Socioeconomic Disparities In Patient-Centered Outcomes Following Hospitalization

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Socioeconomic Disadvantage

Individual
- Education
- Finances (Income + Assets)
- Occupation

Structural
- Access to high-quality healthcare
- Community Resources
- Neighborhood walkability
Socioeconomic Disparities Following Hospitalization

Neighborhood Socioeconomic Disadvantage & 30-d Readmission

Dual Medicare-Medicaid status & 1-yr Mortality

Patient-Centered Outcomes Following Hospitalization With Critical Illness

ICU-acquired weakness
Disability

Cognitive Impairment

Anxiety, Depression

Depressive Disorder: 28%
Post-Traumatic Stress Disorder: 19%

Ferrante LE et al. Functional trajectories among older persons before and after critical illness. JAMA Intern Med. 2015
Is socioeconomic disadvantage associated with decline in patient-centered outcomes of function, cognition, and mental health after hospitalization with critical illness?

Exposure: Dual-eligibility for Medicare and Medicaid

Hospitalizations with stay in the ICU for > 24 hours

Outcomes

Function
- ADLs
  - Bathing
  - Eating
  - Toileting
  - Dressing
- Mobility
  - Ambulation
  - Outside one’s home
  - Inside one’s home
  - Out of bed
- Count of Disabilities 0-7

Cognition
- No or Possible Dementia
- Probable Dementia
- Transition: yes/ no

Mental Health
- Depression
  + Anxiety
- PHQ-4 score 0-12

## Baseline Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Function</th>
<th>Cognition</th>
<th>Mental Health</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dual-eligible</td>
<td>Non-Dual-eligible</td>
<td>Dual-eligible</td>
</tr>
<tr>
<td>Sample n</td>
<td>130</td>
<td>511</td>
<td>80</td>
</tr>
<tr>
<td>Weighted n</td>
<td>658,095</td>
<td>3,109,600</td>
<td>409,991</td>
</tr>
<tr>
<td>Age, mean (S.E.)</td>
<td>78.5 (0.9)</td>
<td>79.2 (0.4)</td>
<td>77.2 (1.0)</td>
</tr>
<tr>
<td>Female, % (95% CI)</td>
<td>61.7 (51.1, 72.3)</td>
<td>45.9 (39.6, 52.3)</td>
<td>61.6 (46.1, 77.1)</td>
</tr>
<tr>
<td>Race, % (95% CI)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>61.3 (50.1, 72.6)</td>
<td>86.7 (83.2, 90.5)</td>
<td>64.5 (48.6, 80.4)</td>
</tr>
<tr>
<td>Non-Hispanic Black</td>
<td>18.0 (10.2, 25.9)</td>
<td>7.1 (4.8, 9.4)</td>
<td>19.7 (7.7, 31.7)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>9.7 (1.8, 17.7)</td>
<td>3.0 (0.6, 5.4)</td>
<td>6.4 (0.0, 13.1)</td>
</tr>
<tr>
<td>Others</td>
<td>10.9 (2.4, 19.4)</td>
<td>3.0 (1.1, 4.8)</td>
<td>9.4 (0.2, 18.6)</td>
</tr>
<tr>
<td>Education, % (95% CI)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>52.0 (37.9, 66.2)</td>
<td>17.8 (12.6, 23.0)</td>
<td>50.7 (32.4, 69.0)</td>
</tr>
<tr>
<td>Living Situation, % (95% CI)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lives alone</td>
<td>43.6 (31.0, 56.3)</td>
<td>32.1 (26.7, 37.5)</td>
<td>51.1 (35.3, 67.1)</td>
</tr>
<tr>
<td>≥ 3 chronic conditions, % (95% CI)</td>
<td>79.5 (72.1, 86.9)</td>
<td>65.6 (59.7, 71.6)</td>
<td>77.9 (66.7, 89.0)</td>
</tr>
</tbody>
</table>

Disability and Dementia after Critical Illness

Falvey JR et al. Neighborhood Socioeconomic Disadvantage and Disability After Critical Illness. Crit Care Med. 2022


<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Adjusted RBANS Global Score Difference</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delirium duration</td>
<td>−6.72</td>
<td>0.068</td>
</tr>
<tr>
<td>Age at enrollment, y</td>
<td>−4.11</td>
<td>0.087</td>
</tr>
<tr>
<td>Education, y</td>
<td>2.88</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Non-white race</td>
<td>−7.11</td>
<td>0.001</td>
</tr>
<tr>
<td>SES Index Score</td>
<td>0.89</td>
<td>0.43</td>
</tr>
<tr>
<td>Public insurance</td>
<td>−2.03</td>
<td>0.18</td>
</tr>
<tr>
<td>Female sex</td>
<td>0.34</td>
<td>0.81</td>
</tr>
<tr>
<td>Veteran hospital type</td>
<td>7.85</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Discharge to facility</td>
<td>0.11</td>
<td>0.95</td>
</tr>
</tbody>
</table>
Gaps: Are differences in healthcare delivery responsible?
Differences in healthcare quality


Rahman M et al. Are dual eligibles admitted to poorer quality skilled nursing facilities? Health Serv Res. 2014
Functional Improvement at Long-Term Care Hospitals

% Residents reporting Black Race

Residential Segregation

[Graphs showing the relationship between % Residents Reporting Black Race in Zip Code and LTCH Risk-adjusted Change in Mobility Score, and the relationship between DI and LTCH Risk-adjusted Change in Mobility Score, with a note indicating the National-Average.]
Next Steps

1. Integrate assessment of SDoH and patient-centered outcomes into routine clinical practice

2. Identify evidence-based care processes that enhance patient-centered outcomes & understand differences in delivery

3. Promote delivery of these processes to vulnerable populations to mitigate disparities