Global analysis finds unnecessary end-of-life treatment in hospitals is widespread

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The largest systematic review of the care of elderly patients hospitalised at the end of their life has found more than a third received invasive and potentially harmful medical treatments.

The analysis of 38 studies over two decades, based on data from 1.2 million patients, bereaved relatives and clinicians in 10 countries including Australia, found the practice of doctors initiating excessive medical or surgical treatment on elderly patients in the last six months of their life continues in hospitals worldwide.

The UNSW Australia-led study, published in the *International Journal for Quality in Health Care*, has prompted researchers to call for better training for hospital doctors and more community education to reduce the demand for non-beneficial treatments at the end of life.

Dr Magnolia Cardona-Morrell, who led the research at UNSW's Simpson Centre for Health Services Research, said rapid advances in medical technology have fuelled unrealistic community expectations of the healing power of hospital doctors and their ability to ensure patients' survival.

"It is not unusual for family members to refuse to accept the fact that their loved one is naturally dying of old age and its associated complications and so they pressure doctors to attempt heroic interventions," Dr Cardona-Morrell said.

"Doctors also struggle with the uncertainty of the duration of the dying trajectory and are torn by the ethical dilemma of delivering what they were trained to do, save lives, versus respecting the patient's right to die with dignity."

The study revealed 33% of elderly patients with advanced, irreversible chronic conditions were given non-beneficial interventions such as admission to intensive care or chemotherapy in the last two weeks of life while others who had not-for-resuscitation orders were still given CPR.

The researchers also found evidence of invasive procedures, unnecessary imaging and blood tests, intensive cardiac monitoring and concurrent treatment of other multiple acute conditions with complex medications that made little or no difference to the outcome, but which could prevent a comfortable death for patients.

"Our findings indicate the persistent ambiguity or conflict about what treatment is deemed beneficial and a culture of 'doing everything possible'," Dr Cardona-Morrell said.

"The lack of agreed definitions in the medical community of what constitutes 'treatment futility' also makes a global dialogue challenging.

"However, using data from these studies we have defined as non-beneficial those procedures or medical treatments administered to elderly people in terminal stages of disease which prolong suffering rather than survival, that can potentially cause harm, are sometimes given against patients' wishes and are unlikely to improve the person's health or quality of remaining life.

"More importantly, we have identified measurable indicators and strategies to minimise this type of intervention. An honest and open discussion with patients or their families is a good start to avoid non-

beneficial treatments. We hope hospitals can monitor these indicators during their quality improvement activities," Dr Cardona-Morrell said.

A paper published last year in the *BMJ Supportive & Palliative Care* describes an assessment tool developed by UNSW researchers that helps doctors and caregivers more accurately identify elderly patients whose death is imminent and unavoidable at the time of hospital admission.

As the elderly and frail population grows, the number of attendances to emergency rooms and admissions to acute hospitals is also expected to increase.

"More training for doctors will help them let go of the fear of a wrong prognosis, because they will be better able to identify patients near the end of life," Dr Cardona-Morrell said.

"As a community we must also stop shying away from the topic of death. Start a discussion now with your elderly loves ones about their end of life care preferences before they become too ill to have that conversation."

Co-authors of the study are UNSW's Professor Robin Turner and Professor of Intensive Care Ken Hillman, intensive care specialists Matthew Anstey from Charles Gairdner Hospital, WA and Imogen Mitchell from the Canberra Hospital, ACT and Mr James Kim from Western Sydney University.

The global analysis of 38 studies included patients, bereaved relatives, doctors and nurses from the USA, Canada, England, Australia, France, Holland, Brazil, Taiwan, South Korea and Israel. The research was supported by a grant from the National Health and Medical Research Council of Australia.

Fast facts - unnecessary hospital medical treatments for elderly patients

- Up to 50% - blood tests and imaging on people with do-not resuscitate orders
- 33% - antibiotics, cardiovascular, digestive or endocrine medicines
- 33% - chemotherapy in the last six weeks of life
- 30% - dialysis, radiotherapy, transfusions and other life support in the last days of life
- 25% - CPR on elderly with 'not-for-resuscitation' orders
- 10% - admission to intensive care

More information: *International Journal for Quality in Health Care*, DOI: 10.1093/intqhc/mzw060

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