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Through Their Eyes: Lessons Learned Using Participatory Methods in Health Care Quality Improvement Projects

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Abstract

In this methodological article, we examine participatory methods in-depth to demonstrate how these methods can be adopted for quality improvement (QI) projects in health care. We draw on existing literature and our QI initiatives in the Department of Veterans Affairs to discuss the application of photovoice and guided tours in QI efforts. We highlight lessons learned and several benefits of using participatory methods in this area. Using participatory methods, evaluators can engage patients, providers and other stakeholders as partners to enhance care. Participant involvement helps yield actionable data that can be translated into improved care practices. Use of these methods also helps generate key insights to inform improvements that truly resonate with stakeholders. Using participatory methods is a valuable strategy to harness participant engagement and drive improvements that address individual needs. In applying these innovative methodologies, evaluators can transcend traditional approaches to uniquely support evaluations and improvements in health care.

Keywords

health care; participatory action research (PAR); photography; photovoice

Integrated and continuous quality improvement (QI) is needed to advance the quality of health care (Berenholtz, Needham, Lubomski, Goeschel, & Pronovost, 2010; Institute of Medicine, 2001). Identifying appropriate methods to evaluate and improve care is often challenging, however, given complexities and variations across health care systems (Grol, 2001; Grol, Baker, & Moss, 2002). Successful QI warrants an in-depth understanding of the contexts in which care takes place to inform improvement strategies (Davis, Schoenbaum, & Audet, 2005). To this end, a better understanding is needed around methodological approaches that transcend traditional techniques to comprehensively evaluate health care quality and needs for improvement.

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Declaration of Conflicting Interests

The authors declare that there is no conflict of interest.

The use of methods that engage patients and health care providers in QI may be particularly beneficial to evaluate and improve health care (Schmitt diel, Grumbach, & Selby, 2010). Given their integral involvement in the health care system, patients and providers offer important insights into care processes. Researchers suggest that providers may have different views than patients on such issues as patients' information needs and values, the nature of interactions with staff, and issues related to staffing levels (Bolderston, 2008; Hostutler, Taft & Snyder, 1999). Though a transition to patient-centered care (PCC) would encourage providers to be better aware of patient needs and preferences, eliciting patient perspectives is essential to ensure care is truly patient-centered. Participatory methodologies represent an innovative approach to effectively partner with patients and providers in QI and develop foundations for improvement.

Participatory methods are centered on the principle that participant engagement can provide value throughout research planning and implementation, yielding findings that directly reflect a community's needs and perceptions (Lorenz & Kolb, 2009). Participants are given an active role, allowing them to shape the direction and methods of the research itself. Through this approach, participants gain a vested interest in the research and are enabled to feel truly engaged (Baker & Wang 2006; Israel et al., 2010). Multiple benefits are associated with the use of participatory methods in health care settings, including developing collaborative and productive partnerships with participants, providing participants with a voice, and harnessing participant engagement to stimulate positive change (Jagosh et al., 2011, 2012).

Guided tours and photovoice are two participatory methods that have been successfully used in health care research (Catalani & Minkler, 2010; DeLyser & Sui, 2013). Although each represents a distinct research technique, both align with the overarching goal of participatory methodologies to understand complex phenomena and promote positive change by partnering with individuals and communities (Israel, Eng, Schulz & Parker, 2013). Prior studies have shown that use of these methods empowers communities to be engaged in improving health (Catalani & Minkler, 2010). Furthermore, their application yields rich data that can be translated into tailored health care interventions (Cabassa et al., 2013; Garcia, Eisenberg, Frerich, Lechner, & Lust, 2012). Limited data exist, however, around the use of participatory methods, specifically guided tours and photovoice, in health care QI projects. Building upon the emerging support for participatory methods in QI (Schmitt diel et al., 2010), a growing need exists to better understand the value of these methods.

In this methodological article, we examine participatory methods in-depth, offering examples from our QI projects using guided tours and photovoice, to demonstrate how these methods can be effectively adopted for QI in health care. We contribute to existing literature by demonstrating how methods for health care QI projects can be enhanced with the use of these innovative methods. We begin by providing an overview of the methods, as well as guidance on how and when to use these methods and the data generated from them. Finally, we provide lessons learned from our QI projects that can inform the design and development of participatory research to evaluate and improve quality of care.

Context

The Department of Veterans Affairs (VA) represents the largest, integrated health care system in the United States (US; Department of Veterans Affairs, 2013). In its mission to provide high-quality health care tailored around the health and wellness needs of US Veterans, the VA is currently working to incorporate PCC into health care practice (Gaudet, 2012). To this end, the VA Office of Patient-Centered Care & Cultural Transformation (OPCC&CT) has identified VA facilities as Centers of Innovation (COIs) to pilot a range of PCC innovations. These innovations include enhancing access to health care and information, delivering coordinated and team-based care, and actively engaging patients and their families in care processes (DVA, 2013).

As part of a larger evaluation of the process and impact of PCC innovations at COIs, we conducted QI projects to explore the meaning of experiences from participants' perspectives. We used qualitative, participatory approaches to engage patients and providers in data collection, capture the outcomes of the transition toward PCC, and identify directions for future innovation and QI. The results of these projects are published elsewhere (Balbale, Morris, & LaVela, 2014; Balbale, Turcios, & LaVela, 2015; Locatelli, Turcios, & LaVela, 2014, 2015).

Methods

Guided Tours: Overview

In recent years, there has been a renewed interest in research capturing how individuals navigate through and conceptualize their environment (Fink, 2012; Miaux et al., 2010). Guided tours are among the emerging mobile methods that emphasize the importance of the evaluator being present and in motion with the participant (DeLyser & Sui 2013), to make data collection a shared journey. Guided tours involve participants guiding researchers through their environment, discussing details through the aid of open-ended questions (Hall, Lashua, & Coffey, 2008).

Despite similar data collection methods, guided tours methodology has been known by many different names, including soundwalks (Hall et al., 2008; Pink et al., 2010), guided walks (Pink, 2007; Ross et al., 2009), mobile interviews (Brown & Durrheim 2009), walking interviews (Evans and Jones, 2011), narrative walk-in-real-time (Miaux et al., 2010), itinerary methodology (Miaux et al., 2010), and walk-alongs/go-alongs (Delyser & Sui, 2013; Garcia et al., 2012). We propose use of the term 'guided tours,' as we feel this terminology effectively captures the spirit and procedure of this methodology. Given the purpose of these methods to capture the environment as experienced by the participant, researchers can focus on specific elements of the environment (e.g., noise level, navigability) within a guided tours framework.

Guided Tours Procedure

A guided tour is an interview in motion through the environment of interest. The researcher walks alongside the participant, listening and asking questions to foster discussion or understand participant perspectives. Tours are frequently recorded with participant

permission and, in some cases, permission of others within an environment. The simplest guided tour can be conducted using field notes. For our studies, we used audio recording due to limitations on video recording within VA facilities. However, participants were given complete control over the recording device and direction of the tour, choosing the environmental elements they wished to show the evaluator. This was done to address any potential ethical issues with regard to other individuals or conversations appearing on recorders; participants could stop the recorder on these occasions, and begin recording again when the tour continued.

At the starting location, participants should receive a brief one-on-one orientation to guided tours, where the researcher shares the purpose and basic procedure. Participants should be asked for permission to record, and shown how to operate the audio or video recorder. Above all, it should be impressed upon participants that they are “running the show” and are free to refuse to answer any questions, stop and start the recording whenever they wish, and stop participating at any time. In our guided tours studies, we asked Veteran participants to lead the evaluator through their VA health care facility and describe a typical visit for them. We asked provider participants to lead the evaluator through the facility as though they were a Veteran and discuss the health care environment and experience. Further details around what participants were asked to do can be found elsewhere (Locatelli, Turcios, & LaVela, 2014, 2015).

Necessary Skills for Guided Tours

Guided tours data are predominantly qualitative (Hall et al., 2008); a researcher skilled in interviewing technique is essential to gathering rich, meaningful data. A necessary element of any participatory method is a researcher who is able to give up control of the study to participants. Intense listening and the ability to ask relevant and timely follow-up questions are essential skills for conducting qualitative interviews (Rubin & Rubin, 2012). Furthermore, guided tours require a generally unstructured approach to interviewing, though some basic questions may be generated beforehand (Brown & Durrheim, 2009). Researchers must be flexible in direction and length of the tour, as each participant’s unique experience will affect the breadth and depth of topics discussed. Therefore, guided tours are best undertaken by experienced qualitative researchers who are comfortable with the level of uncertainty inherent in this type of qualitative inquiry.

In our study, only five questions were generated for patients, dealing with routine activities when coming to an appointment, thoughts on waiting areas, presence of family and/or friends, where they seek help navigating the facility, and preferences for an ideal care experience (Locatelli, Turcios, & LaVela, 2014). Two questions were generated for providers, including availability of assistance for navigating the facility, and how the patient experience could be improved (Locatelli, Turcios, & LaVela, 2015). Probes were generated to use if a participant was having difficulty narrating their tour. Questions should be non-directive to avoid influencing participants’ responses (Rubin & Rubin, 2012).

Guided Tours Sampling

Researchers performing guided tours generally use purposive sampling, however, stratified purposive sampling, dissimilar cases sampling, or snowball sampling may also be used (Miles & Huberman, 1994; Patton, 2002; Sadler, Lee, Lim, & Fullerton, 2010). Sampling strategies should be systematic and facilitate involvement by people with the most relevant perspectives. Sample size will vary depending on selected characteristics, but guidance on sample size in qualitative research suggests that approximately 20–30 participants are needed in interview studies (Curry, Nembhard, & Bradley, 2009). Smaller sample sizes in participatory studies are especially appropriate given the need to partner with participants and derive in-depth insights into their needs and experiences (Schulz & Parker, 2005). In our studies, we stratified by role (patients or employees) from two VA COI facilities and sought to recruit 20–30 participants for each role; our final sample included 30 patients and 25 employees (Locatelli, Turcios, & LaVela, 2014, 2015).

Guided Tours Data Analysis

Recordings should be transcribed verbatim to facilitate qualitative analysis. Coding should begin early, ideally after the first guided tour (Corbin & Strauss, 2008). Memoing and identifying potential themes in between tours can help facilitate analysis and collecting meaningful, saturated data. In our studies, the evaluator responsible for data collection used time in between guided tours to compile notes and potential themes. These documents were later used during codebook development.

Use of qualitative analysis software is strongly recommended. These programs allow researchers to import video or picture files as data, and to link transcriptions with visual data. Capturing sights and sounds may assist the researcher with understanding and demonstrating the participant's meaning. It is important to note, however, that the data being collected (and analyzed) are participant reactions and interpretations.

Although other approaches may be appropriate, qualitative analysis should generally be guided by ethnographic techniques (Pink, 2007). These approaches tend to be data-driven, and follow a similar approach as grounded theory analysis. In grounded theory, transcripts are open-coded using what Saldaña (2009) refers to as First Cycle Coding techniques, such as descriptive and process coding. After First Cycle methods are applied, researchers should explore codes for common themes, combine categories, and examine context of discussion to derive participants' definitions, perceptions, and interpretations. This iterative process involves multiple comparisons between and among data, codes, and categories. Data saturation is achieved when no new concepts emerge during the coding process (Corbin & Strauss, 2008).

Other data may be incorporated into analyses. Survey data collected following guided tours can be used to classify participants and allow researchers to draw comparisons on coded results. Both guided tours and photovoice focus on the participants' environments as an essential part of the study. Visual cues, in photos or while touring the environment itself, help participants to remember experiences. Because of the similarities in data between these two methods, photovoice data can be triangulated with guided tours data to explore

contextual factors that shape perceptions and experiences. Maps may also be analyzed to incorporate environmental factors associated with participant responses.

Photovoice: Overview

Application of photovoice enables participants to use photography to document their needs, experiences and perceptions. Originally developed to promote community action (Wang & Burris, 1994), the methodology is centered on three main goals defined by Wang and Burris (1997): (1) enabling people to reflect and record their community's strengths and concerns, (2) promoting critical dialogue and knowledge about important issues through discussion of photographs, and (3) reaching policymakers.

Photovoice has been successfully used to identify needs, empower communities, and stimulate dialogue and action in a variety of health research areas and populations (Catalani & Minkler, 2010). Prior studies have also illustrated the method's increasingly broad scope that can be adapted to explore and address a community's unique needs through engagement and empowerment (Wang, Yi, Tao, & Carovano, 1998).

Photovoice is characterized by participants' active involvement during study processes. This involvement helps foster partnerships between researchers and participants, and can be used to develop interventions that resonate directly with participants' needs and preferences (Balbale, Schwingel, Chodzko-Zajko, & Huhman, 2013; Cabassa et al., 2013). We explored the use of photovoice in our QI project to better understand patient and health care employee perceptions of PCC in the VA at two COIs.

Photovoice Procedure

Although generally initiated and facilitated by evaluators, the photovoice process is largely driven by participants (Wang & Burris, 1994). Throughout a series of phases that involve participant-generated photography, narrative and subsequent discussion, participants are given control to shape the research process and explain their unique perspective. Researchers partner with participants to obtain a first-hand understanding of participants' conceptualization of a given subject. Photovoice data can, in turn, be used to lay the groundwork for tailored interventions adapted to the community's specific needs.

Study procedures can be adapted around participant needs, as well as logistical challenges faced by the evaluation team. In the initial phase of our study, and as described in prior photovoice studies (Cabassa et al., 2013; Fleury, Keller, & Perez, 2009), we included participant training around camera functionality, ethics, and safety. Key ethical considerations that should be addressed in photovoice studies include ensuring a consent process to inform participants about the study before they enroll; maintaining confidentiality of participant photographs and discussion; determining ownership of the photographs and other data generated; and clearly delineating the role of the researcher/evaluator as a partner who shares control of the study with participants (Wang & Redwood-Jones, 2001; Wang et al., 1998).

The goals of our study, digital camera equipment, and an initial theme or prompt for a "photo assignment" were provided to participants at this time. Guidelines to facilitate

photography were tailored for our study populations. We ensured that our instructions were brief, easy to understand, and enabled participants to use their creativity to define PCC for themselves. Participants were asked to capture 25–30 images of salient features in their surroundings that expressed their perspective. Veteran participants were asked to use their photography to describe their experiences and perceptions related to PCC received at their VA health care facility; provider participants were asked to use their photography to demonstrate how they contribute to the delivery of patient-centered care, and how the VA could enhance PCC (Balbale, Morris, & LaVela, 2014; Balbale, Turcios, & LaVela, 2015). Participants were encouraged to “tell their story” in a manner that was meaningful to them. We emphasized capturing images that were significant to participants themselves, without concern over picture quality or resolution.

Participant photography took place across four weeks after training. Duration of the photography phase varies across studies, ranging from a few weeks to several months (Hergenrather, Rhodes, Cowan, Bardhoshi, & Pula, 2009). During this time, our evaluation team assisted participants with camera troubleshooting questions or other study-related concerns.

Follow-up procedures draw on qualitative research techniques to engage participants in dialogue around their photographs. These often include semistructured or unstructured interviews and/or focus groups to allow participants to share personal narratives and meanings underlying their photographs. Participants are thus able to drive the discussion. We conducted semistructured interviews to explore participants’ photographs and perceptions of PCC, and used the SHOWeD method (What do you See here? What’s really Happening here? How does this relate to Our lives? Why does this problem or this strength exist? What can we Do about this?) to probe into the significance of photographs (Catalani & Minkler, 2010; Shaffer, 1985). Following examples from prior literature (Baker & Wang, 2006; Fleury et al., 2009; Wang & Burris, 1997), we asked participants to select any number of their own photographs and describe the intended meaning and significance of those photographs. This resulted in variation in terms of how many photographs were discussed in each interview, as participants selected and discussed as few as 6 and as many as 30 photographs; however, it ensured a focus on topics that were selected by participants and mattered most to them.

Necessary Skills for Photovoice

We used photovoice as a strategy to extract rich data while engaging patients and health care employees in a QI effort. Similar to guided tours, qualitative research and analytic skills were essential to implement our photovoice study. Prior photovoice literature has highlighted that qualitative skills and inquiry are integral to photovoice study designs (Wang et al. 1998).

Active listening, probing and developing follow-up questions in real-time were important components of the photovoice interviews. While the SHOWeD method defined basic questions to explore photographs, the interview process was largely unstructured, enabling participants to identify topics that they felt were relevant to their experiences as a VA patient or health care employee. As participants shaped the interview process and explained the significance of their photographs and experiences, it was essential that interviewers

continuously followed up with pertinent questions to extract meaningful data (Corbin & Strauss, 2008).

Potential bias may be introduced as participant training and instructions given by evaluators may influence participant photography and discussion (Wang & Burris, 1997). Thus, participant training was designed to minimize bias by providing brief and simple instructions around study procedures and camera use.

Our study was predicated around conducting a QI project in partnership with participants: listening to and accounting for their views around VA health care, understanding their unique context, and allowing them to drive data collection. In contrast with traditional methodologies, maximizing this partnership entailed giving up a level of control and entrusting participants with the ability to lead the process alongside our evaluation team.

Photovoice Sampling

We determined our sample size based on prior photovoice studies and recommendations (Catalani & Minkler, 2010). Participant samples from previous studies range from four to over 120 participants (Hergenrather et al., 2009). Additionally, our own logistics, timeline, equipment and resources were considered in determining sample size. Thus, we aimed to recruit 20–30 patients and 20–30 health care employees for the study. We used a convenience sampling strategy; however purposive sampling is also frequently used in photovoice studies (Hergenrather et al., 2009). Additionally, we disseminated printed flyers and informational materials to invite participation. Our final sample consisted of 22 patients and 12 health care employees across both VA COIs (Balbale, Morris, & LaVela, 2014; Balbale, Turcios, & LaVela, 2015).

Photovoice Data Analysis

Many analytical approaches exist for interpretation of photovoice data (Catalani & Minkler, 2010), and the process can be tailored around specific frameworks or study designs. Prior researchers have engaged participants in the data analysis process to develop themes and better understand participants' perspectives (Wang & Burris, 1994). Many researchers have used ethnographic or grounded theory approaches to identify themes (Cabassa et al., 2013; Carlson, Engebretson & Chamberlain, 2006; Fleury et al., 2009; Ripat & Woodgate, 2012; Wang et al., 1998) however, Burles and Thomas (2014) and Kantrowitz-Gordon & Vandermouse (2015) have shown that other approaches, such as phenomenology and discourse analysis, can also be used to interpret photovoice data. Additionally, computer software for qualitative data analysis is frequently used to facilitate analyses (Hergenrather et al., 2009).

In our study, while participant photography was instrumental in stimulating engagement and discussion, we did not analyze photograph content. This is common in photovoice studies, as the focus is typically around participant interpretation of photographs and subsequent qualitative discussion, rather than the photographs themselves (Catalani & Minkler, 2010; Wang & Pies, 2004). Photographs described by participants during interviews were incorporated into interview transcripts before analysis. We used qualitative analysis computer software to facilitate analyses and to pair participants' photographs with interview

data. We used the constant comparative method to identify and develop emerging themes (Corbin & Strauss, 2008). Data were considered saturated when no new information, properties or dimensions were observed during coding (Bradley, Curry, & Devers, 2007; Corbin & Strauss, 2008).

Value of Participatory Methods: Engaging Participants

Participatory methods are intended to engage the individuals most likely to be impacted by the study objective and/or outcome. Multiple levels of engagement are possible at various stages in this paradigm (Jagosh et al., 2012). Daley et al. (2010) found that participants are engaged at all stages in few studies. The overall intention is to create a “safe space” in which key players can express their unique views (Baum, MacDougall, & Smith, 2006; Minkler, Blackwell, Thompson, & Tamir, 2003). Being clear about the intention of the project and the extent to which participants can be involved is essential to ensuring participants feel engaged and valued (Barreteau, Bots, & Daniell, 2010).

Participants have unique, firsthand knowledge about a topic of study that can inform study planning (Barreteau et al., 2010). Though researchers may view conventional research approaches as incompatible with participant involvement and empowerment, Laverack & Labonte (2000) demonstrate that these approaches can be combined. Specifically, when determining research objectives, researchers and stakeholders should devise “empowerment objectives,” which address quality of participation, and mobilization of resources to support participants. Further, researchers should determine what they hope participant engagement will accomplish (Grande, Durand, Fisher, & Elwyn, 2014). Participant engagement during planning can contribute to greater understanding of social factors impacting health, and populations that may require unique recruitment and data collection approaches (Laverack & Labonte 2000).

Participants can also provide feedback on effective methods for recruiting participants, and recruit through word-of-mouth within a community (Daley et al., 2010). Recruiting through community organizations and leaders is often essential to access hard-to-reach populations (Bonevski et al., 2014). In our studies, we opted to recruit both Veterans and employees through hospital leadership and providers, as well as recruitment flyers in key locations throughout the facilities. This approach is often beneficial in engaging participants in another study stage and building community ties (Bonevski et al., 2014).

Researchers using participatory methods often use qualitative methods to capture participant perspectives (Farquhar, Parker, Schulz, & Israel, 2006). This can pose challenges for populations that struggle with verbal communication, but researchers and evaluators can use visual participatory methods, including guided tours and photovoice, to overcome those challenges.

Elwood & Martin (2000) discuss the significance of “place” in conducting interviews, given that interview location can communicate information about power dynamics to participants. Participatory methods are utilized to shift the power dynamic from researcher to participant; in this case, “place” is of extreme importance, and giving the participant freedom in

selecting locations for data collection has the potential to allow participants to feel more engaged and vested in the research. In both methods discussed in this article, participants' environments are an essential part of the study. Evans & Jones (2011) found that conducting walking interviews generates richer narratives than those conducted in a single location. Further, photovoice interviews are guided by participant pictures, shifting the focus to participants' own environments (Wang & Burris, 1997). These methods uniquely acknowledge participants' expertise and encourage co-ownership and collaboration (Grande et al., 2014). The concept of place was particularly important in our QI projects; we learned that many Veterans viewed the VA health care environment as a community where they could obtain high-quality health care, improve their overall wellbeing, and connect with other Veterans (Balbale, Morris, & LaVela, 2014; Locatelli, Turcios, & LaVela, 2014).

Engaged participants can also assist with interpretation of findings, such as explaining conflicting results (Farquhar et al., 2006). Qualitative researchers have used a similar procedure called member checking (Creswell & Miller, 2000), in which researchers use follow-up assessments with multiple participants to form interpretations, obtain participants' perspectives, and finalize coding. Involvement in participatory methods can be helpful in building capacity in community members and providing them with research knowledge and skills that can assist in future initiatives and employment opportunities (Jagosh et al., 2012).

Further, Barreteau et al. (2010) demonstrate that participatory methods can be used to derive results that are more applicable to policy decisions, improve access to information and enhance dissemination of results (Barreteau et al., 2010). Participatory methods represent a way to walk in participants' shoes. Limited opportunities for participation in research may produce results that have little relevance to patients (Barreteau et al., 2010). Additionally, as health care organizations transition to a model that is patient-centered, patients will be increasingly involved in information exchange and decision-making. Research methods that reflect the philosophy of PCC – focusing on active involvement – are uniquely suited for this area of study.

Value of Participatory Methods: Improving Quality in Health Care

The application of participatory methods, particularly guided tours and photovoice, may be especially useful in health care quality improvement projects because of (1) its emphasis on a collaborative, partnered approach to improve health care and (2) its demonstrated value in identifying participant needs and producing results that can be translated into practice (Minkler & Wallerstein, 2010). As we learned from our participatory QI studies, several attributes of participatory methods can be especially beneficial for health care QI projects.

First, participatory methods can be integrated into QI projects to meet the growing need to rigorously evaluate and improve health care quality (Schmittiel et al., 2010). The primary goal of QI projects is usually not building scientific evidence; rather, it is intended to alter practice. This does not mean, however, that QI projects should be conducted in an unscientific way. Indeed, rigorous methods are needed to fully explore influential factors and strategies to improve practice, and to eliminate bias in results (Berenholtz et al., 2010). Researchers and evaluators can use participatory methods to optimize this process and

strengthen the design of QI projects. Specifically, participatory methods, harnessing strengths of qualitative research, can be used to supplement quantitative methods to extract key insights into local contextual factors and the impact of health care interventions (Berenholtz et al., 2010; Pope et al., 2002; Padgett, 2011). This is important for health care QI projects as participatory methods can help to systematically explore the complexities of today's health care systems and illuminate the factors that drive the success or failure of health care interventions.

The value of these methods is realized in our guided tours and photovoice QI projects, through which we learned, for example, the importance of the VA environment and accessibility of care to Veterans, and subsequently identified areas where quality improvements are needed to better meet Veterans' needs. Leading evaluators through their VA facility, many guided tours participants appreciated VA spaces designed for Veterans to socialize or relax; others commented on the need for improved, updated signage that would streamline patient navigation (Locatelli, Turcios, & LaVela, 2014; 2015). Photovoice participants used their photographs to visually capture the need to enhance transportation services to and from VA facilities, as well as the need to improve accessibility within facilities with wheelchair support, ramps, and accessible bathrooms (Balbale, Morris, & LaVela, 2014).

In addition, the use of participatory methods such as guided tours and photovoice can yield actionable data that can be translated into improvements in health care settings (Balbale, Morris, & LaVela, 2014; Balbale, Turcios, & LaVela, 2015; Locatelli, Turcios, & LaVela, 2014, 2015). Catalani and Minkler (2010) have established that the use of participatory methods is a valuable strategy that goes beyond traditional approaches to identify participant needs and, further, uses participant involvement to derive rich, meaningful data. These methods can be used to explore the impact of health care interventions, as well as barriers and facilitators for quality improvements, directly from patients and providers (Jagosh et al., 2012; Schmittdiel et al., 2010). This approach can be used, ultimately, to inform data-driven QI strategies that embody key stakeholders' perspectives. Data generated from participatory methods projects have been used, moreover, to strengthen subsequent health intervention efforts (Cabassa et al., 2013). Thus, data from QI studies that use participatory methods can be used to drive quality improvements in health care that closely align with participant preferences.

The application of participatory methods can also facilitate the partnerships needed among key stakeholders that are instrumental for QI initiatives (Schmittdiel et al., 2010). This is driven by the foundation of participatory methods, which calls for continued participant engagement throughout study processes (Wang & Burris, 1994, 1997). Investing in long-term relationships and collaborations among patients, providers and researchers can be especially helpful in bridging existing gaps between these groups through engagement and revealing existing community strengths that can be incorporated into health care improvements (Schmittdiel et al., 2010). This, in turn, can be helpful in strengthening evaluation efforts and subsequent QI strategies in health care settings.

Using participatory methods may also present benefits for key stakeholders in health care settings, including patients, health care providers and researchers. Participatory research reflects a joint process from which both sides should benefit (Bergold & Thomas, 2012): researchers gain key insights and participants are able to be involved, share their view and partake in stimulating improvements. In our QI studies, our partnerships with local COI leadership and participants were not only essential in implementing our guided tours and photovoice studies, but also valuable in adapting our evaluation approach to resonate best with local needs and preferences. Data generated from our participatory studies can be incorporated into improvements at the COIs to deliver a higher quality of care and, ultimately, yield benefits for both COIs and patients.

Finally, the versatility of participatory methods presents a benefit for health care QI projects. These methods can be incorporated into a wide array of projects and tailored to a QI project's goals, specifications and timelines. This is particularly valuable as the needs and goals of QI projects and health care systems continue to evolve. Additionally, participatory methods are effective in short-term QI initiatives, as well as long-term, cyclical QI strategies that focus on stakeholders' views and continued involvement (Jagosh et al., 2012). These attributes are useful given the need for sustainable, system-level improvements that engage key stakeholders in health care settings (Schmittiel et al., 2010).

Discussion

Identifying and incorporating the perspectives of key stakeholders into health care interventions is essential to improve quality of care (Davis et al., 2005). As health care is transformed to better meet patient needs, it is also critical that appropriate methods are used to explore improvement areas, and, ultimately, design improvements that embody the unique contexts of patients, providers and other stakeholders (Grol, 2001). In this article, we contribute to emerging literature in this area by demonstrating the value of using innovative participatory methods in health care QI initiatives.

In the VA, health care QI remains an ongoing effort to ensure comprehensive and high-quality care for Veterans (Jha, Perlin, Kizer, & Dudley, 2003; Kizer and Dudley, 2009; Perlin, Kolodner, & Roswell, 2004). As the VA now shifts toward a patient-centered model of care, evaluations and improvements that align with the unique contexts and needs of the Veteran health care community are more important than ever. To this end, we conducted our QI evaluations using two participatory methods, guided tours and photovoice, with both patient and health care employee groups (Balbale, Morris, & LaVela, 2014; Balbale, Turcios, & LaVela, 2015; Locatelli, Turcios, & LaVela, 2014, 2015). The essence of these methodologies is a capacity to explore individual needs, promote engagement, and stimulate dialogue and positive change (Catalani & Minkler, 2010; Fink, 2012). This is especially significant for QI efforts and the need for collaborative, data-driven approaches to evaluate and improve health care quality.

It is important to note that the use of participatory methods does not necessarily result in improved outcomes (Cargo & Mercer, 2008). In their recent review, Jagosh and colleagues (2014) explain that, although participatory methods are helpful in developing collaborative

partnerships, a causal link cannot be drawn between the use of participatory methods and improved outcomes for participants. In addition to this key limitation, using guided tours and photovoice in the context of a QI initiative illustrated the challenges associated with participatory methods. As outlined in this article and prior literature (Wang and Burris, 1997), the application of participatory methods can be time-consuming, and requires prior logistical planning and specific research and analytical skills. Developing a partnership with participants, although critical to extract insider insights, can be especially challenging if a sense of trust and respect is not effectively established between participants and research or evaluation teams (Muhammad et al., 2014). In addition, given the integral involvement of participants during each phase, the overall direction and scope of the study can vary; this may lead to difficulties in governing and managing the direction of the study (Cargo & Mercer, 2008). Further, local contextual regulations around conducting research or QI projects may also pose challenges. In our guided tours study, for example, we were limited to audio-recordings of participant tours due to restrictions on the use of video-recording in VA facilities. Similarly, due to VA confidentiality policies and other regulatory concerns, we were unable to present participant photographs in public or VA forums to further engage the VA community and promote discussion; this is often a key component of photovoice studies. As a result of these obstacles, planning and implementing participatory projects may be especially challenging compared to traditional research methodologies.

We learned, however, that participants' engagement and the data derived from the methods revealed key insights to improve care quality in the VA. Furthermore, we created, through our use of participatory methods, a unique platform for health care employees and patients to partner with our evaluation team and strengthen the QI process by contributing to it directly. Participants in our photovoice and guided tours studies were enabled to (1) share their unique insights in a way that would reach VA leadership and policymakers and (2) recommend changes to VA health care that may lead to quality improvements across VA facilities. Findings from our studies were regularly shared with OPCC&CT leadership through monthly meetings and review of research reports. During these meetings, OPCC&CT had the opportunity to ask questions and provide recommendations on additional analyses to make findings more actionable for COI sites. Our continued collaboration with OPCC&CT and the COIs will be instrumental in translating our findings into improved practice within VA facilities.

Researchers and evaluators can incorporate our findings, methodological approaches and lessons learned into rigorous QI projects designed to engage patients and providers in health care quality improvement. The value of these data can be realized in direct, actionable results that address the needs and preferences of patients as well as health care employees. Further studies are needed that advance our understanding around the impact of participatory methods on QI and resulting health care outcomes. Additional studies are also needed that describe strategies for triangulation of participatory methods and quantitative measures to strengthen QI study designs and develop a more robust QI evidence base.

The use of participatory methods is a valuable strategy to harness participant engagement and drive QI efforts that directly address participant needs. Evaluators can use this strategy to leverage the strengths of participatory methods by involving participants during each

segment of the QI process. Participatory methods, characterized by participant engagement and a focus on individualized needs, can thus uniquely support the overarching mission to evaluate and improve health care quality for our patients.

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