

# ICU ventilators overused with advanced-dementia patients

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Mechanical ventilation may be lifesaving, but in certain patient cases it may prolong suffering without a clear benefit.

*JAMA Internal Medicine* today published a study of 635,008 hospitalizations of nursing-home patients with advanced dementia and severe functional impairment. Between 2000 and 2013, the use of [mechanical ventilation](#) nearly doubled among these patients in some 2,600 cohort hospitals, yet the one-year mortality of ventilated patients remained above 80 percent.

The increasing use of mechanical ventilation raises concerns of patient suffering and the societal costs of care, said Dr. Joan Teno, a UW Medicine palliative care specialist and the study's corresponding author. She is a professor of medicine, gerontology and geriatrics at the University of Washington School of Medicine.

"These findings call for new efforts to ensure that the use of mechanical ventilation is consistent with patient's goals of care and their clinical condition," Teno said.

"We want to raise a fundamental policy question of how to improve end-of-life care, and particularly for very vulnerable populations. We want caregivers to think and talk about whether this type of care is achieving the patient's goals and value for society," she said.

In a [previous study](#) Teno co-authored, 96 percent of family members of

similar patients wanted care to focus on comfort rather than on medical goals such as survival and organ function.

Teno and colleagues sought to understand the use and outcomes of mechanical ventilation and its relationship with the increasing numbers of ICU beds in U.S. hospitals. The study involved patients, age 84, on average, who were in in a nursing home for 120 days before hospital admission. They all had advanced-stage dementia and 98 percent were bedbound.

The researchers found an association between a hospital's number of ICU beds and its use of mechanical ventilation: Over time, being hospitalized at a hospital that increased its ICU beds by 10 was associated with 6 percent higher likelihood of mechanical ventilation.

In 2013, the last year of the study, hospitals in the highest-decile number of ICU beds deployed ventilators to this patient population in 10.6 percent of cases; by contrast, hospitals in the lowest-decile number of ICU beds deployed ventilators in 4.5 percent of cases.

Between those same two decile groups, per-patient reimbursement and length of hospital stay differed markedly, as well. However, scant difference was seen in one-year mortality of those patients.

"While it is rarely known in advance that a treatment like mechanical ventilation in the ICU is futile for a given patient, it would be sad to think that a vulnerable patient was admitted to an ICU merely to fill a recently built empty bed which our data suggests may be happening," said co-author Dr. Vincent Mor, professor of health services, policy and practice in the Brown University School of Public Health.

Nursing homes can do more to educate families about patients' prognoses and the benefits and risks of hospitalization, Teno suggested,

and hospitals need to ensure that decisions to employ life-sustaining interventions reflect patient-informed goals of care. Further, she said, a national strategic plan is needed regarding regional ICU bed growth.

Provided by University of Washington

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