

## EVIDENCE SUMMARY

### INTRODUCTION

Advances in medicine mean health care professionals can prolong life, yet some treatments have a low chance of providing tangible benefit to some patients and represent a multi-million dollar cost to the public purse (1). Previous work identified reasons why doctors sometimes provide treatment they know to be non-beneficial to patients, especially elderly patients who are near the end-of-life (2, 3).

The InterACT study builds on this work and aims to promote appropriate care and treatment decisions and pathways for this patient population in three major Queensland hospitals. Specifically, it will assess the impact on patient outcomes and the cost-consequences of implementing a prospective feedback loop intervention with clinical teams. We expect to improve the capacity of clinicians to choose alternative treatments and to increase institutional support for better end-of-life care for a group of vulnerable patients.

### BACKGROUND

Australia's health care system operates in a challenging climate of an ageing population, an increase in the number of people living with chronic disease and, most relevant for this study, an increase in elderly people living with frailty and physical and cognitive disabilities (4). This elderly population is also more likely than previously to be hospitalised, with hospitalisation rates for people aged over 85 years increasing by 35% for women and 48% for men in the decade to 2011 (5). Further, the end-of-life phase in Australia is becoming an increasingly medicalised experience with more than half of Australian deaths now occurring in hospital, 26% in residential care and just 20% in the home (6).

There are challenges to caring for this elderly patient population in acute care settings. Specifically, there can be an inherent tension for clinicians and patients in acknowledging the limits to what medicine can provide while balancing subjective judgements about determining beneficence and addressing economic and clinical imperatives to provide appropriate and quality patient care (4).

A systematic review of 38 international studies, led by CI Cardona and CI Hillman, found 33% to 38% of patients received non-beneficial treatment at the end-of-life (7). A 2017 retrospective study of three Australian hospitals reported an observed incidence rate of non-beneficial treatment among end-of-life admissions of 12.1% (range 6.0% to 19.3%) with a mean duration of non-beneficial treatment of 15 days with one third spent in the Intensive Care Unit (ICU) (8). These types of treatments are associated with an increase in care costs, with the same study reporting an estimated annual national health system cost of \$A153.1 million due to futile or non-beneficial bed days (8).

Clinicians providing end-of-life care are often tasked with preparing patients and families for a transition to less active treatment (9), however they can frequently experience a range of barriers in providing that care pathway (2, 10). These barriers are likely to lead to an increase in treatment provided that is actually not beneficial to the patient. Further, they can cause moral distress to clinicians and increase risk of a bad death by prolonging or increasing patient suffering (11).

Studies have identified evidence for why doctors provide treatment they perceive as non-beneficial, with causes broadly categorised as arising from clinician factors, hospital factors and patient factors (1-3, 12, 13). Addressing these factors is challenging, especially in large, complex acute care settings. Evidence exists for interventions to reduce non-beneficial treatment outside of acute hospitals (14-

17), and an intervention study has been done in the ICU setting in the United States(18). There is, however, no published research in Australia evaluating an intervention to reduce non-beneficial treatment at the end-of-life in hospitals.

This study will use two validated tools to prospectively identify patients at the end-of-life where curative and life-sustaining interventions may be non-beneficial, or where there are predictor variables for specific potentially futile interventions. One, the Criteria for Screening and Triaging to Appropriate aLternative Care (CriSTAL) tool, was developed to identify elderly patients in the last months of life (19) and has multiple reports of its predictive validity (20, 21). The second tool, the Supportive and Palliative Care Indicators Tool (SPICT™) can be used by multidisciplinary clinical teams to identify patients at risk of deteriorating and dying (22) with recent studies reporting a significant association between a positive SPICT result and one-year mortality (23, 24).

Patient screening with these tools will form the first step in a prospective feedback loop intervention that aims to promote appropriate care and treatment for the elderly at the end-of-life. The provision of feedback to clinical teams is intended to provide a 'flag' to increase clinician awareness of the risk profile of their patients, directly addressing some of the clinician and hospital factors noted (25-27). A tailored clinical response to this information will be determined at a local clinical team level and implemented with support from a hospital executive group.

This study partnership will provide three acute hospitals with an opportunity to improve services at the end-of-life, free up hospital bed days, and improve outcomes for patients and families. The connections made with health services and policy groups by the partnership will improve the likelihood of changing practice in future.

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