Falls: facts and figures

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What is a fall?

Is a trip or slip a fall? **YES**
Is it a fall if you don’t hurt yourself? **YES**
Is a fall just bad luck? **SOMETIMES**

One falls definition:
“an unintentional event in which a person comes to rest on the ground, floor or lower level.”
Fall rates increase with increasing age

Campbell et al, 1981
Community setting
The issue of falls: be alarmed

• Falls are the leading cause of hospitalisation due to injury (38% of all injury hospitalisations)

• Falls responsible for 87% of injury hospitalisations in 85+ year olds

AIHW 2012: Hospital separations due to injury and poisoning, Australia 2009-2010
Mortality data

FALLS
75 years +
• Deaths in 2002 = 365
• Deaths in 2011 = 1,530

TRANSPORT ACCIDENTS
All ages
• Deaths in 2002 = 1,932
• Deaths in 2011 = 1,292
Falls as a serious problem

Transportation related hospitalisations: 54,110

Falls related hospitalisations: 161,147

<table>
<thead>
<tr>
<th>External cause</th>
<th>0-4</th>
<th>5-14</th>
<th>15-24</th>
<th>25-44</th>
<th>45-64</th>
<th>65+</th>
<th>All ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unintentional injuries</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Transportation</td>
<td>843</td>
<td>6,193</td>
<td>13,271</td>
<td>17,314</td>
<td>10,979</td>
<td>5,510</td>
<td>54,110</td>
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<tr>
<td>Drowning &amp; near drowning</td>
<td>233</td>
<td>56</td>
<td>66</td>
<td>82</td>
<td>62</td>
<td>41</td>
<td>540</td>
</tr>
<tr>
<td>Poisoning, pharmaceuticals</td>
<td>1,322</td>
<td>197</td>
<td>1,041</td>
<td>1,817</td>
<td>1,144</td>
<td>1,083</td>
<td>6,604</td>
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<tr>
<td>Poisoning, other substances</td>
<td>391</td>
<td>117</td>
<td>404</td>
<td>714</td>
<td>463</td>
<td>318</td>
<td>2,407</td>
</tr>
<tr>
<td>Falls</td>
<td>8,626</td>
<td>17,748</td>
<td>10,057</td>
<td>16,023</td>
<td>24,925</td>
<td>83,768</td>
<td>161,147</td>
</tr>
<tr>
<td>Smoke, fire, heat &amp; hot substances</td>
<td>1,605</td>
<td>615</td>
<td>884</td>
<td>1,393</td>
<td>946</td>
<td>490</td>
<td>5,933</td>
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<tr>
<td>Intentional injuries</td>
<td></td>
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<tr>
<td>Undetermined intent</td>
<td></td>
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<tr>
<td>Other or missing</td>
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</tr>
<tr>
<td>Total community injury cases</td>
<td>20,719</td>
<td>38,713</td>
<td>70,306</td>
<td>103,578</td>
<td>78,111</td>
<td>109,638</td>
<td>421,065</td>
</tr>
</tbody>
</table>

AIHW, 2012 Hospital separations due to injury and poisoning, Australia 2009-2010
Who falls?

- Falls increase with increasing age
- Women fall more than men - YES/NO?
- Women experience higher rates of injury than men - YES/NO?
- Women experience higher rates of fatal injury than men - YES/NO?
Falls in different clinical Groups

- Older people
- People with stroke
- People with Parkinson's disease
- People with polio
- People with dementia

Lord et al, 1993; Forster & Young, 1995; Hill, 1998; Hill & Stinson, 2004
Falls in different groups

Lord et al, 1993; Forster & Young, 1995; Hill, 1998; Hill & Stinson, 2004
Key clinical points

- Fall rates have not changed substantially over the last decades........consider the reasons for this

- Consider those “groups” with higher risk of falls
The impact of falls

• Individual

• Society
Societal costs

• Social
• Economic impacts
• Health care costs
• Lost work/productivity costs
The cost of falls

Health care costs for fall-related injuries among those aged >65 years are estimated at $498 million annually (Australia), and estimated to triple by 2051 if rates remain unchanged.

(Moller, 2003)
How much does a fall cost?

- $250
- $1,000
- $5,000
- $10,000
- $20,000

http://www.cdc.gov/homeandrecreationalsafety/falls/fallcost.html

Heinrich et al 2012
Injury
Activity restriction
Fear of falling
Social isolation
Quality of life
Hospitalisation
Death
$$
Mortality

• Death as immediate consequence of a fall is relatively rare
• Men have higher fall-related fatality rates than women
• 20% of people die in the year following hip fracture (Leibson 2002)
• 25% of those lying on floor for > 1hr died within one year (Wild 1981)
40-60% of falls result in injury

20-30% of falls result in serious injury
<table>
<thead>
<tr>
<th>Injury Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hip fracture</td>
<td>1%</td>
</tr>
<tr>
<td>Head injury</td>
<td>2%</td>
</tr>
<tr>
<td>Fracture other sites</td>
<td>3%</td>
</tr>
<tr>
<td>Open wound</td>
<td>30%</td>
</tr>
<tr>
<td>Soft tissue injury</td>
<td>30%</td>
</tr>
<tr>
<td>Bruising/contusion</td>
<td>40%</td>
</tr>
</tbody>
</table>

O’Loughlin 1993; Campbell 1990; Stel 2004; Nachreiner 2007
Key clinical points

• Older people underreport falls AND falls injury

• Injurious falls = worse outcomes

• Should it be falls prevention or INJURY prevention?
The hidden costs of falls

- Fear of falling
- Activity restriction
- Anxiety/depression
- Post traumatic stress
- Loss of independence
- Social isolation
Fear of falling

• “Psychological trauma associated with falling”
  
  *(Tinetti et al, 1990)*

• “a lasting concern about falling that leads to an individual avoiding activities that he/she remains capable of performing”

  *(Tinetti & Powell, 1993)*
Fall

Fear of falling

Activity restriction

Functional impairment

Increased risk of falling
Fear of falling

• Prevalence of between 21 and 85% in older people
• Up to 50% of people who have not fallen have a fear of falling
• Incidence (development in 12 months)
  – 12-23% who have not fallen
  – 21-39% in those who have fallen

Scheffer 2008
Key clinical points

• Ask about fear of falling

• Use context: are you afraid of falling when.....

• Use validated fear of falling tool, e.g. FES-I, Short FES-I (Yardley 2007, Kempen 2008)
Falls trigger institutionalisation

10-12%
Fall rates higher in residential care

- 3 times higher than in the community
- Estimates of up to 50% (1 in 2 residents!)
- 1.4 falls/person/yr
- Higher in certain groups, e.g. those with dementia, stroke, Parkinson’s Disease
- Higher in dementia specific units

Luukinen 1994
Rubenstein 2002, 2006
Nurmi 2002
Falls in people with dementia in residential care

- Crude IRR 2.55 (1.60 – 4.08)
- > 60% fell in 6 months
- Common risk factors in people with/without dementia

Eriksson 2008
Other consequences

• Long lie – 47% of non-injured fallers are unable to get up independently
  – >1hr on floor = increased risk of dehydration, hypothermia, pressures sores & pneumonia

• In over 90s: 80% of fallers unable to get up alone, 30% of fallers lying for > 1hr (Fleming 2008)
Consequences

- Injuries from falls more common than other settings:
  - 54% of fallers sustained injuries (Kallin et al, 2002)
  - 33% of fallers sustained a fracture (Kallin et al, 2002)
  - Over half of fractures were hip fractures (Thapa et al, 1996)
  - Hip fracture rates 10.5 times higher than in the community (Butler 1996)
  - Head injury – 40% of injuries were to head/neck (Sadigh 2004)
Falls in hospitals
Falls in hospitals

• Fall rates vary across settings and clinical groups:
  – 46% stroke patients fall in rehabilitation\textsuperscript{1,2}
  – 9.0 per 1,000 bed days in aged care wards (mixed acute/subacute)\textsuperscript{3}
  – 2.0 – 12.0 per 1,000 bed days in hospital wards\textsuperscript{4,5,6}
  – Up to 50% in residential aged care

\textsuperscript{1}Forster & Young, 1995; \textsuperscript{2}Nyberg, 1997; \textsuperscript{3}Cumming 2008; \textsuperscript{4}Quigley 2009; \textsuperscript{5}Oliver, 2000; \textsuperscript{6}Barker 2008
Falls in hospitals

• Injurious falls
  – Only a small percentage of falls cause **serious** injury, but other consequences include an increase in hospital stay, reduced confidence and functional ability at discharge
  – 46% of falls incur injury\(^1\)
  – 1.0 – 3.0 per 1,000 bed days\(^1\)
  – Minor injury rates: 0.5 - 8.0 per 1,000 bed days\(^2\)
  – Moderate, major injury rates: 0.3 – 1.7 per 10,000 bed days\(^2\)

\(^1\)Barker 2008; \(^2\)Quigley 2009
Why are falls different in hospitals?

- Length of stay
- Staffing
- Delirium
- Patient status changes quickly
- Mix of acute and chronic health problems
- Unfamiliar environment and routines
- Not a falls friendly environment
- Well entrenched routines
- Ageism?
Key clinical points

• Falls are different in different settings

• Resist “falls” fatigue, by continuing to highlight falls as an important issue

• Consider alternative ways of promoting falls prevention
Top tip

No change in falls rates despite an increase in research and evidence