Key Messages

- Secondary care accounted for 76% of total health and social care costs.
- Obtaining data from individual health and social care services can be very labour intensive.
- Unless the research question requires data from services other than secondary care, obtaining this data could be inefficient and time-consuming for research and researchers.
- Coding of hospital episodes could be accountable for a centre effect between hospital sites.

Background

The increasing burden of the care of older people has driven development of numerous interventions to maintain independence and delay care-home admission. Patient-level costs are considered essential alongside trial-based economic evaluations of these interventions. We aimed to identify patient-based health and social care costs of a cohort of older (70+ years) people who had attended an Acute Medical Unit (AMU) and were discharged home within 72 hours.

Methods

Hospitalisation and social care data were collected retrospectively for 644 patients in Leicester and Nottingham for three months post-AMU discharge (Jan 09-Feb 11) using patient administration systems. In a subset of 456 participants (in Nottingham), further approvals and access were gained to obtain data from general practices, ambulance services, intermediate and mental healthcare.

Results

We obtained data from 48/118 general practices despite a very persistent team so costs from all sectors were available for 250 participants. Mean (95% CI, median, range) total cost for this subgroup was £2006 (1642-2470, 0, 0-23612). Secondary care constituted 76.2% of costs. Contribution from other sectors was: primary care (10.9%), ambulance service (0.7%), intermediate care (0.1%), mental health care (2.1%) and social care (10.0%). The top 10% of participants accounted for 50% of the overall cost. Inpatient and day case care costs were higher in the Nottingham cohort than in Leicester, with a centre effect that persisted despite controlling for participant characteristics and reasons for admissions.

Conclusion

We obtained data on the main cost driver, hospitalisations, for all participants, and “full” costs for a subset; summary of costs and resource-use for the cohort are shown in table 1, figure 1 shows the full cost distribution for the subset. This study was very resource-intensive due to complex approvals and access requirements, geographical dispersion of participants and data sources, different recording systems and varying data quality within and between sectors, different definitions of care across geographical sites, and manual data extraction often required. Processing the different formats of resource use data to produce a unified dataset was time-consuming, and the quality of some data from social care and intermediate care providers was uncertain. Furthermore, an apparent centre effect means that further analysis of hospitalisation data is required to assess whether this is due to local differences in coding.

As hospitalisation was the main cost driver, it may be inefficient to devote resources to collecting data from other sectors. The choice for researchers appears to be between more precise data from a small (possibly biased) sample, or less precise data (with some associated underestimate of cost) from a larger, more representative sample. The impact of focusing only on hospital costs for economic evaluation techniques, such as cost per QALY, is a question for future research.

Table 1: Summary of patient resource use and costs in Nottingham and Leicester

<table>
<thead>
<tr>
<th>Parameter</th>
<th>No. Total in cohort</th>
<th>Mean cost per user (£)</th>
<th>Mean cost per patient in the cohort (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary care</td>
<td>456/360</td>
<td>80 (70-101)</td>
<td>4 (1.1-4.4)</td>
</tr>
<tr>
<td>Secondary care</td>
<td>456/147</td>
<td>80 (70-96)</td>
<td>61</td>
</tr>
<tr>
<td>Inpatient and day case care</td>
<td>456/17</td>
<td>80 (70-93)</td>
<td>71</td>
</tr>
<tr>
<td>Ambulance service</td>
<td>456/5</td>
<td>77 (70-88)</td>
<td>80</td>
</tr>
<tr>
<td>Mental health care</td>
<td>456/28</td>
<td>80 (70-92)</td>
<td>54</td>
</tr>
<tr>
<td>Social care</td>
<td>456/16</td>
<td>81 (70-96)</td>
<td>70</td>
</tr>
<tr>
<td>Primary care</td>
<td>250/243</td>
<td>80 (70-101)</td>
<td>63</td>
</tr>
</tbody>
</table>

Acknowledgements

This poster presents independent research funded by the National Institute for Health Research (NIHR) under its Programme Grants for Applied Research funding scheme (RP-PG-0407-10147). The views expressed in this poster are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health. This study, the Acute Medical Outcomes Study (AMOS), was one of three studies under the MCOP programme title. This particular study was a joint partnership between the University of Nottingham and University of Leicester.

Health Economists Study Group (HESG), Exeter, January 2013

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