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Session: C94 Highlighted Health Services Research in Critical Care

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Medicaid Expansion Associated With Decline in ICU Stays

ATS 2018, San Diego, CA – A new study suggests that states that expanded their Medicaid programs under the Patient Protection and Affordable Care Act (PPACA) saw a decline in ICU utilization among patients hospitalized for conditions for which hospitalizations may have been prevented through early interventions. Medicaid expansion was also associated with an early adoption of insurance coverage among patients hospitalized with these conditions. The study was presented at the 2018 American Thoracic Society International Conference.

“While it is first important to validate these results over time and across other states, declines in ICU admission under Medicaid expansion may mean that gains in insurance access have led to early improvements in clinical outcomes,” said lead author Andrew Admon, MD, MPH, of the University of Michigan. “This may in turn reduce rates of very costly hospitalizations and alleviate strain on intensive care units, helping to offset the financial cost of expanding insurance coverage.”

Dr. Admon and colleagues looked at five states, some of which expanded their Medicaid programs under the PPACA and some of which didn't. The states represented a broad geographic area. The researchers obtained data on all adults 18 to 64 years old in these states who were discharged from hospitals between 2012 and 2014, looking specifically for ambulatory-care sensitive conditions (ACSCs) – conditions for which severe illness may be preventable with early interventions, as defined by the Agency for Healthcare Research and Quality: <https://www.ahrq.gov/downloads/pub/ahrqji/pqguide.pdf>.

These include 18 health conditions ranging from bacterial pneumonia to congestive heart failure and uncontrolled diabetes.

“We used a difference-in-difference analysis that uses a control group subject to the same pre-existing trends over time but not to the policy change in question,” said Dr. Admon. “Although several assumptions need to be met and tested for a difference-in-difference study design to be applicable, using this design can allow a researcher to isolate the effects of the policy change itself from those occurring due to other causes.”

The researchers identified 567,160 (11.2 percent) of the total patients admitted to hospitals in these states between 2012 and 2014 as having ACSCs. The overall ICU admission rate for all hospitalized patients was 12.1 percent, while the ICU admission rate for ACSC patients was 20.9 percent. In the expansion states, the percentage of uninsured hospitalized patients fell from 12.7 percent to 4.5 percent. Rates of Medicaid coverage increased from 19 percent to 26.6 percent. Uninsurance and Medicaid rates remained flat in non-expansion states. In the first year after expansion, the expansion states saw a significant decline in risk-adjusted ICU admission rates among hospitalized patients with Medicaid or no insurance.

“Although most research examining the effects of complex policies on health care utilization have used hospital admissions and emergency department visits as markers of ambulatory care access and quality, this study used critical illness as an alternative measure,” said Dr. Admon. “Because critical illness may be less susceptible to patient and provider decision-making than other types of health care utilization, they may be better markers of disease control after a complex policy change such as insurance expansion.”

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Title: The Effects of Medicaid Expansion on Rates of Ambulatory Care=Sensitive ICU Admission

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Rationale: While many episodes of critical illness represent acute and unanticipated clinical decompensations, others may be sensitive to early, accessible, and effective ambulatory management. Ambulatory care-sensitive conditions (ACSCs), defined by the Agency for Healthcare Research and Quality (AHRQ), are specific conditions for which hospitalizations may be prevented through outpatient intervention. The effect of the Affordable Care Act’s Medicaid expansion on ICU utilization rates for these ACSCs remains uncertain.

Methods: We obtained data on all adult (18-64 years old) acute care hospital discharges between January, 2012 and December, 2014 in five states (NJ, NC, NE, WA, and WI), selected

because they represented a broad geographic area and differed in their adoption of the Medicaid expansion. ACSCs were defined using standard AHRQ methods, with a critical illness modification that allowed for respiratory failure or sepsis as the primary diagnosis for relevant conditions (obstructive lung diseases, congestive heart failure, pneumonia, and urinary tract infection). We conducted a difference-in-difference analysis to evaluate the effects of Medicaid expansion on ICU admission rates as a proportion of all hospital admissions for ACSCs. We also performed a series of sensitivity analyses to test the robustness of these findings. All models were adjusted for several patient and hospital characteristics and accounted for clustering of observations by hospital.

Results: Of 5,067,190 total admissions, we identified 567,160 (11.2%) with ACSCs over the course of the study. The overall ICU admission rate (as a proportion of all hospitalizations) was 12.1%, while the ICU admission rate for patients admitted for ACSCs was 20.9%. Among expansion states, rates of uninsurance among hospitalized patients fell from 12.7% to 4.5% over the course of the study, while rates of Medicaid coverage increased from 19.0% to 26.6%. Uninsurance and Medicaid coverage rates remained flat in non-expansion states (8.8% to 7.5% and 25.0% to 24.7%, respectively). In the expansion states, difference-in-difference analysis revealed a significant decline in risk-adjusted ICU admission rates among hospitalized patients with Medicaid or no insurance (-3.7% [-6.3 - -1.0, $p < 0.01$] in the first year after expansion).

Conclusions: Medicaid expansion was associated with an early increase in insurance rates among hospitalized patients and a decline in ICU utilization rates among patients hospitalized with ACSCs. Further work is needed to explore whether this effect will be sustained.

Risk-adjusted rates of ICU admission among admitted patients in Medicaid expansion and non-expansion states

