

Achieving restraint-free care for frail older patients with cognitive impairment in the acute hospital

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Dear Editor,

In a fast-paced, task-oriented acute hospital setting, frail older patients face significant risks of functional decline, delirium, and iatrogenic harm, including the use of physical restraints. While person-centred care models are well established in long-term care settings, their implementation in acute hospitals—characterised by high patient turnover, time pressures, and staff unfamiliar with geriatric care principles—presents unique challenges.

Recognising this imperative, the authors developed a person-centred care ethos and culture based on Donabedian's Structure-Process-Outcome framework,¹ which links organisational resources and processes to improvements in care quality. This framework underpinned the milestone of over 1 year of restraint-free care across all acute geriatric wards in Khoo Teck Puat Hospital, a first in Singapore. Achieving sustainable change requires deliberate investment in building care culture, infrastructure, training, and specialised expertise (Structure); the consistent application of evidence-based approaches at the bedside (Process); and comprehensive evaluation of impact (Outcome).

The success of any culture-change initiative depends fundamentally on having the right resources and organisational structures in place. New nurses receive foundational training in the age-friendly 6Ms framework² for older and vulnerable patients during induction, with ongoing training and e-learning modules available for existing staff. A customised 3-level Humanitude training programme systematically develops competency across the nursing workforce. Approximately 25% of the hospital's nursing workforce has completed Level 1 training, including two-thirds of all geriatric nurses. Beyond Level 1, 13 staff hold Level 2 certification and 4 hold Level 3 certification, qualifying them to train others. The authors also adopted supportive design principles³ to create safe, familiar, and empowering environments through ward refurbishments, indoor greenery, activity trolleys, and

therapeutic programmes in music, drama, reminiscence, and horticulture. Families are regarded as integral partners in care, with extended visiting hours and opportunities for active participation during hospitalisation. A specialist cognitive-behavioural support team provides guidance to ward staff navigating complex care scenarios, ensuring that frontline staff have access to the necessary expertise when standard approaches prove insufficient.

Person-centred care in the acute setting is operationalised through 2 interconnected evidence-based approaches. The 6Ms age-friendly framework—an expansion of the Institute for Healthcare Improvement's 4Ms model²—provides a systematic, evidence-based structure for care planning, ensuring that every clinical decision considers what Matters most to the patient, alongside their Medications, Mentation, Mobility, Multimorbidity, and Meals. The authors operationalise the 6Ms through approaches that prioritise patient safety while promoting independence and dignity—using the Johns Hopkins Highest Level of Mobility Scale, providing bedside assistive devices, supporting cognition with spectacles and hearing aids, and encouraging home-cooked foods with dietitian input and modified utensils to promote independent eating.

Complementing this, the Humanitude care methodology equips staff with techniques for respectful, dignity-preserving interactions with older patients, particularly those with cognitive impairment or care resistance.⁴ Humanitude builds positive caregiver-patient relationships through 5 stages: (1) announcing presence respectfully, (2) establishing trust and consent, (3) delivering care using 4 pillars (horizontal eye contact, affirming speech, gentle touch, and upright posture), (4) providing positive reinforcement, and (5) planning future encounters.⁴ This methodology preserves human dignity while securing positive emotional memories that facilitate ongoing care acceptance.⁴

Translating these frameworks into consistent practice requires ongoing support and accountability. The

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authors implemented robust monitoring systems, including counting consecutive restraint-free days to enable transparent accountability, and regular direct observations of staff at the bedside to facilitate mentoring and constructive feedback. Resetting the restraint-free day counter to zero proved particularly demoralising, as a single restraint application erased months of progress. An After-Action Review is undertaken whenever physical restraints are used. For instance, a review of an after-office-hours restraint incident led to the development of pharmacological escalation guidelines supporting on-call doctors and nurses in managing complex situations, with daily review to ensure that pharmacological measures remain judicious and time-limited. Expansion from 1 pioneer ward to 4 additional wards during 2024–2025 introduced new challenges arising from differing patient profiles, ward cultures, and staff resistance, requiring sustained education, mentoring, and strong leadership to overcome.

The ultimate test of this initiative lies in its measurable impact across 3 interconnected levels: patients, staff, and the organisation. Patient outcomes were evaluated in 2 complementary studies. In a pilot quasi-experimental trial ($n=20$), patients receiving Humankind care showed significant improvements in activities of daily living, with median Modified Barthel Index scores increasing from 20 to 54.3 ($P=0.002$), compared with a median increase of 0 in the usual-care group. Measures of mental wellness also improved, with the Bradford Well-being Index increasing from 7.0 to 20.0 and the ill-being index decreasing from 7.0 to 2.5 (both $P=0.002$). In a larger ongoing study ($n=1374$; mean age 82 years) in which 75.3% had a diagnosis of dementia (Table 1), care refusal was reduced, with Refusal of Care Informant Scale scores decreasing from 1.96 to 0.31 (mean difference 1.64; 95% confidence interval [CI] 1.44–1.85; $P<0.001$), and functional mobility improved, with Johns Hopkins Highest Level of Mobility scores increasing from 4.63 to 5.10 ($P<0.001$).

These patient-level gains were mirrored by meaningful changes in the staff delivering care. Two complementary studies examined the impact of Humankind training on staff. A qualitative study ($n=196$) revealed shifts towards compassionate, person-centred care, with staff reporting increased respect for patient choice, reduced coercion in care, stronger staff-patient relationships, and greater confidence in promoting patient independence. A quantitative pre-post study ($n=106$) found statistically significant improvements in staff attitudes towards dementia 6 months after training, with mean Dementia Attitudes Scale scores increasing from 60.05 ± 8.64 to 66.79 ± 9.97 ($P<0.001$; Cohen's $d = 0.55$).

Table 1. Baseline characteristics of participants.

Variable (n=1374)	no. (%)
Age, mean (SD)	82.0 (8.5)
Length of stay, mean (SD)	16.6 (20.2)
CFS, ^a median (IQR)	6 (5–6)
CFS groups ^a	
Non-frail (CFS 1–3)	18 (1.4)
Mild frailty (CFS 4–5)	366 (29.4)
Moderate–severe frailty (CFS 6–9)	859 (69.1)
Sex, male	618 (45.0)
Dementia	1034 (75.3)
Dementia severity ^b	
Mild dementia	295 (23.7)
Moderate-to-severe dementia	732 (58.9)
Restraint use at baseline	231 (16.8)

CFS: Clinical Frailty Scale; IQR: interquartile range; SD: standard deviation

^a Data available for $n=1243$.

^b Mild dementia = dementia with CFS <6 ; moderate-to-severe dementia = dementia with CFS ≥ 6 .

At the organisational level, these structural and process investments culminated in more than 365 consecutive restraint-free days across 5 geriatric wards caring for more than 150 patients, without a significant increase in injurious falls—demonstrating that safety and dignity can be maintained simultaneously. Building on this foundation, the next phase involves implementing a bundled intervention programme to improve care for frail older patients in non-geriatric wards and to reduce hospital-associated disability. Using a stepped-wedge design, the authors will systematically spread person-centred care practices across the hospital, ensuring that all older patients receive age-friendly and dignified care.

Ethics statement

Not applicable, as no study participants were involved.

Declaration

The authors declare no affiliations or financial involvement with any commercial organisation with a direct financial interest in the subject or materials discussed in this manuscript. Generative AI tools were used to assist with language refinement and editing of the manuscript text, with no involvement in data collection, analysis, or interpretation of results.

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Keywords: acute hospital, Donabedian, frailty, geriatric medicine, person-centred care, restraint-free

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