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A Review of Qualitative Methods in Health Communication Research

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Abstract

This paper examines the ways that qualitative inquiry can be especially useful for gathering relevant descriptive data that can provide a deep understanding of health communication issues and processes, as well as to provide evidence-based guidance for addressing key challenges of health care delivery and promotion. This article promotes methodological diversity in research designs and illustrates the value of employing qualitative methods such as ethnography and grounded theory in health communication research. It is also provides calls for the application of less-used, unfamiliar qualitative methods such as phenomenology. Our careful bibliographic review of health communication research studies published over the past twenty years was conducted using the Google Scholar search engine (employing key search terms that included “health communication, qualitative, ethnography, phenomenology, grounded theory, and multimethod”) to guide our analysis of the uses of qualitative inquiry in health communication inquiry. Our analysis identified a breadth of qualitative research applications and opportunities for future inquiry. This article concludes with an analysis of challenges in qualitative research and a discussion of the usefulness of multimethodological research to address complex health communication challenges.

Keywords

Health Communication, Ethnography, Grounded Theory, Phenomenology, Multimethodological

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A Review of Qualitative Methods in Health Communication Research

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This paper examines the ways that qualitative inquiry can be especially useful for gathering relevant descriptive data that can provide a deep understanding of health communication issues and processes, as well as to provide evidence-based guidance for addressing key challenges of health care delivery and promotion. This article promotes methodological diversity in research designs and illustrates the value of employing qualitative methods such as ethnography and grounded theory in health communication research. It is also provides calls for the application of less-used, unfamiliar qualitative methods such as phenomenology. Our careful bibliographic review of health communication research studies published over the past twenty years was conducted using the Google Scholar search engine (employing key search terms that included "health communication, qualitative, ethnography, phenomenology, grounded theory, and multimethod") to guide our analysis of the uses of qualitative inquiry in health communication inquiry. Our analysis identified a breadth of qualitative research applications and opportunities for future inquiry. This article concludes with an analysis of challenges in qualitative research and a discussion of the usefulness of multimethodological research to address complex health communication challenges. Keywords: Health Communication, Ethnography, Grounded Theory, Phenomenology, Multimethodological

Introduction

Health communication research is an important, yet complex, area of applied inquiry designed to increase knowledge about the many communication challenges confronted in the delivery of health care and the promotion of health. Such knowledge is needed for enhancing the quality of health care and health promotion efforts (Britten, 2011; Glasgow et al., 2003; Kreps, 1989, 2001, 2008, 2011; Neumann, Kreps, & Visser, 2011; Nutbeam, 1996; Smedley & Syme, 2001; Smith, 1989; Villagran, 2011). Yet communication research on health care services and health promotion is complicated by the myriad individual, organizational, and societal factors that influence health-related decisions and behaviors, making it difficult to control for secular trends (uncontrolled social and environmental influences) that affect health care and health promotion practices (Finnegan et al., 1999; Kreps et al., 2002; Merzel & D'Afflitti, 2003). Communication research on health care and health promotion must take into account numerous situational, psychological, and societal factors to fully examine the often-hidden dynamics of health care and health promotion (Simpson & Freeman, 2004). This essay examines the ways that various qualitative research designs can provide the depth of understanding needed to address the underlying issues of complexity in health care and health promotion. The methods selected in this essay are representative of the many qualitative methods available and this selection demonstrates the philosophical and practical variety in qualitative research. A careful bibliographic review of health communication research studies published over the past twenty years was conducted using the Google Scholar search engine (employing key search terms that included "health communication, qualitative, ethnography,

phenomenology, grounded theory, and multimethod") to guide our analysis of the uses of qualitative inquiry in health communication inquiry. Our analysis identified a breadth of qualitative research applications and opportunities for future inquiry.

There is a large and growing body of health communication research that employs a broad range of research designs, methods, and theories (Glasgow et al., 2004; Kreps, 2001; Whaley, 2014). While the traditional, default gold standard for biomedical research has long been assumed to be the use of randomized clinical trial (RCT) experiments to promote research precision, control, and prediction, in reality there is great methodological diversity in health communication research (Concato, 2004; Concato et al., 2000; Jadad & Rennie, 1998). The over-reliance of using self-report measures with respondents, such as with standardized scales in questionnaires and interviews, in most quantitative research contributes to a lack of complete understanding of the experiences of research participants, which is why researchers have turned to qualitative methods such as in-depth personal interviews and focus group discussions to provide a full account of the lived experiences individuals in society (Kreps, 2008). Qualitative research is particularly useful to seek answers to questions about the 'what', 'how' or 'why' of phenomena rather than 'how much' or 'how many' (Britten, 2011); or when the subject matter to be investigated is ill defined; not understood; complex, sensitive, concerns with processes; requires an understanding of detail; or requires new ideas or creativity (Britten, 2011).

There are unique advantages and disadvantages to various research methods, and it behooves health communication researchers to select the best methods for addressing particular research questions (Kreps, 2001, 2002; Maclean & Eakin, 1992; Sackett & Wennberg, 1997). Sometimes the best approach is to combine methods into mixed method or multimethodological designs (Johnstone, 2004; Nutbeam, 1999; Kreps, 2008; Neumann, Kreps & Visser, 2011; Kreps, 2011). Effective health communication research captures the complexities of health care by gathering deeper, broader and practical insights into phenomena using appropriate methodologies (Neumann, Kreps, & Visser, 2011). This essay examines the particular strengths of utilizing various qualitative research methods such as ethnography, grounded theory, phenomenology, and multimethodological research designs for generating valid, reliable, and useful data for enhancing health care delivery and promoting public health. A careful bibliographic review of health communication research studies published over the past twenty years conducted using the Google Scholar search engine (employing key search terms that included "health communication, qualitative, ethnography, phenomenology, grounded theory, and multimethod") guided our analysis of the uses of different qualitative research designs in health communication inquiry.

Ethnographic Research in Health Care and Health Promotion

Ethnography is a qualitative method for generating in-depth descriptions and analyses of social events, often through the use of direct observations, participant-observations, and/or unstructured personal interviews with key respondents (Frey et al., 2000). Ethnographic work has the potential to enrich understanding of the many underlying processes and motivations that influence health and health care (Lambert & McKevitt, 2002). While a great strength of ethnographic research is its depth of analysis, a commonly cited limitation is the generalizability of ethnographic research results, since ethnographies are often conducted within a single health setting and usually employ purposive rather than random sampling strategies, for example, note that each method utilizes sample methods that is unique to the type of methodology (Devers & Frankel, 2000; Mantzoukas, 2004). Since each ethnography focuses on examining a very unique population, it is difficult to generalize findings from one study to other populations. Care must be taken when generalizing the results of ethnographic research across populations and settings. Another concern about ethnographic inquiry is the

validity of subjective interpretations of health events and processes by researchers. Though the purpose of ethnography is to know something as it is situated in its culture and hence some findings may be generalized and some may not, some scholars argue that researchers' internalized personal experiences should be acknowledged as it influences the research design, process and relationships with research participants (Ellingson, 2006), and that personalization presents clearer understanding of the social reality of the research setting (Goodall, 2004). The integration of the researcher into the research process in ethnographic research provides an egalitarian framework that considers the positionality of the researcher and structures of power that silences marginalized groups in research (Ellingson, 2006). Some have called for intersubjective strategies for helping to validate ethnographic research interpretations (Finlay, 2002).

To describe the positionality and orientation of the authors of this article (Liza and Gary) we will each describe our individual experiences and orientations to qualitative health communication research. Liza has a deep appreciation and personal experiences using qualitative methods to examine complex health communication issues. For example, she used auto-ethnographic methods to recount, examine, and analyze her powerful experiences of her diagnosis, treatment, and her long-term recovering from a deadly form of cancer that occurred while she was a college student study very far from home. This study is reported in her moving book, *Honest Words: A Young Person's Story and Guide to Cancer Survivorship* (Ngenye, 2015). More recently, in her doctoral dissertation research (conducted under the direction of Gary Kreps who served as her dissertation advisor), she conducted an ethnographic study of the influential communication relationships that develop between cancer patients and their family caregivers. She used narrative analysis of personal stories she gathered from both patients and their caregivers using in-depth personal interviews and the critical incident technique (Ngenye, 2018).

Gary has been conducting health communication studies for many years, employing multiple research methods to examine a wide-range of health issues (including cancers, HIV/AIDS, mental health issues, chronic diseases, environmental health risks, infectious diseases, and obesity). As a health promotion interventionist (someone who develops and implements communication programs to address health issues) he regularly uses qualitative methods to gather in-depth information about health communication problems, needs, and opportunities to guide the development and implementation of new communication programs, policies, and technologies. Many of his studies are conducted with unique vulnerable and at-risk populations who have very different backgrounds from him (often they are from different countries, races, ethnicities, occupations, sexual orientations, religions, and sometimes use different languages then he does). So, he often employs cultural informants and research partners in his studies to help understand the diverse populations he studies. He typically conducts in-depth personal interviews, focus group discussions, document analyses, and participant observations to learn about unique health communication needs and experiences. Although his graduate training was primarily in the use of quantitative methods, he has become a strong advocate for the use of qualitative research, as well as for conducting multi-methodological studies, and has published widely about these issues (Kreps, 1989, 1995, 2001, 2002, 2006, 2008, 2011).

There is a long tradition of studying health care systems and health behavior through ethnography such as the classic ethnographic work of Becker et al. (1977) and Kleinman (1980, 1988). However, until recently such research was not well accepted within the mainstream health care and health promotion research, and ethnographic research was rarely solicited through federal research funding (Green & Thorogood, 2018; Savage, 2000). Lately, though, there have been calls for more ethnographic health research, including new research funding opportunities (Meyer, 2000). The National Science Foundation has introduced an Ethnographic

Research Training Grant (2001). The National Institutes of Health introduced a Program Announcement for Research in Methodology and Measurement in the Behavioral and Social Sciences that identified ethnographic research as an area of particular interest (2002), and released a Request for Applications on Supplements for Methodological Innovations in the Behavioral and Social Sciences that specified the need for ethnographic research (2003). The use of ethnographic qualitative research methods has been gathering strength in health communication research (Devers & Frankel, 2001; Dixon-Woods, 2003; Simpson & Freeman, 2004). For example, Ellingson (2003) reports a fascinating participant observational field study conducted in cancer clinics to identify the communication patterns used to engender teamwork. Ellerbeck et al. (2001) conducted a direct observation study of physician-patient encounters in 38 physician offices to better understand colorectal cancer (CRC) screening practices in primary care. Leydon et al. (2000) conducted a revealing ethnographic study using in-depth personal interviews with 17 patients with cancer diagnosed in the previous 6 months to explore why cancer patients do not want or seek information about their condition beyond that volunteered by their physicians. These studies provide important insights into the underlying influences on health care and health promotion behaviors.

Grounded Theory Method Research in Health Communication

Grounded Theory is a research method that inductively formulates theory based on participant data. Grounded theory blends empiricist rigor with the rich qualitative data of incorporating social constructivism based on the assumption that social reality is multiple, processual, and constructed (Charmaz, 2014). The goal of Grounded Theory methods is theory construction as theories attempt to answer questions and account for what happens, how it ensues, and may aim to account for why it happened (Charmaz, 2014). The process of theory construction is iterative, going back and forth from data collection to analysis; involves constant comparative analysis, comparing how data compares across interviews or within the same interview; grounded in the use of codes and categories to define the boundaries and elements of emergent theory; and guided by the researcher's analysis of the process through memo-writing. The hallmark of Grounded Theory method is emphasis on theoretical sampling and saturation to provide necessary validity and reduce erroneous interpretations and researcher bias. The Grounded Theory method enables the researcher to construct abstraction and simultaneously tie these abstractions to data; it means learning about the specific and the general – and seeing what is new in them – then exploring their links to larger issues or creating larger unrecognized issues in entirety (Charmaz, 2014).

Salmon, Mendick, and Young (2011) provide an excellent example of the use of grounded theory to develop and test health communication theory, since it has been difficult to define what good theory is even though the utilization of theories are associated with better clinical outcomes. The authors developed a method to study this relationship from the subjective experiences of participants and tested the potential of this method to the larger goal of defining the tenets of the theory. The study unit was a breast cancer unit in a socio-economically diverse urban population in the United Kingdom. The researcher was a non-participant observer of 20 breast cancer patient consultations and he also interviewed patients and surgeons separately. Data analysis involved cross-case analysis of the three different types of data, consultations, interviews, and within-case analysis to ensure procedural lineage and conceptual cross fertilization, or utilization across different types of data. To ensure the quality of this analysis and theoretical validity, the authors connected their analyses with broader theory and catalytic validity—potential to influence practice and research. These major theoretical takeaways from the research study: patients define emotional concern as how effectively physicians employ expertise, instead of addressing emotional issues, or using

emotional talk, as previous literature suggests; personalization is best expressed through nonverbal behavior such as eye contact; and authenticity and ethos are key to a successful patient-provider relationship.

Call for Phenomenology in Health Communication Research

In our review of the published health communication literature over the past twenty years we found that phenomenology is rarely used as a research design in comparison to Grounded Theory and Ethnographic research designs, yet it yields interesting results to complex questions in health communication research. Simply stated, phenomenology is the offspring of philosophy and science. The father of phenomenology Edmund Husserl once made the statement that woe one who has the misfortune to be in love with philosophy (Moustakas, 1994) The love of philosophy is the beginning to the field of phenomenology. Not so much a field or academic discipline, phenomenology is more like a perspective of looking at abstract things such as despair, loneliness, guilt and victimization, among other complex human experiences that are not necessarily negative emotive experiences. Phenomenology is to uncover what we see, think and feel, and bring them to light so that everyone else, who has similar experiences, can validate the universality of these human experiences. Phenomenology is a research approach to inquiry that seeks to understand individuals and their meanings and interactions with others and the environment (Lopez & Willis, 2004). Moustakas (1994) shares a method to conduct an organized, disciplined and systematic study. This methodology begins with a source of curiosity in one's life. Then, the researcher asks questions and dives into the literature to hear what other scholars say about the phenomenon, or life experience. Afterwards, the researcher finds others who will collaborate in the quest to define and describe this experience (Moustakas is adamant in referring to research participants as co-researchers). Next, the researcher creates a set of questions to guide the conversation with the co-researchers. The sixth step, the actual in-depth and lengthy interview, is probably the most difficult part of this process. Moustakas and his predecessor Husserl (1970) were concerned that the researcher's experiences might interrupt the uncovering of these phenomena, and therefore transcendental phenomenology advocates that the researcher puts aside his own thoughts, interpretations, and personal identity in a strategy called bracketing. Finally, the researcher organizes and composes textual and structural descriptions, referred to as meanings and essences, of the phenomenon.

Phenomenology has two distinct schools of thought: descriptive (eidetic) phenomenology and interpretative (hermeneutic) phenomenology. The descriptive (eidetic) approach arose from Husserl's (1970) ideas that human experiences have significant value with features that are common to all persons who have those experiences—universal essences or eidetic structures—that are generalizable. Therefore, it is essential for the researcher to shed all prior personal knowledge to grasp the essential lived experiences of those being studied (Lopez & Willis, 2004). This means that the researcher must actively strip his or her consciousness of all prior expert knowledge as well as personal biases through the removal of a detailed literature review and specific research questions, and other techniques such as bracketing, holding off the researcher's ideas, preconceptions and personal knowledge. This rigorous scientific approach is objective and non-contextual with the goal of transcendental subjectivity, whereby the researcher's influence is completely negated. On the other hand, interpretative (hermeneutic) phenomenology is the product of Heidegger (1962), Husserl's student who challenged his predecessor's ideas. The divergence of interpretative phenomenology is Heidegger's belief that humans cannot abstract themselves from the world; therefore, is not the pure content of human subjectivity that is the focus of a hermeneutic inquiry (Lopez & Willis, 2004). Interpretative phenomenology puts the context back into inquiry, conceptualized as situated freedom, which perceives that subjective experiences are

not absolute but rather inextricably linked with social, cultural, and political contexts, including the positionality of the researcher. Central to this argument is co-constitutionality, a concept that indicates the shared meanings of both the researcher and the participant, metaphorically represented by a fusion of horizons that explains this act of intersubjectivity. Interpretation is fluid and plural, and instead of one true meaning there could be more than one interpretation depending on the focus of the research. Researchers should begin their research inquiry with a clear statement of purpose, then choose which philosophical approach best fits the stated purpose, and finally select the method most appropriate to guide research design, structure and findings. Phenomenology is attractive to the researcher with an inquisitive mind and is useful to uncover the depths of experiences that many health communication researchers will encounter in the complex social realities of the health communication field. For example, Graffigna et al (2011) reported a powerful phenomenological study using ethnoscience to explore the depth of cancer patients experiences and responses to cancer related fatigue.

Challenges in Qualitative Health Communication

One of the biggest challenges that researchers face in qualitative research is the issue of validation. The practice of validation serves a methodological and ethical imperative to assess the validity, credibility, accuracy and rigor of measurements and interpretation. Validation is conducted in two stages of the research process; either after transcription to confirm accuracy before analysis and coding; or after the initial or final analysis to validate researcher interpretations of data (Goldblatt, Karnieli-Miller, & Neumann, 2011). Validation, also referred to as member check, may be risky as it may cause harm to participants and the relationships they have with each other. In one example, a researcher shared her findings with her participants in a closed environment, and one of the participants broke out hysterically at one de-identifiable quote (Goldblatt, Karnieli-Miller, & Neumann, 2011). To prevent harm, confusion and disappointment, qualitative research credibility is imperative, and to ensure trustworthiness, researchers should ensure anonymity; sufficient context in verbatim quotations; external validation to reduce researcher biases; acknowledging differences in perspectives and balance in positive and negatives in cases (Goldblatt, Karnieli-Miller, & Neumann, 2011). The advantages of member checking is to assess validity of findings, that they are true to nature, and preserve the authenticity of the research process in line with ethical standards of qualitative research.

Participant recruitment is a challenge to many health communication researchers conducting clinical research. When recruiting patients, there are risks of over-or-under-representation of certain populations; struggles to gain access, maintain participant interest, and overcome apprehension and concerns of participants. Shue (2011) suggests three strategies to reach patient populations: (1) study the priority population, (2) minimize the research burden, and (3) be flexible in using various recruitment strategies. When recruiting physicians, researchers are met with even lower participation rates due to physician workload, lack of time, fear of negative impact from research results, and uncertainty about attaining a reasonable sample size. Shue (2011) advises that relationship-building is key to physician recruitment. Her suggestions are to involve physicians in the research design process, utilize physician advisory boards or professional associations, and use of physician recruiters (Shue, 2011). Physicians are likely to participate if the study results will positively impact their clinical practices and enable the physicians to develop further their patient-care skills (Shue, 2011). Using these methods, Shue recruited 196 patients in a 15-month data collection period of her clinical study (2011). Shue warns researchers of costs associated with clinical research such as time, monetary costs, financial incentives, advertisements and promotional materials, and staff costs.

These issues become a greater concern in qualitative methodology where there may be limited sources of grant-funding available.

Unannounced Standardized Patients (USPs) are deployed to capture real-time clinical encounters and minimize response bias in clinical settings. Since certain types of clinical encounters are unpredictable, USP methodology provides a window into what occurs in the practice encounter in a manner that is not possible with other indirect methods (Siminoff, 2011). Even though USPs can be a logistical challenge, Siminoff and colleagues (2011) explained how they used USPs in their study to evaluate communication behaviors of physicians and shared how USPs can be successful. The authors advise researchers who are interested to use USPs to utilize following strategies: first, ensure the correct training of USPs as this will safeguard data collection through role fidelity. Secondly, collaborate with a confederate such as the clinical office manager whose contribution will greatly impact the execution of the research study, handle logistical issues, and maintain USPs created identity. Lastly, provide feedback to the participants, in this case the physician, as this is the most critical part of the process. USP methods require long-term planning and monitoring, and so researchers need to be prepared to commit their time and resources to manage issues such as identity creation, recording technology, insurance, and other costs. Though their research study is ongoing, Siminoff and colleagues (2011) predict that the implementation of USP methodology will become easier and more widespread in health communication research.

Multimethodological Research in Health Communication

Multimethodological designs, often referred to as mixed methods research, have helped researchers capture many of the complexities of health communication processes through triangulation of quantitative and qualitative data, while overcoming many of the individual limitations of different research methods (Creswell et al., 2004; Frey et al., 2000; Johnstone, 2004). In fact, Nutbeam (1998, 1999) and others (see Barbour & Barbour, 2003; Kreps, 2002; McQueen, 2001) recommend using multimethodological research designs for evaluating the complex array of variables involved in health care and health promotion interventions. While the use of mixed methods is certainly more complex than single method research, the development of succeeding phases of research using different methods can help inform large-scale research projects, with data from earlier research phases guiding the development of later research phases, and directing the development of evidence-based health communication interventions (Kreps et al., 2002). Multimethodological research (MMR) often integrates qualitative (such as interviews, focus groups, or participant observations) and quantitative techniques (such as surveys, content analyses, and experiments) for data collection and/or analysis (Borkan, 2004). There are three ways to combine quantitative and qualitative research: conduct qualitative first as a preliminary, exploratory, or hypothesis-formation phase then follow up with quantitative methods; carry out both in parallel or; use qualitative methods to explain quantitative findings (Britten, 2011). While the comprehensive nature of integrating qualitative and quantitative methods adds to the strength of multimethodological research, it also adds to the complexity of organizing and conducting mixed methods studies. Researchers must take into account the additional time, resources, and coordination and collaboration they will need to conduct mixed methods research in health care and health promotion. For example, researchers who conduct multi-method research will need to examine how the different methods work together, whether there is an advantage to using one method prior to another, whether the data provided from one method will inform the use of other methods, and how to interpret contradicting or anomalous finding from different methods.

Here is an example of multimethodological research design. Van Staa (2011) used five methods—interviews, q-methodology, observations, focus groups and questionnaires—to

study adolescents with chronic conditions. This Dutch mixed methods study, MMR, expanded patient-provider communication research to triadic communication between adolescent patients, their parents and physicians. The researchers concluded that adolescents with chronic conditions desire to participate more in their own care and have their views taken seriously. In this article, van Staa integrated the findings of her MMR study and demonstrated the value of MMR in health communication research, especially triadic health communication in pediatric settings. Van Staa used the Good Reporting of a Mixed Methods Study (GRAMMS) quality criteria to design her research study. The synthesis of all methods used were developed into two steps: her qualitative findings were used for questionnaire development and then compared to the results of the quantitative dataset. Data validation was conducted through method triangulation, peer review and respondent validation. Van Staa's study (2011) proved MMR could be the third methodological paradigm as it offers a more complete understanding of social phenomena over a single method approach to unravel complex processes in health communication research.

Multimethodological research designs have been employed in recent years to examine complex health communication models, theories, and processes. For example, Query and Wright (2003) report a multimethodological test of the relational health communication model (Kreps, 1988) using ethnographic critical incident interviews in combination with on-line and paper questionnaires to examine relationships between social support, communication competence, and perceived stress in a study of well-elders, elderly individuals with cancer, and their lay caregivers. Livingood (2001) used a combination of ethnographic analyses and survey research to study tobacco possession law enforcement practices in four selected counties in Florida. Papp et al. (2004) conducted a multimethodological study combining focus group interviews and questionnaires to identify and model the effects of sleep loss and fatigue on resident-physicians' professional lives and personal well-being. Ross, Rink, and Furne (2000) report a mutimethodological evaluation of integrated nursing teams using a combination of time diaries, questionnaires, and semi-structured interviews. Kreps (1993) conducted an intricate multi-phase mixed method intervention study of nurse turnover and retention in an urban hospital by combining the use of in-depth personal interviews, questionnaires, focus group interviews, archival analysis of institutional records, and a natural experiment to compare nurse retention rates before and after the intervention at the intervention hospital and four control group hospitals. In this study the in-depth interviews informed the topics used in the focus group interviews and led to the development of the intervention that was tested. Mixed methods research has the potential to increase the sophistication and influence of health care and health promotion research.

An important approach to multimethodological inquiry has focused on community-participatory research in health care and health promotion (Minkler, 2000; Minkler & Wallerstein, 2002; White et al., 2004). Community participatory research seeks to fully involve community members as equal partners in developing and implementing health intervention research to increase the accuracy of data collected and the power of health interventions (O'Fallon & Dearry, 2002; Nyden, 2003). It typically involves multiple research methods, including ethnographic research to increase understanding of the unique characteristics and orientations of the intervention community (Kreps, 2006). For example, Ammerman (2003) examined the expectations and satisfaction of pastors and lay leaders regarding a research partnership in a randomized trial guided by community-based participatory research for influencing health and dietary habits within an African American community. Naylor et al. (2002) reported an evaluation of a community-based participatory research heart health project, the British Columbia Heart Health Demonstration Project, that utilized both a population heart health approach and a community mobilization model for promoting public action on heart health. Quigley et al. (2000) conducted a community participatory research program to assess

nuclear risks with Native-American community members and to promote community-based hazards management planning. Community participatory research, while complex and sometimes cumbersome to administer, shows great promise for effectively translating health communication research into practice, as well as for increasing both the participation and sustainability of health intervention programs.

Discussion

In summary, we find from this review that health communication is an important, vibrant, and diverse area of research that utilizes a broad range of different, yet often complementary, research methods. Some of our key findings suggest that health communication research has the great potential to inform health care and health promotion policy and practice, ultimately helping to save lives and increase quality of life. The very importance of this research area mandates that great care be taken to make sure that health communication research generates valid, reliable, and relevant data to inform health care administrators, providers, and consumers (Glasziou et al., 2004). Care must be taken to utilize research methods that most effectively address the specific research questions posed and provide researchers with both the precision and depth of analysis to reach meaningful and generalizable conclusions for guiding interventions (Glasgow et al., 2002). Translating health communication research into sustainable practice has often been raised as a key issue of concern (Bull et al., 2003; Glasgow et al., 2003; Ory et al., 2002). Issues of poor ecological validity and limited accuracy of measurement can limit the applications of health promotion research (Kreps, 2001; Schmuckler, 2001). There have been calls for macro-social approaches to studying health behavior within social contexts to increase our understanding of how to apply health communication interventions in society which is consistent with the use of in-depth qualitative methods to generate revealing data about the larger social issues and contexts that influence health communication (Finnegan & Viswanath, 1997; Viswanath & Finnegan, 2002).

For example, the incorporation of interactive media can prove useful for research design. Application of interactive media provides, greater access to patients with low literacy skills, stigmatized or invisible illness, and those with extensive social networking experiences (Villagran, 2011), including those in the margins of society. Interactive media offers tools for engagement giving research participants more latitude in the co-creation of the research process through data collection, instantaneous feedback, and contextualization of responses. Finally, interactive media may provide a mechanism for longitudinal data collection and monitoring. Research has always been about listening to the response of participants, and listening through the use of social media provides data about what people think, feel, say, and do, without the hazards of gatekeepers, artificial contexts, or sampling biases caused by geography (Villagran, 2011). Researchers should be aware of the many relative benefits of interactive media in health communication research.

Qualitative inquiry can provide context and information rich data for increasing the validity of health communication research. When qualitative and quantitative inquiry are effectively combined in multimethodological designs, researchers can enhance validity, reliability, and application of research findings. Due to the many complexities inherent in health communication processes, researchers need to select research methods that will allow them to fully examine the multiple variables and influences on health (Campbell et al., 2003). Quantitative and qualitative approaches to health communication research provide differing, but also complementary, levels of research control, precision, prediction, and depth of analysis, indicating the great value of combining quantitative and qualitative measures (Calderon et al., 2000; Morgan, 1998). Researchers are encouraged to utilize the best available methods for

answering specific research questions or consider multimethodological designs. The diversity of available research methods provides researchers with many tools for conducting high quality health communication research. Mixed-method (multimethodological) research that combines qualitative and quantitative inquiry has been shown to provide particular strengths in helping to overcome many of the limitations of individual research methods and strengthening the overall validity of research results (Borkan, 2004; Stange & Zyzanski, 1989). Multimethodological research lives up to the systems theory principle of requisite variety that suggests that the best reactions to complexity match the complexity of any initial condition with the responsive process (Kreps, 2009; Weick, 1969). With the advent of careful, thoughtful, and rigorous research planning and implementation, there is a future of increasingly powerful, valid, and relevant qualitative research in the area of health communication that will make significant contributions to public health.

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