the need for and use of (and stress and satisfaction levels associated with) twenty-six health and human service areas (including everyday information) within the past twelve months, as well as respondent demographics (See Appendix 1). The survey was conducted from the 2nd to the 20th of October, 2003 through telephone interviews with 612 residents located throughout various geographic areas in East King County and selected by cluster sampling based on postal code (the quota of completed interviews for each of the twenty-two postal code areas was set to reflect each post code's number of occupied households as a percentage of occupied households in East King County). Because all survey questions were factual and household based, the UWKC did not select quotas according to individual characteristics but, instead, on geography (postal codes) of Eastside cities.

The interviews averaged 31.9 minutes and were completed in either English or Spanish. Survey calls were placed by trained staff from a call room in Halifax, Nova Scotia, Canada. At the beginning and periodically throughout the survey, members of the research team listened in on the calls to ensure that respondents were understanding and answering the survey questions and that callers were administering the instrument correctly. Based on 612 completed interviews the survey has a 95% confidence level with a confidence interval (margin of error) of $\pm 3.95\%$ of the population value.

Findings

During the survey, interviewers asked participants where or to whom they turn, in general, when they need to find out something and to indicate their reasons. As shown in Table 2, all respondents indicated that they had a place they turned to when they needed to find something out. Most commonly, respondents indicated *someone with whom they have a strong relationship* (that is, someone with whom they feel close, such as family and friends) or the *Internet/Computer*, by which it was understood that respondents were referring to Websites, databases, and other static sources as opposed to interaction with interpersonal sources by e-mail, chat rooms, newsgroups, etc.). Younger people tended to consider the Internet as their primary source more often than people over the age of sixty-five. Men were also more likely to choose the Internet than women, who were more

likely to identify a close personal relationship. From a statistical perspective, the distribution of information sources between males and females is significant—Pearson $\chi^2= 23.3847$, $df=6$, $p<=0.001$. Further analysis revealed that the use of the Internet increased by income. Over 57% of those whose income exceeded \$100,000 chose the Internet compared to the average of 40%.

In terms of the types of information that people obtain from their primary sources, multiple-responses to this open-ended question indicated that people most commonly reported looking for general, everyday advice; other commonly needed information included recreational (hobbies and travel) and health and health care information (Table 4). Examples of responses included: 'information about medical conditions, directions for locating businesses, information about services we need', 'historical facts, medical condition diagnoses, and a map of Iraq', and 'movie times, new books and CDs'.

The respondents to this study recognized that their preferred information sources may have limiting characteristics. Indeed, in answering Question 4, over 40% indicated that one of the drawbacks to their source was that the information was not always reliable or trustworthy. Responses to this question affirm that respondents were most concerned with the quality of the information, having indicated that this was both the main benefit and drawback of their information source. While approximately 44% of respondents who chose the Internet as their primary source also indicated that it was not always reliable or trustworthy, only slightly fewer (39%) indicated that the same regarding strong or close interpersonal sources. When examined by income category, data revealed that respondents with the higher income categories were slightly more concerned with the reliability and trustworthiness of the data whereas the lower income categories were slightly more concerned with issues of access and expense.

Information Grounds

This study provided the first opportunity to collect data to support or refute the information grounds theoretical framework from a large sample. Open-ended, multiple responses to Question 5, which asked residents to identify their information grounds, reflected the influence of a social setting for the exchange of information. The most commonly identified information grounds were places of worship, the workplace and *activity areas*, that is, clubs, teams, play groups and places associated with hobbies which accounted for over 50% of the responses (Table 5). Places such as these facilitated, in the words of one respondent, desirous *mingling*. Although, most respondents listed places where they have face-to-face interaction with others, a few did suggest the Internet as a place for this type of social exchange.

We sought to determine the characteristics that foster information grounds as opportune places for receiving information, asking in Question 6, 'What makes this a good place for obtaining information, either accidentally or on purpose?' Responses focused on the people who were brought together by the information grounds. Many noted the

opportunity to share common interests or needs, feeling as if the people understood their needs, and being able to trust them. One person described a health care facility as a place where 'I'm talking to people with similar life experiences that I've had'. Many people described their churches as places where they could find like-minded people, as several respondents explained: 'the people there have the same values that I have and the same type of concerns', 'we have similar values and the people are interested in your family's welfare', 'they're a good bunch of people', and it is 'a place you can trust'.

Some respondents valued the diversity in the social situation. One person described her neighborhood restaurant as a place where there are 'people... from all walks of life'. Another respondent described his workplace as having a 'diversified population, we have so many points of view'. Some respondents described the qualities of the people that they associated with their information grounds. For example, they described them as 'genuine people' or said, 'I work with smart people'. Many respondents who named their church as a place of sharing information described the people as being 'friendly, honest people' or 'good people, trustworthy'.

Others seemed to describe the quality of the experience they had while sharing information. One person who said that her child's pre-school centre was a place of sharing information, described her reasons as 'getting to know people better, friendship bond, it's a local school'. Another person explained that her hair dresser and Bible study group were places where she found companionship. Many people described their information grounds as places where they connected with friends, such as the woman who said her restaurant is a 'good place to bump into friends'.

Responses also concentrated on the quality and quantity of the information exchanged. For example, one person said he valued the exchange of information at work because of the 'availability of lots information from many people'. Another person cited his Health Maintenance Organization as his information ground and said 'the people there are knowledgeable about health things'.

When asked for 'examples of information that you might pick up there', most respondents described local community information and services such as, 'what is the best school in the area and where to get your hair cut', 'what's going on in the area', 'find out about registering my cat', 'where to find help from outside contractors' or the 'job market' (Table 7). Others listed broader topics such as 'financial and spiritual information', or 'political information, good books, health experiences, and information about someone who I haven't seen for a while'.

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College Student Information Ground Study

Introduction

Building on the earlier two information ground studies (Pacific Northwest, and United Way studies), in fall 2004 Fisher and Naumer began a field study that focused on deriving an information ground typology that captured such nuances as:

- focal activities
- actor/social type roles
- effects of information type (trivial vs. big decision information; insider vs. outsider)
- motivation (voluntary vs. forced or hostage, e.g., choir groups vs. waiting rooms)

- membership size and type (“open” vs. “closed”)

By far the most exhaustive and interesting information ground study to date, this study examined college students at the University of Washington. Located on a large campus in the north-central area of Seattle, the University of Washington’s 45,000 undergraduates and graduate student base are primarily Caucasian. Regarding the 30,000 undergraduates just half of whom are female (52%), 87% are state residents, and 68% are Caucasian followed by Asian American (24%); Latino (4%), African American (3%) and Native American (1%).

Methodology

The survey, which comprised 27 primarily open questions, was conducted in late October 2004, a few weeks after the fall quarter had begun. Of the 729 students surveyed, 55% were female and 45% were male. Approximately 72% were undergraduates, 21% were graduate students, and 7% were non-degree seeking students. The mean age was 23.6 years old and the mean period of time as a University of Washington student was approximately 2 years. Respondents received an University of Washington iSchool computer screen cleaning brush as an incentive for participating in the study.

Findings

The most common information ground identified was coded as “*campus*.” Expressed by half the respondents, “campus” was defined as classroom spaces, in the hallways before and after class, study centers, studios (as in the Art and Architecture schools), rehearsal area (for the Band and Drama departments), Red Square—one of the main large outdoor gathering areas, and student lounges. Note, “campus” did not include the Husky Union Building, known as the “HUB,” which contains various restaurants, recreational venues and other services. Instead, HUB-type responses were coded in terms of the specific internal, HUB place that a respondent described. Thus, if someone said a hair salon at the HUB was his/her information ground, then the response was coded as “hair salon.”

After “campus,” the most common information grounds identified were restaurants and coffee shops, workplaces, and social gatherings. Approximately 33% of respondents identified these as one of their information grounds. However, when asked at which information ground they encounter the *best information*, roughly 42% of respondents indicated a restaurant or coffee shop whereas only 14% indicated campus. Social gatherings and the workplace were each considered to be the best place by approximately 30% and 23% of the respondents respectively. In contrast to the information ground studies discussed earlier, “church” as a primary information ground was noticeably absent. Moreover and surprisingly for the college student population, only about 3% considered online sources to be an information ground, which was startling since 63% earlier told us that they invariably turn to online source as their first choice when seeking everyday information and only 26.5% indicated a **preference for seeking information from** strong or close interpersonal ties (under the research heading of “information habits,” the United Way telephone study and in-person survey in fall 2003 revealed that 39.9% prefer **getting their information from** strong **interpersonal** ties while 39.2% turn

to the Internet). Considering that the college population surveyed is most likely to be relatively technically savvy and have access to the technology that would allow them to access online sources, this finding suggests that places that include opportunities for face-to-face interaction may be more desirable for some populations.

In answer to “why the places they choose were the most important or best place to encounter information,” respondents’ replies were coded along three main categories: information-related, people-related, and place-related. In terms of being information-related, almost 50% of the respondents talked about the quality of information encountered at these places. The most common characteristic mentioned was the relevance, meaningfulness, or usefulness of the information encountered. Another common characteristic mentioned was the quality or comprehensiveness of the information. Other answers referred to the interesting nature of information, the reliability of information, unanticipated information, and the abundance and accessibility of the information. About 25% of college students indicated a particular information grounds was best because of a reason that involved interaction people. Common reasons included both the presence of people representing diversity of opinion as well as the other extreme in which people held the same beliefs and opinions as the respondent. Other people qualities were helpfulness, trustworthiness and shared interests. Finally, over 25% of respondents indicated that a characteristic of the place visited was what made their information grounds important. The most common reasons had to do with a place being familiar or comfortable. Many respondents indicated that the convenience of the place was also an important factor.

In terms of the people in attendance, almost half of the respondents said that they knew most of the people at their information ground well and over 40% indicated that they either recognized them but didn’t know their names or knew their first names. Only about 10% indicated that they would not recognize the people at their information ground. When asked if they interact with any of these same people in other settings over 75% of indicated that they did indeed, indicating that that the information grounds of college students comprise fairly strong, multiplex ties. When asked how often they frequented the information ground at which they receive the most important or best information, 50% indicated they visit it daily and 40% answered weekly—meaning 90% are frequent, regular visitors of their information grounds. Over 70% of respondents also indicated that they had been going to their place for over a year. This finding may support the theory that people follow habitual patterns in seeking information and that information grounds may be an important aspect to people’s information seeking habits.

This finding would support principles of everyday information seeking proposed by Harris and Dewdney (1994) in their book “Barriers to Information: How Formal Help Systems Fail Battered Women,” specifically their sixth principle (p. 27), that “people follow habitual patterns in seeking information”—meaning people tend to adhere to deeply engrained patterns or habits when seeking information much the same as they do when carrying out other routine tasks, such as driving to work.

College students' responses when asked what they have in common with the people at their information grounds were divided into four categories: activity, background, characteristic, and interests. The activity category indicated that the respondent shared a common activity with the other people in a way that involved interaction such as rock climbing or taking the bus. Many people identified a common employer or the fact that they all attended school as the element that created a background commonality. This type of response was coded as the respondent speaking to a common background which could entail a common employer, school, neighborhood, education level, or income level. Therefore, background represented identity based on shared circumstances rather than direct interaction and shared experiences. The third category of response focused on characteristics that could be physical, mental, or emotional. For example many respondents indicated that they were all of the same gender, same age or that they were all "stressed out". Finally, the most common response accounting for over 50% of respondents were common interests such as sports or Chinese cooking. In contrast to the earlier question about what factors made a particular information ground the best for encountering important everyday information, we later asked the college students what they liked **about** their information grounds in general. Instead of focusing on information-related attributes, responses here dwelt around such place attributes as atmosphere and ambience: over 50% of respondents mentioned this as an important consideration. Other reasons—which were all mentioned by 11% or less of the respondents—included making connections with people, amenities, convenience, and resources. When the answers to this question were categorized according to whether they related to the information, people or place Fisher and Naumer found that about 75% related to the physical location, whereas approximately 14% focused on people and only 6% addressed information. This suggests that physical, place-related factors play an extremely important role in the effectiveness of an information ground, at least in the case of college students

Significantly we sought to identify what kinds of topics are encountered at students' information grounds. Several broad categories emerged from coding the open response data, including: events, information, knowledge, issues, opinion, and people. Most responses indicated that students encountered multiple types of information at their information grounds and could seldom be labeled exclusively under one category. The category of event information encompassed anything "about local or campus happenings like concerts and cultural events". Responses categorized as information referred to factual information such as "new technologies" or "computers." This category was different than the category of knowledge which referred to information that was interpreted. Responses coded as knowledge included "deeper philosophical knowledge" or "life lessons, advice". There were also many responses directed at specific issues such as "presidential election" or "world events and issues". Another area included a desire for information that included the same or differing perspectives on information such as "personal experiences of others: foreign students in the United States, fresh perspectives" and "People's thoughts and opinions". Finally, numerous responses were concerned with information regarding people and were often concerned with the social aspects of

information exchange. These responses often dealt with friends and family and included responses such as “How friends are doing today. How are friends' classes.” and “Learning new things about what family members are doing”. When asked what percentage of the everyday information that they encountered at the information grounds occurred by chance, college students' responses were fairly uniform across quartiles (i.e., 25%, 50%, 75%, 100%). Slightly more respondents answering that 50-75% of the information encountered was by accident or chance. Respondents indicated that information about events, opinion and people were the types of information most likely to be encountered by accident or chance.

Discussion

This study revealed that information grounds are an emergent and significant area for future study. While there are several parallels with research undertaken in cognate fields, especially examinations of “place” **in fields such as human geography**, and Oldenburg's third place, as well as within library and information science--most notably in terms of Chatman's work on small worlds--much research remains to be undertaken. Regarding Oldenburg's third places, work is needed on how information grounds are similar and dissimilar as there are many: some information grounds—for example—are hostage settings while others fail to meet several of the eight propositions that Oldenburg outlines. Regarding small worlds, as Chatman discusses them, we need to explore how particular information grounds are an element of the small world phenomenon and under which circumstances.

Research is also needed on how information needs are expressed and recognized at information grounds, and how information is socially constructed among different actors—phenomena **for** which the *New Yorker's* financial page writer Surowiecki's (2004) work *The Wisdom of Crowds* and his colleague Gladwell, author of the *Tipping Point* (2002) and most recently *Blink* (2005) may provide light in addition to the findings from basic research undertaken by academics such as Savolainen's (1995) everyday life information seeking model. Yet research also needs to address how people's perceptions and participation in information grounds change over time, the life cycles of information grounds (how they are created and sustained; what causes them to disappear or transform), and how they can be used to facilitate information flow. How, for example, can employers alleviate the stressors of unemployment by helping laid-off employees establish or identify “replacement” information grounds that can facilitate the availability of information required during times of transition? How can health care providers utilize information grounds to help people and their caregivers as they progress through stages of illness or grief? In sum and pragmatically speaking, information grounds yield local and global impact because they occur across all levels of all societies, especially as people create and utilize them to perform tasks in the course of daily life. The better we understand where information grounds are situated for different populations as well as how they emerge and function, the better we can design ways of facilitating information flow therein.

As we continue analyzing the College Student data to flesh out the information ground typology and explore further the notion of information ground as place and its fit with small world theory and other frameworks, several other information ground studies are underway, which are summarized as follows. Readers interested in tracking our research on information grounds, collaborating on future studies or contributing an anecdotal information ground page to our Information Behavior in Everyday Contexts (IBEC) website are invited to visit us at: <http://ibec.ischool.washington.edu>

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Information Behavior of Migrant Hispanic Farm Workers and their Families in Yakima Valley

Introduction

Yet a number of characteristics magnify the isolation of the Mexican-Americans. They are proud of their culture, and especially tenacious of their language. They very much strive for self-sufficiency. They distrust or dislike Anglo institutions, such as schools, medical clinics, public housing, etc. (Childers, 1975: 79)

Every year people from Mexico cross into the United States searching for work and a better life. Indeed, Mexico is the leading source country for legal immigrants to the United States and as of January 2000 over 4.8 million unauthorized or illegal immigrants were estimated as residing in the country (U.S. Department of Homeland Security, 2002, 2003). Many find work as migrant farm workers, meaning they (and their families) travel around the country synchronously with the harvest season, conducting often back-breaking and dangerous work while living in substandard conditions. Traditionally, this migrating, farm working population is considered among America's information poor. They suffer deprivations due to their social, economic, cultural, educational, physical and ethnic conditions that prompt substantial information needs in thirteen areas: consumer affairs, education and literacy, employment, family planning, health, home and family, housing, the law, political process, recreation, transportation, and recreation welfare or social service programs (Childers, 1975).

Despite projections of immigrants' substantial needs for information and support adapting to life in a new country and as part of everyday living, and notwithstanding the substantial research conducted in such fields as social work, sociology, education and the health sciences, little empirical research exists from an information behaviour perspective to back this up (Fisher, et al., 2004). Of the handful of available studies, Flythe (2001) investigated Latino immigrants in North Carolina as part of her Master's thesis, while Metoyer-Duran (1991, 1993) focused upon the roles and types of ethno-linguistic information gatekeepers in Native American, Asian and Latino populations in California, Chu (1999) addressed the role of immigrant child mediators in California, and Sligo and Janeson (2000) examined the use of health information by Pacific immigrants in New Zealand. To this are added the few papers written from a professional library and information science perspective that are primarily descriptive and focus upon library challenges and responses to the immigrant situation (e.g., Berger, 1999; Center for Policy Development Staff, 1990; Ganss, 1999; Gonzalez, 1999; Jones, 1999; Lazinger & Peritz, 1993; Luevano-Molina, 2001; Payne, 1998; de la Pena McCook & Lippincott, 1998; Su & Conaway, 1995; Tangen, 1996; To, 1995; Yum, 1982). Beyond indicating major everyday needs and a lack of awareness of existing resources, as Fisher *et al.*, conclude, ...collectively, these studies suggest that different social types play significant roles in the flow of information and that the pursuit and receipt of instrumental help within immigrant populations may differ according to cultural background'. But what are these major information needs and what are the effects of different actors and settings? In the current study, we explored these questions as part of our focus on the everyday information behaviour of migrant Hispanic farm workers and their families in Central

Washington State. Our findings are shared, following an overview of the study's contextual background and methodology.

Theoretical Framework and Methodology

Our study was guided by two frameworks: *information habits* and *information grounds*. Harris and Dewdney's (1994: 27) sixth principle of information behaviour was our first framework. Based on an extensive review of decades of research on information seeking, they asserted that people follow deeply engrained patterns or habits in seeking information. More specifically, they assert that people '...tend to seek information that is easily accessible, preferably from interpersonal sources such as friends, relatives or co-workers rather than from institutions or organizations, unless (an important qualification) there is a particular reason for avoiding interpersonal sources'. In summarizing 'eight lessons of information behaviour research', in his landmark text, *Looking for Information*, Case (2002: 289) similarly explained that '...many people use formal sources rarely, relying instead on informal sources such as friends and family, or knowledgeable colleagues at work'. With Harris and Dewdney's principle in mind, we explored aspects of interpersonal information-seeking among migrant Hispanic farm workers and their families.

Pettigrew's (1998, 1999) *information ground* was the second framework that guided our study. Based on a social constructionist approach (c.f., Touminen & Savolainen, 1997) and on her field work in several community-based social settings, Fisher (writing earlier as Pettigrew) identified and investigated the concept of information grounds, which she defined as synergistic '...environment[s] temporarily created when people come together for a singular purpose but from whose behavior emerges a social atmosphere that fosters the spontaneous and serendipitous sharing of information' (Pettigrew, 1999: 811). She suggested that other information grounds might include such settings as barber shops and hair salons, quilting bees, playgrounds, tattoo parlors, metro buses, food banks, etc. (Pettigrew, 1998). In addition to more fully describing information grounds in terms of key concepts and propositional statements in a forthcoming paper, Fisher *et al.*, (2004) assert that information grounds can be used, from a systems or service perspective, for facilitating the flow of everyday information, especially by drawing upon the attributes of particular social types such as opinion leaders and gatekeepers.

Thus, our exploratory study was guided by the following research questions:

1. What role does interpersonal information-seeking play in the lives of migrant Hispanic farm workers and their families?
2. What are the information grounds of these workers and their families?
3. For what types of situations do these farm workers share information using what media?

To carry out our field study, we used two Community Technology Centres (CTCs) that were expressly established the year previous for educating the area's migrant farm working population. Locally operated, the CTCs were established by a grant from the

U.S. Department of Education Community Technology Centers programme, which was obtained by Educational Partnerships and Learning Technologies, a unit in the Provost's office at the University of Washington (UW) which expands the ways in which the University works with diverse communities and supports the use of technology in teaching and learning. The one-year grant was pursued in partnership with two community agencies, Radio KDNA and Horizon's Incorporated, which serve migrant farm workers and which agreed to take over the operation of these centres after one year. Run by Hispanic or Spanish-speaking staff in and situated in premises with long-standing local histories, we believed that the CTCs would prove viable sites for data collection (we describe the CTC settings in depth below under **Findings**). In exchange for use of the CTCs as data collection sites we included evaluative questions regarding the users' perceptions of the CTCs. These questions were used in an evaluative report for the U.S. Department of Education on the use of CTCs in this valley by migrant Hispanic farm workers and their families.

Both qualitative and quantitative methods were used to collect data, including field observations on multiple occasions of both the CTCs and the surrounding communities, and thirty- to sixty-minute in-depth interviews with CTC users, staff, and administrators. The CTC intake and testing data were also consulted. Separate interview guides were used with the staff and the CTC users and were conducted in the language best understood by the interviewees. Staff interviews, which were conducted in English, focused on CTC implementation, difficulties, and impact on the community, as well as staff's everyday information behaviour and their perceptions of the local farm workers' information behaviour. User interviews focused on the participants' perceptions of the CTCs and its negative and positive impacts, and their information habits and information grounds. User interviews were often conducted in Spanish (utilizing direct translation) to by-pass language barriers and facilitate better communication. The design and creation of the interview guides included a cultural awareness and sensitivity of the local population. As we neared saturation toward the end of the study, we gave users self-administered, bilingual questionnaires with the same questions as for the user interviews. These questionnaires were given to the CTC participants by the CTC staff and instructors. In addition, CTC staff provided a sign-up sheet for participants to indicate their reasons for using the CTC, their ethnic and educational background, age and employment status. As recommended by Chatman (1992: 15), we maintained three types of notes throughout the study: field notes (record of our observations and contexts as we interacted with participants), method notes (description of our techniques for collecting data), and theory notes (documentation of ideas and connections with the study's theoretical frameworks, and other phenomena). In total we interviewed or surveyed fifty-one CTC users and eight CTC staff.

The invitation to participate in the CTCs (and hence, our study) was initiated through normal news channels for this population-that is, the Radio KDNA, the newspapers, and personal communication. As these populations began to use the CTCs they were asked to participate by completing information sheets about visit purposes, and CTC staff began to note what types of questions and facilitations were most commonly requested by these populations. Minority migrant farm worker populations are particularly difficult to use in

studies because of their reluctance to participate in any type of research that might jeopardize or influence their working or immigration status. Additionally, oral interviews of various CTC users were held but not audio-taped due to University of Washington Human Subject concerns in working with an *at risk* population such as (often illegal) minority migrant farm workers.

In keeping with the study's naturalistic approach, we analyzed data as they were collected and followed an analytic approach recommended by Lofland and Lofland (1995) and Miles and Huberman (1994), which consisted of coding, memoing, and diagramming. As a result, data collection and analysis were an iterative process in which each round of analysis guided the purposive collection of more data, and each return from the field led to a closer understanding of the phenomena under study. Data were analysed using Glaser and Strauss's (1967) constant comparative method where the analysis of data is combined with the generation of theoretical ideas, and is consistent with Strauss's (1998) 'coding from the data' methodology. The resulting schemes reflected the data's emergent themes in accordance with the grounded theory approach and were additionally guided by the study's conceptual frameworks. The resultant code book was used to assign terms to all segments in the ethnographic records that reflect particular concepts.

To ensure the trustworthiness (or, reliability and validity) of this study, we rigorously implemented measures recommended by Chatman (1992) and Lincoln and Guba (1985). We ensured reliability through: (1) consistent note taking, (2) exposure to multiple and different situations using triangulated methods, and (3) comparing emerging themes with findings from studies on related phenomena. As a further means for ensuring reliability (or dependability in Lincoln and Guba's terms), we conducted intra-coder and inter-coder checks, and analyzed the data for incidents of observer effect. Validity was ensured by:

- asking whether observations made 'sense because they fit into an expected or plausible frame of reference' (c.f., Chatman, 1992: 12),
- pre-testing instruments;
- prolonged field engagement;
- rigorous note taking;
- triangulated methods;
- peer debriefing;
- negative case analysis; and
- member checks or participant verification.

Additionally, through this paper we are providing *thick description* (in accordance with external validity) of our methods and theory such that other researchers can determine whether our findings can be compared with those of their own studies. Learning and adopting participants' language—a standard element in conducting naturalistic research—greatly improved the efficiency of the studies and increased the trustworthiness of the data. By employing open-ended, in-depth interviews and observational methods we listened to and adopted the participants' languages, thus allowing for subsequent interpretation from the participants' perspectives. This also served to develop the iterative process of the interview language while preserving the conceptual value of the questions.

In the remainder of this paper we share our findings regarding farm workers' information behaviour, starting with a brief overview of the participants and the CTCs.

The Participants

Our CTC-user and non-user interviewees ranged from under sixteen to sixty years of age. Most fell between seventeen and thirty years of age, and 57% were male. Household sizes ranged from two to eleven people. While the majority (58%) of participants was employed in the farming sector, others described themselves as students, housewives, or clerks.

The Community Technology Centers in Context

In September 2002, the U.S. Department of Education funded two CTCs in Granger and Sunnyside - both within the Yakima Valley region. Granger, a 1.3 square mile town of about 2,500 people—85% of whom are Hispanic and 39.2% born outside the U.S.A—is surrounded by acres of fields and orchards with its nearest towns more than five miles away. It has a small public library that provides some Spanish materials, though the Website is in English. The median household income is below the state average while the unemployment rate above, and only 34.4% of the population have a high school diploma or higher. The CTC is housed in the Northwest Communities Education Center (NCEC) in a historic building near the center of town. The building housing NCEC was built in the early part of the 20th century and is in considerable disrepair. NCEC provides a range of services including English as a Second Language (ESL), General Educational Development (GED) and citizenship classes, health information, and legal and referral services from this building, and is considered a gathering place for information on a variety of services. NCEC also operates the only public Spanish radio station, KDNA 91.9FM in the Pacific Northwest, which has been used for outreach and other services since 1979. NCEC was a logical place to house the CTC with its base clientele of 12,000 while the radio station reaches over 60,000 listeners. The second CTC is in new construction in downtown Sunnyside, a community of nearly 14,000 people with similar sociodemographic statistics to Granger. The town is less isolated than Granger and it covers 5.9 square miles. Horizon Incorporated, a non-profit organization that provides training and services to increase people's employment skills and enhance their potential, runs the CTC which is located in a public school district building near the district administrative headquarters. Because Horizon Incorporated is experienced in working with people with disabilities and with educational and workforce development, its involvement in this project was a natural one. Like Granger, the CTC comprises about twenty-five fully-loaded computers housed in a room that is open six days a week for classes and personal use.

According to the CTCs' statistics, approximately 196 people, ranging in age between sixteen and fifty-nine with most falling between twenty-five and forty-four, have used them for various technology related endeavours. Only four users were non-Hispanic. Based on our interviews with fifty-one users as well as CTC staff, we learned that Granger was more heavily used for the purpose of very basic ESL and access to the

Internet utilizing Spanish as the primary language of choice. Sunnyside was particularly valued for providing its users with childcare as they gave credit to high school seniors who provided the childcare while their parent (in most cases the mother) attended classes that improved their English and computer skills. Users of both CTCs were eager to discuss the benefits they believed were brought about by the establishment of the CTCs in their communities. They both spoke of improved confidence and communication skills as well as feeling a sense of trust and confidence in the centres to provide credible and important information that would be of use to them in their everyday lives. This information included searching for higher paying jobs, learning English, homework help, job training (especially as it related to computer skills) and access to Spanish music and travel information.

The CTCs have had significant successes in providing free access to computers, classes and computer instruction. This availability of cutting edge technology and training is positively affecting the lives of the people in these communities by giving them the opportunity to increase their literacy levels, technology and job skills in addition to creating a sense of community. Parents were willing to allow their children to come to the CTCs because they were already familiar with the organizations providing the CTCs and had an established level of trust in these agencies which increased the number of people who came to take advantage of the services. In addition, the CTCs also benefited the organizations in which they were housed. While the location of the two centers within already established resource organizations increased the visibility of the CTCs and the opportunity for access, the CTCs were also increasing the visibility and use of the organizations as the word about the CTC services spread.

Information Habits and Information Grounds

During the user interviews, we asked participants how they learned about the CTCs, whether they had told anyone else about the CTCs, where or to whom, in general, do they mostly turn when they need to find something out, why and for what reasons. Non-CTC-users were similarly asked where they turn to satisfy everyday information needs. Overwhelmingly, on all counts, our participants indicated that they prefer interpersonal sources. For example, regarding how they learned about the CTCs, thirty participants cited an interpersonal source (family member, friend, or acquaintance), and fifteen said either a social service organization or the radio (i.e., KDNA), and one person cited the library. In terms of recommending the CTCs, only four people said that they had not done so, two of whom were first-time users. When questioned about CTC benefits, major themes included being able to:

- teach their families or pass on what they have learned,
- communicate quickly and cheaply with their families in Mexico by e-mail,
- communicate and translate important issues into English, and
- help their children with homework.

Two participants also explained that learning English has reduced their fear of going out and navigating the local services system. Learning English also reduced their dependence

on others; for example, a woman said, 'I don't have to bother my children as much regarding the computers', while another described how she can more easily shop, fill in forms and do her banking.

Regarding their *information habits for everyday life*, respondents similarly emphasized interpersonal sources. Asked as an open question during the interviews, the responses were coded using a set of pre-determined categories that were identified as viable during an earlier study. Out of fifty-one CTC user responses, thirty-six (71%) cited an interpersonal source, while seven (14%) answered 'the Internet', and five (1%) indicated an organization such as the library.

In response to, 'Why do you use this source?' CTC-user participants provided multiple answers that were coded using pre-determined categories (as described above). The top responses emphasized reliability, ease of access, familiarity ('knows me and understands my needs'), and easy to use or communicate with. Mentioned far less often, was a source's trustworthiness, expertise, or neutrality. In total eighty-six responses were given and only four users did not answer the question.

In contrast, when queried about the drawbacks or pitfalls of their preferred information source, only forty-seven responses were logged-despite again being able to provide multiple responses, and twelve of these participants claimed that there were no drawbacks to their sources. The thirty-five *negative* features were evenly distributed among the following categories:

- not an expert on the topic
- not able to communicate either face-to-face or in person
- unreliable
- not quick to access or contact
- biased
- does not allow them to be anonymous
- does not provide emotional support
- difficult to communicate with
- get distracted or lost while on the Internet
- language barrier

From our interviews with CTC staff and users we learned, unsurprisingly, that language is a major barrier for immigrant families, especially as most important documents ranging from housing to education are written in English. Thus, immigrants must find an interpreter and, as we were told, the costs often outweigh the benefits of seeking information such that immigrants do not ask for help or they just wait until someone helpful comes along. Much of what is communicated to this population by the radio is in their native language; thus, the radio is often a source of defining where immigrants will go either to secure further information or find an interpreter. Other barriers that we identified were consistent with those summarized by Fisher, *et al.*, (2004: 759) as '...suspicion, language/literacy, loss of control, sense of being outside the community, and cultural value differences'. Regarding cultural differences, for example, a Mexican

immigrant might not seek food stamps and medical coupons for his family from the Department of Social & Health Services because in Mexican culture receiving such assistance would be a blow to his ego and mean that he is incapable of supporting his family. Therefore, immigrants may not act upon information in deference to cultural values. The radio station (which is housed in the same building as one of the CTCs) broadcasts assistance opportunities, yet staff said that cultural values often limit the impact of this type of information.

When asked, 'What are some examples of what this source usually provides?' the CTC users were less prolific and sixteen did not respond, while sixteen indicated only general topics or miscellaneous items such as advice, 'how to behave', and information about products that are hard to find. More specific answers ranged from where to find a job and income support; and getting help with English (reading documents, correct pronunciation, translation, etc.); educational information about the GED or scholarships; recreational information, computer help; legal information; homework help; and current events.

Regarding their *information grounds* only three people did not have a response. The remaining forty-eight emphasized *church*, *school* and the *workplace*. Other responses ranged from the farmworkers' medical clinic, hair salons and barber shops, a day-care centre, a garage, the KDNA radio station (where, as we observed, people do *hang out*), a bookstore, and a Pizza Hut. Noticeably absent were food-oriented locales such as restaurants and coffee shops. When asked to elaborate upon why their *ground* was a good place for obtaining information, the major themes included: ease of communication, easy to communicate with people face-to-face, and people or sources are reliable and trustworthy. Participants' descriptions of what they learned at their *grounds* varied widely, ranging from anything in general to gossip, current events, daily information and local history to family issues, computer information, help with English, employment, domestic violence, legal information, parenting, and recreation. Of note, however, is that fourteen people who received the self-administered version of the interview guide did not respond to this question about what he/she received.

Future Research: Berrypicking and Interpersonal Sources

Similar to Harris and Dewdney (1992) and Case (2002), Johnson (1997) emphasizes people's overall preference, in general, for interpersonal sources when seeking information. Indeed, drawing upon Johnson, Case (2002: 124-125) states that the use of other channels tends to be predicted by the *social presence* they offer, that is, how much they are perceived as being like a face-to-face conversation with another person, or as Johnson puts it, '...the extent to which they reveal the presence of other human interactants and can capture the human, feeling side of relationships' (1997: 92).

Given the language, cultural, and economic barriers coupled with the deep extent of everyday needs associated with immigrants, especially those working in dangerous, low-tech occupations, it is consistent that they would rely heavily upon interpersonal information sources, especially close families and friends or people like themselves, finding credibility in the similarity of these populations. However, immigrants have

proven to be a difficult population to study and little has changed on the research front since Wilson's (1981) observation that few researchers have focused in-depth on the informal transfer of information among individuals.

Findings from our interviews with CTC users and staff suggest that immigrants may engage in a form of 'interpersonal source berrypicking'. Expanding on Bates's (1989: 3) berrypicking model where a 'user may identify useful information or references' at many different places in his or her query, the idea here is that immigrants use individuals in lieu of documents in formal information retrieval systems, and that their searches may apply over an entire lifetime as opposed to a single effort or short series of efforts. In other words, immigrants' berrypick information sources as they meet new people throughout their lives, and they work or get by with what they have until a new *berry* or information source comes along. In particular, however, we suggest that immigrants are seeking a particular social type, i.e., instrumental referral agents—to borrow from Gourash (1978) and Harris and Dewdney (1994)—people whom they can befriend, thus becoming strong ties, and can connect them with needed information and other resources. This was manifested by immigrants using information they received from collegial sources who shared the same cultural interests and concerns such as the Hispanic Catholic Church community. In social networking terms (c.f., Pettigrew, 2000), they want to create strong ties from their invaluable weak ties. But how does this play out?

From interviews with participants, we learned that their primary source of information were existing family, friends, or acquaintances who have already resided for months or years in the U.S. This reflects Harris and Dewdney's (1994: 24) fourth principle of information behaviour, namely that people 'frequently review their own experience first, then turn to people like themselves, including their friends and family'. Other significant, interpersonal sources consist of church staff and members, co-workers and other people introduced by existing family and friends. Through these referral agents immigrants learn about schools, libraries and other agencies and institutions. As we were told, immigrants do not usually move their entire family to a new country without knowing someone there already. They leave Mexico without their families because they want to make sure they have somewhere to live and jobs, and they do not want to expose their families to unnecessary dangers of bringing them across. Moreover, it is easier for men to survive the treacherous journey and to live with other men in a single apartment or shack, while trying to save money, and become comfortable with the new surroundings while sufficiently covering basic needs before bringing the family. In these cases, the men, who do not have any family or trustworthy friends in the U.S., build information connections at work, especially with fellow Mexicans who speak English and have a family. These new friends become the immigrant's primary source of information and act as interpreters. In keeping with the berrypicking analogy, immigrants work with what they have until a more knowledgeable or trustworthy acquaintance (or *berry*) came along. When older children are enrolled in school, for example, a bilingual teacher may become another useful source of information as s/he helps the children with homework and perhaps visits the family. Schools with migrant programs further connect Mexican immigrant families by providing transportation to dental and medical visits.

Consistent with Chu's (1999) work on immigrant child mediators, one might hypothesize that once immigrant children are comfortable speaking English and have a good grasp of the language they will become their families' primary information source. New studies reaffirm the experience of these families in finding that immigrant children perform adult or mature responsibilities and carry out bilingual conversations, often requiring sophisticated vocabulary. Right after immigration, parents and children are at the same starting line. Neither speaks English, but within a few years the children will have attended school and become fairly proficient in English. At that point, the parents will turn increasingly to their children for help (Chu, 1999: 2). CTC staff members described several incidents in which immigrant children cash checks, ask for directions, order food and complete applications on behalf of their parents. The flip-side of this, however, is that the services provided by immigrant children may ultimately handicap the parents, as one staff member explained, '...ten children later the parents still rely on them to interpret. Younger siblings still interpret for the same situations that their brother did, the second oldest of ten.' Parents relying solely on their children keep them from dealing directly with the language, thus becoming one of the barriers. Interpretation of the information given to the parents is through the lens of their child and not necessarily what would be their personal interpretation as the parent or adult.

Communities of low income, immigrant peoples serving as itinerant farm workers have information needs that are being met in divergent ways. These divergent ways all coalesce when reviewed in light of trustworthy networking and credibility source finding. The ability of these populations to establish themselves independently of this community system of information is limited and often restricted by barriers of language and influence. There is a negative spiral effect for these populations as they work to improve their socio-economic situation while being unable to operate outside of the community information system they have established for themselves. Defining these populations is difficult due to the legal pressures incurred by these populations and their suspicion of any source outside of their trusted network. Future research is needed to establish differences between information grounds and habits of illegal immigrants versus legal immigrants, the complex roles of different social types in immigrants' information behaviour, especially using the berrypicking framework, as well as using these insights to design more effective ways of facilitating everyday information flow.

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Washington Information Network 2-1-1

Introduction

The 2-1-1 information service is a resource for individuals and organizations regarding critical health and human services available in their community. The national movement to establish 2-1-1 services is one of *the most prominent and far-reaching information efforts* ever launched to serve the American people. In 1996, the United Way of Metropolitan Atlanta petitioned the local public service commission to assign a dedicated three-digit number to its community I&R service. This idea was adopted by a number of other communities in the United States and Canada, until in 2000, a coalition of I&R organizations lobbied successfully for exclusive use of the 2-1-1 number as a free nationwide number for community information and referral services.¹ Modeled on earlier services established in Canada and other countries, 2-1-1 was first launched by United Way of Metropolitan Atlanta in 1997. The three digit code 2-1-1 can be dialed in 32 states and the District of Columbia connecting callers to information referral specialists who may help callers obtain information.

Study Description

In 2004, IBEC investigated dimensions of service performance, benefit-cost analysis, and user outcomes of 2-1-1 services. The objective of this research was to further identify potential measures and protocols for developing a holistic assessment program that goes beyond the mere reporting of quantitative inputs and outputs associated with a 2-1-1 agency. As part of this study a logic model was created to identify benefits and costs at three different levels: the individual, organizational, and societal. In addition, the model incorporates the dimension of time in order to distinguish between short-, medium-, and long-term benefits. The power of this model is to provide a basis for incremental and flexible assessment of service performance that will lead to the creation of a culture of continuous improvement and ongoing evaluation within WIN 2-1-1.

Based on this work, the University of Washington research team has examined potential implications from a policy and a service delivery perspective for the deployment of 2-1-1 services more broadly throughout the nation. Potential scenarios could involve establishing a national outcomes registry for 2-1-1 organizations to share methods and findings pertaining to service impact or establishing a common platform for information transfer and communication between 2-1-1 organizations. The research questions guiding this study are:

1. What are the benefits that users receive from 2-1-1 referral services that are distinct from the actual social assistance provided by the agencies to which they are referred? What are the indicators of these benefits?

2. What are the strengths and limitations of traditional approaches to benefit-cost analysis in terms of assessing the impact of 2-1-1 services? What are the methodological challenges in this context?
3. What should policy-makers consider when deciding how to fund and implement 2-1-1 services? What operational structure and inter-agency relationships would maximize the benefit of the referral service to both individuals and existing social service agencies?

Methodology

The research team visited the 211*info* call center in Portland, Oregon, in December 2004 and March 2005 to gather documents and conduct interviews with staff. Interviews were conducted with 7 staff members (including the director). In March-April 2005, a 211*info* staff member conducted 30 follow-up interviews (“call-backs”) with earlier callers (also referred to as “users” throughout this report).

The instrument for the staff interviews was derived in part from those used in earlier studies of information staff in community settings. Items in the interview schedule had previously been field-tested in outcomes-based evaluation studies of Yakima Valley community technology centers in Washington and basic coping skills classes for new immigrants conducted at the Queensborough Public Library in New York.³² Likewise, the instrument for the caller interviews was derived from items used in previous studies of information behavior conducted both in Washington and across the U.S. and Canada.

Both sets of interviews were designed to elicit responses that would provide evidence about the indicators of service effectiveness and also result in observations pertaining to the informational, social, and affective (emotional) dimensions of 2-1-1 transactions. Users receive benefits on many different levels, ranging from gaining access to basic human services to gaining increased confidence and emotional support needed to maintain control and independence in the face of a personal crisis.

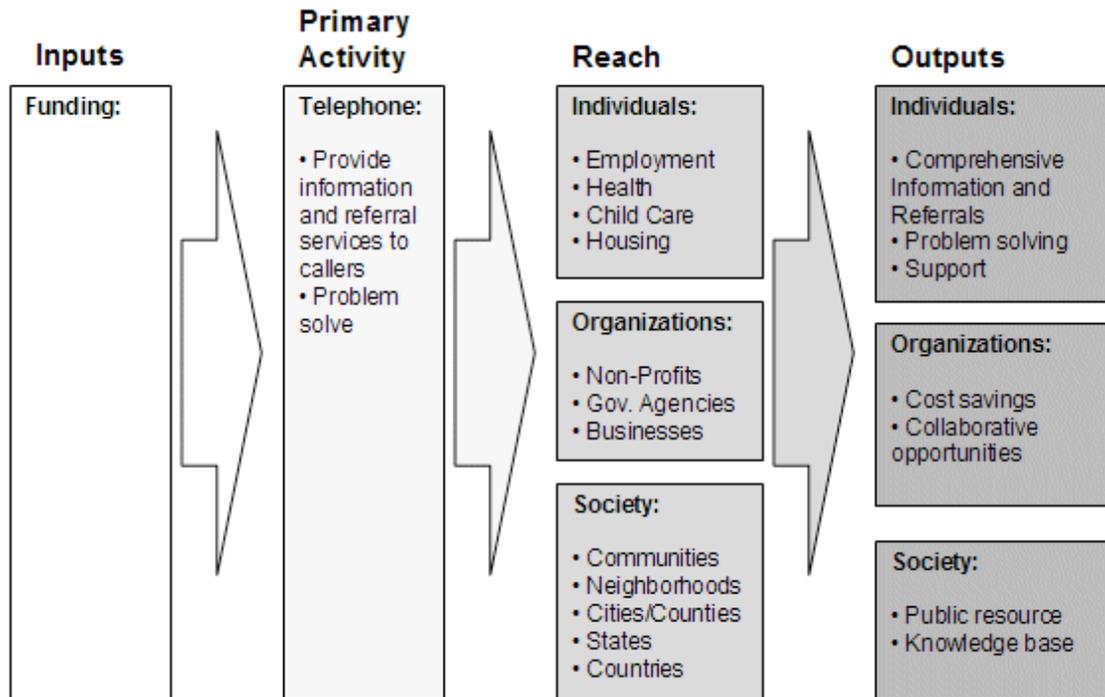
Staff members were first asked to introduce themselves by describing how they came to work at 211*info*, their education and training, and what they liked or did not like about their work. After that, they were asked to describe a typical call to outline the various communicative “moves” which occur during a transaction. In particular, staff members were asked to describe their perceptions of the users’ state of mind during a call and how it could change over the course of a transaction. Next, staff members were asked to describe what they considered to comprise successful or unsuccessful transactions, using examples to illustrate their opinions. Analysis of these interview responses provided details about how to define and identify “success” both in terms of information provision, instruction, and emotional support of users.

In the call-back interviews, callers were asked about whether they had received the help they sought and to describe the different ways in which they may have benefited. Beyond merely inquiring as to whether their immediate problem was resolved, staff also asked callers specifically about how the original call was handled, if the caller learned anything from the process, and how they felt about their situation at the end of the call. In addition, callers were asked demographic questions about the size of their family, occupation, gender, and ethnicity. Analysis of these responses provided details about what the callers gained from 2-1-1 specifically as distinct from the benefit gained from the referred agency.

The case study of 211*info* consisted of two forms of observation. Researchers from the University of Washington conducted interviews of staff, and a 211*info* Specialist conducted a series of call-back interviews of callers. This approach provided evidence about what both parties in the transaction were experiencing, were trying to achieve, their feelings about the process, and what they felt was successful or unsuccessful.

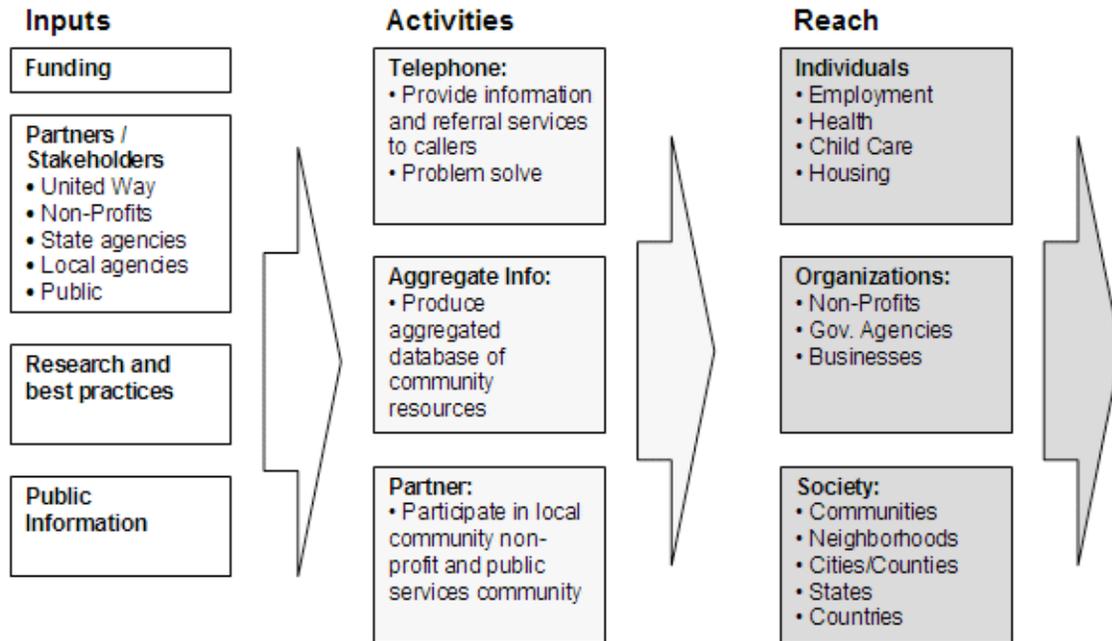
Logic Model

Based on a review of the literature the initial logic model (Figure 3) consisted of identifying the following inputs, activities, reach and outputs. The inputs identified were based on a strict benefit-cost analysis model identifying funding streams to the 2-1-1 project. The activity identified was based on the description and mission of the 2-1-1 service. The reach was primarily informed by previous benefit-cost analysis and the mission statement of the 2-1-1 service. Finally, the outputs were developed according to the literature describing 2-1-1 services and a comprehensive review of the benefit-cost literature evaluating I&R services.



Based on our findings and a systems approach to the problem we expanded our initial model to reflect additional inputs, activities, outputs and outcomes. This comprehensive view of the way that 2-1-1 serves individuals, organizations and society provides us with new ways to understand and measure the value of 2-1-1 services.

This expanded model (Figure 4) is significant in terms of not only identifying new outputs but also new inputs. By making these additional inputs explicit at the front-end of our logic model we recognize the need to develop measures that value these inputs in later stages of the logic model.



Inputs were expanded beyond monetary support to include the efforts of partners and stakeholders such as United Way, AIRS, local non-profit organizations, state and local agencies, and the public. It is evident that the United Way and AIRS have contributed significant value to the formation of 2-1-1 beyond financial support through their leadership and reputation. Our research indicated community non-profit organizations as well as state and local agencies have contributed to the efforts of 2-1-1 through their support and referral of clients to the 2-1-1 service. Lastly, the public is also a contributor to the efforts of 2-1-1 through their referral and knowledge of the 2-1-1 service. We believe it is important to recognize the contribution of these partners and stakeholders throughout the logic model and consider ways in which these contributions might be expanded as the 2-1-1 service matures.

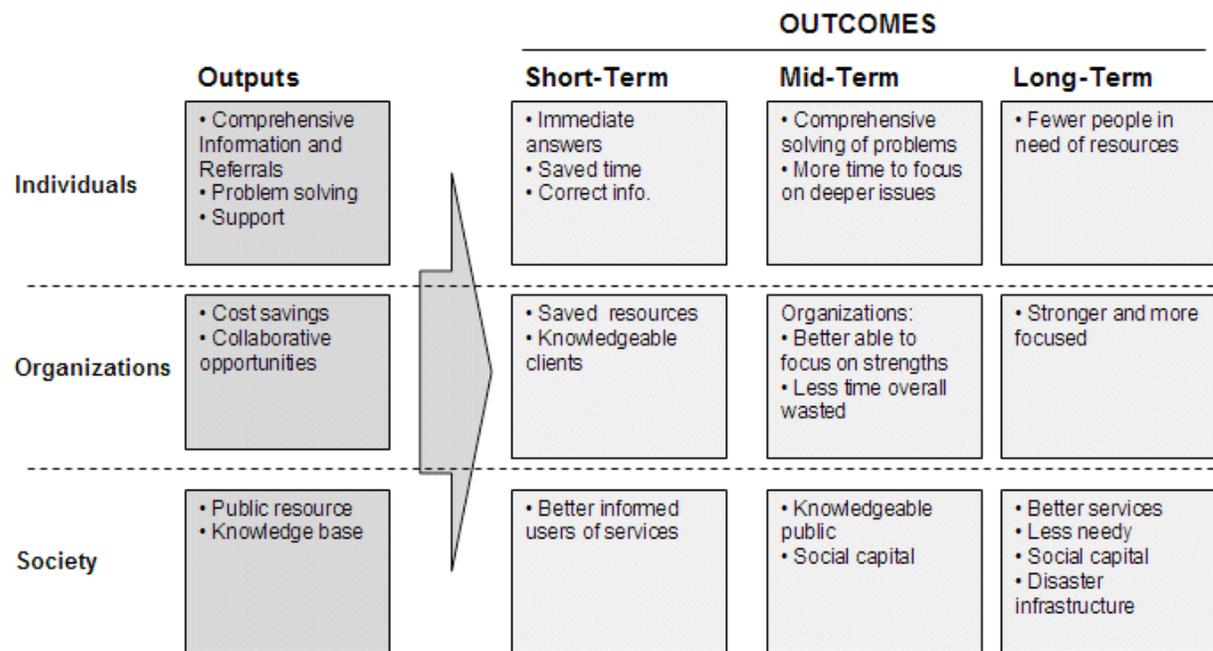
In addition to direct inputs such as financial support and partner involvement there are other indirect inputs that are important to consider when valuing the contribution of a 2-1-1 service. The first area to be considered is research and best practices that may inform the development and delivery of 2-1-1 services. Secondly, is information regarding the availability of services in the community. This type of public information may be found on the Internet, in print publications, and even in the phone book. This information may be important to improving the efficiency and effectiveness of 2-1-1 services and exists as part of the existing information infrastructure.

Activities were expanded to include the function that 2-1-1 services play in aggregating information. Current 2-1-1 services dedicate some portion of their operating expenses to aggregating information. Historically, there has been little effort made to aggregate information and the lack of aggregated information regarding available services may have had a negative impact on the ability to direct citizens to resources. Evidence also

suggests that this aggregated information could also play an important role in shaping the way that the non-profit health and human services industry as a whole evolve.

In the same way that there has been a lack of aggregated information regarding available services in a community there has also been a dearth of information on the needs of the community. Preliminary findings indicate that 2-1-1 services may play an important role in providing the communities with important information on the communities needs. In their unique role 2-1-1 services may become an important voice within the health and human services communities by exercising leadership and disseminating important information regarding the needs of the community.

The reach and outputs remained fairly constant from the initial model used to guide our research. We continued to view the reach and outputs in three levels: individuals, organizations, and society as a whole. The organization of reach and outputs according to these three levels is useful in identifying different types of measures necessary to evaluate the impact of 2-1-1. This organization is carried through into a more detailed evaluation of the actual outcomes to be measured.



In evaluating the results of our interviews and case studies, a clear trend emerged identifying short-term, mid-term, and long-term outcomes of 2-1-1 services. In response to this trend we modified our logic model to reflect these three categories. Based on this classification of outcomes a 3x3 matrix emerged by which to evaluate outcomes. The vertical axis is comprised of values for individuals, organizations, and society and the horizontal axis short-term, mid-term, and long-term outcomes. This organization

recognizes the comprehensive impact that 2-1-1 services have on many different levels over time. In order to capture this value, methods will need to be developed to measure the benefits of 2-1-1 across this matrix.

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North Carolina Consumer Health Information Study

Introduction

‘NC Health Info’ is a joint project of the Health Sciences Library and the School of Information and Library Science at the University of North Carolina-Chapel Hill. NC Health Info’s web site (<http://www.nchealthinfo.com>) offers users access to a collection of 2,575 web sites of local health services, providers and programs serving residents of North Carolina.

The NC Health Info web site was developed as a solution to the difficulties that users face when seeking local health information resources. The site seeks to centralize local health resources by providing the state’s residents with a “portal to the resources and education they need” (News & Views, Summer 2002). The site’s collection of web sites were selected and cataloged to align with the state’s *Healthy Carolinians 2010 Objectives*.

NC Health Info is currently funded by the National Library of Medicine (NLM) under a contract with the University of Maryland, Baltimore. NLM funded the Health Sciences Library of UNC-Chapel Hill to develop the web site as a demonstration project so that the experience gained by the NC local health information service might be replicated in other states, with the potential of creating a network of nationwide local health databases – “go local” initiatives of states connecting their local collections of health information with MedlinePlus, the National Library of Medicine’s consumer health information website.

Through NC Health Info’s connection with MedlinePlus, a service of NLM and the National Institutes of Health, users of the web site can obtain information about conditions, diseases and wellness, and find web sites of local health services, programs and providers throughout North Carolina. “To find local services, MedlinePlus users (<http://medlineplus.gov>) first select the "Go Local" link from any health topic, choose a North Carolina county or city, and then browse a list of Web links to services. Going the other way, NC Health Info users can find health information related to local services through links to MedlinePlus” (NLM Announcement, January 2003). NC Health Info is the first project to link local resources to a national database of authoritative health information (NC Health Info Launch, January 2003).

Since the NC Health Info web site was launched in January 2003 through April 2004 the web site has received a monthly average of:

- 4,956 unique visitors,
- 37,653 visits, and
- 224,543 pages viewed.

Methodology

Researchers at both the University of Michigan School of Information (UM), led by Joan Durrance, and The Information School of the University of Washington (UW), led by Karen Fisher, assisted NC Health Info in collecting data about online users general health information needs, barriers to meeting those needs, and satisfaction with the NC Health Info web site. Data was collected through online surveys and follow-up phone interviews and supports the NC Health Info pilot project's evaluation goals.

The online survey was designed and developed collaboratively by the UNIVERSITY OF MICHIGAN and University of Washington research teams and NC Health Info. Three online surveys were developed, one for each of the following types of users:

- Direct Users – Users searching for information for themselves;
- Proxy Searchers – Users searching for information on behalf of someone else; and
- Service Providers – Users searching for information in a professional capacity, i.e. as an information provider or health care provider.

Surveys included questions on health information needs, information seeking behavior, barriers faced in obtaining and/or providing information, anticipated information uses and outcomes, actual information uses and outcomes, nature of proxy or provider contacts/relationships, and user demographics. Specific questions regarding improvements to the NC Health Info site were asked also.

Survey questions relevant to barriers faced in obtaining health information were adapted from the list provided in Baker and Manbeck (2002) *Consumer Health Information for Public Librarians*, Scarecrow Press: Maryland, p.16-17. The response framework for these questions was a frequency-based Likert scale.

The online surveys were mounted on a University of Washington server using the University's Catalyst WebQ tool. WebQ enables University of Washington students, researchers, and faculty the ability to create online surveys, questionnaires, and quizzes. The tool provides two distinct interfaces, one for owners and another for participants. Participants (survey respondents) have limited access to the tool through a specified url, while owners (researchers) have the ability to edit the instrument and view results and summaries of respondents' answers to WebQ questions.

The survey instruments were pre-tested with 35 users at UNIVERSITY OF MICHIGAN and UW. Invitations to participate in the pre-test were sent via email to two classes and a health information provision interest group at the University of Washington iSchool by

Karen Fisher and via email and in class to two classes and the Community Information Corps at UM's School of Information by Joan Durrance. There were 25 respondents from University of Washington and 10 from UM. The number of respondents was affected by the timing of the pre-test, which was near the end of the semester for both schools. Respondents were randomly assigned to one of six fictitious user scenarios on which to base their answers:

- college-educated adult looking for a physician
- working class woman looking for birth control info
- working professional looking for cataract info for your mother
- middle-class homemaker looking for cholesterol info for your friends
- librarian searching for breast cancer info
- physician searching for info on Addison's disease

Most pre-test users reported completing the survey in about 10 minutes. No major complaints or criticism of survey questions were reported. Comments focused mainly on technical details (e.g. checkboxes vs. radio buttons). Pre-testing therefore resulted in only minor revisions to the instruments.

The follow-up phone interview instruments (three, one for each type of online user) were developed by the UNIVERSITY OF MICHIGAN research team, with input from University of Washington and NC Health Info. Areas covered were similar to those of the online survey instruments.

The JavaScript invitation 'popped-up' to users at the NC Health Info homepage with the above frequencies. If users clicked "yes" to participate in the survey, a new window appeared, where they indicated whether they were searching for themselves (Direct User), on behalf of another (Proxy Searcher), or as an information or service provider (Service Provider). The user was then routed to the appropriate survey instrument. The pop-up methodology of the survey instrument enabled the user to view two windows simultaneously, both the survey window and the NC Health Info site window. This is important to note as it contributes to the ability of respondents who were first time visitors to the site to answer questions about the types of information and web features that the NC Health Info site provides (i.e., 'links to health care providers and services,' 'simple visual design').

Survey responses were checked nightly. Respondents willing to participate in follow-up interviews were identified and assigned to interviewers at UNIVERSITY OF MICHIGAN and UW. There were 123 Direct User responses, 44 Proxy Searcher responses, and 49 Service Provider responses total. Responses were eliminated if they were determined to be duplicates, evidenced by parallel answers to survey questions and parallel personal demographic information they provided (i.e., email address).

Eliminating duplicate responses, there were 122 Direct Users, 43 Proxy Searchers, and 46 Service Providers. The total number of online survey respondents was thus 211.

Of the 211 online survey respondents, 29 Direct Users, 7 Proxy Searchers, and 8 Service Providers provided their phone numbers, indicating willingness to participate in a follow-up interview. Follow-up calls began February 4, and continued through April 19. The objective was to contact a respondent within a week. This was accomplished with varying degrees of success. Many respondents proved elusive and interviewer work constraints also affected this objective rate. There was initial concern about respondents' ability to recall the searching incident (e.g., how users came to the site, specific search steps taken on the NC Health Info web site); however, it appeared that time lapses greater than one week did not significantly affect responses, except for one interview. Another concern related to users' responses to follow-up interview questions about the actual outcome of the information they gained from the NC Health Info search and users' return to the NC Health Info site (e.g., too soon to tell) when there was one week or less between the online survey and follow-up interviews.

Between February 10 and April 19, 2004, 22 follow-up interviews were conducted with 15 Direct Users, 2 Proxy Searchers, and 5 Service Providers. One user who identified herself as a Direct User was reclassified, and interviewed, as a Service Provider based on her online survey responses and consultation among research staff.

Findings

Use of consumer health information resources is determined by search engine listings and links from other websites.

The first question our survey respondents encountered on the survey was "How did you arrive at the NC Health Info website today?" Of the 211 respondents who answered this question, 57% said they arrived "via a search engine (e.g., Google, MSN, Yahoo, AOL)". Another 23% reported that they arrived "via a link" from another website. Only 4% reported that they typed in the NC Health Info url, and only 4% replied that the site was bookmarked or a favorite. Less than 1% replied that it was their home/default page. Of the 11% who replied "other" in response to this question, they provided descriptive information which revealed how they learned about the website (as opposed to how they got there) or explained what their purposes were for visiting NC Health Info. Participants were also asked "how did you learn about www.nchealthinfo.org?" and their answers confirmed the importance of search engines and links—69% of respondents reported learning of the site via a search engine, and 25% reported learning about it via a link from another website.

Health information seekers need access points to uniquely identifiable information; they need access points to information collected on broad topics; and they need current and situational information.

What is the primary reason you are visiting www.nchealthinfo.org today? (respondents could check more than one answer)				
	Total	User	Proxy Searcher	Service Provider
<i>n</i>	207	118	43	46
To find information about a health-related program or service	41.1%	30.5%	41.9%	67.4%
To find information on a specific condition	39.6%	43.2%	46.5%	23.9%
To search for a healthcare provider	19.3%	23.7%	18.6%	8.7%
To find general health information	12.1%	12.7%	7.0%	15.2%
Other (please specify below)	10.6%	11.9%	0.0%	17.4%
To find information on medicines or prescriptions	6.3%	9.3%	2.3%	2.2%
To search for a health facility, e.g., a hospital or nursing home	5.8%	4.2%	2.3%	13.0%
To keep up with breaking health news	4.8%	2.5%	2.3%	13.0%

Our survey respondents came to NC Health Info with a variety of health information needs. Most respondents indicated that they needed to find information on a health-related program or service, they wanted to find information on a specific condition, or they were searching for a health care provider. There were observable differences, however, in the reported information needs of each category of searcher, suggesting that different kinds of searchers were using NC Health Info in different ways. For example, 67% of service providers reported they were visiting NC Health Info to find information about a health-related program or service, while only 31% of users selected this answer. During the qualitative portion of the study, interview participants across all categories indicated that their information needs were varied, with 67% reported they were searching for general information on a specific disease or condition, 38% responding that they also needed information on broad health-related topics or health care issues. Among direct user, 31% responded that they were searching for information related to the progress of a specific condition or disease, and 23% responded they were searching for the newest developments with respect to that specific condition. Long-term or rare medical conditions were also mentioned as being of interest.

Some situational information needs are addressed by NC Health Info through the option to access information on local health care providers and services in a visually-oriented, geographical organization scheme. When survey respondents were asked to select what ways they found NC Health Info helpful, 61% checked “links to health care providers and services”. “Information about diseases and conditions” was selected by 45% of respondents, and 50% of respondents cited “credible information”. (Participants could check as many answers as they wished.) (As a possible side note, respondents were also able to select “other” and give us more information. Of the 14 Users who checked

“other”, 8 indicated that they were using NC Health Info as part of a search for employment, conducting research on various organizations and agencies within North Carolina. This is an indication of another kind of situational information provided by the localized nature of the NC Health Info website.)

Searching is motivated by need for supplementary information, changes in health status, and personal interest.

In our qualitative interviews, we probed for further insight into the motivations of health information seekers. Of the 21 interview participants, 6 (29%) across all user types responded that they were motivated to search for themselves or for others by some form of supplemental information need, e.g. lacking access to health services, wanting to supplement or challenge a physician’s advice, or wanting additional information for decision-support related to health care management. This range of motivations suggests that when the need for supplemental information arises, individuals are approaching online resources with varying amounts of prior knowledge in respect to the topic of their search. Another motivating factor is a change in health status. We noted that 5 participants (24%) across all user types responded that they were motivated to search due to a change in health status as the result of a newly diagnosed condition. A final motivating factor, personal interest in a topic, was mentioned by 5 (24%) out of 21 participants as a reason for searching for health information.

Health information seekers use a variety of information sources, including interpersonal sources, health care providers, and internet resources.

We asked the Users and Proxy Searchers where else they had turned to for more information on their topic, allowing them to select multiple answers. Users and Proxy Searchers both selected multiple sources, indicating they are engaging in health information seeking in other settings and with other individuals, including interpersonal interactions and interactions with health care providers. Respondents also had the option of giving additional information about the places they have turned to for information. We received 33 additional User comments and 14 Proxy Searcher comments containing multiple references to highly-regarded consumer and professional health sites and organization, such as the AMA, MayoClinic.com, Web MD, the American Cancer Society, and others. While the majority of these comments indicated that respondents were conducting lots of web searches, they also mentioned using interpersonal contacts such as family and friends. There were also several comments that indicate respondents were conducting lots of searches. For example, one respondent replied “tons of various websites to numerous to mention”; another respondent said simply “many!” One respondent said “Heelspurs.com, AMA, ALL orthopedic and podiatric sites you can think of . . . I’ve been there.”

In order to learn more about what kinds of resources health information seekers find useful, we asked them to select from an extensive list of possible sources and select the ones they felt were most helpful. Among the most highly-ranked answers were the following: health care provider (43%), other website (36%), and friend or relative (24%). Interestingly, 35% of the Proxy Searchers indicated that they found friends or relatives to be helpful, while only 20% of Users checked this source. Few respondents indicated that newspapers, magazines, and books were helpful (10%) and T.V. and radio were selected as helpful by only 1% of respondents.

Online health information seekers face multiple barriers. Chief among these are problems finding sufficient information, difficulties evaluating information, and a lack of or limited access to professional advice.

We were interested in learning more about what kinds of barriers stood in the way of health information seekers. To that end, we asked the Users and Proxy Searchers a series of questions about their perceptions of health information. Using a 5 point scale (with answer selection consisting of “always”, “often”, “sometimes”, rarely”, and “never”), survey respondents were asked to rate the frequency with which they encountered obstacles when looking for health information. The responses indicate that consumers are having mixed results when searching for health information.

Locating health information: (n=161) While 16% of respondents indicated that they “often” find it difficult to locate health information, 50% of respondents indicated that they “sometimes” find it difficult, and 27% said they “rarely” find it difficult. We probed this question further during the qualitative interviews. In those conversations, 7 out of 21

participants (33%) across all user types responded that they generally could not find sufficient information to resolve their information need when searching for consumer health information on the Internet. As one participant said, “the basic problem is where you start. How do I all of a sudden go over to that computer and punch something in. How do you know which is the one [website] that’s going to give you the most information? And that’s what’s hard.”

Determining quality of health information: (n=161) With regards to evaluating the quality of health information, 29% of respondents said they “often” found it difficult, 45% said they “sometimes” found it difficult, and 21% said they “rarely” found it difficult.

Understanding health information: (n=159) Survey respondents affirmed that they found health information to be written too technically or with too much jargon. While 3% said they “always” find health information to be written too technically or with too much jargon, 16% said “often”, 35% said “sometimes”, 19% said “rarely”, and 4% said “never”. In the qualitative interviews, 6 out of 21 participants (29%) across all user types responded that they generally had problems evaluating consumer health information due to a lack of familiarity with health care and medical terminology or concepts. One respondent put it this way. “There is so much information out there. [It’s] hard to figure out what is reliable without having a health background.”

Health information not specific to seeker’s needs: (n=159) In response to the statement “I have found that health information is not specific to my needs”, 22% of all respondents said this was “often” the case, 42% said “sometimes”, and 26% said “rarely”.

Understanding health information from health providers: (n=159) Respondents reported difficulty understanding health information from health providers “often” (15%), “sometimes” (44%), and “rarely” (33%). An important component to understanding health information can also be sufficient physician access. If a patient cannot spend enough time with a practitioner to have questions answered, then their comprehension of health information may suffer as a result. The interview respondents mentioned the lack of physician access as a barrier. Of 21 participants, 5 (24%) mentioned that they lacked access to adequate health care or advice, either because they had no access to health care professionals, their primary care provider was unfamiliar with a specific health condition, or their primary care provider did not have time to supply sufficient help. As one interview participant put it “I’ve got a doctor and some specialists and they’re all real nice but they don’t have much time to talk about it. So I naturally go to the Internet. I go to the Internet for all of my informational needs.”

Uncertain what questions to ask: (n=157) When presented with the statement “I am not sure of what questions to ask based on the health information I have”, 19% of respondents across all user types replied “often”, 41% replied “sometimes”, and 31% replied “rarely”.

Uncomfortable asking questions about a certain topic: (n=153) Survey respondents were more definitive on this question, with 26% saying “sometimes”, 41% saying “rarely” and 23% responding that they “never” are uncomfortable asking questions about a certain topic.

Difficulty finding information on health services: (n=154) Of the respondents, 16% report “often” having difficulty finding information on health services, 49% say this is “sometimes” a problem, and 29% say this is rarely a barrier.

Difficult to predict quality of health services based on information I have found: (n=155) Our respondents reported that 28% “often” have difficulty predicting the quality of health services based on information they have found, 51% said this is “sometimes” a problem, and only 16% said this “rarely” happens.

While the answers to the above questions about barriers indicate that survey participants were usually in the middle, with “sometimes” being the most frequent response, it is noteworthy that when presented with an opportunity to provide additional comments on these issues, many of these comments reflect a higher level of frustration with information needs. Examples of these comments include “health problems make it difficult to ask questions...I forget or am nervous to ask”; “fear expense of treatment”; “it has been very hard to find information on the net regarding this disease”; “Health care professionals do a poor job of explaining anything related to health care including the procedures they perform, various illnesses, and diet recommendations”; “there are so many issues to resolve I don’t know where to begin”. These comments indicate that some health information seekers face significant levels of frustration.

NC Health Info site-related findings – consumers find the site easy to use and search, and find the information relevant and appropriate to their needs. The appearance of commercialization has a detrimental effect on user’s experiences with health care portals and resources.

We asked the survey participants questions about the NC Health Info website to ascertain which features they found helpful and what they would like to have added to the functionality of the website. Helpful features selected that currently exist on the site included links to healthcare providers and services (61%), credible information (49%), and information about diseases and health issues (45%). Respondents also commented favorably on elements related to NC Health Info website design and functionality.

In what ways is www.nchealthinfo.org helpful to you? It has the following features (check all that apply):				
	Total	User	Proxy Searcher	Service Provider
<i>N</i>	154	93	29	32
A good search tool	57.1%	58.1%	48.3%	62.5%
Understandable language	54.5%	53.8%	41.4%	68.8%
Simple visual design and layout	40.5%	33.7%	44.8%	56.3%
Privacy protection (since it does not collect personal information)	32.3%	24.5%	44.8%	43.8%
Fast-loading pages	29.2%	30.1%	31.0%	25.0%
Other (please specify below)	9.7%	7.4%	6.9%	18.8%

Even though NC Health Info contains no commercialized content, the subject of paid or sponsored content on health websites was raised by respondents. During the qualitative portion of the interviews, 21% of respondents across all user types indicated that they react negatively to the commercial nature of some online consumer health information resources, particularly in cases where websites were selling products as well as providing information. As one respondent put it when describing challenges encountered while searching for information, “It's almost impossible not to get...commercial sites...trying to sell you something. But all the advertisements! It's hideous.”

Respondents pointed to various information needs when responding how NC Health Info could be more helpful. More information on insurance and financial assistance was cited as a need by 53% of respondents. Other responses indicated a desire for local, situational, and interactive site offerings.

It is important to note that 83% of respondents reported that they were visiting NC Health Info for the first time. The survey appeared at the beginning of their session, but users were able to peruse NC Health Info and then fill out the survey afterwards. We did not anticipate so many first-time visitors and our instrument didn't allow us to evaluate how many respondents filled out the survey without exploring the site.

Homeless Teenagers Study

Introduction

The study will be framed by Elfreda Chatman's (1999) theory of Life in the Round. A renowned ethnographer in information science who studied marginalized populations, she developed this theory from her study of the insular social world of women prisoners. A participant of life in the round has a "small-world conceptualization;" it is a world in which the insiders define limits such as boundaries, social norms, and language used (Chatman, 1999, p. 214). A life in the round is lived out under the close examination of others, and it is a life that is generally routine and predictable, making information-seeking outside of the small world unnecessary and undesirable. In context of Chatman's theory, the following research questions guided this study:

What factor(s) or tipping points lead to homelessness in otherwise stable living situations?

What interventions, including informational, might have prevented homelessness for particular people?

What types of information, and health and human services are needed by the homeless?

How can these informational and services needs be facilitated?

What barriers do homeless people encounter when seeking help?

What factor(s) or tipping points can lead a person out of homelessness?

Given the goals of the proposed study, Chatman's theory will provide insights into (a) the boundaries of the "small world" of homeless persons and how it affects their ability to seek health and human services and, (b) how "outsider" agencies can best provide health and human service information to homeless "insiders."

Methodology

Data were collected in the field using in-depth interviews and the investigator's field and theory notes. Interviews with fourteen homeless persons took place at three emergency shelters in Eastern King County; all interviews were audio-recorded. Data were analyzed using recommended naturalistic research methods and the resultant coding scheme was focused by theory brought forth in Elfreda Chatman's "Life in the Round" study (1999).

The naturalistic method, developed out of the naturalistic-constructivist model pioneered by Egon Guba and Yvonna Lincoln, allows for qualitative inquiry in research environments where context is of the utmost importance. Erlandson, Harris, Skipper, and Allen (1993) acknowledge that though the extremely qualitative nature of the naturalistic method makes it difficult to generalize about the results of the inquiry, "the intricacy of

the context that is revealed by naturalistic inquiry permits applications to social settings that are impossible with most studies that allow prevailing research strategies" (p. 17). However, in an environment where social change is desirable, such as ending or reducing homelessness, results obtained through natural inquiry "provides great power for understanding and making predictions about social settings" (Erlandson, p.17). The research process, consisting of gathering, focusing, and analyzing the data, is iterative in nature, with every phase of the process augmenting overall understanding of the situation and research problem.

Naturalistic data collection lends itself to the collection of rich data, "a wide and diverse range of information collected over a relatively prolonged period of time" (Lofland & Lofland, 1995, p.16). This method does not claim to be objective; rather, it is an immersion into peoples' thoughts and personal stories in order to have a detailed and intimate understanding of their situations. Distance and a lack of immersion in such a research setting may not bear worthwhile results.

The methodology was also informed by Brenda Dervin's sense-making approach (1992). Dervin asserts that in everyday life, people encounter "gaps" in their knowledge that must be bridged with "helps" or information in order to proceed. Though each gap in a person's knowledge may be unexpected, Dervin asserts that people cope with knowledge gaps by "making sense of their experiences" (1992, p. 67). She further suggests use of the micro-moment, time-line interview approach for collecting data where the respondent is asked to recall a situation in which he faced an information gap and what information would have helped the respondent proceed (1992, p. 70). Asking participants to provide narratives of their life incidents will provide insights into what informational and instrumental "gaps" homeless persons face, and what "helps" will enable them to meet their needs.

It should be additionally noted that in many ways the current study is exploratory in nature—no other researchers have yet explored the situations of the residents of emergency homeless shelters in Eastern King County. In some cases, participants made reference to the differences between Eastside shelters and shelters in Seattle, Washington, indicating that it would be difficult to use previous studies of Seattle shelters as a basis for comparison.

Participants

For this study, purposive sampling methods were employed to recruit participants of different ages, backgrounds, and shelter situations by collecting data in three different types of shelters, to reflect the demographics observed in the One Night Count Study (SKCCH, "One Night Count", 2003). One emergency shelter only accepts young people from the ages of 18-24 without dependent children; another only accepts families (married or single parents), and the third is a Catholic men's shelter that moves to a different church on a monthly basis. Purposive sampling is key to naturalistic research as "the researcher's major concern is not to generalize the findings of the study to a broad population or universe but to maximize discovery of the heterogeneous patterns and problems that occur in the particular context under study" (Erlandson, 1993, p. 82).

Participants were self-selected, choosing to participate on a volunteer basis. Residents could sign up for an interview time on the flyer that the interviewer placed in the shelter upon her arrival. The flyer explained the basics of the study and informed residents that they would be given \$20.00 cash for their participation. Not all residents who wished to participate could; in the youth shelter a resident was determined to be intoxicated to the point of belligerence and could not provide coherent answers. Additionally, the investigator was restricted only to interviewing persons who were fluent in English.

Before beginning the interviews, each participant was met in a private room or office to explain the study in detail. The residents were informed that they could choose not to answer any of the questions, and that as long as we made it through the questions they would be compensated for their time. Researchers directly asked if they had any objections to being audio-taped during the interview, and no participant refused to be audio-taped. Participants were given an information sheet, which they were invited to read and keep. The information sheet format was chosen to attempt to keep the participant anonymous; a standard consent form would have created a record of the participant's signature. Participants were allowed to make up a pseudonym for themselves if they wished; some said they would rather I choose one for them.

At the youth shelter, interviews were conducted in a private office. At the family shelter, the interviews took place in residential apartment units. Three interviews were conducted alone, one interview was conducted in the presence of the participant's child, and the final two interviews were conducted in the presence of children and spouses. At the men's shelter, the interviews were conducted in a private classroom for preschool-aged children.

Summary of Findings and Themes

About the younger participants

Six of the fourteen participants self-identified as between 18-23 years old. Within this group, one reported having at least one child living with other family members. While four participants from this group had not received a high school diploma or G.E.D., two were enrolled in 2-year college degree programs.

About the older participants

Six of the fourteen participants self-identified as between 33-45 years old. Within this group, five reported having at least one child living with them or with other family members. Only one participant from this group had not received a high school diploma or G.E.D., and five had either begun or completed 4-year college degree programs.

What factor(s) or tipping points lead to homelessness in otherwise stable living situations?

Both younger and older participants articulated a variety of explanations for how they first became homeless. The primary factors reported across all participants included the following:

- Unable to pay rent/move due to job loss, injury, or theft
- Asked to leave home by parents or family members
- Drug abuse (self or others)
- Unhealthy or abusive home situation

Participants discussed several interventions that might have helped them avoid becoming homeless, often describing more favorable financial conditions such as an increase in the availability of transitional housing (5 participants) and a general decrease in the cost of living (5 participants). Another popular response was to have assistance in finding available jobs (3 participants). Job (re)training was not specifically mentioned by any of the participants, but one individual did remark that it would be helpful to “probably bring in schools [and] learn something”. One younger participant (21-years old) suggested that an intervention one-on-one with a caseworker would have been helpful, but this is perhaps not as useful as a preventative measure.

After becoming homeless, participants mentioned information needs satisfied via both formal shelter system and “word-of-mouth”. Participants also shared the means through which they preferred to obtain general information: the Internet (7 participants), the newspaper (6 participants), and speaking with someone (in-person or via telephone; 5 participants). For information specific to their current situation, however, the single most popular method of obtaining information related to their homelessness were informational pamphlets (2 participants), yet two participants also stated that informational pamphlets were not useful to their information needs. A general sentiment that pervaded the responses was that participants were too overwhelmed (time-wise or emotionally) to pursue information, establishing this factor as the primary barrier to info seeking and use.

What factor(s) or tipping points can lead a person out of homelessness?

Given our single-interview methodology, we are unable to specifically address the efficacy of any strategies for leading one out of homelessness since our participants did not have the requisite experience of emerging from homelessness. We might reasonably assume, however, that any restorative measures could align with the preventative interventions listed above: job assistance, locating transitional housing, locating additional low-cost or free resources within the community.

Discussion and Recommendations

The above findings paint a picture of homelessness that is largely consistent with previous work in this area, and most participants found the programs, services, and assistance provided under the current system to be effective in satisfying their information needs. A question that remains open for discussion, and which compliments the “what” and “why” of homelessness, is “How do people who are homeless perceive their world and the sources of information within it?” We began this study using Chatman’s (1999) theory of Life in the Round to address that difficult, unanswered

question, and looked for instances in which our participants shared their ideas about boundaries, social norms, and language used among their peers and shelter staff.

The sense of community we observed among younger participants (and one of from the “older” group) was strikingly consistent with a “small world” conceptualization that Chatman (1999) discusses, in which “insiders” learn much of what they know from other “insiders” and only seek information from other sources when necessary. For instance, the following representative quotes were recorded:

“We’re kind of like a family [at the shelter], and [we’re used to] a few people, and then anybody who comes, we actually kind of look at them weird, and we accept them if they’re good people, but we kind of respect our own little group – everybody understands, you know? It’s kind of like a code. We make sure we all end up somewhere okay, and we’re all happy for every single person that gets out of here.” –David, 21

“A lot of these kids are very smart and very savvy, but they don’t show it. It’s sort of like a defense mechanism...and that’s how they go through the motions and slip through the cracks, but they’re smart.” –Sue, 21

“I have no clue if there [is any info need] or not. I’m pretty well-informed by the caseworkers that come in here.” –Ellen, 19

“[I] kind a stay on top of things – make myself aware of what’s going on.” –Paul, 36

“I know pretty much what I need to do.” –Jill, 18

This is suggestive of a potential strategy that the United Way-sponsored shelters could employ: to target information dissemination efforts – about low-cost housing, health care, job services – at individuals who are “keyed in” to larger groups of their homeless peers. Spreading information in this manner, by engaging with receptive individuals who then, in turn, report this knowledge to other homeless, may be an effective and efficient means of providing information-related assistance to this population.

The empirically-derived suggestions proposed in this report are intended to equip social service agencies dealing with homeless populations with a set of perspectives on the services they provide. While an understanding of the particular characteristics of the population being helped are paramount, we hope that these suggestions and findings have

some impact upon the services that are offered, and that any responses help alleviate the problem of homelessness.

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Publications and Presentations

Since 2002 we disseminated findings from our field studies through numerous papers and presentations in academic and professional venues. As we continue to share our results in several forthcoming and in progress journal articles, our previously published works include the following (in alphabetical order by first author):

Abrahamson, J. A., Turner, A. G., Fisher, K. E., Edwards, P. M., Durrance, J. C. (2005). Lost, found, and feeling better: Exploring proxy health information behavior. *2005 Annual Conference of the American Society for Information Science & Technology*. Charlotte, NC. (Refereed Poster)

Abrahamson, J., & Fisher, K. E. (To be submitted). Proxy searching: A conceptual model. *Information Seeking in Context VI (ISIC)*. Sydney, Australia, July 2006. (Refereed conference paper).

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Durrance, J. (2003). "Building the Library's Civic Role through Developing Community Credibility." Presentation at program developed by ALA Past President Nancy Kranich called: "Libraries and Community: Fostering Civic Engagement in Your Library"

Durrance, J. (2003). "Contextual Approaches in Community Focused Research." University of Michigan. Faculty IIDF Presentation.

Durrance, J. (2004). "Developing Community Focused Pasteur's Quadrant Research." With Richard Frieder, Coordinator of Reference and Community Services, Hartford Public Library. Library Research Round Table.

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Broad Impact

In addition to the field studies described other ways this research has impacted the field can be described through associated projects motivated by the research, courses that have been developed utilizing research generated through the study, staff employed by the project and traffic visiting the IBEC web site. Partners in our research included:

- Hartford Public Library
- Microsoft
- National Science Foundation
- North Carolina Health Info
- United Way of King County
- University of North Carolina at Chapel Hill
- Washington Information Network 2-1-1

Associated Projects

The following is a partial list of research projects have been motivated and informed by the activities of this research project.

- Information Grounds of Seattle's Polish Community (Tom Dobrowolsky, MLIS Student, The Information School, University of Washington; MLIS Thesis)
- Book Clubs as Information Grounds (Emily InLow, MLIS Student, The Information School, University of Washington; MLIS Thesis)
- The Virtual Jaamati: Technology to Facilitate Information Grounds at Coffee Shops (C.A. Burrell & Mohamed Samater, Undergraduate Students, The Information School, University of Washington; Final Year Capstone project also supported by Microsoft)
- Seattle's Pike Place Market Study (Steve Lappenbusch, PhD Student, Dept. of Technical Communication, University of Washington)

- Verbena: Overcoming Poverty as Part of the Information Ground Life Cycle at a Women's Health Clinic (Kris Unsworth, PhD Student, The Information School, University of Washington)
- Information Grounds of Stay-at-Home Mothers and Tweens (Karen Fisher, Associate Professor, and Colleagues, The Information School, University of Washington; funded by the National Science Foundation)
- Information Grounds during Baby Story Time (E. F. (Lynne) McKechnie, Associate Professor, and Pam McKenzie, Assistant Professor, Faculty of Information and Media Studies, University of Western Ontario)

Courses

Several courses at the graduate level have been informed by the research generated through this study. Fisher greatly utilized IBEC research in her MLIS 510 Information Behavior course at Washington in Fall 2004 and 2005 and her PhD Qualitative Research Methods course in Winter 2005. Durrance utilized IBEC research in her Use of Information Course in Fall 2004 and in her Professional Practice class in Winter 2005 at the University of Michigan. Durrance developed a course on community informatics in which she incorporated current IBEC research

Project Staff

Project staff included the following students, who were integral members of the research team contributing throughout the research process and many of whom have since graduated to join the information professions.

University of Washington

Agueda Sanchez, MSIM

Danielle Miller, MLIS

Tammara Turner, PhD Student

Charles Naumer, PhD Student

Lisa Nathan, PhD Student

Charles Burrell, Undergraduate Informatics Student

Mohamed Samater, Undergraduate Informatics Student

SJ Alexander, MLIS

Lupine Miller, MLIS

Anne Turner, MLIS Student

Eva Cunningham, MLIS

Jennie Abrahamson, MLIS; now PhD Student, Oregon Health Sciences University

Phil Turner, PhD Student

Dianne Ludwig, MLIS

Chris Pusateri, MLIS

Woods Fairbanks, MLIS Student

Carol Landry, MLIS

Nicolette Warisse Sosulski, MLIS

Peter Emonds-Banfield, MS Technical Communications

University of Michigan

Kate Zoellner, MLIS

Maria Serapiglia, PhD student

Dana Walker, PhD Student

Tracey Hughes, MLIS

Eunice Kua, MLIS

Marian Hinton, MLIS

Appendices

Appendix 1: Hartford Interview Instrument

1. Today I'd like to start by talking about examples.

When we were here last year we were told several stories by various staff members. One story focused on some rat problems that the city experienced after public housing projects were torn down. Apparently, the rats moved into other buildings – causing problems for residents. Hearing about this problem, a librarian at HPL did some research on what other communities had done to respond to the problem of rats, and then communicated that information to help solve the problem.

We heard about other examples that show how HPL staff help people in the community get the information they need about graffiti, public safety or other situations. To help us better understand the specific actions that Hartford librarians take to respond to community problems and issues, will you share with me a recent example (a story) that shows how in the last six months you identified a community information need and, if possible, how you responded to it. This experience could have happened at a formal meeting, an informal setting, at the reference desk or in some other way.

Could you tell me how to reach that group?

Was information needed to solve a particular problem? Can you describe?

How did you connect the person/organization with information or assistance?

Do you know if the information was used? If so, how did you find out that it was used?

What were the outcomes of your involvement/the library's involvement?

Can you provide me with one other example?

Thank you very much. This is helpful. Specific examples help us better understand the range of issues and problems that HPL is able to act on.

2. Have you written down these examples and/or included them in a report? Do you have others we might gain access to?

3. Are there other people on your team who would have additional examples like this?

If so, what is their contact information?

4. Next I'd like to talk briefly about community meetings. We have been told that Neighborhood Team Leaders often attend meetings of local groups. How many meetings, if any, did you attend last 30 days? How many do you attend in a typical month?

5. Can you list several meetings that you or your staff attended in the past six months?

Who were the sponsoring organizations for these meetings? What kind of meeting was it?

Meeting	Type of meeting	Sponsor	:
---------	-----------------	---------	---

6. Can we talk more about [pick group]. Can you tell me about this group? (what does the group do)?

7. How was it that you attended this meeting?

8. Have you attended before?

9. How did you start attending?

10. Have you responded to a need for that this group had for some kind of community information? How?

11. Do you know if what you provided helped in any way? If so, how?

12. Now can we look at another group [pick from list]?

13. We'd like to know what you see as the primary outcomes resulting from attending these community meetings. Can you describe them to me?

14. I'd like to ask a few questions about HartfordInfo. HartfordInfo was in a developmental stage when we first met with staff at HPL last spring.

15. Have you used HartfordInfo with an individual or group? (either on behalf of, or referring them to it)? If so can you provide me with an example of this use.

16. Have you had the opportunity to describe HartfordInfo to an organization or individual? If yes, how do you describe it?

17. How frequently do you use HartfordInfo?

18. From your perspective, what kind of impact is HartfordInfo having on what the library is able to do in the community? Probe: can you tell me more about that?

19. I'd like to focus now on making sure we have a good understanding of the approaches HPL and the HPL staff use to anticipate and respond to community information needs. You have already described some of the actions that you take to anticipate community information needs. What else do you and other staff members do that result in individuals and organizations getting the information they need? (Wait for responses.)

20. In a given week what are you likely to do that results in a connection between a need and relevant information?

21. Can you think of other things that contribute to your ability to anticipate the needs of the community organizations that you work with?

22. From your perspective, what approaches or actions are most effective in linking groups to community information? Why?

23. From your perspective, what makes it difficult for you to do the kinds of things you would like to do to anticipate the needs of community groups?

24. Finally, we want to better understand the various terms that we have heard to describe this community-focused activity. Can you comment on what each of the following terms means and how each term is now used? Please also indicate if the term is no longer in use).

25. Are there other terms used to describe some aspect of this aspect of HPL's services?

26. What terms do you and others use when you describe these services to community members and organizations?

27. Finally, are there other important points you would like to discuss that I haven't asked that seem relevant to this topic?

Appendix 2: United Way – Need for Information Questions

Need for Information

Info1. **Generally speaking**, where or to whom do you **mostly** turn when you need to find something out?

1. Someone with whom you have a strong relationship or are close with (specify)
2. Someone with whom you do not have a strong relationship or do not know well (specify)
3. Phonebook/yellow pages, flyer, radio, television, newspaper
4. Organization: public library, school, non-profit, crisis clinic or hotline, etc.
5. Computer or the Internet
6. Department at your workplace
7. Other (specify)

Info2. Why do you usually use this source?

1. Gives reliable information or is an expert/authority in the topic
2. Knows me and understand my needs
3. Provides emotional support
4. Quick to contact/access
5. Easy to use or communicate with
6. Convenient, inexpensive, close
7. Can communicate face-to-face or by phone
8. Anonymity
9. Neutral, not biased
10. Other [specify]

Info3. What are two or three examples of what you usually learn from this source?

Info4. What are the drawbacks of using this source?

1. Information not always reliable or source is not an expert/authoritative
2. Doesn't know me well or understand my needs
3. Does not provide emotional support
4. Is not quick to contact/access
5. Difficult to use or communicate with

6. Inconvenient, expensive
7. Cannot communicate face-to-face or by phone
8. No anonymity
9. Biased, not neutral
10. I get distracted or lost while on the Internet
11. Other [specify]

Info5. Sometimes people go to a place for a particular reason such as to eat, get a haircut, to worship, for child care, get something repaired, make crafts, see a health provider or get exercise, but end up sharing information just because other people are there and you start talking. **Does such a place come to mind for you? What is it?**

Info6. What makes this a **good place** for obtaining information, either accidentally or on purpose?

Info7. What are some examples of information that you might pick up there?

Info8. For you personally, with regard to what's going on in your life, what kind of information would help you most right now?

Appendix 3: Information Habits and Information Grounds Study

INFORMATION HABITS & INFORMATION GROUNDS OF COLLEGE STUDENTS STUDY

INFORMATION HABITS

1) **Generally speaking**, where or to whom do you **mostly** turn when you need to find something out? *[Do not read list; circle response that fits best]*

- 1) Someone with whom you have a strong relationship or are close with (specify:
- 2) Someone with whom you do not have a strong relationship or do not know well (specify:
- 3) Phonebook/yellow pages, flyer, radio, television, newspaper
- 4) Organization: public library, school, non-profit, crisis clinic or hotline, etc.
- 5) Computer or the Internet
- 6) Department at your workplace
- 7) Other (specify:

2) Where or to whom do you turn **next** when you need to find something out? [*Do not read list; circle response that fits best*]

- 1) Someone with whom you have a strong relationship or are close with (specify:
- 2) Someone with whom you do not have a strong relationship or do not know well (specify:
- 3) Phonebook/yellow pages, flyer, radio, television, newspaper
- 4) Organization: public library, school, non-profit, crisis clinic or hotline, etc.
- 5) Computer or the Internet
- 6) Department at your workplace
- 7) Other (specify:

3) Why do you usually use these sources? [*Do not read list; circle responses that fit best*]

- 1) Gives reliable information or is an expert/authority in the topic
- 2) Knows me and understand my needs
- 3) Provides emotional support
- 4) Quick to contact/access
- 5) Easy to use or communicate with
- 6) Convenient, inexpensive, close
- 7) Can communicate face-to-face or by phone
- 8) Anonymity
- 9) Neutral, not biased
- 10) Other (specify:

4) How do these sources [repeat them] work together (e.g., always in combination, only if one doesn't work, etc)?

Appendix 4: WIN 2-1-1 Staff Interview Guide

OUTCOME EVALUATION OF WIN 2-1-1 SERVICES

Interview Guide for WIN 2-1-1 Agency Staff

Note: This instrument is for conducting 45-60 minute interviews with administrators and staff of WIN 2-1-1 Services. Data will be used to identify the nature of 211 calls, user outcomes and implementation issues.

Staff Code:

Date:

Place of Interview:

Length of Interview:

Interviewer:

Introduction and Informed Consent:

Thank you for agreeing to participate in this interview, which, we are conducting about how people use WIN 2-1-1 services. This interview will take approximately 45-60 minutes. Your answers will help us to gain a better understanding of how WIN 2-1-1 works, its history, and people use and are affected by WIN 2-1-1.

Is it okay if I audio-record our interview? The tape will be destroyed by March 30, 2005. No one will know that you participated in this interview and your responses will be confidential.

Questions:

1. How long have you been working with WIN 2-1-1?
2. What does WIN 2-1-1 provide?
3. Who are its users?
4. What is your role with WIN 2-1-1 (what are your responsibilities?)
5. How do people know about 2-1-1?

6. How do people express 2-1-1 needs (directly, indirectly)? How do you know/recognize callers' needs?
7. What are people's reasons for calling?
8. Do callers seem to prefer particular sources? Why?
9. Does serendipity play a role in answering 2-1-1 calls? How?
10. Do they know the service they are looking for?
11. Describe a typical call. What make it typical?
12. How many referrals does a typical call require? How many for an untypical?
13. Do callers realize that they need multiple referrals when they contact you?
14. How does an information request change or evolve during the 2-1-1 interview process?
15. What kinds of questions do you ask to understand a caller's needs?
16. How do you provide 2-1-1 information? Do you use different strategies in different situations? Explain.
17. To what degree do you perceive that callers are contacting 2-1-1 on behalf of someone else? What is the reason(s) for this?
18. How often do you think that callers act on your referrals?
19. In what ways do you perceive that callers respond affectively to 2-1-1? Explain.
20. How would you characterize the successes of WIN 2-1-1?
21. How have individual users been helped? (ask for specific examples: typical example, most surprising/unexpected in a positive way, most surprising in a negative way...)

22. In what ways have benefits been accrued by users' families? The community at-large? What is your evidence for these observations? (seen families here, users told us, etc)
23. What would you like to know about 2-1-1 services/impact that you do not already know?
24. What factors hindered the development and offerings of WIN 2-1-1?
25. How could WIN 2-1-1 be improved?
26. How would you like to see WIN 2-1-1 develop in the future?
27. What is needed to make this happen?
28. Who else should we talk with about WIN 2-1-1?
29. Other comments?

Appendix 5: WIN 2-1-1 User Interview Guide

OUTCOME EVALUATION OF 2-1-1 Info SERVICES

Guide for Follow-up Calls with 2-1-1 Info Users

Note: This instrument is for conducting 10-15 minute follow-up telephone interviews with 2-1-1 INFO users. These interviews will be conducted by 2-1-1 info staff. Data will be used to identify users' involvement and individual/family outcomes.

At the end of a call to the 2-1-1 Info center, the 2-1-1 staff member will ask the caller:

“Over the next two weeks we are telephoning people to ask how they used our services. Is it okay if someone from our agency calls you? The call will take 10-15 minutes.

If the caller says “yes,” then the staff member will verify the person's phone number and ask for the person's first name along with a good time to call (mornings, afternoons or evenings). The caller also will be told that his /her identity will be kept confidential. If the caller says “no,” then the staff member will end the call.

Caller permitting, within two weeks the caller will be contacted. Any identifying information such as the caller's name and phone number will not be shared with the University of Washington team.

* * * * *

User Code:

Date:

Length of Follow-up:

211 Info Interviewer:

211 Subject of Initial Call:

Hello X,

This is ... calling from the 211 Info service. I'm calling in follow-up to your contact with our service on X about Y. Some examples of the type of questions I would like to ask are: “how did using 2-1-1 info make you feel” or “how can 2-1-1 info be made better?”

The purpose of my call is to ask you questions about our service, which should take 10-15 minutes. Your participation is completely voluntary, and no one will know that you participated in this follow-up call. However you should be aware that you may not directly benefit from the results of this study.

Keep in mind that if you feel like your privacy is being invaded or if you want to stop at any time, please let me know immediately and we will stop. Please be assured that we will be keeping all of the information you give us confidential and your name and number will not be published in the results of this study. Do you have any questions about our survey and its goals?

Is it okay to ask you some questions? Is this a good time to talk? [if not, the caller will end the call and set a new time only at the interviewee's behest; if the interviewee says "yes" then the caller will proceed with the below questions, but first will provide the name and number of 2-1-1 Info's executive director: Jeri Shumate, 503-265-6500.

Questions:

30. How did you learn about 2-1-1 Info?
31. When did you first contact 2-1-1 Info?
32. What was the reason that you contacted 2-1-1 Info about X [from above info]?
33. What did you expect to receive from 2-1-1 Info?
34. What did you receive/what were you told? [Interviewer: if callee received multiple referrals, choose one and ask Questions 6 & 7 about it]
35. Did you know about or use X before?
36. Have you contacted X yet (from above)?
 - If yes, what happened?
 - What did you get?
 - How did that help you?
 - How did that make you feel?
 - What did you do next?

- Would you use X again?
 - Did you tell anyone about X?
 - How has your family benefited as a result of you contacting X?
-
- If not, why have you not yet contacted them?
 - Do you plan to?
 - What do you expect to get?
 - How would that help you?
 - How will getting X make you feel?
 - How might your family benefit as a result of you contacting X?
-
37. What did you learn/gain overall because of 2-1-1 Info?
38. How did using 2-1-1 Info make you feel?
39. Did anything make it difficult for you to use 2-1-1 INFO?
40. What do you like about 2-1-1 INFO?
41. How could 2-1-1 INFO be made better?
42. How have your clients or family benefited, if at all, because of 2-1-1 INFO (ask them to be very specific)
43. Since you started using 2-1-1 INFO, is there anything you can do now or have accomplished that you could not have done before?
44. Will you continue to use 2-1-1 INFO?
45. Have you recommended 2-1-1 INFO to other people? If so, to whom (not asking for personal names here, just relationship types, e.g., friends, family)

Demographic questions

46. What is your age?
47. How many people are in your household?
48. What is your occupation?

- 49. What is your ethnic background?
- 50. Gender?

Thank you for participating in our follow-up about how people use 2-1-1 services. Your responses will help us to gain a better understanding of how people use and are affected by 2-1-1.

Appendix 6: Homeless Interview Instrument

Interview Guide

Master's Candidate: SJ Alexander

Faculty Advisor: Karen Fisher

Project Title: Life in the Round for Eastside Homeless: Information and Human Service Needs and Pivotal Interventions

Introduction

Purpose of the Study

I appreciate you taking the time to help me. I'm going to school to become a librarian. My final project is a research study and talking to you is part of the study. What I'm studying is how people get the information they need to make decisions and improvements in their lives, and what information they feel is missing. I want to talk to people who are staying in shelters to see what information they believe would help them improve their situations. I want to find out what information is missing so that social service agencies will have a better idea of how to help people in emergency shelters.

Procedures

Before we start, I want you to know that if there are any questions you don't want to answer, just say so. You can stop the interview at any time. There are three sections. At the beginning of each section, I'll explain the kinds of questions I'm going to ask and why I'm going to ask them. You can decide whether you want to go on.

Another thing it says in the consent form is that when I write my paper based on these interviews, no one who reads it will be able to tell that I'm talking about you. I may use some of your words, but I'll use made-up names for you and anyone you mention.

The questions are easy and none of them are too personal. If you think a question is too personal, just say you don't want to answer. I'm not looking for anything but your honest opinion about whatever you feel comfortable talking about.

I would like to audiotape our conversation, so I can be sure that I get your words, exactly as you said them. If you do not want me to audiotape our conversation, then I would like to write notes about what you say. When we are finished with the interview, I will give you ten dollars for your time and trouble.

Do you have any questions before we start?

Section 1

During this first section, I'm going to ask you some basic questions about your age, education, and employment. I'll also ask you what brought you to the shelter. This will help me understand your situation; not everyone in a shelter has the same situation. I

want to get a picture of your situation because I want to compare your situation to the situations of other people in emergency shelters. We will talk about your experiences getting information in a minute.

Do you feel comfortable telling me your age?

What's the highest grade you completed?

Have you always lived in Eastern King County? Where else have you lived? When did you come to Eastern King County? Why?

What are some of the jobs you've had? What are you looking for now in terms of a job?

Did you come to the Eastside to look for services?

Do you have any children?

Is there anything else about your situation that you'd like to tell me?

Section 2

During this section, I'd like to talk in detail about your current situation, and about how you came to be at this shelter. I'll also ask you about information you have, and information you feel is missing in your life right now. This will help me learn what sources of information are available to you. I want to learn about this because it will help us figure out ways to keep people from being homeless, and to help them quickly if they become homeless.

What happened that led to your needing to come to the shelter?

What do you think could have prevented you from becoming homeless?

What information are you missing right now?

What information would help you to improve your situation now?

How did you find out about this shelter? How long have you been in this shelter? Have you been homeless before?

Since becoming homeless, what services have you heard about that you think you will use?

How do you like to get information?

Is there anything else you'd like to tell me?

Section 3

We're almost done! In this section I want to ask you about specific services you've received since you became homeless and how helpful they were. I would also like to know what services you would like to use. This is important because it helps us understand which services are useful and why, and what your needs are right now.

Have you received social services outside of this shelter since becoming homeless? What services and why?

Did you find these services helpful?

How did you get information about these other services?

Are there services on the Eastside that you feel are missing? What kinds of services would you like to see on the Eastside?

Have you had to deal with any health issues since you became homeless? How did you get health care?

Conclusion

Do you have any questions for me?

You've been very generous in sharing your thoughts with me and I want to pay you for your time. I know there are a lot of other things you could have been taking care of.

Appendix 7: NC Health Info – Searching for Yourself

NC Health Info: Searching for Yourself

We are a research team from the University of Michigan and the University of Washington. In collaboration with NC Health Info and the National Library of Medicine, we are studying how people access and use consumer health information on the Internet. We ask that you take 5-10 minutes to answer the following questions. Please note that you do not have to answer every question, that your identity will be confidential, and that any personal information collected during the research process will be destroyed. Your answers will help us gain a better understanding of how people use the Internet to obtain health information. Should you have questions regarding your rights as a participant in this research, please contact: Behavioral Sciences Institutional Review Board University of Michigan Kate Keever 1040 Fleming Building 503 Thompson Street Ann Arbor, MI 48109 phone: 734-936-0933 email: irbhsbs@umich.edu

Thank you for your participation.

Question 1. How did you arrive at the NC Health Info Web site today?

I typed in www.nchealthinfo.org

Through a bookmark/favorite

Via a search engine (e.g. Google, MSN, Yahoo, AOL)

It is my Home Page/Default page

Via a link

Other (please specify)

Question 2. What is the primary reason you are visiting www.nchealthinfo.org today?

Please check all that apply

To find information on a specific condition

To find information on medicines or prescriptions
To find information about a health-related program or service
To search for a healthcare provider
To search for a health facility, e.g., a hospital or nursing home
To find general health information
To keep up with breaking health news
Other (please specify below)

Question 3. If you answered "other" in the previous question, please tell us more:

Question 4. Where else have you turned for information on this topic? Please check all that apply.

Friend or relative
Health care provider

Other person (please specify below)
Newspapers/Magazines/Books
Other Website (please specify below)
TV/Radio
Scholarly or professional journals
Yellow Pages
I have not searched on this topic before
Other source (please specify below)

Question 5. If you answered *other person *other website or *other source, please specify:

Question 6. Which of these has been most helpful to you? Please check all that apply.

Friend or relative
Health care provider
Other person (please specify below)
Newspapers/Magazines/Books
Other Website (please specify below)
TV/Radio
Scholarly or professional journals
Yellow Pages

I have not searched on this topic before
Other source (please specify below)

Question 7. If you answered *other person *other website or *other, please specify:

Questions 8-15 concern obstacles you face while looking for health information, in general. Please rate the frequency for which the following occur.

Always Often Sometimes Rarely Never

Question 8. I find it difficult to locate health information.

Question 9. I find it difficult to determine the quality of health information.

Question 10. I find health information to be written too technically or with too much jargon.

Question 11. I have found that health information is not specific to my needs.

Question 12. I find health information from healthcare providers difficult to understand.

Always Often Sometimes Rarely Never

Question 13. I am not sure of what questions to ask based on the health information I have.

Question 14. I am uncomfortable asking questions about a certain topic.

Question 15. Please feel free to explain any of your above answers further:

Questions 16-17 concern obstacles you face while looking for information on health services, e.g., healthcare providers or health-related programs or facilities, in general. Please rate the frequency for which the following occur.

Always

Often

Sometimes

Rarely

Never

Question 16. I find it difficult to find information on health services.

Question 17. I find it difficult to predict the quality of health services based on the information I have found.

Question 18. What do you do to overcome challenges to getting the health and health services information you need?

Question 19. How did you learn about www.nhealthinfo.org? Please check all that apply.

Nurse, doctor, or other healthcare provider

Some other person (please specify your relationship to this person below)

Search engine (e.g. Google, MSN, Yahoo, AOL)

Link from another web site (please specify below)

Library

Brochure/flyer

Newspaper or magazine article

Professional contact/conference

Other (please specify below)

Question 20. If you specified *other person *other website *other, please explain:

Question 21. How often do you visit www.nhealthinfo.org?

At least once a day

A few times a week

A few times a month

Once a month

Less than once a month

This is my first visit

Questions 22-24 : In what ways is www.nhealthinfo.org helpful to you? Please check all that apply.

Question 22. It provides

Information about diseases and health issues

Links to healthcare providers and services

Advice on how to lead a healthy lifestyle

Credible information

Question 23. It has

A good search tool

Understandable language

Privacy protection (since it does not collect personal information)

Fast-loading pages

Simple visual design and layout

Other (please specify below)

Question 24. If you answered "other", please specify

Questions 25-27 : In your opinion, what would make www.nchealthinfo.org more

helpful to you? Please check all that apply.

Question 25. More information on

doctors and healthcare providers

alternative and complementary medicine healthcare providers

support groups

online patient forums and chat rooms

financial assistance, health insurance, and other social services

current health issues in NC

Question 26. The following features:

Further instructions on how to use the site

A healthcare provider answering questions online

Faster-loading pages

Simpler visual design

Other

Question 27. If you answered "other", please tell us more:

Please tell us a little bit about yourself.

Question 28. Do you currently reside in North Carolina?

Yes

No

Question 29. You are (age):

18 to 25

26 to 34

35 to 44

45 to 54

55 to 64

65 or older

Question 30. You are (gender):

Male

Female

Question 31. The highest level of education you have attained:

Less than high school diploma

High school diploma or GED

Vocational/Technical training

Some college

College graduate

Post graduate

Question 32. Please describe your occupation:

Would you be available for a follow-up 20 to 30 minute phone interview regarding your use of www.nchealthinfo.org? If yes, please provide your name, telephone number, and e-mail address and indicate the best day and time to call you:

Question 33. Your Name:

Question 34. Your Telephone Number (including area code):

Question 35. Your E-mail Address:

Question 36. The best time to contact you:

PLEASE NOTE: Any personal information collected in the survey process will be destroyed at the end of the research project. Thank you very much for your participation.

Appendix 8: NC Health Info – Searching on Behalf of Another

NC Health Info: Searching on Behalf of Another

We are a research team from the University of Michigan and the University of Washington. In collaboration with NC Health Info and the National Library of Medicine, we are studying how people access and use consumer health information on the Internet. We ask that you take 5-10 minutes to answer the following questions. Please note that you do not have to answer every question, that your identity will be confidential, and that any personal information collected during the research process will be destroyed. Your answers will help us gain a better understanding of how people use the Internet to obtain health information. Should you have questions regarding your rights as a participant in this research, please contact: Behavioral Sciences Institutional Review Board University of Michigan Kate Keever 1040 Fleming Building 503 Thompson Street Ann Arbor, MI 48109 phone: 734-936-0933 email: irbhsbs@umich.edu

Thank you for your participation.

Question 1. How did you arrive at the NC Health Info Web site today?

I typed in www.nchealthinfo.org

Through a bookmark/favorite

Via a search engine (e.g. Google, MSN, Yahoo, AOL)

It is my Home Page/Default page

Via a link

Other (please specify)

Question 2. What is the primary reason you are visiting www.nchealthinfo.org today?

Please check all that apply

To find information on a specific condition

To find information on medicines or prescriptions
To find information about a health-related program or service
To search for a healthcare provider
To search for a health facility, e.g., a hospital or nursing home
To find general health information
To keep up with breaking health news
Other (please specify below)

Question 3. If you answered "other" in the previous question, please tell us more:

Question 4. Please describe your relationship with the person for whom you are conducting this search.

Family
Friend

Colleague or co-worker
Other (please specify)

Extremely Close **Somewhat Close** **Not Close**

Question 5. Please rate the closeness of your relationship with the person for whom you are conducting this search

Question 6. How did you know that this search would be of interest to the person for whom you are searching?

You were asked to conduct the search
You were interested in the person's situation and volunteered
Other (please specify)

Question 7. Where else have you turned for information on this topic? Please check all that apply.

Friend or relative
Health care provider
Other person (please specify below)
Newspapers/Magazines/Books
Other Website (please specify below)
TV/Radio
Scholarly or professional journals
Yellow Pages
I have not searched on this topic before
Other source (please specify below)

Question 8. If you answered *other person *other website or *other source, please specify:

Question 9. Which of these has been most helpful to you? Please check all that apply.

Friend or relative

Health care provider

Other person (please specify below)

Newspapers/Magazines/Books

Other Website (please specify below)

TV/Radio

Scholarly or professional journals

Yellow Pages

I have not searched on this topic before

Other source (please specify below)

Question 10. If you answered *other person *other website or *other, please specify:

Questions 12-19 concern obstacles you face while looking for health information, in general. Please rate the frequency for which the following occur.

Always **Often** **Sometimes** **Rarely** **Never**

Question 11. I find it difficult to locate health information.

Question 12. I find it difficult to determine the quality of health information.

Question 13. I find health information to be written too technically or with too much jargon.

Question 14. I have found that health information is not specific to my needs.

Question 15. I find health information from healthcare providers difficult to understand.

Always **Often** **Sometimes** **Rarely** **Never**

Question 16. I am not sure of what questions to ask based on the health information I have.

Question 17. I am uncomfortable asking questions about a certain topic.

Question 18. Please feel free to explain any of your above answers further:

Questions 20-21 concern obstacles you face while looking for information on health services, i.e., healthcare providers or health-related programs or facilities, in general. Please rate the frequency for which the following occur.

Always **Often** **Sometimes** **Rarely** **Never**

Question 19. I find it difficult to find information on health services.

Question 20. I find it difficult to predict the quality of health services based on the information I have found.

Question 21. Please feel free to explain your above answer further:

Question 22. What do you do to overcome challenges to getting the health and health services information you need?

Question 23. How did you learn about www.nhealthinfo.org? Please check all that apply.

Nurse, doctor, or other healthcare provider

Some other person (please specify your relationship to this person below)

Search engine (e.g. Google, MSN, Yahoo, AOL)

Link from another web site (please specify below)

Library

Brochure/flyer

Newspaper or magazine article

Professional contact/conference

Other (please specify below)

Question 24. If you specified *other person *other website *other, please explain:

Question 25. How often do you visit www.nhealthinfo.org?

At least once a day

A few times a week

A few times a month

Once a month

Less than once a month

This is my first visit

Questions 26-28: In what ways is www.nhealthinfo.org helpful to you? Please check all that apply.

Question 26. It provides

Information about diseases and health issues

Links to healthcare providers and services

Advice on how to lead a healthy lifestyle

Credible information

Question 27. It has

A good search tool

Understandable language

Privacy protection (since it does not collect personal information)

Fast-loading pages

Simple visual design and layout

Other (please specify below)

Question 28. If you answered "other" in the previous question, please tell us more:

Questions 29-31: In your opinion, what would make www.nchealthinfo.org more helpful to you?

Question 29. More information on
doctors and healthcare providers

alternative and complementary medicine healthcare providers

support groups

online patient forums and chat rooms

financial assistance, health insurance, and other social services

current health issues in NC

Question 30. The following features:

Further instructions on how to use the site

A healthcare provider answering questions online

Faster-loading pages

Simpler visual design

Other

Question 31. If you answered "other" in the previous question, please tell us more:

Please tell us a little bit about yourself.

Question 32. Do you currently reside in North Carolina?

Yes

No

Question 33. You are (age):

18 to 25

26 to 34

35 to 44

45 to 54

55 to 64

65 or over

Question 34. You are (gender):

Male

Female

Question 35. The highest level of education you have attained:

Less than high school diploma

High school diploma or GED

Vocational/Technical training

Some college

College graduate

Post graduate

Question 36. Please describe your occupation.

Question 37. Does the person on whose behalf you are searching reside in North Carolina?

Yes

No

Question 38. The person on whose behalf you are searching is, in age:

Below 18

18-25

26-34

35-44

45-54

55-64

65+

Question 39. The person on whose behalf you are searching is

Male

Female

Question 40. The highest education level attained by the person for whom you are searching today is:

Less than high school diploma

High school diploma or GED

Vocational/Technical training

Some college

College graduate

Post graduate

Question 41. Occupation: Please describe his / her occupation.

Would you be available for a follow-up 20 to 30 minute phone interview regarding your use of www.nchealthinfo.org? If yes, please provide your name, telephone number, and e-mail address and indicate the best day and time to call you:

Question 42. Your Name:

Question 43. Your Telephone Number (including area code):

Question 44. Your E-mail Address:

Question 45. The best time to contact you:

PLEASE NOTE: Any personal information collected in the survey process will be destroyed at the end of the research project. Thank you very much for your participation.

Submit

Appendix 9: NC Health Info – Searching as a Service Provider

NC Health Info: Searching as a Service Provider

We are a research team from the University of Michigan and the University of Washington. In collaboration with NC Health Info and the National Library of Medicine, we are studying how people access and use consumer health information on the Internet. We ask that you take 5-10 minutes to answer the following questions. Please note that you do not have to answer every question, that your identity will be confidential, and that any personal information collected during the research process will be destroyed. Your answers will help us gain a better understanding of how people use the Internet to obtain health information. Should you have questions regarding your rights as a participant in this research, please contact: Behavioral Sciences Institutional Review Board University of Michigan Kate Keever 1040 Fleming Building 503 Thompson Street Ann Arbor, MI 48109 phone: 734-936-0933 email: irbhsbs@umich.edu

Thank you for your participation.

Question 1. How did you arrive at the NC Health Info Web site today?

I typed in www.nchealthinfo.org

Through a bookmark/favorite

Via a search engine (e.g. Google, MSN, Yahoo, AOL)

It is my Home Page/Default page

Via a link

Other (please specify)

Question 2. What is your primary reason for visiting www.nchealthinfo.org today?

Please check all that apply

To find information on a specific condition

- To find information on medicines or prescriptions
- To find information about a health-related program or service
- To search for a healthcare provider
- To search for a health facility, e.g., a hospital or nursing home
- To find general health information
- To keep up with breaking health news
- Other (please specify below)

Question 3. If you answered "other" in the previous question, please tell us more:

Please answer questions 4-7 regarding your experience bringing together information for your clients. Please rate the frequency that this occurs:

When bringing together information for clients, how often have your clients told you that they have experienced the following problems?

Always Often Sometimes Seldom Never

Question 4. My clients find that health information is written too technically or with too much jargon.

Question 5. My clients find it difficult to assess the quality of consumer health information sources.

Question 6. Other (please specify in next question)

Question 7. If you answered "other" in the previous question, please tell us more:

Questions 8-11: When bringing together information for clients, how often have you experienced the following problems?

Always Often Sometimes Seldom Never

Question 8. I find that my clients are not aware of the need to assess the quality of consumer health information.

Question 9. I find that there is not enough time in an interview with the client to discuss information as much as I would like.

Question 10. Other (please specify in next question)

Question 11. If you answered "other" in the previous question, please tell us more:

Question 12. To what kinds of resources have you directed a client who wanted to obtain more health information on a particular topic? Please check all that apply.

Person or organization (please specify in next question)

Web sites that I have identified as reliable (Please specify in next question)

Medical textbooks or reference works

Other books

Newspaper or magazine articles

Biomedical or other scholarly or professional journals

Informational brochures/pamphlets

Other (please specify in next question)

Question 13. If you answered *other person *other website or *other, please specify:

Question 14. What would make health information easier for people to use?

Question 15. How often do you visit www.nchealthinfo.org?

At least once a day

A few times a week

A few times a month

Once a month

Less than once a month

This is my first visit

Question 16. How did you learn about www.nchealthinfo.org? Please check all that apply.

Nurse, doctor, or other healthcare provider

Some other person (please specify your relationship to this person below)

Search engine (e.g. Google, MSN, Yahoo, AOL)

Link from another web site (please specify below)

Library

Brochure/flyer

Newspaper or magazine article

Professional contact/conference

Other (please specify below)

Question 17. If you answered *other person

*other website or *other, please specify:

Questions 18-20: In what ways is www.nhealthinfo.org helpful to you? Please check all that apply.

Question 18. It provides
Information about diseases and health issues
Links to healthcare providers and services
Advice on how to lead a healthy lifestyle
Credible information

Question 19. It has
A good search tool
Understandable language
Privacy protection (since it does not collect personal information)
Fast-loading pages
Simple visual design and layout
Other (please specify below)

Question 20. If you answered "other" in the previous question, please tell us more:

Questions 21-23: In your opinion, what would make www.nhealthinfo.org more helpful to you?

Question 21. More information on
doctors and healthcare providers
alternative and complementary medicine healthcare providers
support groups
online patient forums and chat rooms
financial assistance, health insurance, and other social services
current health issues in NC

Question 22. The following features:
Further instructions on how to use the site
A healthcare provider answering questions online
Faster-loading pages
Simpler visual design
Other

Question 23. If you answered "other" in the previous question, please tell us more:

Questions 24-26: Please tell us how likely you will be to do the following, as a result of visiting www.nhealthinfo.org:

Definitely Would **Probably Would** **Might or Might Not** **Probably Would Not** **Definitely Would Not**

Question 24. Revisit the NC Health Info web site

Definitely Would **Probably Would** **Might or Might Not** **Probably Would Not** **Definitely Would Not**

Question 25. Recommend the NC Health Info web site to someone else

Please tell us a bit about yourself.

Question 26. Do you work in North Carolina?

Yes

No

Question 27. What is your occupation (e.g., physician, nurse, medical librarian)?

Question 28. For what type of agency/organization/group do you work?

Question 29. How would you describe your primary clientele?

Would you be available for a follow-up 20 to 30 minute phone interview regarding your use of www.nchealthinfo.org? If yes, please provide your name, telephone number, and e-mail address and indicate the best day and time to call you:

Question 30. Your Name:

Question 31. Your Telephone Number (including area code):

Question 32. Your E-mail Address:

Question 33. The best time to contact you:

PLEASE NOTE: Any personal information collected in the survey process will be destroyed at the end of the research project. Thank you very much for your participation.

Submit