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Applying Health Education Theory to Patient Safety Programs: Three Case Studies

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Program planning for patient safety is challenging because intervention-oriented surveillance data are not yet widely available to those working in this nascent field. Even so, health educators are uniquely positioned to contribute to patient safety intervention efforts because their theoretical training provides them with a guide for designing and implementing prevention programs. This article demonstrates the utility of applying health education concepts from three prominent patient safety campaigns, including the concepts of risk perception, community participation, and social marketing. The application of these theoretical concepts to patient safety programs suggests that health educators possess a knowledge base and skill set highly relevant to patient safety and that their perspective should be increasingly brought to bear on the design and evaluation of interventions that aim to protect patients from preventable medical error.

Keywords: *patient safety; health education; intervention campaigns; program planning; health education theory; social marketing; community participation; risk perception*

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► INTRODUCTION

In less than a decade, patient safety has emerged from relative obscurity to become a leading concern of health services researchers. After several years of sustained debate about the harm related to “adverse events” in both the popular and scientific press, most researchers now agree that the problem of patient safety has been convincingly documented (Leape & Berwick, 2005; Levin, 2005). Much less is known, however, about how to intervene to protect the 44,000 to 98,000 lives that, according to the Institute of Medicine (2000), are lost each year due to preventable medical error.

Indeed, while acknowledging that important gains have been made in terms of patient safety knowledge, leaders in the patient safety movement have expressed frustration at the slow pace of change in terms of actually making systems safer (Leape & Berwick, 2005; Levin, 2005; Wachter, 2004). They note that many improvement efforts have occurred at the local level with little coordination (Leape & Berwick, 2005). At the same time, evaluation of these efforts has been hampered by both the difficulties inherent in developing fair and reliable quality measures and by the absence of a national error reporting system (Leape & Berwick, 2005). Despite the magnitude of the problem

and what some perceive as an increasing willingness among physicians to disclose medical error (Gallagher, Studdert, & Levinson, 2007), intervention-oriented surveillance data remain limited, making program planning for patient safety challenging to those working in this young field.

Health educators are uniquely positioned to contribute to patient safety efforts because their theoretical training in health behavior change, health communication, and community organizing provides them with a guide for designing and implementing interventions even in the absence of intervention-specific data. This theoretical grounding, along with methodological expertise in developing program evaluations and measuring both process and impact success, make health educators valuable partners in quality improvement efforts. Our purpose in this article is to show that health educators possess a knowledge base and skill set highly relevant to patient safety, tools that should be increasingly brought to bear on the design and evaluation of interventions that aim to protect patients from preventable medical error. By describing three prominent patient safety campaigns and their theoretical underpinnings, our intention is to demonstrate the utility of health education theory in the context of patient safety, showing how several of the most innovative efforts in this nascent field

► **EDITORS' INTRODUCTION TO HPP PATIENT SAFETY SERIES, ARTICLE NO. 3**

In late 2006, your associate editors solicited input from a sample of health educators in a variety of settings as to their interest and experience in reducing medical error and promoting the quality and safety of patients and families in health care settings. The results revealed opportunities for health educators that reached far beyond the translation of brochures and other materials, advising patients and families about what they could do to avoid medical errors, and the reporting of harmful events in the health care environment.

The first article in this three-part series, "The Evolving Role of the Health Educator in Patient Safety," was authored by Annette Mercurio, MPH, Manager, Patient, Family, and Community Education at the City of Hope, Duarte, CA. Published in the April 2007 issue of *Health Promotion Practice*, the author addressed the specific health education skills and competencies that health educators can apply to patient safety-related content areas. In addition, she addressed how health educators have worked to remove barriers to clear communications between providers and patients as well as among providers. The focus of that article was the application of specific patient- and family-centered care principles to interventions designed to improve patient safety. Ms. Mercurio also commented on the range of best practices that could strengthen partnerships between patients, their families, and health care providers in creating a safe care experience in clinical settings.

The second article in the series, "Using Focus Groups to Revise an Educational Booklet for People Living With Methicillin-Resistant Staphylococcus Aureus (MRSA)," by Shawn McBride and associates, articulated the lessons learned from, and the strengths of, patients and family members as codesigners of patient safety educational resources. The interdisciplinary collaborative team assembled by McBride demonstrated leadership we all need to heed; team members recognized the flaws of materials designed on the basis of professional assumptions as distinguished from patient- and family-identified needs. Their article described the processes and lessons learned in revising materials and creating safety care communication for patients and families.

Rounding out the three-part series is this issue's article by Melissa Gilkey, Jo Anne Earp, and Elizabeth French, "Applying Health Education Theory to Patient Safety Programs: Three Case Studies." It examines how theories central to health education practice have been used in three prominent patient safety campaigns. As with the previous two articles, the authors affirm the relevancy of theory when planning, implementing, promoting, and evaluating patient safety interventions. The infancy of

(continued)

are based on concepts and principles central to health education.

► **CASE 1: RISK PERCEPTION**

Risk perception is a fundamental concept in health communication and health behavior change theory. Over time, cost-benefit theories of risk, such as the health belief model, have expanded to include more complex understandings of the processes by which individuals and communities access, interpret, and act on information related to health threats (Rimer, 2002). Weinstein's precaution adoption process model, for example, outlines a seven-step process by which one becomes aware of a threat, considers the health issue in a personal context, and decides whether or not to take and maintain action related to reducing that threat. This model implicitly acknowledges the importance of the many factors, such as optimistic bias (i.e., the belief that a prescribing error "won't happen to me"), that may discourage action (Weinstein & Sandman, 1992). Witte's (1992) extended parallel process model, another perspective on risk perception, suggests that risk messages are most effective when they raise an individual's perception of threat to a critical level and then provide well-defined ways of avoiding that threat. A third example, prospect theory, emphasizes the role of message framing in risk interpretation, suggesting that people are more likely to accept risks related to sustaining losses rather than those related to accruing gains (Kahneman & Tversky, 1979). For example, patients may be more likely to take protective action in response to a message that tells them they have a 1% chance of experiencing

(continued)

intervention surveillance data as well as the emerging evidence base for practice make health educators valuable to quality improvement efforts given their methodological expertise in developing program evaluations and measuring both process and impact successes.

Collectively, these articles assert that there is a place within the patient safety team not only for the health educator but also for the patient and the family. We must advocate for the inclusion of patient safety in professional health education curriculums as well as the inclusion of health educators in patient safety programs. Medical and nursing schools have adopted a role for patient safety in their curriculums by adding courses and offering continuing education workshops and programs on this subject. Health education practitioners and researchers alike should be diligent about keeping abreast of patient safety and quality improvement developments, employing the growing body of patient safety and health education literature, and dialoging with researchers and practitioners about patient safety programs and resources. In addition, we must identify how best to contribute our unique set of professional skills and competencies, practices, and theories to enhance innovation and excellence in patient safety.

The publication of The Joint Commission Patient Safety Goals has set the stage for organizational and policy transformation in our health care system. By actively engaging patients, families, clinicians, and administrators, The Commission has already started to foster advocacy and action to bring about the fundamental changes necessary for creating a culture of safety in health care. As evidenced by the examples showcased in these articles, health educators have abundant opportunities to play a role in building a safer health care system.

Please let us hear from you about your experiences in patient safety. In addition, please let us know if you would be interested in starting a SOPHE Special Interest Group on patient safety or planning an annual meeting workshop that addresses emerging patient safety issues and best practices.

Katherine Crosson and Cezanne Garcia

patients. The Agency for Healthcare Research and Quality (AHRQ), for example, was one of the first stakeholders to outline a role for patients in patient safety through its client fact sheet, *20 Tips for Preventing Medical Error* (AHRQ, 2000). This information sheet defines medical error and its scope and asks patients to take protective measures in areas such as medication safety (e.g., “When your doctor writes you a prescription, make sure you can read it”), choosing a hospital (“If you have a choice, choose a hospital at which many patients have the procedure or surgery you need”), and patient-provider communication (“Speak up if you have questions or concerns;” AHRQ, 2000). In this fact sheet and others like it, health educators will recognize AHRQ’s desire to speak frankly about the formerly unmentionable problem of medical error (Gallagher et al., 2007) while at the same time acknowledging patients themselves as valuable and competent partners in addressing the problem.

Efforts such as these have not been without controversy, however. In the case of patient fact sheets, Entwistle, Mello, and Brennan argue that interventionists fail to grasp the complexity of risk perception (2005). Given the power differential that often characterizes the patient-provider relationship, some tips, such as patients asking providers to wash their hands before an examination, may be too confrontational for the average patient to carry out. In this way, fact sheets could actually raise patients’ perception of risk without giving them truly actionable means of protecting themselves, resulting in anxiety and guilt rather than engagement (Entwistle, Mello, & Brennan, 2005). In other

a certain medical error as opposed to a message that tells them they have a 99% chance of avoiding error despite the fact that these messages are mathematically equivalent. Overall, theories of risk perception are increasingly based on the understanding that risk is socially constructed, changing over

time and across cultures, and open to multiple interpretations on the part of both the sender and the receiver of health messages (Rimer, 2002).

In the area of patient safety, theories of risk perception are critical to designing awareness campaigns, particularly those seeking to engage

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words, by ignoring the social context of the clinical encounter, fact sheets could be doing more harm than good.

Perhaps reflecting such concerns, AHRQ recently complemented *20 Tips with Questions Are the Answer* (AHRQ, 2007). This campaign, which centers on a comedic public service announcement (PSA) for television and Internet, is less concerned with arousing fear about the number of deaths caused by medical error than with changing social norms to promote question asking by patients. In the PSA, a troupe of patients and providers performing a Broadway-style song-and-dance routine implores viewers to get more involved in the care process. Here again, the PSA may be overly optimistic about real-life providers' receptivity to patient questions. Yet the campaign's positive frame and light tone help ensure that the message is not anxiety-producing, and therefore, the PSA runs less risk of shifting the burden of medical error

prevention inequitably from providers to patients.

Health educators, versed in theories of risk, are trained to recognize the benefits and costs of employing fear arousal in their interventions and have strong backgrounds in providing guidance as to the most ethical and effective ways to use risk messages in the development of consumer education materials such as those produced by AHRQ. Specifically, health educators are often engaged in asking questions central to message development, including what information is most relevant to patients, what messages are most likely to be both protective and actionable, and to what extent patients interpret information about patient safety in the manner intended by interventionists (Entwistle et al., 2005). So, in addition to pretesting and evaluating messages for clarity and readability, health educators can play a key role in grounding health education materials in behavior change theories related to risk that adhere to the highest ethical standards.

► CASE 2: COMMUNITY PARTICIPATION

Community participation is the cornerstone of health education practice and an ideal increasingly incorporated into patient safety interventions. Broadly speaking, principles of community participation and community organizing emphasize an assets-based approach that recognizes the intended audience of a health education campaign as a key partner in program development and implementation (Hancock & Minkler, 2002). Conceptual frameworks such as Goodman et al.'s (1998) model of community capacity outline ways that the

process of community participation may be health promoting not only in its outcomes but also in its practice. When community members work together, they can generate "capacity" in the form of leadership, social network connections, skills, and a sense of shared values and history whose benefits may extend well beyond any one particular project (Goodman et al., 1998). Although members of patient organizations (or even more informal patient groups) may lack the common geographic element traditionally associated with the term *community*, their shared interests and political power may unite them in a relational locality similar to that of community groups, making relevant the concepts and philosophies of community organizing.

In regard to medical error, one prominent patient advocacy group, Consumers Advancing Patient Safety, recognized the need for community participation when the organization convened its Patient Safety Council in 2005 (CAPS, 2007b). This panel of 23 patients and health care providers was charged with identifying strategies to help their community's providers and senior citizens communicate more effectively to reduce the incidence of medication-related errors. The council's efforts resulted in the creation of several communication tools, such as a carrying bag used for transporting medications to the doctor's office for prescription checking and a medication-related checklist specifically designed for older adults (CAPS, 2007a). Perhaps most impressive, the group also created a tool kit for replicating their collaboration that was subsequently adopted by the World Health Organization's (WHO) Alliance for Patient Safety (WHO, 2007). Although still relatively new to patient safety practice, community

participation in the form of patient safety councils accords with recommendations of leading agencies, including the World Health Organization, which place a premium on involving patients in intervention efforts (WHO, 2007).

Given their training, it is not difficult to imagine health educators having a significant role in organizing efforts such as the CAPS Patient Safety Council or, indeed, the WHO's Alliance for Patient Safety. Health educators are not only skilled in bringing people to the table, they also have training in organizing and facilitating collaborations among patients and health professionals. As a profession, health education emphasizes the challenges of empowerment and capacity building as well as the ways tokenism can creep into even the most well intentioned efforts. As illustrated during a recent international conference sponsored by the Institute for Family-Centered Care (2007), community engagement processes hold strong promise for hospitals and organizations trying to reduce medical error. Indeed, if that gathering were an indicator of where the movement is heading, community involvement will continue to gain momentum in patient safety practice. In this context, health educators can play a key role in ensuring that patients have a meaningful voice in moving the field of patient safety forward.

► CASE 3: SOCIAL MARKETING

Social marketing is a third approach that although not often explicitly applied to patient safety holds great promise for the field. The concept of

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social marketing originated with the work of Kotler and Zaltman (1971), who proposed using commercial marketing methods for the purposes of social change. Like commercial marketing, social marketing strives to impact people's voluntary choices; unlike its commercial counterpart, however, its primary beneficiaries are meant to be its audience (Maibach, Rothschild, & Novelli, 2002). Core concepts of social marketing include (a) *product*, or a "bundle of benefits" an intervention or proposed course of action offers in terms of materials, services, messages, and opportunities; (b) *price*, or the material and psychological barriers associated with the product; (c) *place*, or the context in which marketing messages or products and the audience will interact; and (d) *promotion*, or means of making the audience aware of the product (Maibach et al., 2002). Social marketing efforts are ideally informed by health behavior and health communication change theories, and key strategies include audience segmentation and message tailoring (Maibach et al., 2002).

The Institute for Healthcare Improvement (IHI) has developed a notable

example of a social marketing campaign in patient safety aimed at the organizational level. Using the slogan "Some is not a number, soon is not a time," Donald Berwick, the president of IHI, unveiled the 100,000 Lives campaign in 2004 (Berwick, Calkins, McCannon, & Hackbarth, 2006, p. 324). The purpose of that campaign was to invite U.S. hospitals to voluntarily adopt a number of organizational policies proven to reduce the occurrence of medical error. Berwick's bundle of benefits consisted of six basic strategies researched and endorsed by IHI, including (a) the use of "rapid response teams" to provide an immediate, multidisciplinary response to cardiac arrest; (b) standardized medication reconciliation processes; and (c) implementation of guidelines to prevent central line and surgical site infections (Berwick et al., 2006). Based on mortality reduction data associated with these strategies, IHI estimated that 100,000 lives could be saved in 18 months. In fact, 1 year after the campaign was introduced, more than 3,000 hospitals had joined, and by its end, IHI reported meeting its goal with a reduction in mortality of 122,000 lives according to data submitted

by partner hospitals (Berwick et al., 2006).

The success of the 100,000 Lives campaign can be seen as due in part to Berwick's effective use of social marketing techniques. The "products" or six strategies endorsed by IHI were strategies specifically chosen to be research-based, widely accepted by patient safety experts, and relatively easy for hospital administrators to understand and implement. At the same time, signing on with the campaign offered hospitals favorable publicity and the chance to be associated with Berwick's star power. The "price" of the program was minimized by providing partner hospitals with tools for implementing the six basic strategies and for tracking progress. In terms of "place" and "promotion," Berwick's elevated status within the field of patient safety helped ensure that the national media as well as professional and governmental organizations ranging from the American Medical Association to the Centers for Disease Control and Prevention carried news of the campaign. In addition, high-profile media events and a catchy slogan added to the campaign's appeal. In these ways, 100,000 Lives succeeded in translating alarm about medical error into action, and its success has inspired an even more ambitious program called 5 Million Lives (IHI, 2007).

Health educators, who know that organizational- and policy-level factors often set the stage for clinical encounters, can help advocate for organizational change efforts such as these by drawing on social marketing ideas that have long been useful in bringing about such change. If Leape and Berwick (2005) are correct in their assertion that a "national commitment" to patient safety is unlikely to emerge in the near future, it will be up

to smaller entities such as nonprofit organizations, medical centers, and the like to engineer their own solutions to the patient safety crisis. In this environment, health educators, who are well versed in socioecological models of thinking, can help organizational leaders understand, document, and overcome the systems-level problems that contribute to medical error.

► CONCLUSION

As with so many other nascent health movements before it, the field of patient safety is awaking to the truth of health education's most fundamental adage: Knowledge is a necessary but insufficient basis for social and behavioral change. To decrease medical error, which claims as many as 98,000 lives each year, program planners in patient safety need to expand their focus beyond communicating threat and raising awareness. Developing practical strategies for action, involving patient communities in intervention design, and increasing the desirability and accessibility of patient safety programs through social marketing are three health education strategies for adopting a more savvy approach to fostering patient safety (Earp, French, & Gilkey, 2007).

The purpose of this article is not to suggest that health education theory replace or displace the systems change theories, such as high reliability theory and normal accident theory (Tamuz & Harrison, 2006), that are more commonly applied to an understanding of patient safety issues. Neither is it our goal to imply that the three conceptual threads selected for discussion here represent the only or even the most important contribution that health education might make to patient safety programs. Indeed, several other theoretical concepts, particularly those

related to social norms, also play a critical role in shaping the medical encounter. Instead, our aim here is to highlight several of the most intriguing interventions in patient safety to date and to use these programs as a basis for elucidating the role health educators can play in the design and evaluation of future patient safety efforts. Like nurses, physicians, and administrators, health educators have been steeped in a distinct tradition of thought, one that offers a valuable set of theories and methods for confronting the serious and widespread problem of preventable medical error.

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