
Libraries reaching out with health information to vulnerable populations: guidance from research on information seeking and use*

By Brenda Dervin, PhD
dervin.1@osu.edu

Professor of Communication and
Joan N. Huber Fellow in Social and Behavioral Sciences

Ohio State University
3016 Derby Hall
154 North Oval Mall
Columbus, Ohio 43220

Objective: Two branches of applied social science have devoted substantial attention to researching information seeking and use. One branch is the field of communication, with its emphasis on the design of messages to effectively transmit expert information. The second is the field of library and information science, with its emphasis on meeting user needs. This paper is an overview and comparison of what is known about information seeking and use based on these two bodies of research, particularly as it applies to serving the needs of racial and ethnic minorities.

Data Source: This paper is informed by three in-depth literature reviews of the two fields and of the difficulties of bringing findings from disparate fields to bear on the same phenomena.

Conclusions: Twenty-five broad brushstroke propositions are extracted in a way that allows both commonalities and contradictions to be informative, particularly as they relate to how the flexibilities offered by electronic technologies may allow experts to serve user needs more effectively and efficiently. Remarkably, while both fields have approached their studies from separate viewpoints without much overlap, both have struggled with the baggage imposed on their research by information-as-transmission assumptions and both have moved toward approaches that focus on information-as-communication.

Two substantial bodies of empirical research in the applied social sciences have attended for some thirty years to studies of information seeking and use. Each has accumulated a significant body of work focusing directly on health information, as well as on a wide variety of other related subject matter domains: risk communication, everyday problem solving, and so on. One of these fields is communication (albeit known by a variety of field names) with its emphasis on the role of information in public education campaigns; the second is library and information science, with its emphasis on everyday information seeking and use, particularly as these activities relate to the potential use of information system resources.

When it comes to considering vulnerable populations, the two fields have been traditionally oriented to different ends. The communication field has focused

on inducing compliance in target audiences (or facilitating change, depending on the sensibilities guiding vocabulary choice). It is a thirty-year-old and well-supported caveat in this work that racially and ethnically different populations are less likely to comply with whatever the majority public education mandate might be. In contrast, the library and information science field has focused on structuring and using its resources to serve needs. It is a thirty-year-old and well-supported caveat in this work that racial and ethnic populations are the hardest to reach and serve.

Both fields have their origins in simplistic pictures of their communication mandates. The research on communication campaigns started by asking, "What is the best means to transmit information so as to induce compliance and change?" Library and information science research started by asking, "When users come to us with needs, how we can get the 'best' information to them?" and, a corollary question, "How can we show potential users that we have something of value to offer them?"

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Notice that, despite apparent differences, both of these questions are at root transmission questions. Both assume there is a “best” or “right” body of expert information to be transmitted and that the transmission of that information will produce the desired outcome or serve the need. The histories of both bodies of work document that these assumptions more often than not fail. This failure and what can be done about it are, of course, fundamental to the considerations of this supplement. Unfortunately, these simplistic transmission questions too often still dominate both fields, particularly when these fields are asked to serve policy initiatives, for in this context, complexities and nuances too often get washed away.

Necessarily, however, the best of research in both fields—communication studies of target audiences and library and information science studies of information system users—has moved markedly away from simplicities. When both bodies of literature are asked, “What can you tell us about information seeking and use that we can use in planning information dissemination, particularly to vulnerable populations?” very complex and sometimes contradictory answers are given. This is not good news for those still seeking simple transmission strategies. Yet it is at the juncture of these two fields—with their sometimes converging, sometimes contradictory views of information seeking and use—that the greatest guidance for the bottom-line concern of this special supplement—the reduction of racial and ethnic health disparities—can be captured.

The author’s purpose in this paper is to delineate the convergences and divergences in the way these two fields understand information seeking and use. The two bodies of work have remarkably little cross-over, so I must clarify that I am bringing together portraits from two quite different discourse communities as if they are one community. The space I have available does not permit me to identify which propositions I gleaned from one field and which from the other, and it does not permit a close explanation of how the two fields differ in terms of their ways of conceptualizing, defining, analyzing, and interpreting information seeking and use.

Suffice it to say that traditionally library and information science has faced, by nature of its practice, the sternest test of all: serving the needs of individual human beings, one at a time. In contrast, communication has focused on percentages of audience members affected. Practitioners in communication rarely have to navigate the disjunctures between individual needs and system resources and structures and, hence, do not have a legacy of the kind of professional burnout faced by practitioners who serve people one-on-one. This considerable difference explains in part why the library and information science field has moved earlier with greater attention to alternative—more qualitative and interpretive—ways of studying user information seeking and use.

Given the different emphases in these two fields—one more focused on persuasion, the other on service—it is informative that both have collided with the same

research dilemma. Both initially conceptualized information dissemination to target audiences or individual users essentially as one-way, top-down information transmission. Research supporting and guiding these programs looked at users from the outside, in terms of how expert institutions see users. Even early on in the history of user and audience studies, in the 1970s and 1980s, anomalies and gaps in the research began to suggest that looking at information dissemination as transmission was not explaining information seeking and use or providing adequate guidance for practice design. Both fields, communication and library and information science, began to move to approaches of studying users from the inside—in terms of how users as acting agents see themselves.

In this move, however, are the seeds of a tension that must still be struggled with today. Given the journey from a conceptualization of communication as transmission of information from a central source to one of communication as reception of information by multiple interpreters, the very idea of “proper” information—“expert” information—has become contested. The story that can be told about reaching target populations with health information is riddled by this tension. It remains unresolved, but within it are locked some visionary possibilities for new approaches to communication design. My aim is not only to review what research about information seeking and use tells about reaching target populations, but also to tease out this tension and what it tells us about potentials. I do this by reviewing the literature in broad brushstrokes through twenty-five propositions supported repeatedly by evidence.

The list of propositions that follows draws on three extensive literature reviews: (a) an in-depth review of the research on information seeking and use in the field of communication compared to the field of library and information science [1]; (b) a review and commentary on work relating to the difficulties of making sense of research findings focusing on the same phenomena but conducted in different academic communities [2]; and (c) a literature review that supported the proposal for a large-scale study of the whys and hows of users satisfying their information needs in the emerging electronic confluence [3]. Because the intent of this paper is to paint a portrait in broad brushstrokes, detailed tracking of the literature sources for the list of propositions is not presented. These are, however, presented in the background literature reviews, which are readily available to readers.

THE PROPOSITIONS†

1. Reaching target audiences or users with health information is tough; bridging the gap between information and behavior is even tougher

On average, information-based campaigns yield behavior change rates of about 7% to 10%. Compliance

† The nature of applied social science research means that keeping

with medical expertise, even when reported after doctor-patient interactions, is rarely higher than 50% and is often as low as 1% to 2%. In the chaotic confluence of today's information marketplace, campaign exposure rates average about 40%, with lows as low as 13%. In general, information campaigns aimed at behavior change do best when campaign budgets are very big, allowing high redundancy, repeated exposure opportunities, and campaign longevity. When campaigns are coupled with legal or other societal sanctions, campaign impacts nudge a bit higher, to an average 17% behavioral impact. On the other hand, the more entrenched the target behavior is in cultural norms and habitual patterns, the harder it becomes to impact target users. Research shows that campaigns attempting to introduce new behaviors have had an average 12% success rate, while those attempting to change old behaviors or prevent negative ones average only 5% to 6%.

2. One-way information transmission works best with people who are similar to the information providers

Easily several thousand studies have shown this same pattern: "Folks like us, use us." They are more likely to use the same sources and channels as the information providers do and to evaluate source credibility as the providers do. They are more likely to turn to the providers' information disseminations.

3. Too often, top-down information transmission rests on a host of faulty assumptions about target audiences

Campaigns have been based on such assumptions such as: African American mothers have inadequate knowledge of substance abuse; most people are incapable of accurately assessing their vulnerabilities to risky health behavior; or drug users like to share needles. Yet studies that have explicitly set out to test these assumptions have shown them to be wrong, at least under some situational conditions. The literature is filled with a host of such examples.

4. Too often, top-down information transmission has ignored the experiential realities of lay persons' lives; too often, it blames the victims and is received as irrelevant at best and as prejudicial and oppressive at worst

Such approaches are too often couched in terms of victim-blaming and ignorance of the experiential condi-

on top of the literature even in a small terrain is virtually impossible. In discourse communities, vocabularies, approaches, methods, definitions, and assumptions are increasingly opaque and impenetrable to those outside. And the quantity grows exponentially. There are few findings for which one cannot uncover an empirical disagreement somewhere. The broad brushstroke picture presented here necessarily leaves many nuances and disagreements untouched. For a discussion of the problems of bridging research differences, see "Human Studies and User Studies: A Call for Methodological Interdisciplinarity" [2].

tions and societal constraints within which lay persons make sense of the world. A host of studies have documented this point, noting that what experts see as necessary compliance and essential information can be seen as irrelevant at best and oppressive at worst. Several studies have shown, for example, that HIV prevention campaigns are sometimes seen by target audience members as involving a white power structure targeting a minority audience in need of repair. Others have shown that what was labeled as noncompliance by experts was seen by information receivers as survival, if not of the body, then of identity and spirit.

5. The information environment is increasingly marked by decreasing trust in expert and institutional sources

Recent studies have shown that governmental institutions were evaluated lower in credibility as sources than local news providers—at the bottom of the credibility grid. Others have found that target audiences saw those setting out to change them as being uninterested in the realities of their lives at best and having bad intentions at worst. Distrust of doctors and other helping professions is on the rise, as is distrust of expert information.

6. Lay people are increasingly wise about how information is tied to vested interests

Lay people understand that what is considered proper knowledge by one source will be discredited by another and what is considered proper knowledge today may be discredited tomorrow. They know that they are rarely presented with the full picture. They understand that medical research is often oriented to profits for sponsors. They understand that experts present their differing expert answers as if at war and that they cannot get genuine communication about the differences inside the expert system. Hence, lay people rarely come to an information offering with either innocence or open receptivity. They may pretend to do so, but they have had too much experience with this "soft underbelly" of information. And they are rarely dupes, even if they may seem to be so when examined through the impositional lens of the top-down expertise microscope. It is the myopia of these expertise-driven microscopes that has generated a host of myths about information seekers, most of which are at root negative. Too many users are indiscriminate. They want everything but have low standards. They apply uneducated schemata to their information searches. These and a host of related myths are solidly contradicted by research that looks at information seekers from inside their worlds rather than from the vantage points of outside expertise.

7. The growing complexity of the information environment is making information dissemination more difficult

The tidy display of potential information sources of years past is all but dead. Not only are there vastly

more sources now, but their structural arrays are vastly more varied and complex and the traditional controls over information authority have become elusive. This exacerbates users' mistrust and drains users' processing capacities. It is compounded, of course, by evidence of an increasing, although not simplistically uniform, digital divide—the haves get and are able to handle more informational inputs, while the have-nots get and can handle less.

8. The volatility of the information environment makes the professionals' jobs harder

It seems difficult to get a grip on the nature of information seeking and use in digital contexts. In actuality, however, when the innovation impact is bracketed, the patterns of findings on the nature of information seeking and use and its predictors in electronic environments are much the same as its offline predictors. The problem is that when something is new people behave differently toward it. The information environment right now (and some predict for several decades) continues to have not only changing arrays of vast numbers of sources but changing hard and soft technologies for access. This makes the job of planning information dissemination programs harder.

9. When it comes to expertise, all nonexperts are vulnerable

In general, whenever users are not experts and must relate to experts, they become vulnerable. The entire edifice of vocabulary, concepts, definitions, structures, and assumptions, which constitutes expertise, is necessarily alien to the nonexpert. This is as true for the highly educated doctor coping with a computer expert as it is for the uneducated welfare mother coping with a doctor.

10. One-way information transmission can backfire

It is not uncommon that a result of information transmission is that the receiver does the opposite of what was intended. Research on campaigns has documented, for example, that campaign information can inspire the very behavior it was designed to prevent—smoking, substance abuse, and sexual activity, for example. In-depth interviews with patients have documented the high frequency with which patients simply reject the doctor's recommendation or proceed to explore alternatives that doctors inadvertently denigrated.

11. Information is rarely enough

Perhaps the biggest lesson from the focus on one-way transmission of information is that information is rarely enough. The exception to this is the user who comes to the intersection in a state of high information readiness, in a sense with an already established foundation of expertise. These exceptions are rare, however. To be useful and used, information usually must be incorporated as part of a communication design based on dialogic principles.

12. Information is not sufficient, but it is necessary

Even though information is rarely enough, it is necessary for the behavior change process that is the focus of information and education campaigns.

13. Tinkering with information presentation strategies can make a big difference, but there is a big caveat: the difference depends on where the recipient is coming from

Research has shown that a variety of information-packaging approaches can, under some conditions, yield significant increases in information effectiveness. Studies have tested the use of a variety of novel and sensation-arousing message strategies, for example, linking information to societally approved stimulators such as entertainment narratives or celebrity endorsements. The caveat is that these information portrayals must have some "new" value for recipients, and the impact on each recipient depends on whether they have compatible cognitive, emotional, and situational needs. In short, while these strategies increase impact, they are not a panacea, and impacts can be talked of only in terms of percentages of given target audiences. For an individual recipient, it remains hit-or-miss unless the information provider has a detailed phenomenologically based understanding of that recipient.

14. The biggest increases in campaign effectiveness have come from reconceptualizing campaign design away from information transmission to multistage communication intervention

What this proposition has meant is adding a host of communication interventions to information campaign design. These interventions include community-based meetings, family discussions, support groups, and involvement exercises. All have led to impact increases, although none is a panacea. Again, effectiveness depends on a particular intervention being compatible with a particular recipient's needs.

15. Communication interventions must be communicative; if they revert to transmission they will fail

The research provides a clear picture of the fallibility of false dialogues. One common mistake is to pretend to listen but really to be focused only on the policy bottom line: compliance. Another is to invite input and then ignore it, returning only to the message the expert wants to get across. Another is to open up Web links and email lines for individual users to ask questions and make comments and then to lack resources to reply to all that individuality. Another is to invite diverse input without facilitating constructive communicating approaches and then to see the dialogue descend into dissent. Research shows that all these false dialogues backfire badly.

16. Communication-based interventions necessarily involve community context; the most common route has been cultural, in the hope of addressing lived experiences and societal circumstances

In this frame, culture and community become the package that it is assumed can carry all the sensitivities that information dissemination needs to be effective. Indeed, research has shown that community or cultural entrees are among the most effective entrees for communication intervention. But again, there are caveats.

17. The culture or community route to communicating is not a quick fix

While culture is now the dominant category being applied for explaining success and failure of communication between experts and lay people, in fact, research suggests it has major limitations. One is that cultural or community peers sometimes stand in the way of changes people want to make. A second is that culture or community, when used as a tool for manipulation, is just as likely to backfire as other approaches. A third is that culture or community does not usually predict information seeking and use well. The rhetorical or communicative strategy of using culture and community as vehicles for carrying human sensibilities needs to be distinguished from the more precise question of whether cultural or community identity is really doing the communicative work. Given the high variability in information seeking and use in cultures and communities and given the empirical fact that societal structures (as tapped by income, education, geographic locale) often provide better explanations, it must be acknowledged that the culture or community fix is not a panacea.

18. While target group memberships may define policy aims, they are not the best way of defining information dissemination purposes

This proposition follows from the one above. In general, across thousands of studies, target group definitions based on demographic characteristics do not predict information seeking and use well. The best predictors are individual involvement, situational circumstances, and sense-making needs. The one exception to this is when the informational topic focuses on a societal membership category that is relevant to a recipient. Messages about breast cancer are more attended to by women, messages about prostate cancer by men, and messages about child abuse by parents.

19. Recipient readiness is, in fact, the best predictor of information receptivity

In turn, the best predictor of recipient readiness is involvement. One kind of involvement is cognitive involvement, and studies have shown that messages that match audience member's cognitive orientations are better received. Cognitive involvement can be summarized as recipients having the informational topic

already on their phenomenological horizons because of current and past life situations. A second approach focuses not on involvement as brought to messages by recipients but on creating involvement through skill building and empowerment, which facilitates people's capacities to implement change in their own life contexts. Such approaches have varied all the way from helping recipients practice counterarguments to offset peer pressure, to improving self-esteem, to exploring modes of implementation, to teaching specific practices.

Taken together, these approaches linking information dissemination to involvement have shown the greatest success in achieving campaign and information dissemination goals. The caveat, of course, is that these approaches by definition assume recipient power, including the power to say no. If these approaches attempt to focus attention on compliance, the gains are lost. An interesting sidebar here is that research has shown the more involved participants are, the less likely that razzle-dazzle message design strategies (for instance, the use of cartoons, emotional appeals, and entertainment) are necessary to capture their attention. Involvement moves people from passive reception to active sense making. At the same time, it decreases our capacity as experts to control that sense making.

20. Recipient readiness is predicted best phenomenologically and situationally, not in terms of a priori demographic or expert system categories

Studies have shown information seeking and use to be extraordinarily complex and very changeable across time. Understanding information seeking and use requires the use of both traditional dissemination-oriented survey research and alternative approaches that can dig beneath shallow surfaces to complexities and nonlinearities. The paths that information seekers travel are sometimes linear and sometimes meandering, sometimes rational and sometimes emotional, sometimes based on habit and sometimes on invention, sometimes on accident, sometimes seeking answers and sometimes destroying old answers to make way for new ones, sometimes focused on creating certainty, sometimes on increasing uncertainty. What predicts this variability best is not demographic characteristics of users or experts' views of user problems but rather user-situated involvement and sense making.

21. Alternative research approaches have shown that what was formerly seen as chaotic behavior is in fact patterned information seeking and use

What has been too often seen in traditional research as random error and chaos emerges as complex patterns of information seeking and use. It is this turn in the research, to situational and contextual understandings of users, that has shown that while target group categorizations drive policy mandates they cannot drive communication mandates. The policy mandate must be artfully combined with realistic and human

understandings of communication as communication and not as transmission.

22. Focusing on information seeking and use situationally and contextually decreases the variability that information disseminators must cope with

Situational predictions of information seeking and use account for more variance. If information packages are attempted to be devised for recipients based on demographic characteristics even in a single racial or ethnic group (age, gender, income, education, location, and so on), at least several thousand different information packages need to be designed. When, however, information disseminators move to situational message design based on lived experiences, they find the number reduced to twenty or thirty and often much less. In short, people with very different demographic characteristics who see their life circumstances similarly end up reaching for the same kinds of information.

23. Focusing on the verbs of information seeking and use provides even greater capacity to predict and explain

One additional advance in the research is informative. It has been shown that, as people move through their sense-making journeys, the strategies they use for information seeking and use change depending on how they see their situation. As one example, sometimes they want to turn to facts, sometimes to authorities to show them the way, sometimes to peers who have traveled the same road before, sometimes to examples, sometimes to the big picture. Again, the varieties of strategies unearthed in research are far fewer than the varieties of people and offer another potential tool for organizing information.

24. Treating people as human works best

Perhaps the most fundamental understanding that has emerged from the research is the need to, as Ralph Waldo Emerson put it, "treat people well, treat them as if they are real, perhaps they are." Recipients of health information are more receptive when they feel respected and are treated as being capable and able agents rather than as passive receivers of behavioral modification theory. This is perhaps the most general way of understanding the turn from transmission approaches to communication approaches in information dissemination designs. In its most developed version, this is a call for information sharing based on the most fundamental principles of communication: genuine dialogue, mutual respect, and mutual responsibility. This proposition applies equally to mass-media-constructed messages and to interpersonal contact.

25. Communication's most basic fundamental is the quid pro quo

Most experts who work in complex systems with other highly educated experts understand well the idea of

the quid pro quo—something for something: If you want someone to listen to you, you listen to them. If you want someone to give a little, you give a little. This most fundamental of communication principles is clearly at work in information dissemination.

WHERE AGREEMENTS, DIVERGENCES, AND CONTRADICTIONS MEET

The astute reader will have teased out the contradictions embedded in the narrative above. On the one hand, much has been learned about more effective information dissemination. On the other, these lessons seem to put information disseminators between a rock and a hard place.

Better, more targeted messages must be constructed that appeal to individuals with different needs, different approaches to sense making, and different situational conditions. How can information delivery possibly be personalized in this way? As frontline professionals, including librarians, know, standing between unique individuals with their needs and inert systems is exhausting and a documented cause of professional burnout.

Yet, at the heart of this extraordinary tension is the seed of an answer. With the new technologies, enlarged capacities exist to create alternative routes for users to travel through information systems. But it must be understood that, from a communication perspective, audiences and users have always done this. They ignore information when they need to, when it is presented in a preachy and oppressive manner, and when it is irrelevant. When they have a need, they are like martians with raised antennae ready to pounce on any information bit that might be helpful. No matter how alarming their inattention to information authority, they mostly care not where the information comes from but whether it is helpful. If providers seem caring, respectful, and interested, they will tarry to listen. If providers invite genuine dialogue, they will get more involved. They may even take a chance on the providers.

This basic understanding of how to reach people needs to be combined with the portrait that emerges above. There is no one right way to disseminate information, and there is no one right message strategy. What is needed is a variety of approaches designed to answer human sense-making needs, coupled with giving users the freedom to navigate alternatives in terms of what serves them best. Information providers can secretly wish for compliance—for adherence to the proposed regime or desired end—but if the desire for compliance guides the information transmission design, in tone or substance, the purposes will be defeated.

Ideally, the communication approaches used will allow users the option of engaging their concerns about the soft underbelly of information, about vested interests and elusive, changeable answers and competing expertise. On the one hand, this idea can be construed as a utopian and impractical idea—after all, those who

control the information purse strings will not easily stand still for this. But the research is quite clear on the matter: people making sense will struggle with that soft underbelly. Perhaps someday, providers will be able to help them through design.

Clearly, the new information technologies offer us a host of alternatives for dealing with the flexibilities that information seekers need. Research focusing on these design potentials has only just begun, and most work to date is far too focused on replicating the structures of expertise in more simplified versions for lay consumption. This merely replicates the former emphasis on one-way dissemination approaches with a modest, little Web-navigability twist. Some research is asking the harder, bigger questions, "How can user choice and realistic dialogue be built into Website design?" Enough is already known to know it can be done.

Whether in the design of interpersonal, group, and community contact procedures or in the design of electronic and mass interfaces, communication experts now know enough about responsive communication design to do better in disseminating information than was possible with one-way transmission designs. Responsive communication design is not, however, communication as usually known or traditionally learned. It is a body of understanding that can be acquired, and it challenges information providers to rethink their purposes in fundamental ways.

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