Four warning signs of nursing care issues

Kasia Bail explains how four common, but potentially preventable, complications experienced by older patients with dementia in hospital can be useful indicators of quality of care.

We know that hospital services account for most of Australia’s public health expenditure, with a large proportion of the costs going towards the treatment and care of older patients with complex medical conditions and care needs, including dementia. What we tend not to notice is that most of the costs of caring for older people in hospital are for nurses. Nurses account for about a third of hospital expenses – more than for operating theatres – but we don’t actually know very much about what society receives for this money.

Sensibly, there is an increasing focus on ‘efficiency’ and ‘productivity’ in the public health system to make the most of taxpayers’ money. But how can we aim for ‘cost efficiency and effectiveness’ if we don’t know what we are getting for our money – what quality, as well as quantity, of nursing care is being received?

Nursing care for older people

In order to better understand and analyse quality, the context of nursing care for older people, including those with dementia, needs to be understood.

People over the age of 65 account for 30% of hospital admissions and 48% of bed days (AIHW 2015) and the problems of older patients in hospital are increasingly complex. For example: half of people aged 65-74, and 70% of those over 85 have five or more comorbidities (ABS 2010); 10.4% of people in hospital have dementia (Bail et al 2013) and 30% have cognitive impairment (ACSQI H 2010); almost all people in hospital need assistance for daily living (Barnes et al 2013); and the enormous functional variability between older people even of similar ages can make predicting needs, workloads and costs more difficult.

Patients with dementia provide a classic example of the complexity of the care needs of older people in hospital. Their care is complicated by the fact that dementia is usually an accompanying comorbidity, rather than the reason for hospital admission; it’s often poorly diagnosed and poorly documented (Laurila et al 2004; Rodwell et al 2010); and people with dementia have longer lengths of stay (AIHW 2013).

The problems in hospitals are also increasingly complex, with the number of available beds decreasing in relation to the population, bed occupancy usually over 90% when 85% is considered safe (Kuntz et al 2015); simple surgery goes elsewhere, leaving only the most complex cases (Sammut 2009); a lack of senior staff (Garling 2008); an increasingly casualised workforce (Alameddine et al 2012) and less experienced nurses caring for patients, as more senior nurses take on administrative and academic roles (Garling 2008).

Nurse sensitive outcomes

My research interest is in improving sustainable acute care health delivery for an ageing population. In particular, my DCRC-funded PhD examined a range of patient outcomes demonstrated to be sensitive to nursing (‘nurse sensitive outcomes’): that is, “changes in health status upon which nursing care has had a direct influence, acknowledging other variables also influencing those outcomes” (International Council of Nurses 2010). Key outcomes examined in this nursing research field are complications that could have been prevented.

However, there’s been limited analysis of nurse sensitive outcomes for people with dementia in hospital, despite the
increasing prevalence and acknowledged vulnerability of this population.

**Preventable complications**

My PhD focused on preventable complications for people with dementia in hospital. In collaboration with the NHMRC-funded Hospital Dementia Services Project and the Australian Institute of Health and Welfare, I looked at data collected by NSW public hospitals in 2006 and 2007 and analysed nurse sensitive outcomes for people aged over 50.

My study found that patients with dementia have higher rates of hospital-acquired complications than those without dementia at the same age. The highest rates were for urinary tract infections (UTIs), pneumonia, pressure areas and delirium, where the risk is 2.5 times greater (21.9% of patients with dementia experienced an in-hospital complication, while only 8.8% without dementia did) (Bail et al 2013).

These four key complications resulted in the patient with dementia spending eight times longer in hospital than a patient without dementia (3.6 days compared to 0.4 days), doubled the average cost of stay ($16,403 compared to $8,240) and accounted for 24.7% of the cost of additional days spent in NSW hospitals in 2006-2007, at a cost of $225 million per year. Patients with dementia accounted for 22% of these costs, even though they comprised only 10.4% of the hospital population (Bail et al 2015).

These four complications occur more often in older patients with dementia and the high rate makes them expensive — yet they are potentially preventable. However, the care needed to prevent them — such as mobility, hydration, nutrition and communication — is known to be rationed or left unfinished by nurses (Papastavrou et al 2014). Older patients with complex health issues are more likely to experience care rationing, as their care tends to take longer, be less predictable and less curative in nature (Bail & Greashall 2016).

The presence of UTIs, pneumonia, pressure areas and delirium can be considered as a hospital’s ‘Failure to Maintain’ older people with complex needs such as dementia in hospital, and hence may be useful indicators for hospital quality.

**Quality nursing care**

Promoting healthy nursing work environments that minimise nurses’ rationing of functional and cognitive care for patients is likely to reduce these complications and associated costs. Other research shows the association between nursing staff levels and rates of complications. For example:

- Less burnout and higher nurse staffing is associated with lower rates of UTI (Cimiotti 2012; Needleman et al 2002).
- More registered nursing hours per patient is associated with lower rates of pneumonia and lower rates of delirium (Cho et al 2003; Kane et al 2007; Kovner & Harrington 2002; Pappas 2008).
- Less Registered Nurse time per patient was associated with higher rates of pressure ulcers (Hickey et al 2004; Horn et al 2005; Pekkarinen et al 2008; Schubert et al 2008).

However, the nurses’ role is under pressure from the increasingly complex hospital environment and the older patient population, and may not be meeting patients’ needs. For example, nurses have been found to complete 72.3 tasks per hour, with a mean task length of 55 seconds (Westbrook et al 2011); consider a different patient every six minutes (Bright et al 2003); and most report leaving at least one task undone each shift (Jones et al 2015).

The most common care tasks left undone/unfinished are: skin care, mouth care, toileting/bathing, pain management, communication and documentation. Increasingly it is being recognised that we need skilled providers in complex environments like hospitals to juggle even relatively simple interventions (such as mobility, skin care, hydration, communication) to complex patients such as those with dementia.

Nurses offer simultaneous assessment and intervention to prevent or mitigate complications. Positive nursing work environments (including more nurses, or more RNs) are associated with lower rates of complications. Yet despite this evidence, there is an increase in use of non-nurses in hospitals.

**Strategies to improve care**

The following strategies are recommended to improve quality of care for older people and people with dementia in hospitals:

- Consider the costs of dementia and complications.
- We don’t want to claim all complications are the result of neglect or misadventure, but higher rates can be a strong indicator that there are opportunities for improvement. If patients have a higher risk of a deep vein thrombosis, for example, the hospital expends more effort to prevent that. Shouldn’t this be the same with pneumonia, delirium, UTI and pressure ulcers? Higher risk means there’s a need for more preventative interventions.
- Recognise these four complications as key quality indicators that are potentially preventable; measurable at patient, unit, organisation, state and country level; related to mobility, hydration, nutrition, communication, and hygiene; and related to nursing workload, skill mix and care rationing.
- Consider nursing as an intervention cost, rather than a labour cost: if nursing is considered a labour cost, it is easier to think that cheaper nurses can mean cheaper care without changing the outcomes for patients. But if nursing work is understood – and further investigated – as an intervention, then this would better inform decisions around hospital efficiency and expenditure.
- More accurate hospital and state data on the quality and quantity of bedside nurses and additional key components of nursing work environments such as turnover and burnout, are needed to improve timely analysis and decision making that impact on the quality and cost of patient care.
- Maximise opportunities for quality and efficiency improvement with the three sectors that account for most of Australia’s public health expenditure: public hospitals; older patients; and nursing.

In conclusion, there are many opportunities to improve our understanding and care of people with dementia in hospital. Maximising the value of interactions between people with dementia and their hospital nurses can be enhanced if we make better use of patient outcome data that are sensitive to these populations. The quality indicators of UTIs, pneumonia, pressure areas and delirium are already being used in the Australian Government-funded Dementia Care in Hospitals Program being rolled out across four Australian states. Further examination of these complex but important issues in hospital care will be essential in the prevention of future suffering, as well as potential improvements in cost efficiency.

**References**

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