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Improving Nurse Working Conditions: Towards Safer Models of Hospital Care

Over the past decade, an emerging body of literature established a link between nurses' working conditions and their ability to provide safe care. Nurses who are not at their best are both prone to making errors themselves, and less able to serve as effective "safety nets" for their patients, intercepting errors made by physicians and others.¹ Excessive nurse workloads predict an increased rate of adverse events,^{2,3} and, by their own reports, nurses working shifts of >12 hours are at greatly increased risk of making medical errors.^{4,5} On the basis of these and related findings, the Institute of Medicine has recommended: a) that efforts be made to assure appropriate nurse workloads and b) that nurses work no more than 12 hours per day and 60 hours per week;⁶ but these recommendations have not been broadly enforced.⁷

Two articles in the current issue of the *Journal of Hospital Medicine* add to our understanding of the relationship between nurse working conditions and safety, and substantiate the need to improve nurses' working conditions. In the first, Surani et al. conducted a pilot study of 20 night nurses working 12-hour shifts in which well-validated, objective tools revealed that ICU nurses were suffering from pathologic levels of drowsiness on the job.⁸ The topic is of importance as recent survey work demonstrated that nurses working >12 hours and resident-physicians working shifts of 24 or more hours make significantly more medical errors and suffer many more occupational injuries than those working less exhausting schedules.^{4,5,9-12} Objective data on resident-physicians has corroborated these findings,^{13,14} but objective data measuring sleepiness in nurses has been lacking. Surani et al.'s study helps to fill this need. Further, this study suggests that hospitals should not be complacent about the safety of 12-hour shifts, which may still be associated with dangerous levels of drowsiness-induced impairment. Careful management of the number of consecutive night shifts,¹⁵ or further reductions in nursing work hours even beyond the 12-hour limit endorsed by the IOM may be in order—particularly in high-risk critical care environments—though further research substantiating Surani et al.'s findings and comparing alternative scheduling options would be valuable.

The second study by Conway et al. analyzed data for acute care hospitals in California from 1993 to 2004, and found that

following the passage of nurse staffing legislation in 1999 and its implementation in 2004, nurse-patient staffing ratios increased significantly.¹⁶ “Safety-net” hospitals, however, with high proportions of vulnerable patient populations, were least likely to achieve mandated ratios. As the authors point out, diverting funds to achieve mandated ratios in under-funded safety net hospitals could potentially lead to reductions in other essential services, though whether such an eventuality might come to pass has not been adequately assessed to date.

In light of these data, where should we go from here? Public and professional concerns over the impact of fewer nurses on the delivery of care have led to the passage of legislation or adoption of regulations by many states in an attempt to ensure safe care. Examples include elimination of mandatory overtime in the following states: CT, IL, ME, MD, MN, NJ, NH, OR, RI, WA, WV, CA, MO, and TX; implementation of nurse staffing plans with input from staff nurses (WA, IL, OR, RI, TX), and mandates of specific nurse to patient ratios (CA [as discussed by Conway et al.] and FL).¹⁷ Proposed legislation regarding nurse staffing and nurse-to-patient ratios is currently under consideration in many additional states. Legislation broadly restricting nurse work hours has not been passed by the federal government or individual states, but some hospital systems including the Veteran’s Administration now have policies prohibiting shifts of greater than 12 hours and work weeks of greater than 60 hours.¹⁸

Unfortunately, several major barriers have made the implementation of safer work hours and workloads challenging, and uncertainty about the effectiveness of implementation efforts remains. A major challenge has been the presence of a serious shortage of nurses, which is expected to peak by 2020.¹⁹ A lack of nurses will make both staffing and scheduling initiatives difficult. Over the next 10 to 15 years, policies that fund nursing education or otherwise address this shortfall will consequently be essential.

A second challenge in efforts to implement safer work schedules appears to be an absence of knowledge about the hazards of sleep deprivation, compounded by financial pressures that may lead to unsafe schedules. Some nurses oppose restriction of work hours citing that they know when they are tired, their schedule works for their personal life, and they should be allowed to work as

much as they want to earn the salary they want/need. Unfortunately, it has been well-demonstrated that chronically sleep-deprived individuals routinely under-estimate their level of impairment, calling into question the ability of nurses and others working extreme hours to accurately judge their abilities to perform safely.²⁰

Clearly, education on the effects of fatigue on performance is needed, as are widespread efforts to implement safe schedules. Further study of work injuries, medical errors, and their relation to fatigue and specific work schedules is warranted, as well as studies of the impact of fatigue on sick calls and absenteeism. In many tightly staffed hospitals, overtime is used to provide coverage for sick calls, which in turn potentiates further risk of fatigue. As a profession, nurses need to take the fear factor out of saying “I’m tired” and advocate for adequate breaks, naps, and diet. Nurse leaders often find that offering 12-hour shifts is required to recruit nurses, and that rotating shifts—sometimes in a manner that can lead to significant circadian misalignment—helps balance the schedule and preference for day shifts. They are also aware that a scheduled 3-day work week is attractive to many nurses, as it allows those desiring greater income to work additional shifts through an agency at premium pay, though this may lead to further sleep deprivation. It is easy to conceive how these factors can lead to a serious conundrum.

How best to address concerns over nurse staffing remains a subject of ongoing debate. Higher nurse-to-patient ratios have been associated in multiple studies and a meta-analysis with lower rates of complications and mortality.^{3,21} Understanding the causal relationship between ratios and outcomes, however, has been complicated by consideration of confounding hospital variables and varying acuity of patient care between centers. The number of patients a nurse can safely care for at any one time is likely a product of the acuity of the patients, the education and experience of the nurse, and the makeup of the team available to care for the patients’ needs. How well implementation of mandates regarding nurse-patient ratios can address this complex need is unclear, and should be a focus of future research.

Leadership is essential in implementing work hour standards and staffing plans to promote a high-quality nursing environment. Hospitals with poor operating margins, poor leadership, or poor

environments of care will be unable to retain nurses to meet care requirements. "Magnet" hospitals, with nurse leaders who promote RN empowerment, can develop less stressful work environments with lower turnover rates and greater job satisfaction, which positively impacts quality of care. The Magnet Recognition Program, developed by the American Nurses Credentialing Center (ANCC), has recognized less than 300 hospitals in the US as providing nursing excellence (<http://www.nursecredentialing.org/magnet/>).

State and federal regulation may address initial safety needs, but it cannot in isolation address all of the elements that contribute to high-quality care. While data are limited, it is possible that in financially constrained hospitals, suboptimal implementation of mandates may potentially lead to misuse of limited resources. Future research should directly assess the net effects of implementing nurse scheduling and staffing policies on mortality, hospital complication rates, and the safety of patient care processes across diverse medical centers and patient care settings. Building upon the research of Surani, Conway, and their colleagues, such research could help promote the further development of optimal care policies and the quality of patient care.

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Received 12 May 2008; accepted 15 May 2008.

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