0021-7557/11/87-06/463
Jornal de Pediatria

Healthcare provider working conditions and well-being: sharing international lessons to improve patient safety

Christopher P. Landrigan*

More than a decade since studies first found that medical errors are a leading cause of death and injury worldwide,[1] the patient safety epidemic remains unchecked.[2,3] In a study of 58 hospitals in five Latin American countries, 10% of all inpatients were recently reported to suffer harm due to medical care on any given day during hospitalization; 59% of these harms were determined by an international team of investigators to be preventable, and 20% were severe, leading to disability, the need for surgical intervention, or death.[4] These figures are similar to recent rates of adverse events (AEs) reported in the United States, Australia, the United Kingdom, and elsewhere. In the wake of these epidemiologic studies, awareness of patient safety has increased tremendously in recent years, and numerous single-center and multicenter efforts to improve safety have been launched. Many of these have met with focused successes in committed hospitals.[5,6] These efforts have not, however, translated into overall improvements in the safety of care at a broader scale.[2,3] Dissemination of best practices remains poor, and in many hospitals worldwide, fundamental weakness in the organization of healthcare remain.

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Two articles in this issue of the Jornal de Pediatria address related facets of a serious, under-recognized problem that lies at the heart of many safety failures in hospitals: healthcare provider working conditions and well-being. In the first study, Lamy Filho et al. address the relationship between provider workload and ventilator AEs in two neonatal intensive care units in Brazil.[7] In a well-designed prospective cohort study of 543 newborns (136 of whom received mechanical ventilation), they identified 117 AEs related to the use of ventilators. An increased rate of events was identified when the care demands of nurses and auxiliary nurses were elevated. Moreover, a dose response relationship was identified both for auxiliary nurses and overall unit care demands (NCCD score - newborns classified by care demand); at 3.8 NCCDs per auxiliary nurse, ventilator AE rates doubled and at 4.8, they tripled. By demonstrating not only an association between provider workload and AE rates, but a dose response relationship for a risk factor with a highly plausible mechanism, the authors provide important data that strongly indicates a causal link between workload and patient safety.

A second study by Martins et al. deals with a related problem, that of provider burnout.[8] A series of studies conducted over the past decade have found that provider burnout and depression are associated with problems for the providers themselves, and importantly, with patient safety hazards as well. Burnout and depression have been repeatedly associated with an increased risk of self-reported medical errors, and in the case of depression, this relationship

* MD, MPH. Division of General Pediatrics, Department of Medicine, Children's Hospital Boston, Harvard Medical School, Cambridge, MA, USA. Harvard Work Hours, Health, and Safety Group, Division of Sleep Medicine, Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, Cambridge, MA, USA. Division of Sleep Medicine, Harvard Medical School, Cambridge, MA, USA.

No conflicts of interest declared concerning the publication of this editorial.

Suggested citation: Landrigan CP. Healthcare provider working conditions and well-being: sharing international lessons to improve patient safety. J Pediatr (Rio J). 2011;87(6):463-5.

http://dx.doi.org/10.2223/JPED.2147

has been substantiated objectively.[9] Martins et al.'s study takes the important next step, moving from identification of the problem to intervention. The authors measured the effect on burnout of a brief self-care intervention for 37 residents in Argentina; 37 additional residents served as a control group. Sixty-six percent of residents scored positive for burnout on the Maslach Burnout Inventory, a disturbingly high number that is quite consistent with the results of prior studies of burnout conducted in North America. To address the problem, the authors had the intervention group complete two 2.5-hour expert led workshops that discussed recognition of burnout and coping skills. Unfortunately, while the intervention succeeded in improving depersonalization scores (one of the burnout sub-scores), it had no impact on the rate of burnout itself.

While Martins et al.'s intervention was less successful than hoped, it nevertheless provides important lessons about resident well-being and interventions to improve it. A brief intervention with residents rotating frequently through multiple services may have limited potency to effect lasting change. Substantially reducing the extremely high prevalence of resident burnout – found both in this and prior studies to affect 2/3 or more all residents – will likely require addressing those factors known to drive provider burnout, including excessive workload (the problem addressed by Lamy Filho et al.), as well as lack of autonomy, lack of respect, and sleep deprivation and extended work shifts. Shifts over 16 hours in particular have been found to lead to burnout and depression, and to needle stick injuries, resident physician motor vehicle crashes, and to medical errors.[10] Medical errors in turn may increase the risk of burnout and depression, creating a vicious cycle in which residents with low levels of well-being may be at increased risk of making errors, which in turn further degrade well-being.[11]

As the patient safety movement matures, it is becoming increasingly clear that addressing organizational characteristics that adversely affect providers' well-being and performance will be essential in efforts to achieve lasting improvements in safety. Doing so can be quite challenging, as staffing ratios, work schedules, and other such factors are deeply ingrained in the fabric of medical centers and healthcare systems, and changing them typically has substantial implications both for individual providers and for the health system's operation as a whole. Reducing providers' work hours or workload carry upfront costs and may have workforce implications, as an investment is needed to train and/or hire more providers to decrease the burden on those already present. However, such an investment may yield dividends to health care systems. In the case of resident work hours, for example, prior cost-effectiveness research has demonstrated that while the cost of hiring providers upfront is not trivial, the investment pays for itself at a societal level if it succeeds in achieving even a 7-11% reduction in AEs,[12] a level of improvement that is well within grasp. Prior work hour reduction intervention studies have shown reductions in error rates of three to four times this magnitude.[10]

It is also becoming apparent that if organizational changes and other safety interventions are to move beyond local improvement to measurable improvement at a regional, national, or international level, far more coordination of safety improvement efforts will be necessary. Transformative change requires ongoing local innovation, but national and international collaboration as well, to ensure that proven successes become integrated into healthcare delivery systems worldwide. The studies in the current issue of Jornal de Pediatria demonstrate that the problems of workload and burnout in South America are in many respects quite similar to the problems of workload and burnout in North America. Certainly the resources and costs of care in each nation vary, but the fundamental working conditions driving provider well-being and performance are the same. It makes little sense for each hospital and health system to struggle towards solutions independently. Rather, we should seek to actively share lessons learned and collaborate across institutional and international borders to address this worldwide problem.

Ultimately, the problems we are seeing in healthcare worldwide are products of system design. If we are to fundamentally improve the safety and quality of care, we must identify which aspects of this design are not working well, and muster the will and resources to build something better. Excessive work hours and workloads are two such design flaws that have now been compellingly proven to degrade patient safety and providers' well-being in healthcare systems around the world. Although redesigning work schedules and processes to improve working conditions and well-being presents many challenges, we must meet these challenges, for the sake of our patients and providers alike.

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Correspondence:
Christopher P. Landrigan
300 Longwood Avenue
Boston, MA 02115 - USA
Tel.: (617) 355.2568
Fax: (617) 732.4015
E-mail: clandrigan@partners.org