The Role of Community-Based, Problem-Centered Information Intermediaries in Local Problem Solving

Joan C. Durrance
Professor

Dana Walker
Doctoral Student

Maria Souden
Doctoral Student

University of Michigan School of Information
550 East University-304 West Hall
Ann Arbor, MI 48109-1092
Fax: 734-764-2475
Direct all correspondence to durrance@umich.edu

Karen E. Fisher
Associate Professor
University of Washington Information School

Author Bios

Joan C. Durrance is the Margaret Mann Professor of Information at the University of Michigan School of Information where she teaches and conducts research in information needs and use in community settings, the evaluation of information services, and the professional practice of librarians. Durrance has written several books, most recently *How Libraries and Librarians Help* (with Karen Fisher); as well as numerous articles. Her research on the professional practice of librarians earned her ALA's Isadore Gilbert Mudge--R.R. Bowker Award for distinguished contribution to reference librarianship.

Dana Walker and Maria Souden are doctoral students at the University of Michigan School of Information. Souden's research areas are information behavior and furthering the understanding of community information needs and barriers. Walker's interests lie in civic engagement and its impact on democracy. Both made significant contributions to this research.

Karen E. Fisher's research and teaching area is information behavior focusing primarily on how information behavior occurs in everyday contexts. Fisher is the author of several books and numerous articles on IB and IB theory including *Theories of Information Behavior* (with Sanda Erdelez and Lynne McKechnie. In 1999 she received the Association of Library & Information Science Education (ALISE) Research Award. In 2005 Fisher and Durrance received the ALA Jesse Shera Award.

Abstract

Lobbying for school reform, cleaning up graffiti, installing traffic calming measures, and enacting noise ordinances are daily problem-based activities performed by organized citizen groups. These civic organizations – nonprofit associations, community groups, and neighborhood block watch programs – have operated within communities as a way for people to affect their community's quality of life. Routinely in the course of problem-solving, these organizations—both formal and informal—seek out, interpret, distill, and re-frame information. But understanding information access and use in a community where a range of community-based, organized groups play the role of information seeker as well as information provider and facilitator presents a challenge to the researcher. In these settings, information researchers must not only address the context of the community, but also the multiple roles that the community-based groups play in the local information reality.

In this paper we argue that organized local groups are critical to the information landscape of communities precisely because they play important intermediation roles. Based on our field work conducted with community organizations in Hartford, Connecticut, we identified several broad strategies employed by problem-centered information intermediaries. First, they *make information relevant* for their constituents by distilling, tailoring, vetting, translating and compiling. Second, they use both formal and informal mechanisms to *collect, share and refer* information. Third, they *prepare information for specific uses* and *disseminate information* broadly to the community and locally to their target group. This constructed information role emerges out of the context and needs of the community. Moreover, these problem-centered information intermediaries are seen as trusted and credible knowledge sources among their constituencies. And though these civic intermediaries share characteristics with the broad information intermediary role of information professionals, they are different in their focus, purpose and even attitudinal perspective toward information.

Introduction

Democracy. It is a word that holds great hope for many that do not have it and great concern for those that want to keep and build it. The concept of democracy this country grew up with is grounded in the idea of participation, a notion that citizens can influence and inform the daily decisions made by their government (Barber, 1984; Fishkin, 1995). Though it may be self-evident that participation is linked to information, information researchers still know little about the use of information in civic settings – such as local, community-based problem solving.

Lobbying for school reform, cleaning up graffiti, installing traffic calming measures, and enacting noise ordinances are daily problem-based activities performed by organized citizen groups. These civic organizations – nonprofit associations, community groups, and neighborhood block watch programs – have operated within communities as a way for people to affect their community's quality of life. Routinely, in the course of problem-solving, these organizations—both formal and informal—seek out, interpret, distill, and re-frame information. Local citizens can then use the information they have gleaned to contribute to solving the

pressing problems in their own neighborhoods. In this sense, effective community problem-solving is linked to the role that community groups play in finding and using information.

Though others have looked at community information behavior (Agada, 1999; Bishop et al., 1999; Durrance, 1984; Harris & Dewdney, 1994; Pettigrew, 2000; Spink & Cole, 2001; Warner, 1973), little work has attempted to understand the crucial role that community groups play in information access, filtering and use for local citizens (Durrance, 1984). Understanding information access and use in a community where a range of community-based, organized groups play the role of information seeker as well as the role of information provider and facilitator presents a challenge to the researcher. In these settings, information researchers must not only address the context of the community, but also the role that the community-based groups play in the local information reality.

In this paper we argue that organized local groups are critical to the information landscape of communities, precisely because they play important intermediation roles. This constructed information role emerges out of the context and needs of the community. Moreover, these problem-centered information intermediaries are seen as trusted and credible knowledge sources among their constituencies. And though these civic intermediaries share characteristics with the broad information intermediary role of information professionals, they are different in their focus, purpose and even attitudinal perspective toward information.

Study Background

The research represented in this paper is one of eight separate field studies conducted as part of a grant from the U.S. Institute of Museum and Library Services that focused on the study of information behavior of people in community settings, emphasizing information needs, seeking, giving and use in the process of everyday living. The larger research project was conducted between 2002 and 2005.

One of the goals of the large research project has been to determine how information professionals, especially librarians, can better anticipate the needs of local organizations. The research team chose Hartford Public Library (HPL) and its community as the setting for the study after conducting a best practice-search for community-focused libraries. The Hartford library had been recognized as an exemplary community-focused library in 2002 by IMLS for "developing community partners and innovative programs to address current educational, social, economic and environmental issues" (HPL website—"Recipient of National Award for Library Service", 2002). The research in the Hartford field study focused both on the professional practice of community-focused librarians (Fisher & Durrance, 2005; Durrance, Souden, Walker & Fisher, 2006-under review) and on the community organizations engaged in problem solving activities in their communities. Through this research we sought to understand both how these groups approached civic problem solving and how they sought and used information is used in the process.

This specific work explores problem-centered information intermediaries through the examination of community problem-solving in Hartford. Like many urban centers in the U.S.,

Hartford is composed of a number of distinct and vibrant neighborhoods. Encompassing 18.4 square miles; these 17 neighborhoods represent a diverse mix of architecture, business, history and cultures. Today, Hartford is the second-largest city in the wealthiest state in the U.S. But it is also the poorest city in that state. The median income in Hartford is one-sixth that of Connecticut's most affluent municipality (Orfield & Luce, 2003). During the 1990s, Hartford lost 13 percent of its population – the largest decline in the state. As with many cities afflicted by high poverty rates and wealth moving to outlying suburbs, Hartford also suffers from a poor school system (ranked one of the worst in the nation); urban blight (the downtown has been described as an "urban desert"); substance abuse; crime; and racism, to name a few. It also has an enduring legacy of little available housing with only 23 percent of Hartford residents owning their own homes (Radelat, 2003).

While Hartford has new developments in the downtown and surrounding areas, poverty remains acute and as one report notes, "the neighborhoods are struggling with many issues, including lack of jobs, public safety issues, deteriorating housing, under-resourced schools, and the return of formerly incarcerated individuals into their community" (Ranghelli, et al., 2004). However, Hartford also has a strong infrastructure of resident-led community organizations and non-profits working to address some of the city's most pressing issues. It is precisely these organizations who we have focused our research on, exploring their roles as information intermediaries and problem facilitators.

Literature Review

Research focusing on everyday life information situations (cf. Dervin et al., 1976; Durrance, 1984; Harris & Dewdney, 1994; Savolainen, 1995) as well as research focusing on the provision of community information (Durrance & Pettigrew 2000, 2002; Durrance & Fisher 2005) has laid the groundwork for understanding information use in communities. Pettigrew, Durrance & Vakkari (1999) examined a range of theoretical frameworks for studying the use of networked community information. More broadly, information behavior (IB) research in the recent decades has incorporated and developed theoretical frameworks—first, as Kuhlthau (2004) acknowledged, from borrowed theory and more recently theories that have emerged within the field (Case, 2002, Fisher et al., 2005). Recent IB research, particularly that influenced by Information Seeking in Context (ISIC) conferences, has expanded the development of theoretical frameworks used and has consistently shown that context matters in studying information behavior (Vakkari, Savolainen & Dervin, 1997; Dervin, 1997; Pettigrew et al., 2001; Kuhlthau, 2004; Talja, Keso & Pietilainen, 1999; Vakkari, 1997; Touminen & Savolainen, 1997; Bishop et al., 1999; Fisher et al., 2004). This paper is framed within this research; however the authors examine, in addition, a second body of research—that which has arisen from the practice of librarians, particularly reference librarians—research that has focused on developing a knowledge base that informs the information intermediation practice of librarians.

For decades librarians have referred to themselves as information intermediaries although they have seldom defined this role. Kuhlthau, noting that the "bibliographic paradigm remains the primary orientation of library and information service" sees reference service and instruction as the key ways that librarians mediate with information users (Kuhlthau, 1994, p.8). Decades of

research on the reference interview has served to increase the effectiveness of the reference interview and thus the effectiveness of librarians as information intermediaries. For example, starting with Robert Taylor's observation in the 1960s on the inherent problems associated with responding to reference questions in a library setting, researchers began to examine the role of librarians as information intermediaries (Taylor 1962, 1968).

The research that followed Taylor's pioneering work began to identify the key role that communication plays in the reference interview. A group of researchers who focused on the reference interview from the perspective of the questioner (Dervin and Dewdney, 1986; Durrance 1989, 1995; Dervin and Clark 1987; Dewdney and Ross 1994; Ross and Dewdney 1998; Ross et al. 2002) have shown over time how specific strategies, such as the use of open questions, contribute to the effectiveness of librarians as *information intermediaries*. Scholars have applied theory to this central core of reference librarianship; for example, Dervin's theory of sense-making informs question negotiation (Dervin & Dewdney, 1986). Michell and Dewdney have applied the mental model theoretical framework to explain why questioners and librarians are often not on the same page. (Dewdney & Michell, 1996; Michell & Dewdney, 1998). Ross, et al. (2001) have distilled the body of research gains in this area and identified a range of strategies and qualities that contribute to the effective librarian as information intermediary. However, in spite of the growth of this research over several decades, the term *reference interview* remains system-centered and limiting; it does not adequately serve to elucidate how librarians function as effective information intermediaries.

Nardi and O'Day's ethnographic research on the work of reference librarians who support the research of software developers directly addresses the limitations of the use of the term reference interview (Nardi & O'Day, 1996, 1999). These anthropologists observed librarians expertly using a group of mediation strategies (which—they argue—are known to librarians but unknown to most users of libraries—including the researchers, themselves). They marvel that librarians bundle multiple strategies into this single term. Nardi and O'Day puzzle over the use of the term "reference interview"; they characterize it as "a modest name for an impressive deployment of tact, diplomacy, and persistence, as well as a skillful interviewing technique." (Nardi and O'Day, 1999, p. 85). Instead, based on their observations, Nardi and O'Day preferred to divide this term up into three components—*information therapy, strategic expertise, and relationship building*. Under each broad term they bundled related knowledge, skills, and abilities. Within *information therapy*, they characterize librarians as "consultants who help people find information" seeing the reference interview as a vehicle for helping "clients understand their own needs" as "a kind of information therapy" (p. 85) showing how these librarians helped their clients reformulate their stated goals (p. 91) through negotiating techniques characterized as "subtle, nuanced, tactful, and delicate" (91). Secondly, Nardi and O'Day identified a wide range of searching and content-related knowledge and skills they called *"strategic expertise"* observing that "once the librarian and the client have come to a reasonable understanding of the client's information needs . . . a different kind of expertise comes into play . . . technical skill and knowledge of where information lives and how it is organized" (p.92). *Strategic expertise* incorporates librarians' considerable knowledge of the information landscape, both sources in general and the peculiarities and nuances of specific databases as well as the librarians' knowledge of the expertise of others, including their professional colleagues. Finally, Nardi and O'Day identified a set of strategies grouped within the broad heading of *building relationships*, noting that this

practice was built around repeated interactions with known clientele which results in the creation of a relationship where "the librarian comes to understand the client's activity" and the client comes to trust the librarian's ability. They note that "knowledge and trust in the relationship work in both directions" (p. 101). In addition, these researchers recognized that given their overall knowledge of the research going on across departments in these corporations, librarians were able to discretely broker connections between researchers in different departments (p. 102). This ethnographic look at the practice of librarians who work with researchers both informs the role of librarians as information intermediaries and this study of community activists as information intermediaries.

Durrance, when studying professional practice in public library job and career centers (JICs) funded by the W.K. Kellogg Foundation, identified a rich set of mediation strategies in use in the centers that extend beyond those associated with the reference interview (Durrance, 1991, 1993, 1994). Durrance found JIC staff *understood the wide variety of needs* that people brought to their centers. Staff in these centers devised innovative strategies to respond to the needs, including: working to make *resources more available and transparent to users*, assisting in *assessing* the employment and education related needs of their users; *conducting problem-focused interviews*, providing *advising and consulting services*; developing *problem-centered workshops and programs*; *building relationships* in the community on behalf of their clientele; and devising *marketing* strategies to explain their innovative services (Durrance, 1993, 1994). These professionals recognized that these grant-funded programs had changed their practice; some saw themselves both as problem facilitators and as information intermediaries.

In short, the literature above shows that librarians have devised a range of information intermediation strategies that position them to help people not only use information but to more accurately understand the problem that they are wrestling with. The research above suggests that information professionals have been able to function most effectively as information intermediaries when they understand the problems and the attendant needs for information that their clientele face and respond within the framework of their greater understanding. While this has been very clear to IB researchers for some time, it does not appear to be central to the practice of librarianship.

Methodology

This study examines groups of people in communities that not only seek information but who also act as community-based, problem-centered information intermediaries. Research for this study was carried out in two data collection rounds using a grounded theory approach to inform study design, sampling and analysis. The first round focused on understanding the information needs, seeking and use of local organized community groups. The focus of data collection was on understanding how organized community groups view Hartford area problems, what problem-solving activities they undertake, the role of information in problem solving and the barriers encountered. Multiple data collection methods were employed, including telephone interviews, onsite interviews, focus groups, and meeting observation. In addition, we analyzed secondary data sources such as newspapers, community websites, library reports and articles regarding the Hartford community.

Community-based organizations and committees have a long history in the city. Groups range from neighborhood-specific problem solving organizations to statewide, issue-based advocacy groups. These organizations, together, tackle a full range of problems facing citizens and improve the quality of the life of people living in Hartford. We interviewed and observed four types of organizations: two different types of neighborhood organizations -- problem-solving committees (PSCs) and neighborhood revitalization zone organizations (NRZs); specific problem- or issue-based organizations; and meta-organizing groups (who include community organizers who help citizens become more involved in the solutions to the problems facing them).

The PSCs and the NRZs, originally started with government funding, function within Hartford's seventeen officially designated neighborhoods. These organizations are composed primarily of neighborhood citizens, business owners, nonprofit and school representatives. The problem-solving committees deal with a range of neighborhood issues and play an important community problem-solving role, especially related to quality of life issues such as safety and community beautification. For example, a PSC in the south end of Hartford at the time of our site visit was dealing with problems of unlit properties and infestations of rats. The president of the PSC had lived in the south part of Hartford his entire life and has been actively involved in problem solving for 12 years, starting first as a block watcher.

The neighborhood revitalization zones are focused mainly on economic development issues in their neighborhoods, such as zoning, streetscapes, and attracting and monitoring new business development. Although they are clearly separate organizations, in some neighborhoods there is some membership and issue overlap across PSCs and NRZs. These groups address such issues and problems as supporting or fighting zoning changes; providing letters of support for potential new businesses; advocating the implementation of street beautification to city planners; and helping to develop affordable housing for their neighborhoods.

Also included in our research were meta-organizing groups and issue-based organizations. For the purpose of this study we are defining meta-organizing groups as groups who organize other groups. These organizations seem to play an important role in the city because they convene groups in order to allow community activists a chance to share ideas, resources, and information with the purpose of revitalizing Hartford's neighborhoods. These groups also disseminate community information and liaison with community agencies – such as city government, local universities and the library. For this study, we defined "issue-based" organizations as those organizations primarily interested in working on a particular issue rather than a range of issues in a geographically defined neighborhood. These organizations were distinctive because of their specialized purpose and accountability to a specific community constituency.

A second round of data collection 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. Snowball sampling was used where the research team worked with HPL leadership to determine an initial set of community and library stakeholders and then identified additional interviewees through the course of data collection. In total, data

from fifteen community groups and seventeen HPL staff members inform the findings described here.

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.

Findings

Our investigation reveals that in the context of community problem-solving, local nonprofit organizations have created an important information role – they have become *problem-centered information intermediaries*. In our fieldwork, these intermediaries were organized groups and non-profits whose primary function and mission emanated from a particular problem and whose secondary function became to provide relevant, targeted information. In the process of acting as community problem solvers they become local information intermediaries.

Strategies Used by Problem-Centered Information Intermediaries

We identified several broad strategies employed by problem-centered information intermediaries. First, they *make information relevant* for their constituents by distilling, tailoring, vetting, translating and compiling. Second, they use both formal and informal mechanisms to *collect, share and refer* information. Third, they *prepare information for specific uses* and *disseminate information* broadly to the community and locally to their target group.

Making Information Relevant

Based on our field work, we uncovered a number of common community information needs. In general, these needs fell into five categories: 1) the need for community information, defined as information about what is happening in the community; 2) the need for process information in order to understand how to get something accomplished; 3) the need to find proper expertise to complete tasks; 4) the need for government and legal information at all levels of government; and 5) specific data from the census, property records or phone lists and information from specific agencies such as the Hartford school system.

In addition to the information needs associated with an array of community problems, we found that groups and their constituencies encountered an array of barriers. Though not always identified by the informant as a "barrier" – many interviewees discussed how they or others they worked with at times "got stuck" in their search for relevant information. For example, some indicated that information was often difficult to get because of "turf" issues. One participant indicated, "police and school data would be useful, but those organizations protect their data and it's hard to convince them to share information." Others perceived information as being unreliable. In reference to a problem associated with school information one community group

informant said, "I think there's a lack of balanced information." And, of course, people indicated that they simply did not have the time to do a lot of information searching, or were overwhelmed by too much information. As one person indicated, "Time is a problem. There is no time."

In response to both these information needs and barriers, we discovered that local organized community groups filled the role of making information more accessible and more relevant to their constituencies. These groups translated information to make it relevant to the target audience or targeted problem. One grassroots advocacy group who worked on behalf of Latino parents with disabled children spent significant time and resources making information available to their constituents in a language they could understand. "Our services are mostly geared to the Latino community. And there is a lot that we do, we do a lot of things, I do a lot of translations for the information that we receive. And we try to compile it in a way that it makes sense to the clients. And translate it into Spanish so they can read it."

But translation was not only from one language into another. Translation was also in a form of distillation – making large amounts of information relevant to the user, when they needed it and where they needed it. One organizer told us, "Hartford represents a special challenge from where I'm sitting. People we deal with are not especially literate. . . And it has to come in a way that's translated into a usable system or format. We have to take very complicated issues like healthcare and translate it into ways people can understand. Not more info or data, but a way people can understand it. It's very challenging. . . . Honestly I don't have a lot of trouble obtaining data right now, but the difficulty is translating it in ways that people can use. You can't show people charts and diagrams. It's not usable. You don't want to, in a meeting, overwhelm people with something that will make them feel stupid and not want to come back."

Community groups were often concerned with a source's reliability. We saw that some community groups took on the role of vetting information for their constituents – judging its quality, cross referencing it with other work, and making judgments about its current relevance. One advocate told us, "When we get information, my co-worker and I look into who is the source, who said that, where did that come from. So we try, to the best of our ability, we try to check the source of whatever information we get. And we are like, okay, this is a law done by somebody in 1999 and this is the most recent work in this area, okay so and we try to compare notes."

Finally, these problem-centered information intermediaries compile and tailor information in innovative ways so to help solve specific problems. For example, one neighborhood group organized a "bus tour" of abandoned properties in order to bring attention to safety and quality of life issues. The property tour consisted of the Chief of Police, the Chief of the Fire Department, the Director of Human Services, the Licensing and Inspection department, city council members and community members. In preparation for the "tour," the group put an agenda and tour packet together – using the internet to research the names of city officials, going to the city assessor's site to locate the property owners of the abandoned buildings, and checking to see if there were any back taxes owed.

Collecting, Sharing and Referring

We also found that a critical role played by problem-focused information intermediaries was to both formally and informally collect and share information within their own groups and across the network of community organizations in the city. The grassroots organization that advocates on behalf of Latino parents maintains a collection of notebooks containing information gleaned from technical workshops, laws, and other organizations who work in the advocacy area. Other groups organize meetings and workshops with differing neighborhood groups as a way to share information and expertise.

Information sharing also takes less formal channels. The community groups intersect in a number of ways. Because no one problem stands on its own – poverty affects safety, safety affects health, health affects education – active community residents knew each other. When asked how people know whom to talk to about which issues, one participant told us, "In Hartford everybody knows everybody's business. It's very open society. We all know who everybody is."

Because "everybody knows everybody's business," these community intermediaries can also serve an informal referral function. Some of the referrals occur as part of the networking that results from meeting attendance or working on a community problem. One informant told us, "I try to find out who they might need to be talking to and hook them up." Other types of referrals are based on knowing who to call in the community. "One of the things I have found in Hartford is that people are very likely to call someone else to get information. . . You call an information guru, someone you know personally. Information gathering is based on personal relationships."

Preparation for Use and Dissemination

A large role played by the many of these intermediaries was to prepare information for targeted use. Groups prepare and send meeting preparation packets to members which include community reports as well as background information on immediate problem or discussion topics. Another group wrote a handbook on how to do property research, a process that is common in an urban area that is dealing with a large amount of abandoned buildings. Another organization noted, "What people want is direct phone information. Not to be limited to the city website. You want to find out who is the school representative. Where the district ends. It's [our] job to find the information and give it." As a way of providing this information, this organization prepared a list of numbers to call and disseminated it at community meetings, in the library, in emails and verbally.

Additionally, many of these problem-centered information intermediaries disseminated information. Groups conducted meetings, workshops and seminars for their members; they mailed out information on a monthly basis about school board actions and other community events; and even engaged in hands-on, information-intensive events like trainings, "bus tours," or community information fairs. A meta-organizing group seeks out and then provides information for the local neighborhood revitalization zones. "We give NRZs information. We look for information that would affect NRZs. We have liaisons and partnerships with different organizations in the city-tourism bureau, Christmas in April committee, and either me or volunteers are liaisons to those other groups. We have monthly meeting to report on programs, projects of interest, and things happening." Another group prepared a list of 200 ways to get

information – from reading the newspaper to talking to other neighbors – and disseminated that document to its members and other community organizations.

Discussion: A Constructed Problem-Focused Information Intermediary Role

Each of these groups works within a specific historical, organizational and neighborhood context. As such, problems are framed in a particular way – as a quality of life issue, as a problem that can be addressed at the monthly NRZ meeting, as an economic development issue, as an issue that can be resolved by forming a neighborhood committee. The various groups have developed problem solving norms. Often groups indicated that if one avenue is blocked, then another approach should be tried until the problem is either resolved or dropped. "You go to city hall -- you go to the assessor's office so you got to pull records from the assessor's office on who owns the property. You have to go over to the tax collector's office to see if they're on a delinquent tax list. There is a book available -- last minute --- they got information on who owns the property, who owes back taxes." The information gained is applied to the resolution of the problem. Thus the information mediation of this group arises from the problem and is applied to its resolution.

Our results indicate that a crucial part of this community's information reality is the information mediating role of its local organizations constructed out of the community context primarily the need to solve community problems and overcome the attendant information barriers. Although the groups in our study did not always recognize that they are playing an information mediation role, our findings indicate that they shape their constituent's understanding of community issues and problems, form the basis for a group's advocacy function and consequently shape community members' understanding of information and its consequent use.

These nonprofit organizations have constructed a multi-faceted problem-centered information role to facilitate community problem solving. Because they are close to the problem, they understand the needs associated with it. They devise ways to make available any information that might help resolve the problem or clarify the issue. These groups also practice information rationing: less is more. One person noted, "The biggest need is that information has to be given to people when they are interested in it, and not just loaded on them." In the process of bringing relevant information to citizens in a timely fashion, the group often develops approaches designed to overcome barriers. They may translate and distill information so that it can be more used more effectively. In the process of evaluating and vetting information, they develop expertise in a problem area and, along the way, the information associated with that particular problem. The expertise of these groups is recognized by community leaders and by the key information intermediaries in the community. We have written elsewhere about the strategies that HPL have developed to better understand the work of the nonprofit organization in Hartford (Durrance et al 2006; Fisher & Durrance, 2006) and will summarize this below.

Community nonprofit organizations engaged in problem solving build strong relationships in the community within a specific problem area, but as we were told, problems are inter-linked, so these relationships may extend fairly broadly in the community. A further realization of the information intermediary role is seen in the trust and respect that these groups gain in the community if are they are perceived as honest brokers in the problem area they have undertaken.

For example, Hartford Public Library staff told us that the made the flyers and other data developed by community organizations available at the library. Likewise, at least five local officials thought enough of the group's work to take part in the property bus tour discussed above.

Because of their proximity to the problems, the groups may help citizens reframe them. These community intermediaries provide and disseminate information, but they also help citizens strategize; specifically helping groups to "put the puzzle together" connecting the problems and issues with the information needed. "Groups come up with problems, issues, and need details. . . [we help] shape, determine what things people need to know." Finally, the distilled, vetted, targeted information developed by these groups to help understand or solve a problem is often shared with other organizations and disseminated to stakeholders and more widely in the community.

Implications:

This study which examined the information behavior of selected nonprofit groups in Hartford found not only information seeking and use, but also a well developed community-based, problem-centered information intermediary role. While this role shares some characteristics of the effective reference librarian, these groups focused primarily on the problem rather than the information. These groups foster civic engagement in their constituencies, they focus on ways to overcome community problems. Within that framework they focus on how information can be used to inform a civic problem and on the role that it can play in problem solving. As we noted in the literature review, the components of the professional information intermediary role have become better understood as practitioners gain a better knowledge of the problems their constituents try to solve. These intermediaries have a deep understanding of the community and its problems.

We observed in Hartford the local library's efforts to redesign their own information intermediation to better support this activity. Briefly, the Hartford Public Library in response to the community's fostering of citizen involvement in community problem solving decided in the mid 1990s to devise approaches that would more effectively meet the needs of the groups engaged in these activities. The resulting thrust is an innovative, award-winning program called the Neighborhood Team initiative that takes librarian's information mediation knowledge and skills to the community. We found that the library's Neighborhood Team members *attend and actively participate in* regular neighborhood and community meetings and work *with* civic and nonprofit organizations in their neighborhoods. Attending and participating in meetings has brought library staff into contact with community problem solving groups *in the settings where decisions are made and problems are resolved.* Hartford Public Library staff have devised an array of strategies that help them anticipate and respond to the needs they identify through their focus on engagement with Hartford's community nonprofit organizations. (Durrance et al 2006)

This innovative Neighborhood Team Initiative has placed professional information intermediaries in the environment in which the ad hoc problem-focused civic intermediaries operate—with positive results both for the library which is seen in the community "as a player" and for the nonprofit organizations who benefit from their expertise and who are in the process

of learning to value librarians' broad knowledge of the information landscape and expert access to relevant information.   These implications can be seen far beyond Hartford. Groups such as those examined in this article are likely to operate in many localities—always within the context of their own communities. These findings may be considered in redesigning librarians' intermediation practices in communities in ways that will accommodate and foster the ad hoc information practice of community organizations.

Bibliography

Agada, J. (1999). "Inner-city gatekeepers: An exploratory survey of their information use environment." *Journal of the American Society for Information Science*, 50(1), 74.

Barber, B. R. (1984). *Strong democracy: participatory politics for a new age*. Berkeley: University of California Press.

Bishop, A. P., Tidline, T., & Shoemaker, S. (1999). "Public libraries and networked information services in low-income communities." *Libraries & Information Science Research*, 21(3), 361-390.

Case, D. O. (2002). *Looking for information: A survey of research on information seeking, needs, and behavior*. Amsterdam: Academic Press.

Dervin, B (1999). "On studying information seeking methodologically: the implications of connecting metatheory to method." *Information Processing and Management*, 35(6), 727-750.

Dervin, B and P. Dewdney. (1986). "Neutral questioning: a new approach to the reference interview." *RQ*, 25, 506-13.

Dervin, B. et al (1976). "The development of strategies for dealing with the information needs of urban residents: Phase I: The citizen study." Final report of project L0035J to the U.S. Office of Education. Seattle, WA: University of Washington, School of Communications. ERIC: ED 125640.

Dewdney, P. (1986). *The effects of training reference librarians in reference skills: A field experiment*. (Doctoral dissertation, The University of Western Ontario, 1986).

Dewdney, P. and G. Michell. (1996). "Oranges and Peaches: Understanding communication accidents in the reference interview." *RQ*, 35, 520-36.

Durrance, J. C. et al. (1993). *Serving Job Seekers and Career Changers: A Planning Manual for Public Libraries*. Chicago: American Library Association.

Durrance, J. C. & Fisher, K.E. with Hinton, M. (2005) *How libraries and librarians help: A guide to identifying user-centered outcomes*. Chicago: ALA Editions.

Durrance, J. C. (1984). *Armed for action: library response to citizen information needs*. New York, NY: Neal-Schuman Publishers.

Durrance, J. C. (1991). "Kellogg Funded Education and Career Information Centers in Public Libraries." *Journal of Career Development.* 18, 11-17.

Durrance, J. C. (1994). *Meeting Community Needs through Job and Career Centers*. New York: Neal-Schuman.

Durrance, J. C., & Pettigrew, K. E. (2000). "Community information: The technological touch." *Library Journal*, 125 (2), 44-46.

Durrance, J. C., & Pettigrew, K. E. (2002). *Online community information: Creating a nexus at your library*. Chicago: American Library Association.

Durrance, Souden, Walker, and Fisher (2006). "Civic Problem-Solving Viewed as an Information Use Environment." Paper submitted to ISIC, under review.

Fisher, K. E., & Durrance, J. C. (2005) "Approaches for Understanding Community Information Use: A Framework for Identifying and Applying Knowledge of Information Behavior in Public Libraries." Seattle, WA and Ann Arbor, MI. Final Narrative Report to the Institute of Museum and Library (Grant #LG-02-02-0082-02)

Fisher, K., Naumer, C., Durrance, J., Stromski, L., & Christiansen, T. (2005). "Something old, something new: preliminary findings from an exploratory study about people's information habits and information grounds." Information Research-An International Electronic Journal, 10(2).

Fishkin, J. S. (1995). *The voice of the people: public opinion and democracy.* New Haven, [Conn.]: Yale University Press.

Harris, R. M., & Dewdney, P. (1994). *Barriers to information: How formal help systems fail battered women*. Westport, CN: Greenwood Press.

Kuhlthau, C.C. (2004). *Seeking meaning: a process approach to library and information services*. 2nd edition. Westport, CT: Libraries Unlimited.

Lynch, M.J. (1978). "Reference interviews in public libraries." *Library Quarterly*, 48, 119-42.

Michell, G and P. Dewdney. (1998) "Mental Models Theory: Applications for Library and Information Science," *Journal of Education for Library and Information Science* 39, 4:(275-281).

Nardi, B. and O'Day, V. (1996). Intelligent Agents: What We Learned at the Library. *Libri*, 46, 2, pp. 59-88. 1996.

Nardi, B. and O'Day, V. (1999) *Information Ecologies: Using Technology with Heart*, MIT Press, 1999.

Orfield, M., & Luce, T. (2003). *Connecticut Metropatterns*: Ameregis Metropolotian Area Research Corporation.

Pettigrew, K. E. (2000). "Lay information provision in community settings: How community health nurses disseminate human services information to the elderly." *The Library Quarterly*, 70(1), 47.

Pettigrew, K. E., Fidel, R., & Bruce, H. (2001). "Conceptual frameworks in information behavior." *Annual Review of Information Science and Technology*, Volume 35, 43-78.

Radelat, A. (2003). Eddie Perez brings hope to Hartford. *Hispanic*, 16(3), 14.

Ranghelli, L., Mott, A., & Parachini, L. (2004). *Strengthening Neighborhood Organizing in Hartford: A Report to the Hartford Foundation for Public Giving.*

Savolainen, R. (1995). Everyday life information seeking: Approaching information seeking in the context of "way of life." Library and Information Science Research, 17, 259-294.

Spink, A. & Cole, C (2001). "Information and poverty: Information-seeking channels used by African American low-income households." *Library and Information Science Research*, 23, 1-22.

Talja, S. Keso, H. & Pietilainen, T. (1999) "The production of context in information seeking research: A metatheoretical view." *Information Processing and Management* 35, 751-763

Taylor, R. (1968). "Question negotiation and information seeking in libraries." *College and Research Libraries*. 178-194.

Tuominen, K., & Savolainen, R. (1997). "A social constructionist approach to the study of information use as discursive action." In P. Vakkari, R. Savolainen, & B. Dervin (Eds.), *Information seeking in context: proceedings of an international conference on research in information needs, seeking and use in different contexts*, 14-16 August 1996, Tampere, Finland (pp. 81-96). London: Graham Taylor.

Vakkari, P. (1997) "Information seeking in context." In P. Vakkari et al (1997) *Information seeking in context.* London: Taylor Graham.

Warner, E. S. (1973). *Information needs of urban residents.* Baltimore, MD: Regional Planning Council.