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Features

EXPLORING FRONT-LINE HOSPITAL WORKERS' CONTRIBUTIONS TO PATIENT AND WORKER SAFETY

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ABSTRACT

Concerns about stubbornly persistent high rates both of error-related patient injuries and of occupational injuries among healthcare workers have generated intense exploration of etiologies, interventions, and the role of underlying safety culture. Much of this work has centered on the role of physicians and nurses in health care, and suggests common issues related to safety culture. However, the role of front-line health care workers, such as nursing assistants, ward clerks, environmental service workers, food workers and transportation workers, among others, has not been explored sufficiently. This article provides the background for a workshop held in Washington, D.C., to identify gaps and opportunities for integrating front-line hospital workers into safety efforts. It provides a brief review of available information, the results of a series of focus groups of front-line workers from a single urban hospital addressing the question, and a series of framing questions for the workshop itself.

Keywords: health care worker occupational safety, improving patient safety culture

Errors in patient care remain unacceptably high more than a decade after the seminal Institute of Medicine report *To Err Is Human: Building a Safer Health System* [1, 2]. Despite intense scrutiny and attention from the public, government, patients and purchasers, persistently high rates of errors occur throughout our

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care delivery system. These errors increase the cost and reduce the benefits of health care through adverse outcomes from nosocomial infections, medication errors, patient falls, and failure to identify and rescue from catastrophic events, among other events. Systems approaches developed in selected high-hazard industrial settings and the aviation industry have reduced hazards in those industries through the development of a comprehensive safety culture, and these approaches have been adapted for use in many health care institutions to attempt to reduce medical errors. In general, efforts to improve patient safety target health professionals, many at all stages of training and levels of status within institutions, and have included various aspects of the conditions of work and practice, including exposures thought to impact both occupational safety and patient safety. The Agency for Healthcare Research and Quality has supported a robust research portfolio demonstrating the interaction between nurse and physician conditions of work and patient outcomes [3]. The Lucian Leape Institute at the National Patient Safety Foundation includes the "restoration of joy and meaning in work" as one of six transformative concepts [4]. However, these efforts have been primarily focused on physicians, nurses, pharmacists, and other highly trained members of care delivery teams. Less attention has been paid to the potential role other workers, such as nursing assistants, environmental service workers, ward clerks and others, may play in promoting patient safety. This paper was prepared for a workshop that brought together representatives of front-line workers, patients, hospital administrators, researchers and others to understand how to better include these front-line workers in efforts to improve safety [5]. Workshop information, including presentations and other materials, is available at the website for the workshop [6].

From the occupational health and safety perspective, the rate of occupational illness and injury among health care workers has continued to rise in comparison with rates for the U.S. workforce as a whole, despite effective models for illness and injury prevention. Workers in private sector hospitals experience fully twice the overall rate of work-related illness and injuries and are 80 percent more likely to sustain injuries requiring lost work time or restricted duty when compared to all private sector workers [7].

The relationship between worker safety and patient safety has been studied for nurses and physicians, and has demonstrated meaningful associations between certain exposures and outcomes [8, 9]. For example, schedule-related clinician fatigue produces adverse outcomes among clinicians themselves, who sustain increased injuries from sharps, increased rates of depression, and increased rates of post-work motor vehicle accidents. In addition, patients cared for by over-tired clinicians experience higher rates of medical errors. Effective interventions to address clinician fatigue have been developed and implemented, and in quasi-experimental studies were found to significantly decrease errors [10]. However, these interventions require schedule modifications and staffing changes and have failed to gain widespread implementation.

Taylor et al. found that safety climate and nurses' working conditions predict both patient injuries and nurse injuries, supporting the premise that patient and worker outcomes may be linked to the same underlying culture [11]. In addition, nurse staffing levels predict both nurse satisfaction and intensive care unit mortality from ventilator-associated pneumonia and sepsis [8].

In theory, most continuous quality improvement approaches (such as Lean Six Sigma, Plan-Do-Check-Act, and Clinical Microsystems) rely on front-line worker input as part of a multi-disciplinary team working together to identify hazards or opportunities for improvement; analysis to develop, implement, and evaluate interventions; and active follow-up assessment. In practice, though, front-line workers may be excluded from these efforts. These approaches incorporate effective strategies and tools that can be used to address both workplace and patient safety. Effective patient safety interventions include TeamSTEPPS® (Team Strategies and Tools to Enhance Performance and Patient Safety) and Project RED (Re-engineered Discharge), targeting health care teamwork and discharge planning respectively, by employing quality improvement methods based on core principles of promoting hierarchy-free communications and installing verification feedback loops [12, 13]. For worker safety and health, the Illness and Injury Prevention Programs that emerged from the high-hazard industry approaches have been revised into basic steps that are applicable and effective in workplaces of any size [14]. All of these interventions require sustained, focused leadership and a willingness to promote hierarchy-free communication.

CURRENT INFORMATION ABOUT FRONT-LINE WORKERS

There is insufficient published information about occupational hazards and front-line workers, and virtually no information about the impact front-line workers may have on patient safety. Dembe et al. identified fatigue as an important factor in occupational injuries among health care personnel and found an elevated hazard risk for support personnel, including aides, attendants, technicians and others, when compared to nurses and physicians, a finding previously unreported because such workers had not been included in prior studies [15]. While occupational safety is a major concern, less attention has been paid to nursing assistants, environmental service workers, ward clerks, dietary service workers, and others with respect to patient safety outcomes. Several of the studies evaluating enhanced patient outcomes from increasing nurse-to-patient ratios further demonstrate that, within nursing, nurses with a Bachelor's of Science degree in nursing (BSN) provide added benefit, while increased reliance on licensed practical nurses or licensed vocational nurses worsens outcomes, suggesting that at least some of the adverse effects experienced by patients have been caused by substitution of nursing assistants or technicians with little formal

training who may have been tasked with responsibilities for which they have been ill-prepared [8]. Among home care workers, for example, personal care attendants previously trained as nursing assistants are more likely to report performing tasks outside the scope of work and are more likely to report sharps-related bloodborne pathogen exposure [16]. Anecdotal descriptions of cleaning personnel inadvertently tracking resistant organisms between rooms have generated additional attention to cleaning procedures. However, with the exception of the environmental service worker career ladder program described by Chenven and Copeland elsewhere in this issue, front-line worker input and engagement has been absent.

Larger questions remain about what role front-line workers might appropriately play in health care delivery. For example, interactions that front-line workers have with patients (with whom they may spend considerable time, and with whom they may share cultural or demographic characteristics) may lead to roles that recognize their potential to improve the cultural competence of health care delivery. Similarly, they may serve as peer safety monitors in interactions with other hospital staff, including professional staff. It is also unclear whether and how many of the front-line job tasks in and of themselves have the capacity to promote or reduce patient safety.

A recent series of workshops (5/19/11 and 4/2/12) has explored the relationship between quality work and quality care among direct care workers engaged in home care, suggesting that educational interventions may help home care workers become change agents for safety in the homes of their frail, elderly clients [17]. An important aspect of this discussion has been the need to develop job training and benefits to enhance the quality of care and the stability of this low-wage workforce.

More recently, The Joint Commission has published a monograph addressing the need to comprehensively improve patient and worker safety in health care, including both professional and support staff [18]. Based on the notion that High Reliability Organizations are focused on safety for patients and health care workers, The Joint Commission undertook a project to identify and disseminate examples of effective practices that integrate safety-related activities for both patients and workers. The project was supported in part by the National Institute for Occupational Safety and Health (NIOSH). The goal of the project was to stimulate greater awareness of the potential synergies between patient and worker health and safety activities. Following a nationwide solicitation for examples of effective practices that improve safety for both patients and workers, a one-day invitational roundtable meeting was held to bring representatives from nine health care organizations with innovative practices together with thought leaders in the fields of patient safety and occupational health and safety at The Joint Commission headquarters in Oakbrook Terrace, Illinois. This meeting became the foundation for the free educational monograph entitled "Improving Patient and Worker Safety: Opportunities for Synergy, Collaboration

and Innovation." Interventions include integrating front-line workers as safety coaches, unit peer leaders, or champions who serve as safety leaders and gather first-hand feedback. For example, the Veterans' Health Administration has assumed a leadership role in developing peer unit leaders who reinforce the organization's safety culture relative to safe patient handling [19]. Similarly, a rural community hospital has formed peer "ambassadors," environmental service workers who have been trained and empowered to provide on-the-spot feedback to others who fail to follow infection control protocols [20]). Feedback is provided in a supportive manner, and the program enjoys full support of hospital leadership.

Though front-line workers can be champions for safety, they may also be considered a population at risk for poor health outcomes. They are often drawn from the surrounding community, often receive low wages, may not be offered or able to afford participation in retirement, health insurance, or other benefits, and are more likely to be women and members of underrepresented minorities, including African Americans and Latinos [21]. The two lowest pay categories for hospital-based workers are those for nursing aides, orderlies and attendants (hourly mean wage of $12.87) and for housekeeping cleaners (hourly mean wage, $11.13) [22]. Because hospital-based support personnel may encounter rigid hierarchies, the extent to which they are considered members of the health care team, either by themselves or by others, is often unclear. This group of workers is critically important to hospitals as they may also provide cultural and community connections to vulnerable patient populations. Several questions need thoughtful consideration: How does this large component of the health care workforce interact with safety culture in the acute-care hospital setting, with respect to both patient safety and worker safety? What role might front-line workers play as participants in safer health care delivery as well as in occupational safety and health programs?

Most instruments that facilitate the free flow of communication across hierarchies and engage team members fail to include health care support personnel, although important exceptions exist (for example, no-lift programs include nursing assistants as well as nurses). The question is not entirely whether leadership opens the door to such communication with front-line workers, but also whether the invitation is fully embraced, whether opportunities for improvement can be identified, and whether meaningful improvements can be measured. Programs addressing career ladder opportunities for front-line workers as well as participatory engagement in occupational safety suggest that a key feature of improving quality of work may be the incorporation of these workers as valuable contributors to the patient care team. Studies of front-line health care workers have identified being treated with respect at work and being able to make meaningful contributions as critical factors in job satisfaction, no less important to nursing assistants than to physicians and nurses [23]. While many hospitals do have in place interventions to reduce and eliminate disruptive and intimidating

behavior that impedes communication and worsens patient safety outcomes, for example, these approaches emphasize enhanced professionalism and codes of professional conduct that apply chiefly to physicians, nurses, pharmacists, and other practitioners generally recognized as part of the health care team [24]. Of interest, job fairness, described as workplace justice, has been demonstrated to reduce fatal and nonfatal cardiovascular outcomes in British civil servants participating in the Whitehall II study [25]. Fairness, respect, and inclusion may function to support job satisfaction and worker health as well as to promote communications leading to better patient outcomes.

FRONT-LINE WORKER FOCUS GROUPS

Front-line worker discussion groups were conducted by two faculty researchers in partnership with the local union representing workers in an urban full-service hospital. Institutional Review Board review and authorization for human subjects protection was obtained, and union partners recruited participants to the three focus group sessions, which were held in July 2012, during evening and weekend sessions to accommodate workers' schedules. Gift cards were provided to participants to offset transportation and other expenses after workers were formally assented. No written consent was obtained, and the sessions were not recorded. Workers were free to leave at any time, and the facilitator or second researcher took notes, which were typed immediately after each session. Facilitated questions had been previously developed with union, management, and academic partner input to explore workers' thoughts about their own workplace safety, patient safety, and any relationship between the two. Participants self-selected and groups ranged from nine to 11 participants each, for a total of 29 individuals. Environmental service workers, food and nutrition workers, a ward secretary, linen workers, materials management workers, clinical technicians and a patient registration clerk participated. Eighteen women and 11 men participated, all of whom were underrepresented minorities. Job tenure ranged from seven months to 28 years, and all but one participant were union members. Line-by-line evaluations of the focus group reports were reviewed by the two researchers using grounded theory, and themes were identified. Preliminary results were reviewed with a subset of the original participants to ascertain accuracy and completeness, and modifications were made based on this feedback.

There was general agreement about what characterized a good day at work, and what characterized a bad day. A good day was characterized by adequate staffing, adequate supplies to do the job, respect and courtesy, well organized work that flows well, when everyone is busy and the patients are doing well. By contrast, a bad day was described as one in which there is insufficient staff or a high rate of absentees or others are not doing their jobs; when

supplies are inadequate; when supervision is poor, unfriendly, or untrained; when communication is poor; when supervisors, co-workers, doctors, nurses, or patients are irritable; and when workers are not fully able to utilize their skills. Workers in each group readily identified patient care as the central imperative of their jobs. They are responsible for countless dimensions that are necessary for high-quality care: keeping rooms free of clutter and trip hazards for patients, making sure patients get the correct food tray and healthy food, providing direct care, monitoring vital signs, providing personal care, starting IVs, cleaning the hospital, cleaning spills, ensuring correct patient identification, correcting information in charts; in other words: "We feed, transport, clothe, clean, do everything, order everything for them."

Workers in the focus groups were able to readily identify occupational safety and health hazards as well as patient safety hazards, often jumping between the two categories. They described workplace hazards as including: bloody bandages or sharps in linen, food trays, trash; poorly identified airborne hazards (e.g., isolation room signs put up late and taken down before the rooms were cleaned), inadequate cleaning procedures (e.g., commodes being wiped down instead of sterilized), inadequate infection control procedures (expressing concerns that some procedures are cost-driven), long work hours, mandatory overtime, and double shifts. They also discussed spills leading to slips/trips/falls; cleaning chemicals that cause coughing or eye and throat irritation and damaged clothing; excessive lifting, particularly of bariatric patients; faulty equipment; and faulty infrastructure, as well as slow response to infrastructure complaints.

Similarly, patient safety concerns included isolation room cleanliness, inadequate kitchen washing temperatures (leaving dirt on flatware and trays), outdated food, time pressures that lead to mistakes with food trays, inadequate room cleanliness, lack of respect, and lack of consideration of patient privacy (e.g., professional staff who discuss patient information in elevators or other public locations). The group also raised concerns that "contracted management" doesn't care as much as hospital management, that harsh chemicals bother patients as well as staff, and that poor infrastructure, such as cracked tiles or malfunctioning elevators, may jostle patients, for example. Workers were aware of and appreciated a number of specific patient safety interventions, including charting reform and the piloting of wearable call buttons to request assistance during direct patient care.

Throughout the three focus groups, general job training emerged as a major theme. New staff members don't always know all aspects of their jobs, and managers can't always provide this training because they may not know the specific job tasks themselves. This is compounded because managers are often new to the hospital, and may even be new to health care. There was a strong feeling that training needs should be taken into consideration before new

services are offered, that training should be on-site, and that it should include "why" as well as "how." Participants did not consider peer training to be an effective solution because co-workers may not listen ("you're not my boss"), and there were concerns that having co-workers provide the training may allow the trainer to be blamed if things go wrong.

Recommendations for improvement included more staff, better training, and hands-on training, especially task training for managers. The participants want a management system with follow-up for safety complaints and feedback to see that complaints have been heard and action taken to show that input actually matters. When asked if they would feel comfortable challenging physicians or nurses for failure to wash hands, as an example, most felt they would not. Workers who have access to a computer can type up an incident report and are willing to report anonymously, but most don't have this option available.

Several themes emerged that were supported in the report-back session:

1. There is a strong connection between worker safety and patient safety. The participants of the focus groups expressed a deep commitment to providing safe patient care, and recognized that elements of the environment that jeopardize their safety also put patients at risk.
2. Communication across and within departments and disciplines often leaves much to be desired. Specifically, the participants mentioned the need for respectful two-way communication that includes a feedback loop. They acknowledged that the vast majority of hospital personnel need to develop better communication skills, and that care would be enhanced if better communication systems were in place.
3. Training is a critical element to improve worker and patient safety. Participants cited the need for "skills training," particularly for new hires and for managers, as well as the need for opportunities to learn to work more effectively in groups and teams.
4. Feeling valued and respected was another common theme. The participants requested that their contributions be acknowledged, and that they have the opportunity to do the work for which they have been trained. They wish to be seen as "more than just an FTE."

When asked to identify low-cost suggestions, workers provided the following:

1. Be respectful: Respect each other; common courtesy includes greeting people; respect belongings (theft in hospital); do what you are supposed to do (maintain privacy, wash hands, etc.).
2. Get everybody to the table: Workers have information, and also need information; problem-solving requires everyone to participate—*all* involved departments, workers, administration, supervisors, doctors, and nurses.

WORKSHOP FRAMING QUESTIONS

Finally, this article outlines the framing questions for a workshop that brought together representatives of labor, health care institutions, labor-management training partnerships, professional organizations, researchers, front-line workers, clinicians, and patients to explore the role front-line workers may play in hospital-based patient safety, and also the extent to which workplace occupational safety may be linked to patient safety [5]. The workshop, held on October 25, 2012 in the U.S. Department of Labor, drew over 80 participants, including patient representatives, front-line workers, hospital administrators, researchers, clinicians, and members of professional organizations and unions. The workshop had the following objectives:

1. to review existing research demonstrating links between working conditions and patient safety among health care professionals and worker engagement research to reduce hospital-based safety hazards;
2. to review programmatic interventions that were designed to address worker health and safety, patient health and safety, and the institution's triple bottom line;
3. to explore front-line worker and patient opinions and suggestions concerning existing patient safety efforts, current engagement in quality and safety improvement practices, and their observations about opportunities for engagement and improvement; and
4. to identify information gaps, research needs, and existing policy opportunities.

Plenary panels discussed worker, patient, and administrator perspectives; previously conducted research; how worker engagement and career pathways have been instrumental in developing environmental service career pathways and more; and evident policy needs and how we may approach addressing them. Small breakout discussions explored aspects of the question in greater depth, including culture, data, slips/trips/falls, infectious diseases, workplace violence, and identifying knowledge gaps to create a research agenda.

The following three papers were commissioned for the workshop, formed the basis for a number of the discussions, and have been modified to reflect those discussions. The report by Chenven and Copeland provides a real-world example in which environmental service workers engage in career development education and training, and provided the basis for one of the plenary panels in which worker and researcher perspectives were shared, generating important discussion. The article by Lipscomb was the basis for one of the topical breakout sessions addressing workplace violence as a specific example of the interrelationship between worker safety and patient safety. Finally, Ormsby provides an overview of the policy issues and initiatives that may offer next steps.

Job quality can be modified by a variety of interventions that also impact safety climate, such as clarity of role definition, non-punitive communications, opportunities for training and task enrichment, and education that supports critical thinking and evidence-based decision-making at every level of the health care workforce. While effective interventions have been documented to improve workplace occupational safety culture and worker safety and health outcomes, the extent to which these job improvements would impact patient safety, and the direct effect front-line workers have on patient outcomes and satisfaction, requires clarification through targeted research.

Engaging front-line workers in developing, implementing, and evaluating interventions to improve the safety culture may improve patient as well as worker outcomes. These efforts may also alter current dynamics that sometimes fail to reduce the hierarchical relationships that undermine safety. Input from all stakeholders is needed to frame the appropriate hypotheses for testing.

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