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Evidence-Based Nursing: 10 Ways to Practice Evidence-Based Staffing and Scheduling

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As we move from a standards approach to patient care to one based on quality and outcomes, so the need to identify and reassess processes and practices in patient care, is critical. Healthcare organisations need to look at re-evaluating and redesigning staffing and scheduling of the workforce, with a focus on what the evidence now tells us provides the safest practices to support positive outcomes for both our patients and nursing staff.

Acute Care Staffing and Rostering Practices

The working environment in acute care is a fast-moving, dynamic and physically, mentally, and psychologically demanding place. Making sure that the appropriate levels of nursing care are available requires organisation of work schedules with many variables: shift start times, shift lengths, rostered hours per week or pay period, spacing of shifts, duration of shift breaks, expected and unexpected absenteeism, skill mix, and experience levels of staff members. Plus there may be other local working arrangements to add to the list.

It is important to recognise that how we staff and roster nurses can create an environment that is potentially harmful to both the nurse and the patient. For example, long shifts or shifts that are closely spaced shorten the working week, but present risks of fatigue for nurses. In addition, sometimes relentless calls to fill 'gaps' created by unexpected events – absenteeism or increased workload – can contribute to an unhealthy environment for the nurse.

Further complicating the staffing and scheduling process is the need to optimise the skills mix. The nursing workforce consists of more than nurses. Depending on the specific unit and nursing practice model being used additional staff may include student nurses, nursing assistants, technicians, coordinators, porters and other ancillary staff.

The Evidence is in

What do increased levels of fatigue mean in the delivery of nursing care? Fatigue in the workforce has been linked to 'performance decrements'. Performance decrements may include diminished capacity to manage a specific level of workload, which certainly has an adverse impact on the organisation and overall productivity. More significant is that performance decrements lead to errors in the delivery of nursing care. It is here that the impact of performance has its most damaging potential, affecting the safety and positive outcomes for both nurses and patients.

The length of shifts, working overtime hours, and overall hours worked per week have been shown to have a significant relationship to errors. Working more than 40 hours per week 'significantly increased the risk of making an error' (Rogers et al., 2004).

The types of errors associated with fatigue due to heavy work schedules aren't just an incorrect diet sheet, failure to ambulate or slight delays in care. Two studies in the US reported epidemics of *Staphylococcus aureus* that pointed to nurse fatigue as the reason for making frequent mistakes and procedural errors (Russel et al., 2003; Arnow et al., 1982).

Working excessive overtime creates risks, therefore the reason that overtime hours are required becomes important. The fatigue associated with long shifts was found to be responsible for an absenteeism rate approaching 12% in a random sample of Canadian nurses (Zboril-Benson, 2002). This cycle is self-perpetuating. Long shifts cause fatigue, which causes absenteeism, which results in the need to fill expected absence with overtime hours, which increases shift length.

The composition of the nursing team based on skill mix and level of experience also has an impact on safety and positive outcomes. One study reported that having a 'greater proportion of qualified to un-qualified nurses was significantly associated with fewer patient falls and medication administration errors in medical-surgical and critical care departments. Changes to skill mix led to a finding that 'each 10% decrease in qualified nurse skill mix was associated with a 36% increase in the likelihood of patient falls with injury in critical care departments and with a 30% increase on medical-surgical units.' (Patrician et al., 2011). Confirmation that the skills mix does matter.

Lastly, the experience level of the nursing team needs to be considered. Experience makes a difference in providing a safe and positive outcome-driven approach to staffing and scheduling. Two studies showed that units with more experienced nurses had lower medication error rates in both studies and lower patient fall rates in one study (Blegen et al., 2001).

10 Ways to Put it Into Practice

- Decrease the use of long shifts. The evidence is clear that long shifts present a significant risk to patients and staff. Wherever possible, engage staff in discussions about alternatives in scheduling that support a safe and positive outcome-driven environment.
 - Investigate ways to ensure nurses leave on time at the end of a shift. First assess what the causes of staying late are and then formulate an
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action plan to address those issues.

- Decrease the use of overtime or bank hours. Whenever possible, hours that increase the overall work week, such as overtime or bank hours, should be avoided. This can be accomplished by more accurately scheduling hours based on predictive workload volumes, decreasing the need to adjust staff hours at short notice.
- Spread the wealth by distributing overtime. When overtime is the only answer, make sure no one person is getting it all.
- Know the staff members you're scheduling. Make sure nurses who are at increased risk of harm, such as those with chronic medical conditions, older workers, pregnant nurses, and those with long commutes, aren't scheduled in a way that will tax their abilities.
- Define a skill mix for each shift and stick to it. There is no one right mix of skills that we all should follow. Realistically analyse your environment and resources to define what is possible and acceptable for your situation.
- Vary the experience levels scheduled on each shift. The benefit here is increasing the likelihood that fewer errors will occur. The value-add is the mentoring that will benefit the less experienced members of the team.
- Ensure adequate rest periods between shifts when approving schedule changes. There is more to think about than just covering the shift when approving schedule changes. Consider the impact on the individual's overall schedule and potential for fatigue.
- Develop practice guidelines. Based on the research, practice guidelines appear to support safety in practice when used by fatigued nurses.
- Monitor key performance indicator trends in staffing and scheduling. Routine assessment of workforce metrics should include trends in overtime at department, ward and individual level, frequency of absenteeism, adequacy of rest periods within and between shifts, and deviations between scheduled and actual worked hours.

What's at Stake?

One of our greatest challenges in nursing today, in the US as well as the UK, is to steadily move away from time-honoured and anecdote-based practices to a practice of nursing-care delivery that is evidence-based. There is always more to learn, but there is also a lot of fairly new research and studies that have yet to be acted upon. As new thinking is put into practice, it remains essential that the impact on both the patient and the nurse be continually evaluated and opportunities to identify potential new improvements in staffing, and scheduling practices aren't over looked due to complacency. The safety and positive outcomes for our patients and nurses are at stake.

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