Falls and Syncope
Acute Medicine Assessment Unit &
Emergency Department – Local Experience

7th International Syncope Training Event
Dr. Joseph Browne
Consultant Physician & Geriatrician

The Challenge of Medical Care in Ireland

Community:
- 13% population >65 yrs old (2018 – 14.6% increase since 2006)
- The total number requiring home supports will increase:
  - 6000 in receipt of 5100 home care packages
  - 54500 people in receipt of home help hours
- Projected to require home help by 2021
- The total number requiring Long Term Care will increase:
  - 96250 by 2021 (EU average 9.4%)
- 1% in hospital

Hospital:
- 20% ED attendances > 65 yrs
- 40-50% acute medical admissions > 65 yrs

Frailty Syndromes – Acute Presentations

- Falls
  - (e.g. collapse, legs gave away, found lying on floor)
- Immobility
  - (e.g. sudden change in mobility, “gone off legs” “stuck in toilet”)
- Polypharmacy
- Delirium/Dementia
- Incontinence – Urine and Fecal

Modern Hospital Casemix

- Falls and falls injuries account for more bed days than MI and stroke combined
- Falls account for 10% of all medical admissions
- Most admissions >70 yrs have functional impairment and some need for MDT rehabilitation
- 1 in 4 adults beds occupied by someone with dementia
- 1 in 4 patients over 65 have a delirium
- 1 in 4 over 65 have evidence of malnutrition

Acute Medicine Society, 2018
Admission Rate is growing since 2002

Improving outcomes at equivalent risk

End to end medical patient pathway

Emergency Department 2016/2017
St James’s Hospital – Medical Admissions

Average LOS – 15.22 Days

St James's Hospital – Medical Admissions

AMAU Admissions 2017

N=3037; Mean age 61.7 years
One third >75 years
Falls and Impaired Status – 10.3%

Mortality Risk for Admitted Fallers

• 745 FASU consults from Emergency departments/ medical admissions
• Patients risk scored and compared with age-matched non-fallers
• Crude Mortality rate for Admitted group = 7.5% (v 4.7%)

AMAU Admissions (July – December 2017)


The prevalence of unexplained falls and syncope in older adults presenting to an Irish urban emergency department
Jaspreet Bhangco, Patricia Hall, Naomi Devaney, Kathleen Bennett, Laura Carroll, Rose-Anna Kenney and G. Geraldine McMahon


• 6 month prospective observation study
• 50+ years
• EF/ UEF/ Syncope
• 561 recruited

Outcomes
- Type of fall
- Admission rate
- Injuries
- Recurrent Falls
- Cost

Frailty Syndromes >65years

• Falls
  – [e.g. collapse, legs gave away, found lying on floor]
• Immobility
  – [e.g. sudden change in mobility, “gone off legs” “stuck in toilet”]
• Polypharmacy (>5 medications)
  – 42% patients with >5 medications
• Delirium
  – 5.9% medical admissions identified on discharge data
  – Dempath –36% medical admissions >65 years
• Incontinence – Urine and Fecal
  – Urinary Catheters – 12% [In admissions, higher in older adults]
  – Recal Incontinence - unknown

AMAU Admissions 2017

N=3037; Mean age 61.7 years
One third >75 years
Falls and Impaired Status – 10.3%
Key Results

<table>
<thead>
<tr>
<th></th>
<th>Explained Falls</th>
<th>Unexplained Falls</th>
<th>Syncope</th>
<th>Medical Causes</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion</td>
<td>56.7%</td>
<td>14.3%</td>
<td>12.7%</td>
<td>16.4%</td>
<td>100%</td>
</tr>
<tr>
<td>Admission Conversion</td>
<td>40.9%</td>
<td>65%</td>
<td>57.8%</td>
<td>64%</td>
<td>50.3%</td>
</tr>
<tr>
<td>Previous ED Attendance</td>
<td>24.8%</td>
<td>40%</td>
<td>29.4%</td>
<td>36.8%</td>
<td>29.2%</td>
</tr>
<tr>
<td>Injury from Falls</td>
<td>44.3%</td>
<td>43.1%</td>
<td>10.1%</td>
<td>30.4%</td>
<td>26.1%</td>
</tr>
<tr>
<td>Recurrent Falls</td>
<td>16.4%</td>
<td>50%</td>
<td>38%</td>
<td>33.7%</td>
<td>24.6%</td>
</tr>
<tr>
<td>Costs</td>
<td>€1.7m</td>
<td>€0.7m</td>
<td>€0.5m</td>
<td>€0.75m</td>
<td>€3.7m</td>
</tr>
<tr>
<td>Adjusted OR Admission</td>
<td></td>
<td>2.48</td>
<td>2.36</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>Adjusted OR Recurrent Fall</td>
<td></td>
<td>4.97</td>
<td>3.46</td>
<td>2.55</td>
<td></td>
</tr>
<tr>
<td>Prior ED Attendance</td>
<td></td>
<td>1.84</td>
<td>1.22</td>
<td>1.54</td>
<td></td>
</tr>
</tbody>
</table>

Syncope and Collapse Discharge - DC Destination

- 12.5% Discharge to Nursing Home
- 1.9% RIP Rate
- Low case mix score
- ?? Reimbursement

Falls Management in St James’s Hospital

- Process of falls management
- Link nurse programme
- Metrics
- Data (AIR/EPR)
- Falls huddles
- Root/System cause analysis
- Safety Crosses
- BI dashboard
- Financial implications
- Patient experience

Cost of an Inpatient Fall – St James’s Hospital (2015/2016 Data)

The view of Falls and Syncope from Inpatient Service
## Diagnosis Related Groups and Falls

<table>
<thead>
<tr>
<th>&lt;40</th>
<th>40-70</th>
<th>&gt;70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opiate dependency</td>
<td>Acute lower respiratory infection</td>
<td>Previous falls</td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td>Previous falls</td>
<td>Urinary tract infection</td>
</tr>
<tr>
<td>Chronic renal failure</td>
<td>Alcohol dependency</td>
<td>Hypertension</td>
</tr>
<tr>
<td>Tobacco use</td>
<td>Acute kidney failure</td>
<td>Acute kidney failure</td>
</tr>
<tr>
<td>Seizure</td>
<td>Pneumonia</td>
<td>Pleural effusion</td>
</tr>
<tr>
<td>Acute lower respiratory tract infection</td>
<td>Alcohol dependency</td>
<td>Alcohol dependency</td>
</tr>
<tr>
<td>Homelessness</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Inpatient Falls and Medications

### (January – April 2017)

- **230 Patients who had one inpatient fall**
- **Mean Age – 72.9 yrs**
- **Median Medications - 7**

#### Co-Morbidities
- History of Falls <12 months: 23%
- Dementia: 25%
- Polypharmacy: 86%
- Incontinence: 26%
- Hypertension: 55%
- Cardiovascular disease: 24%

One third on Bone Protection at discharge

### Inpatient Falls and Medications

<table>
<thead>
<tr>
<th>Antihypertensives</th>
<th>Antidepressants</th>
<th>Opioids</th>
<th>Antipsychotics</th>
<th>Benzodiazepines/Z-drugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>55.6%</td>
<td>47.8%</td>
<td>34.4%</td>
<td>21.2%</td>
<td>20.4%</td>
</tr>
</tbody>
</table>

## Trends Falls per 1000 bed days

- **2018 Q1 vs 2017:** Fall rate per 1000 beds

## BI Reports

- **History of Falls <12 months:** 23%
- **Dementia:** 25%
- **Polypharmacy:** 86%
- **Incontinence:** 26%
- **Hypertension:** 55%
- **Cardiovascular disease:** 24%

One third on Bone Protection at discharge

### Acute emergency services have demonstrated significant efficiencies in face of increasing demand and diminished resources

Remove downstream access blocks — improved patient flow
The Future?

- Beds and Infrastructure
- Bed Designation
- Cohorting
- More Staff
- Ambulatory Care

<table>
<thead>
<tr>
<th>Amb Sensitive Condition</th>
<th>Proportion Amenable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syncope &amp; Falls</td>
<td>90-90%</td>
</tr>
<tr>
<td>Pericardial Effusion</td>
<td>60-90%</td>
</tr>
<tr>
<td>COPD</td>
<td>30-30%</td>
</tr>
<tr>
<td>MI</td>
<td>30-60%</td>
</tr>
<tr>
<td>UTI</td>
<td>60-90%</td>
</tr>
<tr>
<td>DVT</td>
<td>95%</td>
</tr>
<tr>
<td>Headache</td>
<td>60-90%</td>
</tr>
</tbody>
</table>

Takeaways

- It is vital that both emergency doctors and physicians on acute unselected take understand falls and syncope
- Getting to a diagnosis is KEY
- Recording an accurate diagnosis is essential
- A scaled, proximate and responsive Falls and Syncope unit is essential.