Worsened Outcomes of Newly Diagnosed Cancer in Patients with Recent Emergency Care Visits at a Safety-Net Hospital: A Retrospective Cohort Study of 3,699 Adults

Nicholas Pettit, DO PhD

INDIANA UNIVERSITY
DEPARTMENT OF EMERGENCY MEDICINE
School of Medicine
ABSTRACT ONLY | VOLUME 59, ISSUE 5, P771, NOVEMBER 01, 2020

Emergency Department Associated Cancer Diagnoses Fraught with Poor Outcomes, with Associated Socioeconomic and Racial Disparities

Nick R. Pettit, DO PhD • Elisa Sarmiento, MSPH • Jeffrey A. Kline, MD
Methods

- Retrospective cohort of all patients with cancer over a 3 year period
- ED utilization within 6 months prior to diagnosis
- Cancer types
- Sociodemographics
- Outcomes
Results

- 3,699 patients with cancer
- 645 (33.5%) seen in the ED
- 42% black/African American
- 35% tobacco users
## Results – Insurance types

<table>
<thead>
<tr>
<th>Insurance Type</th>
<th>Cases (n = 1239, 33.5%)</th>
<th>Controls (n = 2460, 66.5%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial</td>
<td>581 (15.80%)</td>
<td>471 (19.32%)</td>
</tr>
<tr>
<td>Healthy Indiana Plan</td>
<td>613 (16.67%)</td>
<td>373 (15.30%)</td>
</tr>
<tr>
<td>Incarcerated</td>
<td>18 (0.49)</td>
<td>10 (0.41%)</td>
</tr>
<tr>
<td>Medicaid</td>
<td>699 (19.01%)</td>
<td>430 (17.64%)</td>
</tr>
<tr>
<td>Medicare</td>
<td>1298 (35.27%)</td>
<td>844 (34.62%)</td>
</tr>
<tr>
<td>Self-pay</td>
<td>234 (6.36%)</td>
<td>153 (6.28%)</td>
</tr>
</tbody>
</table>
## Cancer types

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>Cases (n = 1239, 33.5%)</th>
<th>(n = 2460, 66.5%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>145 (11.70%)</td>
<td>137 (5.57%)</td>
</tr>
<tr>
<td>Breast</td>
<td>126 (10.17%)</td>
<td>449 (18.18%)</td>
</tr>
<tr>
<td>Head, ears, nose, throat</td>
<td>109 (8.80%)</td>
<td>250 (10.16%)</td>
</tr>
<tr>
<td>Prostate</td>
<td>98 (7.91%)</td>
<td>214 (8.70%)</td>
</tr>
<tr>
<td>Pancreas</td>
<td>92 (7.43%)</td>
<td>108 (4.39%)</td>
</tr>
<tr>
<td>Colorectal</td>
<td>85 (6.86%)</td>
<td>124 (5.04%)</td>
</tr>
<tr>
<td>Cervical</td>
<td>63 (5.08%)</td>
<td>171 (6.95%)</td>
</tr>
<tr>
<td>Mets-Unk</td>
<td>57 (4.60%)</td>
<td>123 (5.0%)</td>
</tr>
<tr>
<td>Liver</td>
<td>54 (4.28%)</td>
<td>50 (2.03%)</td>
</tr>
<tr>
<td>Kidney</td>
<td>53 (4.28%)</td>
<td>70 (2.85%)</td>
</tr>
</tbody>
</table>
Mortality

- 18.7% for patients seen in the ED
- 10.0% for patients not seen in the ED
Logistic Regression Predicting Mortality

- Gender (female) OR 0.70 (.56-.88)
- ED visit OR 1.73 (1.38-2.18)
- Insurance type
  - Medicaid vs commercial OR 4.16 (2.45-7.07)
  - Medicare vs commercial OR 2.54 (1.54-4.30)
  - Self pay vs commercial OR 3.52 (1.83-6.67)
Logistic Regression Predicting ED visit

- Gender (female) OR 0.84 (0.71-0.99)
- Insurance type
  - Medicaid vs commercial OR 2.48 (1.83-3.36)
  - Medicare vs commercial OR 1.98 (1.48-2.63)
  - Self Pay vs commercial 2.55 (1.69-3.82)
- Tobacco use OR 1.39 (1.15-1.66)
Conclusions

• Patients with cancer in a safety-net health care setting use the ED before they are diagnosed.
• Known disparities with insurance type are discovered in this dataset.
• Lung cancer is the most common cancer seen in the ED.
Limitations and Future Work

- Retrospective
- Unclear association between ED visit and cancer diagnosis
- Chart review lung cancer patients
- Work on either earlier detection or prevention