Healthcare Resource Utilization and Costs of Parkinson's Disease Dementia With Psychosis in the US Medicare Population

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INTRODUCTION

• Dementia affects approximately 7.9 million individuals in the US.1
• Of these, about 1.2 million are diagnosed with dementia-related psychosis (DRP).2
• DRP is a functionally disruptive symptom that can occur in all dementia types.
• Published data are limited regarding the burden of illness for these patients, their healthcare resource utilization (HCRU), and related costs in the US healthcare system.

OBJECTIVE

• To describe HCRU and related costs in patients with Parkinson’s disease dementia with psychosis (PDP-P), compared with patients with other dementia types, in a nationally representative US sample.

METHODS

• Medicare Parts A, B, and D data from 2008–2016 were used.
• Patients with PDP-P and no other obvious etiology of dementia or psychosis were identified using ICD-9 and -10 codes.
• For purposes of contrast, six types of dementia with psychosis were identified using ICD-9 and -10 codes:
  - Alzheimer Dementia (AD)
  - Parkinson Disease (PD) Dementia
  - Dementia with Lewy bodies (DLB)
  - Frontotemporal dementia
  - Vascular dementia
  - Other/unspecified
• Patients were required to have 12 months of Medicare enrollment prior to the index date.
• HCRU and costs were described in the 12 months after the index date for patients with PDP-P.
• HCRU and costs derived from:
  - Inpatient (IP)
  - Outpatient (OP):
    • Emergency department (ER) or observation stay (Obs)
    • Non-ER/OB
  - Skilled nursing facility (SNF)
  - Home health/hospice (HH/HS)
  - Durable medical equipment (DME)
  - Part B (PB) physician encounters
  - Part D medication fills (PD Fills)
  - Long term care (LTC)
• Patients with each dementia were compared regarding HCRU and associated costs.
• Costs were weighted and reported in 2015 USD.

RESULTS

Table 1. Baseline Characteristics of Incident DRP patients by 6 dementia groups

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Total</th>
<th>AD/Senile</th>
<th>PD</th>
<th>Other/unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (yrs)</td>
<td>68.5±11.3</td>
<td>70.1±11.2</td>
<td>68.8±10.9</td>
<td>67.1±11.0</td>
</tr>
<tr>
<td>Gender (Male)</td>
<td>33.7%</td>
<td>30.7%</td>
<td>34.3%</td>
<td>33.4%</td>
</tr>
<tr>
<td>Race</td>
<td>46.6%</td>
<td>44.3%</td>
<td>47.7%</td>
<td>49.5%</td>
</tr>
<tr>
<td>Literacy</td>
<td>89.4%</td>
<td>89.9%</td>
<td>89.2%</td>
<td>90.7%</td>
</tr>
<tr>
<td>Education</td>
<td>11.2±3.9</td>
<td>11.5±3.6</td>
<td>11.1±3.1</td>
<td>10.8±3.1</td>
</tr>
<tr>
<td>Income (&gt;$40,000)</td>
<td>50.3%</td>
<td>50.8%</td>
<td>49.5%</td>
<td>51.9%</td>
</tr>
</tbody>
</table>

By dementia with psychosis type, 73.3% were diagnosed with AD/Senile, 0.7% PD, 1.5% dementia with Lewy bodies, 0.4% frontotemporal, 8.7% vascular, and 15.4% other/unspecified.

Table 2. All-cause healthcare resource utilization in incident DRP patients, overall and by dementia type, during the 1st year after DRP

<table>
<thead>
<tr>
<th>Type of dementia</th>
<th>Total</th>
<th>AD/Senile</th>
<th>PD</th>
<th>Other/unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>N of patients</td>
<td>49,509</td>
<td>36,266</td>
<td>8,534</td>
<td>6,709</td>
</tr>
<tr>
<td>IP visits/D</td>
<td>11,779</td>
<td>9,075</td>
<td>1,840</td>
<td>1,864</td>
</tr>
<tr>
<td>OP visits/D</td>
<td>8,534</td>
<td>6,709</td>
<td>885</td>
<td>725</td>
</tr>
<tr>
<td>SNF visits/D</td>
<td>6,709</td>
<td>5,326</td>
<td>1,383</td>
<td>1,954</td>
</tr>
<tr>
<td>HH/HS visits/D</td>
<td>5,908</td>
<td>4,577</td>
<td>1,121</td>
<td>201</td>
</tr>
<tr>
<td>PB visits/D</td>
<td>5,326</td>
<td>4,577</td>
<td>749</td>
<td>749</td>
</tr>
<tr>
<td>PD fills</td>
<td>5,326</td>
<td>4,577</td>
<td>749</td>
<td>749</td>
</tr>
</tbody>
</table>

Weighted mean of inpatient claims and SNF claims differed little between dementia types, but PDP-P patients had substantially higher numbers of ER/Ob, outpatient, and Part B physician encounters than patients with other types of DRP.

Table 3. All-cause costs in 2015 US $ per patient in incident DRP patients, overall and by dementia type, during the 1st year after DRP

<table>
<thead>
<tr>
<th>Type of dementia</th>
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<th>PD</th>
<th>Other/unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighted mean of Cost ($) per patient per year</td>
<td>17.9±9.4</td>
<td>22.8±11.0</td>
<td>13.6±2.0</td>
<td>15.3±1.5</td>
</tr>
</tbody>
</table>

DISCUSSIONS

• Other to relative patients with DRP, PDP-P patients are relatively high utilizers of healthcare resources.
• PDP-P patients have relatively high numbers of encounters with physicians, outpatient encounters, and acute care encounters in the ER.
• PDP-P patients incur substantially higher costs to Medicare.
• However, cost differences in the PDP-P subgroup may be related to the small size of the group and the limited number of patients with follow-up beyond the first year after psychosis diagnosis.
• Additional analyses in this dataset are planned in an attempt to clarify the factors associated with use of healthcare resources in patients with dementia-related psychosis.

REFERENCES

(1) World Health Organization Dementia Key Facts Sheet 31December 2017
(2) 2017 Alzheimer’s Disease Facts and Figures and ACADIA market research.

CONCLUSIONS

• Relative to other patients with DRP, PDP-P patients are relatively high utilizers of healthcare resources.
• PDP-P patients have relatively high numbers of encounters with physicians, outpatient encounters, and acute care encounters in the ER.
• PDP-P patients incur substantially higher costs to Medicare.
• However, cost differences in the PDP-P subgroup may be related to the small size of the group and the limited number of patients with follow-up beyond the first year after psychosis diagnosis.
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