CURRENT & FUTURE COST OF FRAILTY TO HEALTH AND CARE

Kristin Bash MFPH
Public Health Specialty Registrar
NHS England – Healthy Aging
Honorary Lecturer, School of Health & Related Research (ScHARR), University of Sheffield

Marion Kerr, Director, Insight Health Economics
Kent County Council
Workshop overview

- Introduction and overview – economic analysis of frailty data through use of Kent Integrated Dataset (KID)
- Preliminary (incomplete) data
  - Current picture of costs
  - Projections of future costs
- Workshop – what information related to costs of frailty would you find useful?
- Feedback & discussion
- Review and next steps
Frailty costs – background & overview

- 2015 – NICE guidelines
  - Recommended range of interventions aimed at reducing risk and/or delaying onset of disability, dementia and frailty
  - Noted lack of evidence of cost effectiveness – recommended further research

NHS England is undertaking economic evaluation to look at frailty categories and associated healthcare costs.

- Per-patient costs
- Population-level costs
- Intent to capture costs across the system – need integrated dataset
- Cost projections & modelling of potential variations
Kent Integrated Dataset (KID)

• Previous research - focus typically on acute sector activity and costs + (possibly) some primary care data
  • because these were the data generally available to researchers.

• Narrow focus has potential to distort decision-making
  • Conditions where bulk of care provided in acute care setting has potential to appear more important than where care provided in other settings.

• Analysis of productivity impacts related to changes in care may also put undue focus on acute sector costs.
Progress from December 2016

• The Electronic Frailty Index (eFI) has been successfully applied to the Kent population, with guidance from the Leeds University team that developed the index.

• Now covers primary care, much acute sector activity, primary care activity, some community care and mental health activity, and social care.

• Primary care prescribing data – able to link patient level prescribing data to the level of type of medication at patient level – from this, volume and dosage will be estimated.
Plan for analysis

• Activity, cost and demographic data for all those aged ≥65 will be extracted from the KID, for a 12-month period starting on 1st April 2016.

• All patients included in the data extracts will be classified as either fit or frail using the electronic frailty index (eFI) developed and validated by Leeds University¹.

• Frail category – further division into the degree of frailty (mild, moderate or severe), as per eFI (‘batch coding’)

Preliminary Data Analysis

- 2016-17 Data
- Patients age 65+
- Cost data used across entire year
- Frailty category as of March 2017
- eFI used to determine frailty categories (‘batch coding’)
- Indicative data
- Support from Kent County Council - data extraction

Limitations
- Look back analysis – next analysis will look forward
- No cost data from 1 of 4 acute trusts
- No prescribing costs
- Patients who died in year - costs included for those who died starting in October
Findings

• 3.6% of population 65+ fall within the Severe Frail category
• Approximately 50% of 65+ are classified by eFl as in the Fit category
Distribution of Frailty within 65+ population by age bands

<table>
<thead>
<tr>
<th>Age Band</th>
<th>FIT</th>
<th>MILD</th>
<th>MODERATE</th>
<th>SEVERE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
<td>%</td>
<td>No</td>
</tr>
<tr>
<td>65-69</td>
<td>32866</td>
<td>69.29%</td>
<td>11908</td>
<td>25.10%</td>
<td>2323</td>
</tr>
<tr>
<td>70-74</td>
<td>26731</td>
<td>58.66%</td>
<td>14443</td>
<td>31.69%</td>
<td>3746</td>
</tr>
<tr>
<td>75-79</td>
<td>14164</td>
<td>45.02%</td>
<td>11822</td>
<td>37.57%</td>
<td>4493</td>
</tr>
<tr>
<td>80-84</td>
<td>8118</td>
<td>33.09%</td>
<td>9804</td>
<td>39.96%</td>
<td>5068</td>
</tr>
<tr>
<td>85-89</td>
<td>3804</td>
<td>24.20%</td>
<td>6120</td>
<td>38.94%</td>
<td>4222</td>
</tr>
<tr>
<td>90-94</td>
<td>1355</td>
<td>19.45%</td>
<td>2592</td>
<td>37.21%</td>
<td>2122</td>
</tr>
<tr>
<td>95+</td>
<td>407</td>
<td>18.81%</td>
<td>810</td>
<td>37.43%</td>
<td>679</td>
</tr>
<tr>
<td>Total</td>
<td>87445</td>
<td>50.30%</td>
<td>57499</td>
<td>33.07%</td>
<td>22653</td>
</tr>
</tbody>
</table>
Percent Frailty Category Within Each Age Band
Patients 65 years and older - KID

<table>
<thead>
<tr>
<th>Age Band</th>
<th>Severe</th>
<th>Moderate</th>
<th>Mild</th>
<th>Fit</th>
</tr>
</thead>
<tbody>
<tr>
<td>65-69</td>
<td>0.71%</td>
<td>1.43%</td>
<td>3.13%</td>
<td>4.90%</td>
</tr>
<tr>
<td>70-74</td>
<td>1.43%</td>
<td>2.66%</td>
<td>3.06%</td>
<td>38.22%</td>
</tr>
<tr>
<td>75-79</td>
<td>3.13%</td>
<td>5.82%</td>
<td>3.06%</td>
<td>37.57%</td>
</tr>
<tr>
<td>80-84</td>
<td>6.30%</td>
<td>10.00%</td>
<td>20.66%</td>
<td>39.96%</td>
</tr>
<tr>
<td>85-89</td>
<td>10.00%</td>
<td>12.88%</td>
<td>30.46%</td>
<td>38.94%</td>
</tr>
<tr>
<td>90-94</td>
<td>12.88%</td>
<td>30.46%</td>
<td>37.21%</td>
<td>37.43%</td>
</tr>
<tr>
<td>95+</td>
<td>12.38%</td>
<td>31.38%</td>
<td>37.43%</td>
<td>37.43%</td>
</tr>
</tbody>
</table>
Percent of Age Bands Within Each Frailty Category
Patients 65 years and older - KID

Fit: 37.58% (4.35% 95+) 20.71% (2.51% 90-94) 16.54% (19.83% 85-89) 10.25% (15.73% 80-84) 5.39% (10.43% 75-79) 27.28% (24.70% 70-74)
Mild: 9.28% (4.01% 95+) 10.64% (9.37% 90-94) 18.64% (22.37% 85-89) 25.12% (24.70% 80-84) 18.10% (15.73% 75-79) 14.11% (26.21% 70-74)
Moderate: 16.20% (14.34% 95+) 17.05% (18.64% 90-94) 19.83% (22.37% 85-89) 24.70% (25.12% 80-84) 26.21% (18.10% 75-79) 24.70% (25.12% 70-74)
Severe: 0.47% (0.47% 95+) 1.41% (4.51% 90-94) 3.00% (9.37% 85-89) 4.29% (14.34% 80-84) 9.04% (14.11% 75-79) 1.55% (4.01% 70-74)
Total: 1.24% (4.01% 95+) 4.01% (14.11% 90-94) 10.43% (25.12% 85-89) 15.73% (18.10% 80-84) 24.70% (26.21% 75-79) 10.04% (27.28% 70-74)
Frailty Costs – the money bit

NHS Spend as Captured in KID - Average Cost Per Patient
by Frailty Category, Patients 65 years and older
Source: KID, 2016-17 data

Cost Per Patient

Fit
Mild
Moderate
Severe

£975.62
£1,688.94
£2,748.12
£4,189.07
Total NHS Spend as captured in KID
Percent of total by eFl category
Source: KID, 2016-17 data, patients 65 years and older
Comparison of % Population and % Total NHS Spend as captured in KID - by eFI Category
Registered patients 65 years and older – KID, 2016-17 data
Estimated Total National GP Costs per Frailty Category - 2017 through 2057

Source for per patient figures used in estimate: Kent Integrated Dataset (KID)
Estimated Percent Increase - 10 Year Increments
National GP Costs per Frailty Category - 2027 through 2047
Source for cost figures used in estimate: Kent

[Bar chart showing the estimated percent increase in national GP costs for different frailty categories (Fit, Mild, Moderate, Severe) from 2017 to 2047, with increments in 2027 and 2037.]
Estimated Percent Increases
National GP Costs per Frailty Category - 2017 to 2047

Source for costs used in estimate: Kent Integrated Dataset

Percent increase per frailty category vs Total

- Percent increase per frailty category:
  - Fit: 40.4%
  - Mild: 65.1%
  - Moderate: 92.9%
  - Severe: 113.9%

- Total: 113.9%
Workshop Questions

• What information about the costs associated with frailty would you find most useful?

• What questions and/or challenges do you have related to planning for healthcare associated with frailty?
Thank you

Kristin Bash
Public Health Registrar
kristin.bash1@nhs.net