



Study: Admitting Borderline Pneumonia Patients is Beneficial



Intensive care unit (ICU) admission for older, low-risk patients with pneumonia was linked with improved survival and no significant differences in hospital costs, according to a study published in the latest issue of *JAMA*. The findings "suggest that ICU admission for borderline patients (those for whom ICU admission depends on the hospital to which they present) is associated with reduced mortality without a considerable increase in costs," the authors write.

Thomas S. Valley, MD, of the University of Michigan, Ann Arbor, and colleagues examined the association between ICU admission and outcomes, 30-day mortality and costs, among elderly patients hospitalised for pneumonia. The study included 1,112,394 Medicare beneficiaries with pneumonia who were admitted to acute care hospitals in the U.S. from 2010 to 2012. Overall, 328,404 patients (30 percent) were admitted to the ICU. Valley explained to *ICU Management* that 30-day mortality was chosen as they believed death over longer periods may have less to do with the care that a patient receives in the hospital and more to do with other factors such as patient behaviour, care received after hospital discharge, or other complicating illnesses.

Data analysis revealed that patients living closer than the median differential distance (less than 3.3 miles) to a hospital with high ICU admission were more likely to be admitted to the ICU than patients living farther away (36 percent for patients living closer vs. 23 percent for patients living farther).

For the 13 percent of patients whose ICU admission decision appeared to be discretionary (dependent only on distance), ICU admission was associated with a significantly lower adjusted 30-day mortality (14.8 percent for ICU admission vs. 20.5 percent for general ward admission), yet there were no significant differences in Medicare spending or hospital costs for the hospitalisation.

"A randomised trial may be warranted to assess whether more liberal ICU admission policies improve mortality for patients with pneumonia," according to the authors.

In a related commentary in *JAMA*, Ian J. Barbash, MD, and Jeremy M. Kahn, MD, MS, of the University of Pittsburgh School of Medicine, say the new findings "argue against active efforts to reduce ICU admissions through triage guidelines or bed supply reductions, at least for older patients with pneumonia."

They add: "In the current health care system, more judicious use of the ICU may well lead to higher mortality in some patient populations. Indeed, the greatest lesson from this study may be that low-value healthcare is difficult to find. Reducing healthcare spending by preventing ICU readmissions will require addressing the difficult questions about rationing ICU care and the degree to which the nation can afford to make intensive care available to anyone at any time."

In a statement to *ICU Management*, Kahn explained that extending this benefit to borderline patients to patients outside the ICU could include increasing the intensity of nursing. "Lower nurse to patient ratios are consistently associated with improved outcomes, and these low ratios are a hallmark of US ICUs. Lower ratios throughout the hospital could improve outcomes hospital-wide", he said. He added that scope exists to improve monitoring capabilities on the ward to early recognise patients clinically deteriorating, as happens in the ICU. "The technology for advanced, hospital-wide monitoring exists, but we don't have ways to process all that information in a way that identify which patients are going to deteriorate. However, researchers are developing better ways to use data streams from hospitalised patients, and smart monitoring on the ward is not far off."

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