The Economic Case for Better Dementia Care in Acute Hospitals

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Background

• Dementia is an expensive condition
• Globally $600 billion plus
• Ireland €1.7 billion
• Majority of costs borne by family carers
• Residential care costs are also high
• Acute care costs for people with dementia are not so well documented
• Yet impact is likely to be significant
What is the issue?

• Estimates from UK suggest that people with dementia over 65 years of age are currently using one quarter of hospital beds at any one time
• Many of these people may be unaware that they have dementia
• Symptoms may not always be recognised by physicians or nurses
• Attention now focusing on the quality of dementia care and the cost of dementia care in acute settings
Outcomes

• Higher mortality
• Longer stays even after adjustment for age, sex and condition
• Higher costs of care associated with longer stays
• Discharge to nursing homes more likely
• Higher disposition to hospital-acquired infections and complications of treatment
• Greater use of antipsychotic drugs
Methods (1)

• Secondary analysis of in-patient discharges in 2010
• Hospital In-Patient Enquiry 2010
• Dementia-related diagnoses – ICD-10 codes: F00 – F003;G30
• Discharge data
• Length of stay by age group and principal procedure during stay
• 6,702 discharges with diagnosis of dementia
• Representing 1.1% of all discharges
Methods (2)

- Majority of people in acute care with dementia do not have diagnosis
- Estimated total numbers with dementia in acute care by applying European population-based age-specific prevalence rates to total hospital discharges
- Average length of stay for all age groups compared for those with and without dementia
- Total dementia population multiplied by excess length of stay to identify additional hospital days for dementia by age group
- Excess days assigned unit cost to determine additional costs of dementia in acute care setting
Results

• Diagnosis of dementia leads to longer length of stay e.g. 11 days for those 85+
• Accounting for non-diagnosed dementia raises dementia-related discharges in each age category e.g. increase from 3,059 to 7,048 in the 75-84 age category
• Leads to additional days spent in acute care - e.g. 16 days in the 65-74 age category
• Additional length of stay varies by condition/procedure – cardiovascular 39 days, respiratory 20 days
• Each additional day cost circa €800 – generic costs
• Total estimated additional cost of dementia is €200 million
## Discharges and Average Length of Stay by Age Group and Recorded diagnosis of Dementia

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Number without diagnosis of dementia</th>
<th>Mean length of stay without diagnosis of dementia</th>
<th>Number with diagnosis of dementia</th>
<th>Mean length of stay with diagnosis of dementia</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;65 years</td>
<td>428,561</td>
<td>4.2</td>
<td>252</td>
<td>16.2</td>
</tr>
<tr>
<td>65-74</td>
<td>66,428</td>
<td>8.7</td>
<td>852</td>
<td>24.4</td>
</tr>
<tr>
<td>75-84</td>
<td>62,807</td>
<td>11.0</td>
<td>3,059</td>
<td>26.8</td>
</tr>
<tr>
<td>85+</td>
<td>27,121</td>
<td>12.8</td>
<td>2,539</td>
<td>23.7</td>
</tr>
</tbody>
</table>
## Estimated Prevalence of Dementia in Acute Sector using European Prevalence Rates

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Total Discharges</th>
<th>Total dementia Discharges</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;65</td>
<td>428,813</td>
<td>858</td>
</tr>
<tr>
<td>65-74</td>
<td>67,280</td>
<td>1,615</td>
</tr>
<tr>
<td>75-84</td>
<td>65,866</td>
<td>7,048</td>
</tr>
<tr>
<td>85+</td>
<td>29,660</td>
<td>9,165</td>
</tr>
</tbody>
</table>
Cost of Excess length of Stay Associated with Dementia

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Dementia Related discharges</th>
<th>Excess length of stay associated with dementia</th>
<th>Number of extra days</th>
<th>Additional cost €</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;65 years</td>
<td>858</td>
<td>12.0</td>
<td>10,296</td>
<td>8,329,464</td>
</tr>
<tr>
<td>65-74</td>
<td>1,615</td>
<td>15.7</td>
<td>25,356</td>
<td>20,512,599</td>
</tr>
<tr>
<td>75-84</td>
<td>7,048</td>
<td>15.8</td>
<td>111,358</td>
<td>90,088,946</td>
</tr>
<tr>
<td>85+</td>
<td>9,165</td>
<td>10.9</td>
<td>99,899</td>
<td>80,817,887</td>
</tr>
</tbody>
</table>
## Average Length of Stay by Procedure with and without Dementia

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Average LOS without dementia - days</th>
<th>Average LOS with dementia - days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nervous system</td>
<td>8.5</td>
<td>36.1</td>
</tr>
<tr>
<td>Respiratory system</td>
<td>16.8</td>
<td>36.8</td>
</tr>
<tr>
<td>Cardiovascular system</td>
<td>9.1</td>
<td>48.1</td>
</tr>
<tr>
<td>Digestive system</td>
<td>9.3</td>
<td>34.1</td>
</tr>
<tr>
<td>Urinary system</td>
<td>8.3</td>
<td>36.1</td>
</tr>
<tr>
<td>Musculoskeletal system</td>
<td>7.5</td>
<td>32.7</td>
</tr>
</tbody>
</table>
Comparisons

• Increasingly cost burden of dementia on the acute sector is being recognised
• Additional cost of €200 million is significant number for Ireland
• Irish results reflect the international literature – UK, Australia x 2 LOS and x 2.5 cost
• Importance of potential co-morbidities within dementia population – e.g. urinary infection, dehydration and falls
Care in the Acute sector

• Lack of knowledge about dementia
• Training and education programmes
• Environmental issues – physical infrastructure
• Hydration and nutrition
• Placement decision-making – acute care as last resort for carers
• Family care-givers involvement in the care process
• Alternatives to acute care – investing in primary care and community-based care
Conclusion

• Acknowledge dementia in acute care settings
• Screening and diagnosis
• Person-centred care
• Education and training
• Reduce time spent in hospital
• Reduce costs
• Reallocate savings to primary and community care