

EvidenceBoost

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for Quality *A series of essays highlighting evidence-informed management and policy options for improving quality of care*

IMPLEMENT NURSE STAFFING PLANS FOR BETTER QUALITY OF CARE

The Problem: Current nurse staffing strategies are not adequate to improve patient safety

With more than 16,000 deaths per year in Canadian hospitals linked to adverse events that could be preventable, patient safety is an urgent concern.ⁱ And while nurses are working hard to provide quality care for patients, the way Canada's hospitals staff their nursing positions may be part of the problem.

As just one example, when the number of working nurses falls, patient deaths and other adverse incidences increase. Whether measured as nurse-to-patient ratios or hours worked per patient, fewer nurses are associated with poorer care.^{ii-vii}

Unfortunately, reducing the number of nurses is exactly what Canada's healthcare systems did during the restructuring of the 1990s, as hospitals reduced the number of hospital beds and patient lengths of stay. And while the number of working nurses recently began to rebound,^{viii} the solution won't be found in just increasing numbers. Hospitals will need to ensure they have not only enough nurses, but also the right mix of nursing skills, education, and experience to provide the best nursing care for the patients in question.

Strategy for Change

Hospital managers can work collaboratively with nurses to create and regularly review formalized staffing plans at the organizational and unit levels. Instead of simple accounting formulas to budget and line up staff, these plans take into account the specific and constantly changing needs of the patients in the organization or unit, as well as the mix of competencies of the nurses and other care providers.^{ix}

Staffing plans include strategies to address staff shortages as they occur and are tailored to be appropriate to individual units and wards.^x These plans ensure dialogue and give appropriate decision-making authority to both staff nurses and the nursing leaders for direction when staffing is not optimal and challenges arise.

Research Base

Staffing plans are a way of implementing and accounting for a range of evidence-based interventions in nurse staffing and patient safety — not only appropriate numbers of nurses, but also types of positions, education levels, and amount of experience.^{xi}

In terms of numbers, at both the hospital and unit levels, higher numbers of direct nursing care hours/nurses can lower mortality. This has been seen in studies of care for patients with AIDS,^{vii} after heart attacks,^v those undergoing general, orthopedic, and vascular surgery,ⁱⁱⁱ and the general inpatient population.^{iv} A recent Canadian study found that a 10-percent-increase in the percentage of registered nurses is associated with six fewer deaths for every 1,000 discharged patients who'd had a heart attack, stroke, pneumonia, or blood poisoning.^{xii} Increased nurse staffing costs money but is ultimately a cost-effective strategy for hospitals. One study that combined salary information, patient mortality, and length of stay found that improving the nurse-to-patient ratio from 1:8 to 1:4 cost \$136,000US per life saved. By comparison, routine Pap smears to screen for cervical cancer cost \$432,000US per life saved.^{xiii}

Types of positions include full- and part-time staff positions and casual work. Higher rates of part-time and casual nursing staff can lead to poorer patient outcomes.^{xiv} And while managers and policy makers might believe there are just not enough nurses to meet these ratios, many qualified nurses (approximately 12 to 15 percent of the workforce) are still working more than one nursing job.^{viii} The lack of full-time jobs has created a vicious cycle where many nurses — particularly recent graduates — leave the country to look for work.^{xv-xvii} Indeed, a recent study shows about 80 percent of new nursing graduates in Canada want to work full time, but only 43 percent of those surveyed were able to find that type of job.^{xviii}

Beyond the raw numbers of different types of nurses, how they are educated also matters. Research has shown that nurses who are more highly educated are more likely to perform duties in a way that improves patient safety.^{xix-xx} For example, two Canadian studies found lower 30-day mortality rates when there are more baccalaureate-prepared nurses.^{xii, xiv} Specifically, Tourangeau et al. found that a 10-percent-increase in the percentage of nurses with bachelor's degrees is associated with nine fewer deaths for every 1,000 discharged patients.^{xii}

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Nursing experience can refer to both years working as a nurse and years working with a specific patient population (such as cancer patients) or in a particular healthcare setting.ⁱⁱ A Canadian study found that experience with a specific population was associated with lower patient mortality within 30 days of leaving hospital after having a heart attack, stroke, pneumonia, or blood poisoning. Specifically, each additional year of nurse experience on the unit was associated with four to six fewer deaths per 1,000 patients, depending on the type of hospital.^{xvi} As well, an Australian study found that nursing inexperience — either overall or with a particular procedure or piece of equipment — was related to 10 percent of the adverse incidents in intensive care units.^{xvii}

Conclusion

Flexible nurse staffing plans go beyond the numbers and also ensure the right type of nurses with appropriate levels of experience and education, making sure this mix is right for the patient's needs. Nurses who intimately understand factors that affect patient safety should be directly involved in developing and implementing these plans; by working together, hospitals and nurses can provide better care for patients. Facilities in some provinces have committed to developing and implementing staffing plans,^{xxiii} but much more needs to be done.

For more information about improving quality of care, see the foundation's managing for quality and safety web page at www.chsrf.ca/research_themes/safety_e.php.

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