Prevention and treatment of falls, hip and non-hip fragility fractures in England. Where have we got to and where do we need to go?

David Oliver

Bournemouth NHFD meeting 18th April
To Cover...

• **I:** The scale of the challenge
• **II:** What *should* we be doing? – good practice guidance
• **III:** How well are we doing it?
• **IV:** Challenges going forward into the New World post Health and Social Care Act
• You can all have all the slides...
No relevant text extraction available.
I: Falls and Fractures: The scale of the challenge in England
Falls Epidemiology

*(See Department of Health Falls and Bone Commissioning Toolkit 2010)*

- 1 in 3 people >65 and 1 in 2 >80 fall yearly
- 40% of ambulance calls in over-65s due to falls
- 7% of over 65s attend Emergency Department with a fall
- 40% of Nursing Home residents fall twice a year or more
- Falls account for 35% of all patient safety incidents in hospital (270,000 in 2008/9)
- Predominantly a problem of ageing and frailty
Falls-Related Admissions to Hospital  (Projected increase of 46,000 admissions pa by 2020)

Figure 5.8   Age specific hospital admission rates for accidental falls, England, 2005

Falls/Falls Injuries Account for more bed days than heart failure, MI and stroke combined

Source: DH Health Episode Statistics 2005/06 ONS Mid year population estimates
The Human Cost

• Commonest cause of death from injury in over 65s
• Fractures
• Head Injuries
• “Minor” injuries often very debilitating
• Long Lie
• Loss of confidence/fear of falling/restriction of activity/isolation
• Downward spiral into dependency
• Carer stress/concern
• Precipitant of institutionalisation
• Each fall or fracture is a “red flag” offering a gold-plated opportunity to identify underlying problems and to improve health and wellbeing as well as preventing falls
Fractures (England)

- 1 in 2 women and 1 in 5 men over 50 will fracture
- c 230,000 fragility fractures p.a. with 88,000 Hip, 17,000 Pelvis
- 87% of direct spend on fractures is on Hip
- The typical hip fracture patient is medically complex and frail and hip fracture still a devastating event
  - Median Age 84
  - 10% die in 1 month
  - 25% die in 12 months
  - 30% need long term care
  - 30% delirium post op
  - 30% demented pre-op
  - 70% suffer permanent new dependency in two or more Activities of Daily Living
If these dates were 2009 and 2026?...a tale of missed opportunities?
Understanding falls and fragility fractures as long-term conditions

Morbidity

Hip fracture

Vertebral fractures

Wrist fracture

Additional morbidity attributable to fragility fractures

Morbidity associated with ageing alone

Age

50  60  70  80  90
Half of hip fracture patients suffer a prior “herald” fragility fracture

Observation of the progression of osteoporosis reveals that half of hip fracture patients break another bone prior to their hip fracture occurring. Secondary preventative treatment as recommended by NICE TA161 could prevent half of these hip fractures.

Percentage of patients with hip fracture reporting prior fragility fracture

<table>
<thead>
<tr>
<th>Study</th>
<th>Percentage</th>
<th>Sample Size</th>
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<tbody>
<tr>
<td>Lyles et al (5)</td>
<td>45.3</td>
<td>n=2124</td>
</tr>
<tr>
<td>Edwards et al (6)</td>
<td>44.6</td>
<td>n=632</td>
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<tr>
<td>Mclellan et al (7)</td>
<td>45.4</td>
<td>n=701</td>
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Why falls and fractures are the unsolved epidemic of ageing and should be “the new stroke”

<table>
<thead>
<tr>
<th>The issues</th>
<th>Strokes and TIAs</th>
<th>Heart attacks</th>
<th>Fragility Fractures</th>
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</thead>
<tbody>
<tr>
<td>Incidence/year (England)</td>
<td>110,000 (1)</td>
<td>146,000 (UK, 2)</td>
<td>210,000 (3)</td>
</tr>
<tr>
<td>Current trend</td>
<td>Falling</td>
<td>Falling</td>
<td>Rising</td>
</tr>
<tr>
<td>NHS bed days</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NHS annual costs</td>
<td>£ 2.7 Billion</td>
<td></td>
<td>£ 2.3 billion (hip fracture)</td>
</tr>
<tr>
<td>DH and NHS Responses</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Practice</td>
<td>Acute stroke units</td>
<td>Coronary Care Units in every DGH</td>
<td>Multidisciplinary inpatient fracture services (30% trusts) Fracture Liaison Services Poor adherence to NICE</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Bi-annual Stroke audit</td>
<td>Pain to needle time continuous national MINAP audit</td>
<td>Falls and Bone Health audits National Hip Fracture Database</td>
</tr>
<tr>
<td>Current achievements</td>
<td>Moderate but improving fast</td>
<td>Very Good</td>
<td>Poor- not improving</td>
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</table>
Implications for Primary Care Trusts (PCT) of falls and fractures

In a typical PCT with 300,000 population, there may be 45,000 over 65s

- 1100 will have a fracture (hip, wrist, vertebrae, etc)
- 2,200 will attend A&E or MIU (a similar no. will call ambulance)
- 15,500 will fall (6,700 twice or more)
  Most will not call for help

360 hip fractures

w/ acknowledgements to Paul Mitchell

Ageing demography means all this will increase 50% by 2020
Fragility fractures: PCT Population of 300,000

- Post-menopausal women with new fracture each year: 55,000
- Post-menopausal women with prior fracture history: 17,400
- Post-menopausal women with osteoporosis: 6,900
- Post-menopausal women: 900
II: What *should* we be doing?
National Service Framework for Older People (Dept Health 2001)

• **Standard 6**

• “By 2005, all local health systems should have established an integrated service for the prevention of falls and fractures”

• “The aim of this standard is to reduce the number of falls resulting in serious injury and ensure effective treatment and rehabilitation for those who have fallen”
Relevant NICE Guidelines

• Assessment and prevention of falls in older people (2004)

• Osteoporosis primary prevention in postmenopausal women (2011)

• Osteoporosis secondary prevention of fractures in postmenopausal women 2011 (update of 2008 to include newer drugs)

• Assessment of risk and prevention of osteoporotic fractures in those at high risk (in development) (for now we have NOGG and FRAX)

• The management of hip fracture in adults (2011)
Periodic case finding in Primary Care: Ask all patients about falls in past year

- No falls
  - No intervention

Recurrent falls

- Gait/balance problems
  - Fall Evaluation*

Patient presents to medical facility after a fall

Single fall

- Check for gait/balance problem
  - No problems

"By professionals with appropriate skills and experience"

Assessment
- History
- Medications
- Vision
- Gait and balance
- Lower limb joints
- Neurological
- Cardiovascular
- Fear and Function
- Osteoporosis Risk

Multifactorial intervention (as appropriate) *(No time to summarise evidence in this talk!)*
- Gait, balance, exercise - programs
- Medication - modification
- Postural hypotension - treatment
- Environmental hazards - modification
- Cardiovascular disorders - treatment
NICE secondary prevention of fragility fractures in postmenopausal women

• **Alendronate** as first line for over 75s with fracture (Bone density scan – DXA not required)
• Or for those under 75 with T score < -2.5
• **Risedronate and etidronate**
  – For those who cannot tolerate alendronate or contraindication
  – Or based on algorithm for T score and independent clinical risk factors
• **Raloxifene and strontium**
  – for those who cannot tolerate alendronate or contraindication
  – Or based on algorithm for T score and independent clinical risk factors
• **Adequate calcium and vitamin D for all**
The “Blue Book”

Four big messages

1. Multidisciplinary expeditious approach to the management of fragility fracture patients

2. Reliable secondary prevention for falls and bone health

3. Chronic disease model

4. Quality assurance with the NHFD
Blue book = basis of standards for National Hip Fracture Database (NHFD)

1. Admission to orthopaedic ward within 4 hours
2. Surgery within 36 hours during normal working hours by senior surgeon and anaesthetist in dedicated list slot
3. Pain relief, pressure area prevention
4. Preoperative assessment by trained orthogeriatrician
5. Assessment and preventative treatment for osteoporosis
6. Assessment and preventative treatment for falls risk
In turn, NHFD is basis of **Best Practice Tariff**

- **Time to surgery (<36 hours)**
  - Arrival in A&E (or diagnosis if an inpatient) to start of anaesthesia

- **Involvement of an (ortho)-geriatrician: All 4 required to achieve tariff**
  - Admitted under the joint care of a Consultant **Geriatrician** and a Consultant Orthopaedic Surgeon
  - Admitted using an assessment protocol agreed by geriatric medicine, orthopaedic surgery and anaesthesia
  - Assessed by a **Geriatrician * in the perioperative period ****
    - * Geriatrician defined as Consultant, NCCG, or ST3+
    - ** Perioperative period defined as within 72 hours of admission
  - Postoperative Geriatrician-directed:
    - Multiprofessional **rehabilitation team**
    - Fracture prevention assessments (falls and bone health)
How the tariff works...

- NHFD captures compliance with clinical practice
- PCTs to monitor and make additional payments quarterly

- Base tariff for each HRG
- Additional payment for best practice
- Reduction in base tariff for current compliance rate

2-part tariff for best practice
Fragility fractures in the elderly, especially in women

4.67 The introduction of the best practice tariff for hip fracture in 2010 has proved successful in transforming the care on admission of those who suffer fragility fractures each year. PCTs are also asked to take steps to reduce incidence. The best way to prevent this transformative injury is to recognise precursor or “herald” fractures and give patients a bone health assessment and treatment when they first show clear signs of being at risk.
Falls and fractures
Effective interventions in health and social care

Falls and fractures
Exercise Training to Prevent Falls
Objective 1: Improve outcomes and improve efficiency of care after hip fractures – by following the 6 “Blue Book” standards

Objective 2: Respond to the first fracture, prevent the second – through Fracture Liaison Services in acute and primary care

Objective 3: Early intervention to restore independence – through falls care pathway linking acute and urgent care services to secondary falls prevention

Objective 4: Prevent frailty, preserve bone health, reduce accidents – through preserving physical activity, healthy lifestyles and reducing environmental hazards
The 4 aims and how we achieve

The majority of post-menopausal women (84%*) have **not** suffered a fragility fracture. Strategies to case-find new and prior fracture patients could identify up to **50% of all potential hip fracture cases from 16% of the population**.

- **Fracture liaison services**
  - **Post-menopausal women with new fracture each year**
  - **Post-menopausal women with prior fracture**
  - **Post-menopausal women with silent osteoporosis**
  - **Post-menopausal women**

- **Primary care**
  - 0.2 million
  - 1.3 million
  - 3.2 million
  - 10.6 million

**Public health approaches**

NHS Quality Improvement Scotland national audit
FLS vs other models: Outcome after **wrist** fracture by centre

![Bar chart showing percentage of assessed and/or treated after fracture by centre.]

Centre operating FLS

NHS Quality Improvement Scotland national audit
FLS vs other models: Outcome after hip fracture by centre

A brand new QOF for the GP Contract

- **OST1** – the practice can produce a register of patients: aged 50–74 years with a record of a fragility fracture after 1 April 2012 and a diagnosis of osteoporosis confirmed on DXA scan, aged 75 years and over with record of a fragility fracture after 1 April 2012.

- **OST2**: the percentage of patients aged 50–74 years, with a fragility fracture, in whom osteoporosis is confirmed on DXA scan, who are currently treated with an appropriate bone sparing agent.

- **OST3**: the percentage of patients aged 75 years and over with a fragility fracture, who are currently treated with an appropriate bone sparing agent.
IV: How well are actually doing?

The good, the bad and the variable
In hospital:

2008:

- 1 in 3 patients waited more than 2 days for surgery
- Median hospital stay (spell) was 23 days
- Mean total stay (super spell) 28 days
- 33% need more care support
- 15-20% change residence

Unacceptable
National Hip Fracture Database

Chart 21

Still lots of unwarranted variation to tackle e.g.,

Surgery in 36 hrs, with falls and bone health assessments
Royal College Physicians (RCP) Organisational Audit of Falls and Bone Health 2007 (all localities in England)

- Services are variable in quality and many lack key evidence-based components
- Lack of integration between falls services and fracture services
- Significant gaps along patient journey for falls and fractures
- Inadequate levels of secondary prevention for both falls and bone health
- Secondary prevention for non-hip fragility fracture is less good than for hip fracture
RCP 2008 falls and bone health audit *(8,800 patients with hip and non-hip #. All localities)*

### Multi-disciplinary falls risk assessment & treatment

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<thead>
<tr>
<th></th>
<th>Non-Hip (%)</th>
<th>Hip (%)</th>
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<tbody>
<tr>
<td>Adequate Fall history</td>
<td>19</td>
<td>14</td>
</tr>
<tr>
<td>Syncope considered</td>
<td>17 (19% yes)</td>
<td>22 (14% yes)</td>
</tr>
<tr>
<td>Medication review</td>
<td>31</td>
<td>44</td>
</tr>
<tr>
<td>Standing BP measured</td>
<td>13</td>
<td>23</td>
</tr>
<tr>
<td>CV examination</td>
<td>40</td>
<td>89</td>
</tr>
<tr>
<td>CV investigations</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Vision assessment</td>
<td>10</td>
<td>19</td>
</tr>
<tr>
<td>Vision impaired</td>
<td>38 (most treated)</td>
<td>40 (most treated)</td>
</tr>
<tr>
<td>Gait &amp; balance assessed</td>
<td>28</td>
<td>68</td>
</tr>
<tr>
<td>Exercise programme</td>
<td>22</td>
<td>44</td>
</tr>
<tr>
<td>Home hazard assessed</td>
<td>14</td>
<td>51</td>
</tr>
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</table>
Fracture audit RCP 2008 (8,800 fractures. All localities)

### Secondary bone assessment and treatment

<table>
<thead>
<tr>
<th></th>
<th>Non-Hip (%)</th>
<th>Hip (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OP risk assessed</td>
<td>19</td>
<td>35</td>
</tr>
<tr>
<td>DEXA 65-74 y (TAG87)</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td>50% showed OP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calcium/ Vit D at 16 w</td>
<td>23</td>
<td>52</td>
</tr>
<tr>
<td>Bisphosphonate (or other)</td>
<td>20</td>
<td>43</td>
</tr>
</tbody>
</table>

### Patient Involvement

Documented rates of information sharing and goal setting with patients/carers was very low.
RCP Falls and Bone Health Audit 2010

Falling standards, broken promises
Report of the national audit of falls and bone health in older people 2010
“Falling standards, broken promises”

- All 147 acute hospitals and 90% of PTCs
- 9,500 patients (6,083 with non hip fractures and 3084 hip fractures)
- “For non-hip fractures, only 37% of local services provided a formal fracture liaison service for case finding, investigation and follow up”
- “Only 32% of patients with non hip fractures have a multidisciplinary falls risk assessment (as opposed to 68% of hip fracture patients”
- “Only 32% of non-hip fracture patients and 67% hip fracture patients had a clinical assessment for osteoporosis and fracture risk. “
- “Only 34% of non hip fracture patients are receiving a gait and balance assessment”
- “despite some modest improvements, major variations between organisations persist and deficiencies in care remain widespread
V: Challenges going forward

What we still need to crack
Report to the Minister of State for Care Services:

Breaking Through:
Building Better Falls and Fracture Services in England

February 2012
Some challenges

- £ £ £. Improving quality in a time of austerity
- Improving quality in a time of radical re-organisation by the politicians (2012 Health and Social Care Act)
- Competing priorities
- Unwarranted variation in hip fracture patients
- Still only 1 in 3 localities have fracture liaison service to “respond to the first fracture and stop the second”
- Will the new GP contract incentive help deliver the secondary fracture prevention and bone fragility screening/case finding?
- DEXA scanning capacity?
Some Challenges...

- There are so many fallers, much of assessment and intervention has to be in primary care or community health services.
- Will primary care/GP commissioners priorities falls and fractures?
- Acute hospitals can only assess those who attend.
- Systematic public health, population shift, exercise, primary prevention for falls prevention and bone health yet to be embedded.
- Telecare, telehealth, housing, adaptations?
- PR battle in ensuring older people realise that falls and fractures aren’t just “because of my age” and plenty can be done. (Contrast very effective FAST campaign for stroke/TIA)
  - Face, Arms, Speech, Time

- Also in presenting preventative interventions as improving wellbeing and independence not avoiding harm (e.g. “don’t mention the F word” campaign).
The New Quality Landscape

(See e.g. DH “developing the NHS commissioning board.” “transparency in outcomes” and “NICE consultation on commissioning outcomes framework”)
Some examples of new incentives

- In NHS outcomes framework and social care framework living at home 30 and 120 days after discharge from rehab services
- Indicator in development on recovery from injury
- New NICE quality standards for hip fractures and for falls in a care setting
- Several generic indicators are relevant to falls (e.g. readmissions, bed days in people with two or more admissions, avoidable harms in hospital etc)
- Falls and falls injuries in over 65s [Draft Public Health Outcomes Framework]
- Hip fractures in over 65s [Draft Public Health Outcomes Framework]
Thank you

- David.Oliver@dh.gsi.gov.uk