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## For-Profit Hospitals Most Likely to Overtreat Dementia Patients

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### MedPage Today Action Points

- Explain to interested patients that patients may be fed through tubes when they are unable to eat normally. However, this may not be appropriate for patients who would prefer not to undergo intrusive, "heroic" measures to extend their lives.
- Explain, too, that previous studies have found that tube feeding in elderly patients with advanced dementia does not improve clinical outcomes.
- Explain that this study did not address clinical outcomes of tube feeding, but rather identified certain factors related to hospitals that were associated with relatively high rates of tube feeding in severely demented patients.

### Review

Tube-feeding patients with advanced dementia -- a practice whose effectiveness has been questioned by two widely cited literature reviews -- is most common in larger hospitals and those run for profit, researchers said.

The odds of a feeding-tube insertion in a hospitalized patient with advanced dementia were about 50% greater when the hospital was larger than 310 beds than in facilities with 100 beds or less, and it was 33% more common in for-profit versus government-owned facilities, reported Joan M. Teno, MD, of Brown University in Providence, R.I., and colleagues.

Hospitals that frequently admitted elderly patients in the last six months of life to their ICUs -- signifying a pattern of aggressive end-of-life care -- were also substantially more likely to use tube feeding, the researchers wrote in the Feb. 10 issue of the *Journal of the American Medical Association*.

At some 12% of the 2,797 acute-care hospitals included in the analysis, which covered an eight-year period ending in 2007, feeding tubes were never used in patients with advanced dementia.

In others, however, such patients were intubated for feeding at rates of up to 38.9 per 100 hospitalizations.

Teno and colleagues suggested that many of these insertions reflect overtreatment. They cited previous research showing that tube feeding "does not improve survival, prevent aspiration pneumonia, heal or prevent decubitus ulcers, or improve other clinical outcomes."

"Feeding tube insertion in persons with advanced cognitive impairment demonstrates a disconnect with the existing evidence of their effectiveness," Teno and colleagues commented. "Many experts have expressed concerns regarding the overuse of feeding tubes."

They called for more research into the decision-making processes that produce such variations among hospitals and interventions to reduce unnecessary insertions and those that conflict with patients' preferences.

Teno and colleagues analyzed data on some 163,000 patients included in the U.S. Nursing Home Minimum Data Set whose records indicated an age greater than 65, advanced cognitive impairment, lack of prior tube feeding, and an acute-care hospitalization from 2000 to 2007.

They also had data on the size and business structure of the hospitals to which patients were admitted.

The researchers found the following adjusted odds ratios for hospital characteristics associated with feeding tube insertions:

- Business model: 1.33 (95% CI 1.21 to 1.46) for for-profit versus government owned

- Size: 1.48 (95% CI 1.35 to 1.63) for more than 310 beds versus fewer than 101 beds
- ICU use in failing elderly patients: 2.60 (95% CI 2.20 to 3.06) for highest decile of ICU care in the last six months of life versus the lowest decile

The adjustments included age, gender, race and ethnicity, medical history, degree of cognitive impairment, advanced care directives, and durable power of attorney.

The differences were much greater before the adjustments. For example, the raw data showed a rate of 8.0 feeding tube insertions per 100 hospitalizations at large facilities compared with 4.3 per 100 in small hospitals.

Similarly, hospitals with the most aggressive ICU use in elderly patients had an insertion rate of 10.1 per 100 hospitalizations, while those with the lowest ICU use in such patients had a mean rate of 2.9 per 100.

Teno and colleagues also found that some other hospital factors -- such as the ratio of specialists to general medicine physicians and the use of hospice services -- did not significantly predict feeding tube use.

On the other hand, indicators of advance care planning were significantly associated with reduced feeding tube insertions, although perhaps not as much as would be expected.

Expressed as adjusted odds ratios, the rate reductions were:

- Living will: 0.75 (95% CI 0.70 to 0.79)
- Durable power of attorney: 0.88 (95% CI 0.84 to 0.91)
- DNR orders: 0.65 (95% CI 0.62 to 0.67)
- Orders to forgo artificial hydration and nutrition: 0.73 (95% CI 0.67 to 0.80)

"These results raise more questions than answers," Teno and colleagues noted in calling for additional research into the reasons for the trends they identified.

"Future research to examine these reported variations should focus on decision making for feeding tube insertion in hospitalized nursing home residents with dementia. Additionally, the role that hospitals and nursing homes have in advance care planning is critically important," they wrote, noting that advance care planning is often neglected in nursing homes.

Teno and colleagues noted some limitations to the study, notably the reliance on administrative records for most data, as well as the lack of information on physician counseling and patient preferences beyond the orders recorded in the database.

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