We need to talk about Frailty at the Front Door

Suzanne Mason, Professor of Emergency Medicine
The Silver Tsunami

-> Over 65s use the ED four times more frequently than younger individuals

-> EDs were originally designed for serious trauma and life threatening disorders

-> Older adults present key challenges in the ED

Percentage of older people in the UK 1985, 2010, 2035

Source: Office for National Statistics, National Records of Scotland, Northern Ireland Statistics and Research Agency

1. 1985 to 2010 Mid-year estimates, ONS, NRS, NISRA; 2011 to 2035 National Population Projections, (2010-based), ONS
• How many
• When
• Do they need to come
• How
• Admissions
• Experiences
• Making it better
LTC residents

• Canadian cohort study
• 25% visited the ED at least once in 6 months
• ~25% were preventable attendances

Data Collection

- 13 acute care trusts
- 1 Ambulance Service
- Ambulance service runs NHS111
- 19 EDs (≈10% of England)
- Population of 5.3 million
- Mixed rural & urban
- 2014 data (in year)
- 999, 111, A&E, acute admissions
- Individual A&E level
- Fully identifiable data, linked on identifiers
Urgent Care Analysis

Analysis of current pathway

- ≥75s vs. <75 analysed to determine differences in:
  - Referral pathways to ED
  - ED episode details including LOS, diagnosis, disposition
- Combination of non-parametric, categorical analysis and binary logistic regression performed

Analysis of admitted cohort

- Population aged ≥75 years analysed focussing on descriptive statistics comparing admission features across the region.
- Potential target populations identified via descriptive statistics.
Analysis of current pathway

- ≥75s versus those under 75 were analysed to determine any differences in:
  - Gender
  - Referral pathways to the ED
  - ED episode details including LOS, diagnosis and disposition.

- Combination of non-parametric, categorical analysis and binary logistic regression performed.

Analysis of admitted cohort

- Population aged ≥75 analysed focussing on descriptive statistics comparing admission features across region

- Potential target populations identified via descriptive statistics
1,279,474 adult attendances to Y&H Emergency Departments

Under 75

Total attendances=1,057,618 (82.7%)
Female= 517,460 (48.9%)
OOH= 613,745 (58.0%)

Over 75

Total attendances=221,856 (17.3%)
Female=131,098 (59.1%)
OOH=123,310 (55.6%)
1,279,474 attendances to Y&H Emergency Departments

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Referral pathway

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Referral pathway
## ED: Referral pathway

<table>
<thead>
<tr>
<th>Mode of arrival at ED</th>
<th>&lt;75 years (%)</th>
<th>≥75 years (%)</th>
<th>Odds Ratio (OR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambulance</td>
<td>252,919 (23.9)</td>
<td>150,154 (67.7)</td>
<td>6.66 (6.60-6.73)</td>
</tr>
<tr>
<td>Walk-in</td>
<td>483,953 (45.8)</td>
<td>35,177 (15.9)</td>
<td>0.22 (0.22-0.23)</td>
</tr>
<tr>
<td>Other</td>
<td>221,931 (21.0)</td>
<td>21,240 (9.6)</td>
<td>0.40 (0.39-0.41)</td>
</tr>
<tr>
<td>Unknown</td>
<td>98,815 (9.3)</td>
<td>15,285 (6.9)</td>
<td>0.72 (0.71-0.73)</td>
</tr>
</tbody>
</table>
Pre-hospital care interventions

• Prevent attendance
• Evidence these can work for elderly fallers. 25% ↓ ED attendance (RR=0.72 (0.68 to 0.75)); 6% ↓ hospital admission (RR=0.87 (0.81 to 0.94))
• Costs saved @£150 per patient  
  Mason, 2007
What’s happening in EDs?
1,279,474 adult attendances to Y&H emergency departments

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Under 75
- Referral pathway
- ED episode details

Over 75
- Referral pathway
- ED episode details
ED episode

**<75**

- Length of stay: 117 minutes
- 4 hour target: 975,067 (92.2%) of attendances achieved
- Most common diagnoses were soft tissue injury (354,285, 33.5%) and medical condition (404,054, 38.6%).
- Outcome of ED attendance:
  - Admitted: 231,371 (21.9%)
  - Discharged: 595,531 (56.3%)
  - Died: 798 (0.1%)
  - Other: 229,918 (21.7%)

**>75**

- Longer LOS: 175 minutes (p<0.001)
- 4 hour target: 193,306 (87.1%) of attendances achieved
- Most common diagnoses were medical condition (129,695, 58.5%) and soft tissue injury (41,504, 18.7%)
- Outcome of ED attendance
  - Admitted 127,338 (57.4%)
  - Discharged: 73,567 (33.2%)
  - Died: 1010 (0.5%)
  - Other: 19,941 (9.0%)
### ED episode

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Evidence for intervention

- CGA approach is beneficial in ward settings

- Various models of CGA might be initiated in the ED – traditional geriatrician-led models, nurse specialist models or referral onwards. No good evidence

- Nature of ED is such that most likely configuration is a liaison service, for which the evidence base is less robust
ED Interventions

• **Within ED:** One study of ED pharmacist, trends to reduced admissions *Mortimer*

• **ED discharge to assess / follow up:** included CGA, falls assessment, specialist nurses, telephone follow up *Mion, McCusker, Caplan, Arendts, Foo, Shaw, Davison, Hegney, Lee, Biese, Guttman*. Two studies had impact on reattendances / readmissions

• **Observation / assessment wards:** CGA-type assessment. Two studies found reduced admission, readmission, reattendance rates. *Foo, Conroy, Ong*
ED or specialist teams?

- Should we all be trained?
- The sub-specialist Geriatric Emergency Physician
- Should we leave to others?
ED episode

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Specialty was commonly medicine followed by surgical specialties
Length of admission >75

<table>
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<tr>
<th>Location</th>
<th>LOS ≤48 hours</th>
<th>LOS &gt; 48 hours</th>
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<tbody>
<tr>
<td>Scarborough</td>
<td>23.1%</td>
<td>76.9%</td>
</tr>
<tr>
<td>Doncaster</td>
<td>28.6%</td>
<td>71.4%</td>
</tr>
<tr>
<td>Rotherham</td>
<td>29.9%</td>
<td>70.1%</td>
</tr>
<tr>
<td>Hull</td>
<td>31.0%</td>
<td>69.0%</td>
</tr>
<tr>
<td>Sheffield</td>
<td>32.0%</td>
<td>68.0%</td>
</tr>
<tr>
<td>Leeds</td>
<td>33.1%</td>
<td>66.9%</td>
</tr>
<tr>
<td>Barnsley</td>
<td>33.1%</td>
<td>66.9%</td>
</tr>
<tr>
<td>Pinderfields</td>
<td>33.5%</td>
<td>66.5%</td>
</tr>
<tr>
<td>Calderdale</td>
<td>34.7%</td>
<td>65.3%</td>
</tr>
<tr>
<td>Airedale</td>
<td>36.0%</td>
<td>64.0%</td>
</tr>
<tr>
<td>Harrogate</td>
<td>36.2%</td>
<td>63.8%</td>
</tr>
<tr>
<td>Dewsbury</td>
<td>37.2%</td>
<td>62.8%</td>
</tr>
<tr>
<td>York</td>
<td>38.8%</td>
<td>61.2%</td>
</tr>
<tr>
<td>Huddersfield</td>
<td>39.6%</td>
<td>60.4%</td>
</tr>
<tr>
<td>Bradford</td>
<td>48.4%</td>
<td>51.6%</td>
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Median LOS for >75’s was 4 days vs. 1 day
Potential points of intervention

2. Quality care for older people with urgent and emergency care needs, BGS, 2012
Older adult pathway

- **Pre-hospital**
  - Most attendances are via ambulance.
  - Fewer ‘self’ presenters

- **Management in the ED**
  - Older adults spend longer in ED, resulting in more 4h breaches
  - Most common presentations are medical diagnoses or soft tissue injuries

- **Admission characteristics**
  - Older cohort more likely to be admitted with a prolonged length of stay
  - Both admission and length of stay vary across trusts - why?

- **Intervention Points**
  - Ambulance pre-hospital accounts for largest proportion; previous studies have shown efficacy of interventions within this group.
  - <48 hour LOS - Targeted intervention to this cohort prior to admission within the ED may reduce admission rates
Thank you!

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More information about NIHR CLAHRC Yorkshire and Humber can be found at www.clahrc-yh.nihr.ac.uk

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