Parent and Provider Experience and Shared Understanding After a Family-Centered Nighttime Communication Intervention

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Conflict of Interest: Dr Landrigan has consulted with and holds equity in the I-PASS Institute, which seeks to train institutions in best handoff practices and aid in their implementation. He has also served as a paid consultant to Virgin Pulse to help develop a Sleep and Health Program. He is supported in part by the Children's Hospital Association for his work as an executive council member of the Pediatric Research in Inpatient Settings (PRIS) network. In addition, Dr Landrigan has received monetary awards, honoraria, and travel reimbursement from multiple academic and professional organizations for teaching and consulting on sleep deprivation, physician performance, handoffs, and safety, and has served as an expert witness in cases regarding patient safety and sleep deprivation. The other authors declare that they have no conflicts of interest.

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Abstract

Objective: To assess parent and provider experience and shared understanding after a family-centered, multidisciplinary nighttime communication intervention (nurse–physician brief, family huddle, family update sheet).

Methods: We performed a prospective intervention study at a children's hospital from May 2013 to October 2013 (preintervention period) and May 2014 to October 2014 (postintervention period). Participants included 464 parents, 176 nurses, and 52 resident physicians of 582 hospitalized 0- to 17-year-old patients. Pre- versus postintervention, we compared parent/provider top-box scores (eg, "excellent") for experience with communication across several domains; and level of agreement (shared understanding) between parent, nurse, and resident reports of patients' reason for admission, overnight medical plan, and overall medical plan, as rated independently by blinded clinician reviewers (agreement = 74.7%, kappa = .60).

Results: Top-box parent experience improved for 1 of 4 domains: Experience and Communication With Nighttime Doctors (23.6% to 31.5%). Top-box provider experience improved for all 3 domains, including Communication and Shared Understanding With Families (resident rated, 16.5% to 35.1%; nurse rated, 32.2% to 37.9%) and Experience, Communication, and Shared Understanding With Other Providers (resident rated, 20.3% to 35.0%; nurse rated, 14.7% to 21.5%). Independently rated shared understanding remained unchanged for most domains but improved for parent–nurse composite shared understanding (summed agreement for reason for admission, overall plan, and overnight plan; 36.2% to 48.2%) and nurse–resident shared understanding regarding reason for admission (67.1% to 71.2%) and regarding overall medical plan (45.0% to 58.6%). All $P < .05$.

Conclusions: A family-centered, multidisciplinary nighttime communication intervention was associated with improvements in some, but not all, domains of parent/provider experience and shared understanding, particularly provider experience and nurse–family shared understanding. The intervention was promising but requires further refinement.

Keywords: communication; family-centered care; hospital experience; shared understanding

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What's New

Interventions targeting family-centered and interprofessional communication are understudied, particularly at night. A family-centered, multidisciplinary nighttime communication intervention (nurse–physician brief, family huddle, family update sheet) was associated with some improvements in parent/provider experience and shared understanding, though intervention refinement remains necessary.

Communication breakdowns are a leading cause of hospital medical errors, contributing to >60% of sentinel events,[1] the most serious adverse events. Efforts to improve hospital communication have focused on standardizing intradisciplinary communication among providers.[2–4] Interventions to improve communication among providers and parents and among interdisciplinary teams of providers[5,6] are understudied, particularly at night.

Nighttime care represents over half of care provided in hospitals and presents unique communication challenges and opportunities for family and nurse engagement. Nighttime care is particularly error prone[7,8] and may be particularly susceptible to communication lapses[9–11] as a result of inadequate care transitions,[12] decreased staffing,[13] increased workload, lack of formal bedside rounds, and provider/parent fatigue and sleep deprivation.

Improved communication may enhance patient safety by ensuring shared understanding between team members (Fig. 1). Shared understanding is necessary to achieve a shared mental model, an organized understanding of relevant information shared by team members.[4] Shared understanding ensures situational awareness—the understanding, perception, and ability to project future events in a dynamic environment[14]—and helps promote patient safety.

Adequate nighttime communication is also essential to ensure optimal patient experience,[15] an increasingly important quality metric for patient outcomes,[16] reimbursements,[17] and hospital performance.[18] By improving communication at night, it may be possible to improve patient safety and experience at a critical but overlooked time. However, standardized nighttime communication practices do not currently exist in most hospitals.

Therefore, given the lack of standard nighttime communication practices and the risks associated with nighttime care, we developed a nighttime communication bundle intended to improve safety and quality of nighttime care. We hypothesized that its implementation would be associated with improved parent and provider top-box experience and shared understanding.

METHODS

DATA, SETTING, AND STUDY POPULATION

We conducted a prospective intervention study of parents and nighttime providers (nurses and senior residents) of 0- to 17-year-old patients on 2 pediatric inpatient units at a tertiary-care children's hospital between May 1, 2013, and October 31, 2013 (preintervention period) and May 1, 2014, to October 31, 2014 (postintervention period). Each unit included nonsurgical general pediatric, short-stay, and subspecialty patients. The trial was registered at ClinicalTrials.gov as study NCT01836601.

Each unit was staffed by night-shift bedside nurses (nurse–patient ratio, 1:4–5) supervised by a charge nurse and an intern supervised by a senior resident. Resident and nurse handoffs from day teams occurred at about 5:30 and about 7:00 PM, respectively. We collected data on weeknights when the primary resident night team was on service (Monday to Thursday). Providers provided written informed consent, and parents provided verbal consent. The hospital's institutional review board approved the study.

INCLUSION AND EXCLUSION CRITERIA

Given lower staffing and higher workload at night (night senior–intern pairs covered up to ~30 patients while simultaneously receiving 7 to 15 mostly early evening admissions), we realized that any nighttime intervention should target patients most in need of additional communication. Therefore, our study sample and intervention included only these most active patients. We defined active patients as those with rapidly evolving clinical statuses, high acuity, or puzzling diagnoses, or patients who were newly admitted by the day team. Participating senior residents identified the 2 most active patients on their unit each evening, and we approached only these patients' parents for the study.

Given limited nighttime interpreter resources, we excluded non-English-speaking parents. We also excluded parents of patients admitted by the night team (because they had not undergone a day-to-night-team transition in care), boarding in the unit awaiting psychiatric placement, and in state custody.

STANDARD PRACTICE

Before our intervention, our institution practiced daytime family-centered rounds in most cases, though variability by

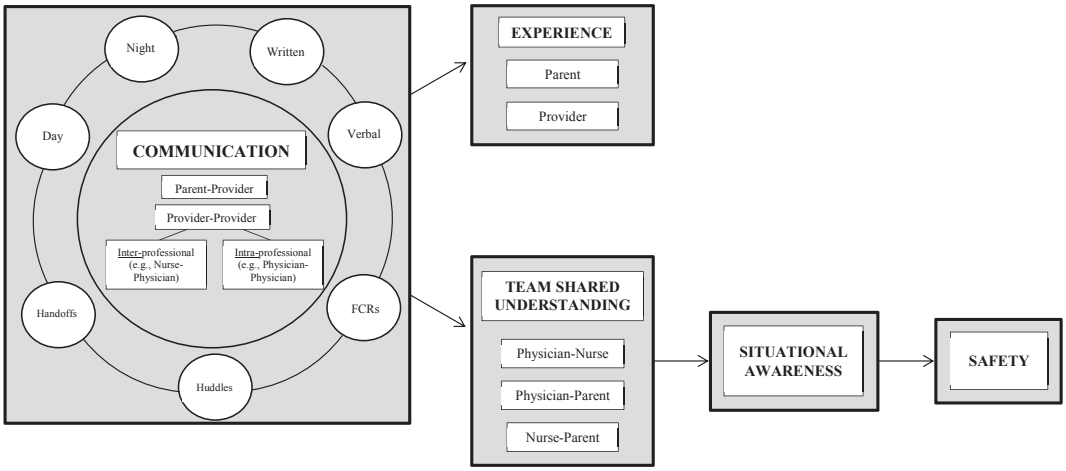

Figure 1. *Associations between communication, experience, shared understanding, and safety. Conceptual model illustrating relationships between communication and experience; and between communication, team shared understanding, situational awareness, and safety.*