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'Failure to Maintain': A theoretical proposition for a new quality indicator of nurse care rationing for complex older people in hospital

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ABSTRACT

Complex older patients represent about half of all acute public hospital admissions in Australia. People with dementia are a classic example of complex older patients, and have been identified to have higher rates of hospital-acquired complications. Complications contribute to poorer patient outcomes, and increase length of stay and cost to hospitals. The care for older people with dementia is complex, and this has been attributed to: their cognitive response to being hospitalised; their limited ability to self-care; and lack of nursing engagement with the family caregiver. Registered nurses can offer simultaneous assessment and intervention to prevent or mitigate hospital-acquired complications. However, it is known that when demand for nursing care exceeds supply, care is prioritised according to acute medical need. Consequently some basic but essential nursing care activities such as patient mobility, communication, skin care, hydration and nutrition are implicitly rationed.

This paper offers a theoretical proposition of 'Failure to Maintain' as a **conceptual framework** to indicate implicit care rationing by nurses. Care rationing contributes to functional and cognitive decline of complex older patients, which then contributes to higher rates of hospital acquired complications. Four key hospital acquired complications: pressure injuries, pneumonia, urinary tract infections and delirium are proposed as **measurable indicators** of 'Failure to Maintain'.

Hospital focus on throughput constrains nurses to privilege predictable, solvable and medically-related procedures and processes that will lead to efficient discharge over patient mobility, communication, skin care, hydration and nutrition. This privileging, also known as implicit rationing, is theoretically and physiologically associated with a rise in the incidence of complications such as pressure injuries, pneumonia, urinary tract infection, and delirium. Complex older patients, including those with dementia, are at higher risk of the complications, therefore should have higher delivery of prophylactic intervention (ie have higher care needs). 'Failure to Maintain' offers a conceptual framework that is inclusive of, and sensitive to, this vulnerable population.

Implicit rationing is occurring and it likely contributes to functional and cognitive decline in complex older patients and hospital-acquired complications. However, the lack of patient functional ability data at admission and discharge for hospitalised patients, and lack of usable ward and hospital level nurse staffing and workload data makes it difficult to monitor, understand and improve quality of care. Current research in the fields of acute geriatrics and nursing work environments show promise through enabling multidisciplinary team communication, and facilitating clinical autonomy to provide patient focussed care, and avoid 'Failing to Maintain'.

The research field of acute geriatrics can understand and act on the risk modification role of nurses, including controlling for nurse staffing and work environment variables in intervention studies. The research field of nurse sensitive outcomes should incorporate the different profile of complex older

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patients, by including age brackets and functional ability as variables in their studies. Clinically, nursing work environments can be designed to recognise the different profile of complex older patients by adapting practices to privilege mobility, hydration, nutrition, skin care and communication in the midst of acute care interventions.

1. Background

1.1. Complex older patients have more hospital complications

Despite excellent health care in a range of first world countries, unintended injury that occurs during hospital admissions remains a concern. Complications in hospital are unfortunate for patients, and also expensive for hospitals and states. Four key complications – urinary tract infection, pressure injury, pneumonia and delirium – known to be sensitive to nursing care were associated with A $226 million for extra days in hospital in one state in Australia in one year (Bail et al., 2015). These four complications were higher in patients diagnosed with dementia compared to those without dementia. Patients with dementia are a classic example of complex older patients. Other examples of complex older patients include multiple comorbidities and high acuity during hospitalisation (Schaink et al., 2012). There is increasing understanding that small events in hospital can trigger larger complications; such as untreated pain resulting in decreased patient movement, leading to lower lung volumes, atelectasis and respiratory depression—this is termed 'cascade iatrogenesis' (Thornlow et al., 2014).

'Care bundles' have been found to reduce these kinds of complications by disrupting the cascade eg (Gray-Siracusa and Schrier, 2011; Malouf-Todaro et al., 2013; Quinn et al., 2014; Schneider, 2012; Soban et al., 2011). Care bundles seek to embed a range of care practices, through education, training, and structural support in the form of suitable policies, procedures and resources, and leadership. Care bundles emerged through the recognition that there is no single intervention for complex cases (Marwick and Davey, 2009). Examples from bundles of care to prevent urinary tract infections include policy encouraging nurses repeatedly asking 'why does this patient still have a catheter?' (Salamon, 2009), or a written reminder by nurses for physicians to remember which patients have a catheter (Saint et al., 2005), or where the catheter removal protocol is nurse-directed (Parry et al., 2013).

Nurses are considered the front line in implementing these care bundles in the hospital setting (Gray-Siracusa and Schrier, 2011), and are well positioned to identify complications early and intervene due to their bedside contact, patient rapport and team liaison (Aranda and Brown, 2006). Preventative and risk mitigating care actions of nurses are established to prevent the four key complications of urinary tract infection, pressure injury, pneumonia and delirium. Prevention care actions include a range of individually simple tasks (see Table 1), but often require expertise to deliver in the complex and changing hospital environment.

1.2. Nurses ration care

Nurses prioritise which care activities to complete first in a complex and changeable hospital environment, with increasingly specialised treatment regimens for an ageing population which has higher levels of comorbidities (Nobili et al., 2011). In setting priorities, nurses may deem some care as necessary for the patient, but unable to be completed due to time and resource constraints,

Table 1
Effective preventative nursing interventions for the four key complications (as individual interventions or components of a 'care bundle').

Urinary Tract Infection	Delirium
Increase fluid intake	Encourage drinking, consider intravenous fluids if necessary
Good hygiene	Assess for hypoxia and optimise oxygen saturation if necessary
Stable blood sugars	Encourage mobilisation, range-of-movement activities
Promote complete bladder emptying	Look for and treat infection
Avoid catheterisation (maintain continence, minimise soiling)	Introduce cognitively stimulating activities (for example, reminiscence)
Timed voiding (toilet visits only taking place at pre-determined times)	Facilitate regular visits from family and friends
Improve mobility (walking aids, handrails, commodes, assistance)	Screen for risk factors, team practices and protocols for detection
Keep toilet environment uncluttered, leave door open for easy access	Reduce ward and bed changes
Use of absorbent products and barrier creams to maintain skin integrity	Personal care (pain, nutrition, hydration, continence, mobility, skin care)
Nurse-directed urinary catheter removal protocol	Environmental interventions (temperature, lighting, hazards, noise)
Biweekly catheter and infection rate feedback	Provide a clock and a calendar
Nurses to remind physicians which patients have a catheter	Reorientate the person (where they are, what is happening)
Education focus on unlicensed personal what to report to the nurse	Enable patient free movement
Always check the entire catheter system, maintain a closed system	Ensure patients eat and drink appropriately, food and drink accessible
Keep bag below the bladder, secure catheter, daily urethral meatal care	Minimise unnecessary medications and interventions (eg catheters)
Use clean technique when handling the catheter	Maximise sleep (minimise interventions, medication rounds)
Sterile technique for insertion	Minimise sensory impairment (hearing, visual, dental aids)
Pressure Injury	**Pneumonia**
Daily risk assessment (skin, mobility, nutrition, hydration, age, comorbidities)	Mobilising (sitting out of bed, walking, lung expansion exercises)
Pressure reduction mattresses	Pain assessment and management
2 hourly repositioning (with sound reminder for nurses)	Comprehensive mouth care
30° tilted side lying position	Screening for swallowing ability
Elevation of heels with pillows along the calves	Tube feeding protocols
Draw sheets (to prevent friction and shear)	Elevation of head of the bed
Skin cleanser, moisturiser, barrier creams used	Adequate nutrition
Information sharing; protocols, education, monthly rates	Blood glucose stability
Strengthen integrity of the skin (hydration, nutrition, circulation)	Hand hygiene
Reduce skin exposure to moisture (continence, spills, drying after bath)	Sedation control

References: Inouye 1996, Inouye 2000, Godfrey 2012, Mudge 2013, Bardsley 2013, Fink 2012, Salamon 2009, Saint 2005, Parry 2013, Gray-Siracusa 2011, Allen 2013, Soban 2011, Quinn 2013, Rello 2012, Litherland 2011, Shea 2002.