Exploration of Patient Safety Phenomena in Rehabilitation and Complex Continuing Care

Carol Fancott, Karima Velji, Elaine Aimone and Lynne Sinclair

Abstract

Patient safety has been relatively unexplored in rehabilitation and complex continuing care (CCC) settings. From the perspectives of staff members, this qualitative study aimed to explore patient safety phenomena that exist within rehabilitation/CCC and to identify the characteristics of the current workplace culture that act as enablers of or barriers to patient safety. Sixty-six staff members in a large, multisite, academic rehabilitation/CCC health centre volunteered to participate in one of six interprofessional focus groups, designed to model patient care teams that exist within the clinical programs; one focus group was also conducted with support services staff. Thematic analysis revealed that rehabilitation/CCC settings present with distinct patient safety issues due to the unique and increasingly complex populations that are served, and the place of rehabilitation/CCC along the continuum of care. Enablers and barriers identified related to teamwork, culture, resources and organizational and individual responsibility. Results of this study have helped form the foundation for future patient safety initiatives within our settings, with clear emphasis on enhancing an open and just culture in which to discuss safety issues through development of improved leadership–staff relations, teamwork and communication and clearer processes and structures for accountability. The approach to addressing these issues must fit within our rehabilitation models of care.

Introduction and Background

While patient safety concerns have existed for decades, the sentinel report issued by the Institute of Medicine in 1999 entitled *To Err Is Human: Building a Safer Health System* (Kohn et al. 1999) catalyzed much of the current momentum in the area of patient safety. Much of the literature to date has focused on detecting, reporting and managing adverse events within acute care settings, as these are sites of a variety of risky medical procedures and extensive drug treatment with a high potential for errors and accidents. The literature has highlighted the issue of underreporting adverse events in acute care settings (Cullen et al. 1995) and the need for improved measurement and reporting (Baker and Norton 2001; Wong and Beglaryan 2004). However, for different settings such as rehabilitation and complex continuing care (CCC), reporting safety events may be compounded by the lack of knowledge of unique patient safety phenomena that exist within these settings, where there are differences in clinical issues, patient populations, team composition, reduced availability of physicians, higher involvement of non-nurse practitioners (e.g. rehabilitation therapists) and greater participation of patients and family members within a client-centred model of care.

The rehabilitation patient safety literature has focused more on particular processes and outcomes, for example, falls prevention (Simpson et al. 2003; Theodos 2003) and the use of physical

restraints and bedrails (Gallinagh et al. 2001). Equipment used in the rehabilitation setting (e.g., wheelchairs, bathing equipment and other modalities) has also been examined (Kirby and Lugar 2000; Malassigne et al. 2002; Travis et al. 2001). Specific rehabilitation populations have been studied (e.g., acquired brain injury), along with issues unique to these populations (e.g., physical aggression, establishing risk and harm) (Willis and LaVigna 2003). Discharge planning and home assessment have also figured prominently in the literature (Durgin 2000; Gitlin et al. 2002). However, these studies focus on one specific aspect of patient safety, and do not consider the broader context or environment in which safety occurs within these different settings.

As one of Canada's largest rehabilitation and CCC facilities, the Toronto Rehabilitation Institute (Toronto Rehab) has responded to the need to enhance patient safety specifically through a rehabilitation lens. Currently, we know from the approximately 1,100 incidents reported electronically every year in our hospital that the majority of incidents fall into one of three categories: patient falls, medication errors and incidents involving aggressive patients. To help us consider these patient safety issues and to explore others within our settings, we have proposed a new framework, the Toronto Rehab Patient Safety SAFE Framework (Velji and Aimone 2004), that broadens our notions of patient safety beyond adverse events to creating best outcomes for patient care. This framework consists of four pillars that contribute to the overarching beam of a safety culture, one that is open and safe to allow for honest discussions of patient safety issues and concerns. The four pillars required to support such a culture include: a systems approach; apply lessons learned; find solutions that minimize human error; and evaluate and monitor systems and processes appropriately (see Figure 1).

Purpose of the Study

Using the SAFE Framework as a theoretical basis, the purpose of this qualitative study was to explore patient safety issues within rehabilitation and CCC, and the environment in which patient safety occurs. Specifically, this study had the following research questions:

From the perspective of staff members:

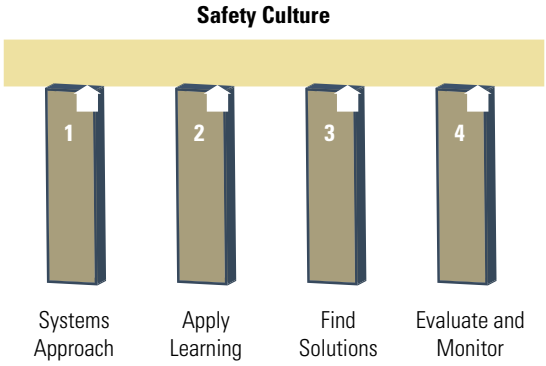
1. What are the phenomena of patient safety within rehabilitation and complex continuing care?
2. What are the characteristics of the current workplace culture that act as enablers of or barriers to patient safety?

Study Design

Guided by the research questions above, a qualitative methodology was employed using focus groups as the method for data collection. A key feature of these focus groups was to model not only the interprofessional teams that exist within our settings, but also to model an open and safe environment in which to discuss safety issues. A total of seven focus groups were conducted; one focus group was done in each of the six programs of Toronto Rehab and one was conducted with support services staff who have direct patient contact. A semistructured interview guide with open-ended questions was used to allow for consistency of core questions, but probes differed depending on the opinions expressed by group members.

A constant comparative approach to data analysis was conducted, as outlined by Strauss and Corbin (1998). Interview transcripts were coded line by line, allowing for the identification of emerging categories and trends. Similarities and differences were constantly compared across groups to derive themes. These themes and concepts were examined by the investigative team, to determine their meaning and how they may or may not be related to each other and the questions under study (Creswell 1998; Strauss and Corbin 1998). As a method of triangulation, two focus group transcripts were coded by the investigative team to ensure consistency in meanings and derivation of the themes. The research coordinator coded all of the interview transcripts

Figure 1. Toronto Rehab Patient Safety SAFE Framework



The 4 pillars of the SAFE Framework include:

Systems Approach Evaluating sentinel events and preventing their recurrence – appropriate use of tools such as root cause analysis and failure mode effect analysis; creates a practice environment that produces safe outcomes.

Apply Learning Have clear formal mechanisms for transferring lessons learned from one area to another or one committee to another, and with other healthcare organizations.

Finding Solutions Improved systems to counteract human error (simplifying, reducing handoffs, limiting options, scheduling, decision aids and verification steps), electronic triggers (flag for wrong dose), standardizing processes of care (assessment of pain, skin care protocols).

Evaluation/Monitoring Method for measuring trends in incidents, establishing tolerance limits, sustaining improvement – adding "near misses" to data capture, implementing a standardized follow-up process to prevent recurrence of incidents.

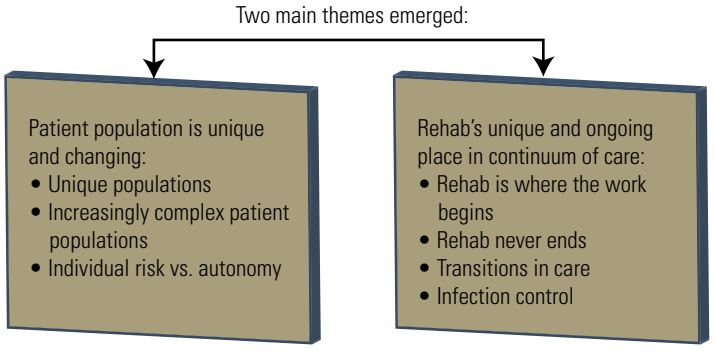
and completed the thematic analysis in consultation with the investigative team.

Study Findings

Description of Participant Group

Sixty-six staff members participated in one of seven scheduled focus groups. Participants included managers, leaders and educators, service coordinators, physicians, registered nurses and registered practical nurses, physical and occupational therapists and assistants, speech language pathologists, social workers, pharmacists and pharmacy technicians, chaplains, psychologists, kinesiologists and cardiovascular technologists. Support services staff included representatives from housekeeping, maintenance, portering services, occupational health and safety, infection control and administrative services. Almost one-third of participants have been in the organization for 1 to 5 years, and almost another third had over 16 years of experience within Toronto Rehab. Over 60% of the participants had a minimum of a bachelor's degree; over 80% of the participants worked full time and were female staff members, which mirrors the workforce within our organization.

Figure 2. Exploration of patient safety in rehabilitation and complex continuing care settings



Thematic Analysis

A number of interrelated themes emerged from the focus groups, which will be presented in line with the research questions posed. As highlighted in the quote below, this group of participants perceived and experienced patient safety broadly in our settings, articulating patient safety beyond notions of adverse events and medical errors:

> *"It [patient safety] is multi-level. It is physical, it is spiritual, it is emotional – safety is multi-layered. … I sort of see it as a sense of comfort, trust, and a sense of ease, a sense of community, something to do with regularity of communication and familiarity. It is more than just the absence of critical incidents … we all work for the best possible outcomes for our patients. … It makes me think about dignity and how to protect the client as much as possible while still not compromising their feelings of autonomy."*

Patient Safety Phenomena in Rehabilitation and CCC

In research question one, we wanted to explore the phenomena of patient safety within rehabilitation and CCC settings. Two main themes emerged from the focus groups: first, that our patient population is unique and is rapidly changing; and second, that unique challenges and phenomena related to patient safety exist due to where rehabilitation and CCC are situated in the continuum of care (see Figure 2).

Participants consistently talked about their patient populations as unique – distinct from acute care, but also distinct from program to program. While some commonalities existed, such as vulnerable and/or frail populations, staff also discussed dealing with patients with cognitive impairments, or those with aggressive or violent behaviour who may pose a threat to themselves, to staff, or to other patients and their families. The issue of individual risk vs. the autonomy of patients figured prominently in the discussions, particularly as it pertained to informed decision-making, discharge planning and dealing with a third-party decision-maker. Patients may make informed choices and may engage in behaviours we consider "risky." For those patients for whom the institution is their home, compounding factors include consideration of the safety of other patients and staff sharing similar space.

Staff also discussed dealing with an increasingly complex patient population. Patients are admitted sooner to rehabilitation from acute care, and often with increasing complexity and comorbidities. Staff expressed concern as to the appropriateness of some patients admitted, who may not be ready to truly engage in the rehabilitation process. They also expressed concern as to their own skill level and experience in dealing with these "new" populations, and how staff development and ongoing learning was managed within their programs.

The second major theme to emerge was the view of rehabilitation and CCC's unique and ongoing place in the continuum of care. Many staff felt that this is where the "real work begins," as we are pushing patients to their limit physically, mentally and

emotionally, throughout the rehabilitation process. Due to the permanency of many of our patients' disabilities, rehabilitation "never really ends" when they are discharged from the institution, as the patient may require ongoing care and rehabilitation in the community.

When looking at rehabilitation and CCC's place in the continuum of care, numerous transitions in care occur – from acute care to rehabilitation to another facility or to home, all of which require effective communication, timely discussions about discharge, and ensuring that the appropriate supports are in place to allow seamless transitions to occur. There are also numerous internal transitions – from shift to shift, from caregiver to caregiver – again all requiring appropriate and timely communications. The internal struggle that many staff deal with related to discharge planning and transitions is highlighted in this quote:

> *"I mean I don't think any of us around the table have a vested interest in keeping patients here longer. We all recognize that living in an institution isn't a great thing. … But if we could be confident that we had really good services in the community, there would be appropriate places for people to live and receive care – then that wouldn't be a problem."*

Enablers of and Barriers to Patient Safety

The second research question examined the enablers of and barriers to a culture of patient safety. Four main themes emerged that were consistent across all of the focus groups, some which were discussed as enablers or, alternatively, as barriers to patient safety culture depending on the unit, program or site across the organization. The emerging themes are interrelated and included teamwork, culture, resources and organizational and individual responsibility for safety (see Figure 3).

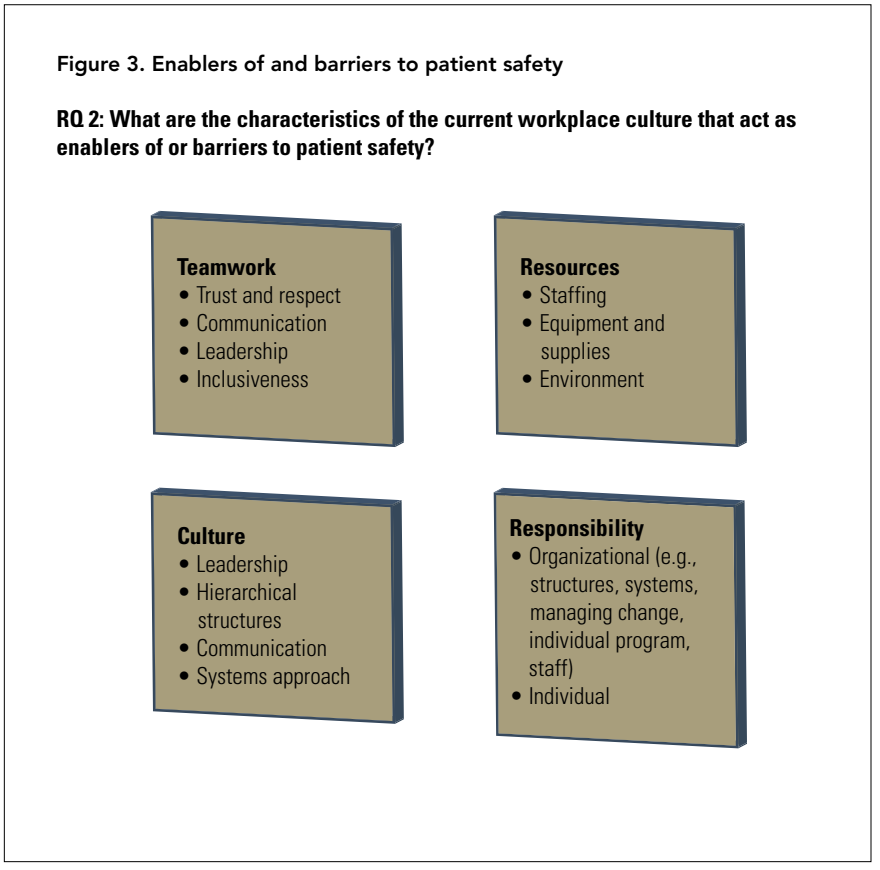
Teamwork was a consistent message that emerged in all of the focus groups, that is, the development of teamwork, which ultimately was built on relationships of trust and respect for peers and colleagues, and the development of communication patterns in an open and honest manner. Staff pointed to strong leadership that would foster team collegiality and cohesiveness, and to set the tone for how communication and respect are developed and how both clinical and nonclinical staff are included as part of the team.

Organizational culture, deemed in the literature to be one of the most important elements for patient safety, emerged as another key theme. Staff participants again discussed the need for strong leadership, both to model the appropriate behaviours regarding safety and to set the tone for patient safety as a priority. Frontline workers desired a culture that fostered mechanisms to provide feedback, suggestions or ideas. Staff participants articulated a safety culture as one of learning rather than one of reprisal. The issue of hierarchy was raised by one staff member as a barrier to patient safety and communication:

> *"There is still a big hierarchy in this facility and there is still a lot of not feeling safe about being honest and advocating for your patients because people have had consequences as a result of advocating for their patients, so it makes you think twice about what you are going to say and how you are going to say it. … I think that is a safety issue because if I'm afraid to say what I think needs to be said, then I can't do my job properly and that sort of strangles me. … We have to feel supported, like it's not risky to tell the truth."*

Appropriate staff and equipment resources were also deemed essential for patient safety culture. Staff resources included manageable staff–patient ratios, appropriate discipline and skill mix and the required experience or professional development opportunities to ensure staff

Figure 3. Enablers of and barriers to patient safety



were well prepared to deal with changing patient populations. Participants pointed out that equipment and supplies need to be readily available, functional and well maintained. The physical environment needs to be conducive to safety and security – one that does not exacerbate patients' symptoms or anxiety and that provides adequate space for team members to do their jobs appropriately (e.g., gym space for therapy, private space for counselling).

Lastly, focus group participants drew attention to both the organizational responsibility and their individual responsibility for patient safety. They felt that appropriate and accountable systems and structures are required to support a safe environment. Organizational and program change need to be managed in a structured, coherent, inclusive manner. Staff also felt that they had a right to safety at work, and that if their work environment was safe, patient safety would emerge naturally. At the same time, they all recognized that they had individual responsibility and accountability. One participant felt that all staff needed to take on a "this is my house" mentality, and not "pass the buck" to others to assure responsibility.

Implications for Practice

Knowledge gained from this study has highlighted the distinct populations and type of care delivered in rehabilitation and CCC that contribute to the patient safety phenomena experienced within our hospital. The findings also reaffirmed that enablers of and barriers to a patient safety culture as described in other literature (Wong and Beglaryan 2004) are relevant to rehabilitation and CCC settings. The focus group method in this initial research project allowed us to operationalize a key feature of the SAFE Framework by providing an open, transparent and safe environment in which interprofessional staff could discuss safety issues. Grounded in evidence from these internal stakeholders, we have embarked on a patient safety agenda that includes a number of initiatives:

1. **Building an open and accountable culture of safety.** The results of our study support other literature that points to a safety culture as a key element for patient safety. A number of concurrent initiatives have been developed to support and enhance an open, transparent and accountable culture within our organization.
   (a) Leadership development and engagement: As a first step to enable a safety culture, we are currently engaging and energizing all clinical leaders and managers within the organization through a series of workshops and discussions about patient safety culture, what it means and how it may be operationalized. These discussions also include the development and implementation plans of a number of policies, procedures and process mechanisms to support patient safety initiatives, such as a disclosure policy and transforming incident reporting to be reflective learning experiences. Key to this process has been the engagement and focus of senior leaders to model supportive behaviours of openness and accountability. In step with this leadership engagement, we will launch Patient Safety Leadership Walkabouts where members of our senior management team will engage staff in open and meaningful discussions about patient safety concerns and ensure timely response to concerns raised.
   (b) Incident reporting and debriefing: Staff who participated in this study articulated broad notions of patient safety to move beyond adverse events and to encompass best patient outcomes. Our challenge is to have staff act on these views by reporting both near misses and incidents that reflect this broad notion of safety within our organization. We also know from our study that intrinsic to reporting safety incidents is the ability of staff to do so in a safe and trusting environment, and to know how processes are standardized to manage reported events. Our efforts to engage leaders and staff in a culture shift, along with discussions with external healthcare leaders, have helped to guide the development of clear and transparent mechanisms ensuring that incident reports are consistently managed and debriefed as a learning opportunity rather than an exercise of blame.
   (c) Evaluation of safety culture: The qualitative description of the current organizational culture for safety gained in this study will be augmented by results of the recently administered "Hospital Survey on Patient Safety" (Westat et al. 2004). Results of this survey will provide another baseline indicator of our safety culture and will be conducted on a regular basis (i.e., yearly) to assess any changes in culture and assist with the development of future patient safety initiatives.
2. **Teamwork and communication.** Clearly, staff have highlighted the necessity of strong teamwork and communication for patient safety. To build upon the findings of this study and other literature, we have been funded by the Canadian Patient Safety Institute to conduct a study aimed to enhance team communication for patient safety by adapting, implementing and evaluating the use of the SBAR (Situation-Background-Assessment-Recommendation) (Leonard et al. 2004) communication tool within one of our clinical teams. Positive learnings and outcomes from this new study will be transferred to other clinical areas within our organization.
3. **Staff resources.** Findings from this study have highlighted the need for consistent and experienced staff in order to develop strong teams that have clear communication channels. These results support the recently implemented "Nursing Staffing

for Quality of Care Project" as a strategy to reduce the use of agency staff and increase full-time nurse staffing ratios to build effective and stable teams for quality patient care.

Conclusion

We have learned that adverse events and factors that impact on quality of care and patient safety are unique in a rehabilitation and CCC setting; however, the enablers of and barriers to safety, including teamwork and communication, organizational culture and resources, are similar to safety issues raised in other settings. We have applied this learning in our next steps to focus safety efforts on developing and implementing a formal leadership engagement plan to enhance a culture of openness, improvement and accountability, break down hierarchical communication barriers, improve incident reporting and debriefing mechanisms and examine resource issues related to patient care. Our patient safety agenda is a work-in-progress. Through the unique lens of rehabilitation and CCC, we look to build upon this foundation and continue to progress our work in this area. As articulated by our staff:

> "*Number 1 priority is patient safety. I think everything that we do revolves around their safety and progressing them or however we interact with them. I think in the back of our mind even though we are not conscious of it, it is constantly the #1 priority.*"

About the Authors

Carol Fancott, BScPT, MSc, is Research Coordinator, Toronto Rehabilitation Institute.

Karima Velji, RN, PhD, is Vice-President, Patient Care and Chief Nursing Executive, Toronto Rehabilitation Institute.

Elaine Aimone, BScPT, MSc, is Director of Organizational Effectiveness and Risk Management, Toronto Rehabilitation Institute.

Lynne Sinclair, BScPT, MA, is Director of Education, Toronto Rehabilitation Institute.

Please direct correspondence to: Carol Fancott, Toronto Rehabilitation Institute, 550 University Avenue, Toronto, ON M5G 2A2. Tel: 416-597-3422, ext. 3748. E-mail: fancott.carol@torontorehab.on.ca.

Acknowledgment

Funding source: University of Toronto Patient Safety Research Cluster.

References

Baker, G.R. and P. Norton. 2001. "Making Patients Safer! Reducing Error in Canadian Healthcare." *Healthcare Papers* 2(1): 10–31.

Creswell, J.W. 1998. *Qualitative Inquiry and Research Design: Choosing among Five Traditions.* Thousand Oaks, CA: Sage Publications.

Cullen, D.J., D.W. Bates, S.D. Small, J.B. Cooper, A.R. Nemeskal and L.L. Leape. 1995. "The Incident Reporting System Does Not Detect Adverse Drug Events: A Problem for Quality Improvement." *Joint Commission Journal on Quality Improvement* 21(10): 541–48.

Durgin, C.J. 2000. "Increasing Community Participation after Brain Injury: Strategies for Identifying and Reducing the Risks." *Journal of Head Trauma Rehabilitation* 15(6): 1195–207.

Gallinagh, R., R. Nevin, L. Campbell, F. Mitchell and R. Ludwick. 2001. "Relatives' Perceptions of Side Rail Use on the Older Person in Hospital." *British Journal of Nursing* 10(6): 391–99.

Gitlin, L.N., S. Schinfeld, L. Winter, M. Corcoran, A.A. Boyce and W. Hauck. 2002. "Evaluating Home Environments of Persons with Dementia: Interrater Reliability and Validity of the Home Environmental Assessment Protocol (HEAP)." *Disability & Rehabilitation* 24(1–3): 59–71.

Kirby, R. and J.A. Lugar. 2000. "Spotter Strap for the Prevention of Wheelchair Tipping." *Archives of Physical Medicine and Rehabilitation* 81(2): 241–42.

Kohn, L.T., J.M. Corrigan and M.S. Donaldson (Eds.). 1999. *To Err Is Human: Building a Safer Health System.* Institute of Medicine, Washington, DC: National Academy Press.

Leonard, M., S. Graham and D. Bonacum. 2004. "The Human Factor: The Critical Importance of Effective Teamwork and Communication in Providing Safe Care." *Quality and Safety in Health Care* 13: 85–90.

Malassigne, P., A.L. Nelson, R.P. Jensen, M. Cors, T.L. Amerson and L.P. McLellan. 2002. "Delving into Design: Better Wheelchair Design Enables Users to Safely and Efficiently Perform Bathing and Toileting Task." *Rehab Management: The Interdisciplinary Journal of Rehabilitation* 15(8): 36–39.

Simpson, J.M., C. Darwin and N. Marsh. 2003. "What Are Older People Prepared to Do to Avoid Falling? A Qualitative Study in London." *British Journal of Community Nursing* 8(4): 152–59.

Strauss, A. and J. Corbin. 1998. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*, 2nd ed. Thousand Oaks, CA: Sage Publications.

Theodos, P. 2003. "Fall Prevention in Frail Elderly Nursing Home Residents: A Challenge to Case Management: Part I." *Lippincott's Case Management* 8(6): 246–51.

Travis, S.S., M. Hendrick, L. McClanahan, A. Osmond and C. Pruett. 2001. "Motorized Cart Driver Safety in Assisted Living." *Geriatric Nursing* 22(4): 213–15.

Velji, K. and E. Aimone. 2004. *The Toronto Rehab Patient Safety Framework.* Unpublished.

Westat, R., J. Sorra and V. Nieva. 2004. "Hospital Survey on Patient Safety Culture." March. Publication No. 04-0041. Rockville, MD: Agency for Healthcare Research and Quality. Retrieved August 13, 2006. <http://www.ahrq.gov/qual/hospculture>

Willis, T.J. and G.W. LaVigna. 2003. "The Safe Management of Physical Aggression Using Multi-element Positive Practices in Community Settings." *Journal of Health Trauma Rehabilitation* 18(1): 75–87.

Wong, J. and H. Beglaryan. 2004. "Strategies for Hospitals to Improve Patient Safety: A Review of the Research." February. Canadian Association of Pediatric Health Centres site. Retrieved August 13, 2006. <http://www.caphc.org/documents_programs/patient_safety/patient_safety_2004.pdf>