

Increasing the number of insured patients is not tied to higher ICU usage in Massachusetts

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A multi-institution study led by researchers at the [Perelman School of Medicine at the University of Pennsylvania](#) has found that increasing the number of insured patients is not associated with higher intensive care unit (ICU) usage in Massachusetts.

Because ICU care is expensive, concerns have been raised that increasing the number of insured patients would inevitably lead to significantly higher [health care costs](#) as more of these newly insured patients would be admitted to ICUs.

The Penn-led study, published November 25 in *Critical Care Medicine*, found that while Massachusetts [health insurance](#) reform resulted in a significant reduction in the number of critically ill patients without health insurance (from 9.3 percent to 5.1 percent), there was no concomitant increase in ICU utilization as measured by ICU admissions per capita or ICU admissions per hospitalization.

The findings have potential implications for the nation as a whole since the Affordable Care Act (ACA)—"[health care reform](#)" or "Obamacare"—expands access to health insurance through several provisions modeled after the health [insurance reform](#) enacted by Massachusetts in July 2006. For example, Massachusetts health insurance reform required all adults to purchase health insurance by July 1, 2007.

This patient population stems beyond those who are directly admitted to the ICU. Many patients who have been admitted to a less intense level of care for other illnesses require subsequent ICU stays, as well as following elective procedures, including some cardiac and endovascular operations and cancer surgeries.

The study examined hospital discharge records of patients aged 18-64, comparing ICU utilization in Massachusetts to four states that did not enact [health insurance reform](#): New York, Washington, Nebraska, and North Carolina. The comparison states were chosen because they overlap Massachusetts in population demographics while also being broadly representative of the United States as a whole.

In addition to discovering no significant changes in adjusted ICU admission rates, the study found no significant changes in discharge destination e.g., to a nursing home, or in-hospital ICU-patient mortality rates between Massachusetts and the non-reform states (although this latter association was dependent on the comparison states chosen in the analysis.)

"Greater access to care allows for better preventive care, which may reduce ICU admissions and ultimately an individual's risk of death in the ICU," said [Sarah M. Lyon, MD, MSCE](#), a pulmonary medicine specialist in the division of Pulmonary, Allergy and Critical Care at the Hospital of the University of Pennsylvania and the study's lead author. "Individuals with insurance may also be more likely to come to us earlier in the course of their illness when their acute illness severity is lower."

The care of patients with critical illness now accounts for between 16.9 percent and 38.4 percent of total hospital costs. As the population ages, [critical care](#) costs are also expected to grow. Thus, balancing patients' need for critical care with the available resources is a policy challenge. However, the findings of the Penn study suggest that health insurance

expansion may not exacerbate the projected shortage of critical care beds and providers.

"Our study provides evidence that expanding access to health insurance may not appreciably inflate ICU utilization through greater demand," said Colin R. Cooke MD, MSc, from the University of Michigan's Institute for Healthcare Policy & Innovation and the study's senior author. "Our results suggest that policymakers and health systems leaders should consider continuing to focus on improving the efficient use of existing resources."

While the study found no difference in mortality rates between ICU patients in Massachusetts and the four non-reform states, it determined that ICU-patient mortality rates remained the same in Massachusetts after health care reform was enacted—confounding expectations that earlier access to care might lower ICU death rates. Although previous studies demonstrated that lack of health insurance is associated with increased mortality in critical illness, it could be that lack of health insurance may coincide with other socioeconomic factors, such as unemployment or underemployment and poverty, and that acquiring health insurance does not counteract the negative impact of these factors.

Additionally, according to a recent study of Medicaid expansion, reductions in adjusted all-cause mortality were not apparent until five years after the policy change. It is thus possible that in the timeframe examined in the Penn-led study, which ended 29 months after mandatory insurance began in Massachusetts, reform had not had sufficient time to improve rates of preventable ICU mortality through improved access to primary and preventable medical services; longer follow-up may be necessary to see a change in these rates.

Finally, the study's post-reform period coincided with the financial

recession beginning in 2008. Population changes in healthcare utilization in response to economic hardship may have mitigated potential benefits of acquiring health insurance.

"While what happened in one state does not necessarily mean the rest of the nation will follow, it's important to use whatever data are available to anticipate and plan for what might occur under national health care reform," said Lyon.

Provided by University of Pennsylvania School of Medicine

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