

# **Improving African American Birth Outcomes by Understanding Information Seeking Processes**

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## **Abstract**

This article proposes that the accessibility of and access to health information is linked to health disparities, particularly in the area of African American birth outcomes. Social, cognitive and multiperspective frameworks in information behavior research provide important insights into a better understanding health care consumers and health care providers. Research employing these frameworks goes beyond studies of patient-physician communication issues which have been linked to health care disparities (Johnson, Roter, Powe & Cooper, 2004; van Ryn, 2002). These studies focus on the more general processes of information seeking used by both patients and providers through examinations of information needs, social networks, cognitive authority, and trust, and have found that health consumers and providers are confronted with many social, cognitive, and physical obstructions to gathering high quality and valuable information with which to make decisions. A more thorough analysis of the role of individual-level information seeking processes and group-level information environments has potential to improve African American women's birth outcomes.

## **Introduction**

The accessibility of and access to information may be linked to health disparities, particularly in the area of African American birth outcomes. Social, cognitive and multiperspective frameworks in information behavior research provide important insights in better understanding health care consumers and health care providers. While several authors (Johnson , Roter, Powe & Cooper, 2004; van Ryn, 2002) have highlighted possible patient-physician communication issues that may exacerbate health care disparities, the more general process of information seeking by both patients and providers may provide useful insights in improving African American birth outcomes.

For the purposes of this paper, access denotes the availability of information and accessibility refers to whether the information seeker can find and understand the information. Our underlying assumption is that the information infrastructure should be examined as part of the equation in any discussion of optimizing health, and more specifically, may be a useful model in

improving birth outcomes. Accessibility of and access to information is a problem faced by both African American women and their health care providers. Although this is manifest in different ways, the dimensions of the problem pervade the medical encounter. We do not assume that there is one or even a suite of technological solutions that will fully solve or alleviate disparities in African American birth outcomes; however, several political influences may expedite the introduction of these technologies into health care delivery including President Bush's Executive Order on April 27, 2004 calling for widespread deployment of health information technology within 10 years (National Alliance for Health Information Technology, 2005; PITAC, 2004).

### **Roots of Multiperspective Frameworks in Information Behavior**

A discussion about improving African American birth outcomes through evaluating information-seeking roles necessitates some initial discourse on the broader topic of information seeking. The term "information seeking" describes the process by which an individual seeks out new information to "change his or her state of knowledge" (Choo, 1998). The two schools of thought in information behavior, espousing on the one hand individual cognitive explanations and, on the other, social contextual influences, have converged to a more holistic way of thinking called the multiperspective approach. For example, elements of the individual cognition model as well as models concerned with context and environment inform Dervin's "sense making" model (Leckie, Pettigrew & Sylvain, 1996; Pettigrew, Fidel & Bruce, 2001).

### **Constructionism and Cognitive Authority Decisions**

The multiperspective model lends itself to instances of active information seekers, those who are researching information about a medical procedure or participating in child birth education classes. But what about less active or deliberate information seeking behavior? Rieh (2003) studied "everyday life information seeking" (ELIS) in the home. Her work showed that most information need situations are complex and rich with cultural context. A multitude of factors including information-sharing in relationships, social communities that shape information behavior, and the trajectory of a lifetime of information seeking behavior all come to bear and must be considered. In the psychological and medical fields much has been written about "help seeking" and associated health or mental health risk. (e.g., Sen, 2004; Meadows, Mrkonjic & Lagendyk, 2005) How effectively do information seeking models map to what the medical field refers to as "help seeking?"

The answer to this question might be found in constructionism, an approach that sees "information use as discursive action" where knowledge forming is connected to conversation and language. McKenzie, (2003) building on the work of Tuominen, Talja, and Savolainen (2003), describes discourse as "the vehicle through which the self and the world are articulated, and on the way different discourses enable different versions of selves and reality to be built." Our experience shapes our reality, and information seeking can be facilitated or squelched depending on our construction of reality. For example, we assume notions of health as individuals and as members of a reference group (family, class, or culture), and this shapes how we step into the patient role. Am I at high risk of Caesarian section? Is this doctor going to understand my concerns?

Constructionist theory helps to explain what happens next, how information becomes action. For example, this approach looks at the decisions people make based on an information source, such

as those regarding their health, as “cognitive authority decisions” (McKenzie, 2003). The source is key to the action taken. The source must have “occupational or educational expertise; success in an endeavor in the field; a good reputation among others in the field; endorsement by someone else whom one considers a cognitive authority; and intrinsic plausibility, persuasiveness, or personal trust.” (MacKenzie, 2003). Where do African American women seek health information? To whom do they turn to help with decisions about their health?

### **Information Seeking of African American Women**

Although few studies have looked at information seeking among African Americans per se, more have explored help seeking behavior. Help seeking encompasses not only information, but care and support in a situation where a person may be at risk. Information behavior approaches may hold promise for looking at broader information access, i.e., the selection of the source of the information, the degree to which the information is accessible in the existing environment, salient issues for shaping interventions for consumers and making policy, and system changes in provider settings.

Issues such as reliability of communication, health status, concerns about privacy, fear of burdening others and distrust of the system have all been shown to influence information seeking behavior among African Americans. Adolescent African American girls chose their mothers as a source for general health information but turned to friends and other women regarding concerns about reproductive health (McKee, Karasz & Weber, 2004). While some girls turned to providers, the quality of these relationships varied, and thus, the role they played in the girls’ decision making. In a survey conducted by Matthews, Sellergren, Manfredi & Williams (2002), 21 female, mostly African American cancer patients said they were confident in the care they received. Still, they described how physicians gave them incomplete information resulting in erroneous diagnoses.

Respondents also noted communication problems and suggested difficulty in understanding information provided by the physician and in reporting new symptoms to the doctor. Other factors affecting help seeking included the fear of cancer, family history, a desire to protect personal privacy, cancer misinformation (i.e., the belief that surgery causes cancer to spread), and coping style as influenced by unsupportive physicians and a concern for “burdening family members.” Interestingly, religion was cited as both a deterrent to help seeking and a coping style. In another study, low income African Americans said they felt more comfortable in a primary care physician’s office when there were culturally sensitive reading materials and health information directly addressing their major health issues (Tucker et al., 2003).

Gollop (1997) surveyed 55 elderly African American women in an attempt to understand their health information seeking behavior. Gollop points to age, self-reported literacy, and media as factors influencing information seeking behavior and the selection of a source. Gollop also reported that women first sought physicians, then print and non-print media, and then family and close friends (in that order) for health-related information. Other studies (e.g., Karasz, Sacajui & Garcia, 2003) have confirmed the preference for physicians. Spink and Cole (2001) concluded that African Americans sought an established source (doctor, nurse, social worker, minister) for health care information outside of their community or environment.

Reference group theory provides important insight into understanding how African Americans use the standards and values associated with membership in a cultural group as a “reference point” for information behavior (Dawson, 2001). Mistrust of the medical community, religious beliefs, and preference for receiving health information “word-of-mouth” have been identified as issues associated with African American culture in impeding health information accessibility (Matthews, 2002). Health promotion interventions designed to address breast cancer have been built around the notion that African American women turn to community organizations such as beauty parlors and churches for health information and support (e.g., Thomas, Quinn, Billingsley & Caldwell, 1994; Sadler, Thomas, Gebrekristos, Dhanjal & Mugo, 2000; Husaini et al, 2002; Davis et al, 1994). Other research with African American women and youths has indicated the family as a primary source for reproductive (e.g., Dienes, Morrissey & Wilson, 2004) and menopause information (Grisso, Freeman, Maurin, Garcia-Espana & Berlin, 1999). Further research is needed to better understand how African American women’s information behavior, shaped by many factors over their lives, may influence their experience with pregnancy and child birth, both in terms of access to information (the selection of sources for that information) and the degree to which existing information in specific environments is understandable.

### **Health Care Workers**

Health providers (doctors, nurses, midwives, physician’s assistants, social workers) search for information about patients as well as about the underlying diagnoses presented by patients. Correctly locating, synthesizing, and acting upon these types of information is directly related to continuity of care. During this process, health care providers face issues of access and accessibility. Previous research has demonstrated that doctors (e.g., Strasser, 1978) and nurses (e.g., Blythe & Royle, 1993; Wakeman, 1992) rely most heavily on colleagues for information. Clinicians regularly turned to colleagues or specialists for help in diagnoses (Paget, 1988) or to nurses for updates on patients’ conditions (Ngin, 1993). Type of practice has been linked to physician information-seeking patterns; obstetricians and family practitioners have been shown to use colleagues as their primary source of information (Strasser, 1978). A physician’s need for immediate access to information may account for this preference for collegial information.

Covell, Uman and Manning (1985) found that patient encounters are as likely to create questions as answer them. The search for information can be difficult, and the reliance on consultations partly arises because access to patient information is problematic. Corcoran-Perry and Graves (1990) documented the substantial amounts of time nurses spend tracking down patient information. The combination of time pressures and the lack of access to patient information leads to the situation noted by Dee and Blazek (1993), where physicians see their colleagues as “familiar, reliable, immediately available, and inexpensive; they give concise, organized answers that synthesize available information.”

These clinical consultations are not without a downside, though. Atkinson (1995) noted that consultation involves not only the transfer of information but often its translation, “physically, from one setting to another, and discursively from one linguistic or representational register to another.” These differences in the use of medical terminology across specialties are also a problem. (Cascade & Kazerooni, 1994) They serve as a reminder that even with “complete” information the recipient must understand its import. Moreover, Anspach (1987) indicated that medical professionals (attending clinicians, residents, nurses) had access to, relied on, and

weighed information sources differently. These varied perceptions were rooted in the different organizational, cultural, and social structures in which groups of medical personnel work.

An example of the intersection of access and accessibility (access to information through relying on colleagues and accessibility of that information when it must be acted upon) is the hand-off or sign off for physicians and the report for nurses. While these encounters are a universal, routinized form of mandated information seeking and sharing designed to promote the continuity of care, they have been identified as a site of medical errors in hospitals (Coiera, 2000; Parker & Coiera, 2000; Ransom, Joshi & Nash, 2004). Evidence in the nursing literature (Lamond, 2000; Payne, Hardey & Coleman, 2000) indicates that oral shift reports serve as a means of highlighting aspects of and reinforcing key points in the written record, thus increasing accessibility of the information. Concern about how shift reporting and sign offs may influence disparities is little understood. Computerization of the sign-out process has been shown to reduce errors (Petersen, Orav, Teich, O'Neil & Brennan, 1998; Bates & Gawande, 2003), but more research is needed to replicate these findings and to understand exactly what factor(s) in the automation process reduces errors most significantly.

Research is needed to examine whether access and accessibility, as they relate to information seeking by consumers or between providers, contribute to health disparities and particularly birth outcomes. How can we enrich clinical communication among health care professionals to enhance continuity of care? Does the handoff problem, so well documented in hospitals, also happen in prenatal clinics? What are the information needs of other health care professionals (midwives, PA's, social workers)?

### **Technological Solutions**

Technology can alleviate communication problems and enhance encounters between doctors and patients as well as among health care professionals; however, technology alone cannot erase disparities. In fact, the implementation of systems must be done carefully so as not to make the problems worse. This is particularly important since researchers (e.g., Atkinson, 1995; Pettinari, 1988) have argued that medicine is an oral culture. Therefore, the relationship between written and image-based (online) information and this oral culture needs to be considered, given that the use of automation changes work practices (e.g., Heath & Luff, 1996). Research questions in this area might focus on how technologies can be used to better support oral exchanges.

Technological interventions for consumers have been the focus of a series of studies and much has been made of the so-called digital divide (Jackson, 2003; Mehra, Bishop, Bazzell & Smith, 2002; Robinson, Flowers, Alperson & Norris, 1999). While birth outcomes are generally worse for all African American women, those in the lower socio-economic group face even greater hurdles. Robinson, et al. (1999) reported a willingness on the part of a sample of low income African Americans to use the Internet to communicate with physicians and seek health information; however, participants level of access to the Internet was low. The HomeNetToo Project provided 123 adult participants, primarily unmarried, African American, female, with household annual incomes of less than \$15,000, with a personal computer. After one year, findings indicated African American participants used the Internet less than did European American participants when controlling for income, even though both groups required considerable technical support (Jackson et al., 2003). The study concluded that the digital divide should be viewed as a "use" divide rather than an "access" divide. Would improving capacity of

African American women to make use of the Internet contribute to positive birth outcomes? Research questions must address increasing use of the Internet, not just access.

From the perspective of health care workers, we know that the systems for managing patient information vary greatly (Brailer, 2004). Health care organizations have traditionally used paper medical records to translate information from providers regarding various patient encounters. Unfortunately, the paper record is frequently illegible and unavailable for a specific patient encounter. In addition, several simultaneous paper records often exist as patients seek care from multiple physicians, hospitals, and clinics. This is a particular problem for low income women seeking care. The electronic medical record has presented a methodology to improve access to up-to-date and legible information for all patient encounters (Brailer, 2004a). For example, the Veterans Administration has established a comprehensive medical record that integrates all provider and hospital encounters with instant access to laboratory, radiology, operative reports, discharge summaries, and clinic notes (Ransom, 2004). Several authors have cited the benefits of comprehensive electronic medical records: reduced medication errors, reduced duplication of services, improved communication, and improved overall quality (e.g., Ransom, Pinsky & Tropman, 2000; James, 2005; Poon et al., 2004). Further research is needed to assess the effectiveness of these different models of patient information handling and to better understand the conditions under which each of these models works best.

While the United States has the most contemporary health care delivery services, it lags behind other nations in its ability to integrate an individual's health information across the lifespan. Important interventions are often overlooked due to this poor integration of health information. Other countries have made great strides to achieve this goal. The Taiwanese IC-Card provides access to each individual's information for all healthcare encounters (Jui-Fen and Hsiao, 2003). This technology has played a role in decreasing medical errors and maintaining continuity of care between physicians and among different facilities throughout Taiwan.

Technology has the opportunity to improve health outcomes and, hopefully, contribute to a reduction in birth outcome disparities for African Americans. Several attempts have been made to improve information access to uninsured and low income populations, for whom integrated and accessible health information is most problematic. For example, Hutzel Hospital in Detroit serves a predominantly low income population of African American women. For years patients at Hutzel have carried to every clinical encounter a 'gold card' with their obstetrical information. The 'gold card' was developed due to poor medical record availability and the need to provide important information to providers. While the program has been a welcome improvement over no information, frequently the patient cannot locate the card, preventing information transfer. In addition, the one page card has only limited room for medical information. A more comprehensive and life time 'smart card' has significant appeal for improving care to vulnerable populations.

## **Conclusions**

A better understanding of the information seeking process and information environments has potential to improve African American women's birth outcomes. Health consumers and providers are confronted with many process obstructions to gathering high quality and valuable information with which to make decisions. We believe the social, cognitive and

multiperspective frameworks in information behavior research have the potential to improve health and possibly reduce health disparities for African American women.

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