RESEARCH LETTER

Association of Medicaid Expansion Under the Patient Protection and Affordable Care Act With Non–Small Cell Lung Cancer Survival

Advances in lung cancer care have improved survival, but this has not reached all socioeconomic groups. Insurance status affects access to early detection and stage-appropriate cancer treatments, which drive survival outcomes. The Patient Protection and Affordable Care Act (ACA) and Medicaid expansion provide health care access to individuals with incomes near federal poverty levels. Medicaid expansion under the ACA was implemented in 2014, substantially reduced the numbers of uninsured patients with cancer, and increased early-stage diagnoses of cancers. Analyses of lung cancer populations diagnosed in 2014 showed comparable increases in percentages of early-stage diagnoses between Medicaid expansion and nonexpansion states. However, it remains unknown if Medicaid expansion improved lung cancer survival. We hypothesized that Medicaid expansion was associated with improved population-level survival in patients with non–small cell lung cancer (NSCLC).

Methods | We used the Surveillance, Epidemiology, and End Results (SEER) database to identify 55,526 (4492 [8.1%] uninsured) men and 45,701 (2973 [6.5%] uninsured) women aged 20 to 64 years and diagnosed with NSCLC as a first primary malignant neoplasm from 2007 through 2016. Four participating states did not expand Medicaid from 2014 through 2016, whereas 9 did. Two-year cumulative survival rates before (2007-2013) and after (2014-2016) ACA implementation were computed using Kaplan-Meier analysis. Follow-up months were measured from diagnosis to death or December 31, 2016. Medicaid expansion–associated changes in survival were determined using Cox proportional hazards regression, and changes in uninsured patients and early-stage diagnoses were determined using difference-in-differences analysis and linear probability models. Analyses were performed separately for men and women and adjusted for sociodemographic factors using SAS, version 9.4 (SAS Institute). Statistical significance was assessed as 2-sided P < .05. Data analysis was performed from August through October 2019. The Washington University Institutional Review Board determined that this study was exempt from review owing to the use of deidentified data.

Results | Distributions of covariates were slightly different between patients in Medicaid expansion states and those in nonexpansion states. Compared with patients in Medicaid nonexpansion states, those in Medicaid expansion states had a similar age distribution; were more likely to be female, Hispanic or Asian, married, and live in the least socioeconomically deprived counties; and were less likely to be black and live in rural counties. The median follow-up was 67 months for pre-ACA groups and 12 months for post-ACA groups. The Table shows survival changes after ACA implementation. The unadjusted 2-year survival rates in men before and after Medicaid expansion increased from 32.0% to 37.0%, whereas survival rates in nonexpansion states increased from 27.8% to 30.4%. The unadjusted and multivariable-adjusted increases in 2-year survival rates for men post-ACA implementation were 2.4 (95% CI, 1.1-3.8; P = .02) and 2.0 (95% CI, 0.2-3.7; P = .03) percentage points higher in expansion states than in nonexpansion states, respectively. The unadjusted 2-year survival rates for women after ACA implementation displayed similar increases in expansion (45.1% to 49.7%) and nonexpansion

<table>
<thead>
<tr>
<th>Medicaid expansion states</th>
<th>Medicaid nonexpansion states</th>
<th>Difference in differences*</th>
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</thead>
<tbody>
<tr>
<td>ACA, %</td>
<td>ACA, %</td>
<td>Unadjusted</td>
</tr>
<tr>
<td>Before</td>
<td>After</td>
<td>Difference, % (95% CI)b</td>
</tr>
<tr>
<td>Men</td>
<td></td>
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<tr>
<td>2-y survival</td>
<td>32.0</td>
<td>37.0</td>
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<tr>
<td>Early-stage diagnosisd</td>
<td>21.2</td>
<td>23.6</td>
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<tr>
<td>Uninsured</td>
<td>7.2</td>
<td>2.9</td>
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<tr>
<td>Women</td>
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<tr>
<td>2-y survival</td>
<td>45.1</td>
<td>49.7</td>
</tr>
<tr>
<td>Early-stage diagnosisd</td>
<td>27.5</td>
<td>30.2</td>
</tr>
<tr>
<td>Uninsured</td>
<td>6.0</td>
<td>2.1</td>
</tr>
</tbody>
</table>

* Derived by comparing Medicaid expansion states with Medicaid nonexpansion states.

b Unadjusted difference derived by comparing after ACA with before ACA.

c Adjusted for age, race/ethnicity, marital status, county-level socioeconomic deprivation, rural residency, and Surveillance, Epidemiology, and End Results registries.

d Included stages 0, I, and II.
(39.3% to 44.2%) states; there were no significant differences in survival changes. We observed greater reductions in the percentages of uninsured cases and larger increases in the percentages of early-stage diagnoses among men in expansion vs nonexpansion states after ACA implementation (Table). By contrast, the changes in these 2 measurements for women did not differ significantly.

Discussion | Studies have reported that Medicaid expansion reduced uninsured rates among non–older adult patients with cancer but did not increase the percentage of early-stage lung cancer diagnoses. These analyses were limited by 1-year data after ACA implementation and did not assess the contribution of Medicaid expansion to lung cancer survival. The availability of 3-year post-ACA SEER data allowed us to examine the short-term survival benefits of Medicaid expansion. Medicaid expansion states had greater improvements in 2-year survival among non–older adult men with NSCLC than nonexpansion states after ACA implementation, which was consistent with greater Medicaid expansion–associated reductions in uninsured rates and increases in percentages of early-stage diagnoses. By contrast, this association pattern was not observed for women. Limitations included the lack of some NSCLC prognostic factors (eg, comorbidities) and a short-term follow-up after Medicaid expansion. Overall, Medicaid expansion could have survival benefits for men with NSCLC, which might be attributable to improved insurance coverage and early-stage diagnosis.

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Trends of Clinician Adherence to Evidence-Based Recommendations for Multidisciplinary Oncology Care for Patients With Esophageal Cancer

The shift toward coordinated cancer care among surgical, medical, and radiation oncologists is perhaps best exemplified in the treatment of esophageal cancer.1 The Chemoradiotherapy for Oesophageal Cancer Followed by Surgery Study (CROSS)2 demonstrated a survival advantage among patients with locally advanced esophageal carcinoma treated with neo-adjuvant dual-agent chemotherapy and radiation followed by surgery (cCRT-S). National guidelines changed to reflect these results by establishing cCRT-S as standard of care. However, little is known regarding national rates of adoption for this and other survival-prolonging cancer treatment strategies.

Methods | Data were obtained from deidentified entries within the National Cancer Database participant user files, and the study was deemed exempt from review by the National Institutes of Health Institutional Review Board because it contains only deidentified data from a national database. Similarly, patient consent queries in this setting were not applicable.3 We searched the National Cancer Database from...