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International Federation on Ageing
10th Global Conference on Ageing – Melbourne, May 4, 2010

FALLS-RELATED TRAUMATIC BRAIN INJURY IN YOUNG-OLD PEOPLE: under-recognised, under-diagnosed, highly fatal and highly preventable

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“…peak of peaks”

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acquired brain injury (ABI)

any damage to the brain that occurs after birth

- **stroke**
- **brain infection**
- **alcohol or other drug abuse**
- **neurological disease (Huntington's disease etc.)**
- ***accident or trauma***

over 500,000 Australians have an acquired brain injury

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traumatic brain injury (TBI)

physical disability:

- paralysis
- balance
- coordination
- vision, hearing
- speech

cognitive disability:

- memory,
- concentration
- learning
- planning
- solving problems

"challenging behaviour":

- irritability
- impulsivity
- verbal, physical aggression
- disinhibition

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falls…

- **the leading cause of *injury hospitalisation* - 1 in every 3 (126,800) injury admissions in 2003-2004**

- **leading cause of *Traumatic Brain Injury hospitalisations* – 42% of all Principal Diagnosis TBI hospitalisations in Australia in 2004-2005**

- **of all external causes of Traumatic Brain Injury, *falls are the most fatal* - 2 in every 3 resulting in death in 2004-2005**

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falls injuries in older people1…

- a fall in people aged 65 and over was the external cause in 1 in 6 (n=2,269) of *Principal Diagnosis* TBI cases (across all age groups and external causes) in 2004-2005 and…

- a fall in people aged 65 and over was the external cause in 1 in 5 (n=1,003) of *Additional Diagnosis* TBI cases (across all age groups and external causes) in 2004-2005…

falls injuries in older people2…

- falls injuries to the hip and thigh ↓ , rates of head injury ↑ (1 in every 5 admissions);

- “young old”, falls from heights - “DIY” injury ↑ 25%, 1999-2005;

- "secondary" TBI and TBI bleed death - anti-coagulants (warfarin); 820,000 scripts 1998-2008…

falls injuries in older people3…

UNITED STATES (2005):

- **7,946 fall-related TBI deaths among people aged > 65 years**

- **56,423 hospitalisations for nonfatal fall-related TBI among people > 65 (= 8.0% of fall-related hospitalisations)**

- **"[TBIs] may be *missed or misdiagnosed* among older adults"**

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OUTCOMES 1

85+ - highest falls injury, falls deaths, TBI and TBI death rates ("100% mortality")…

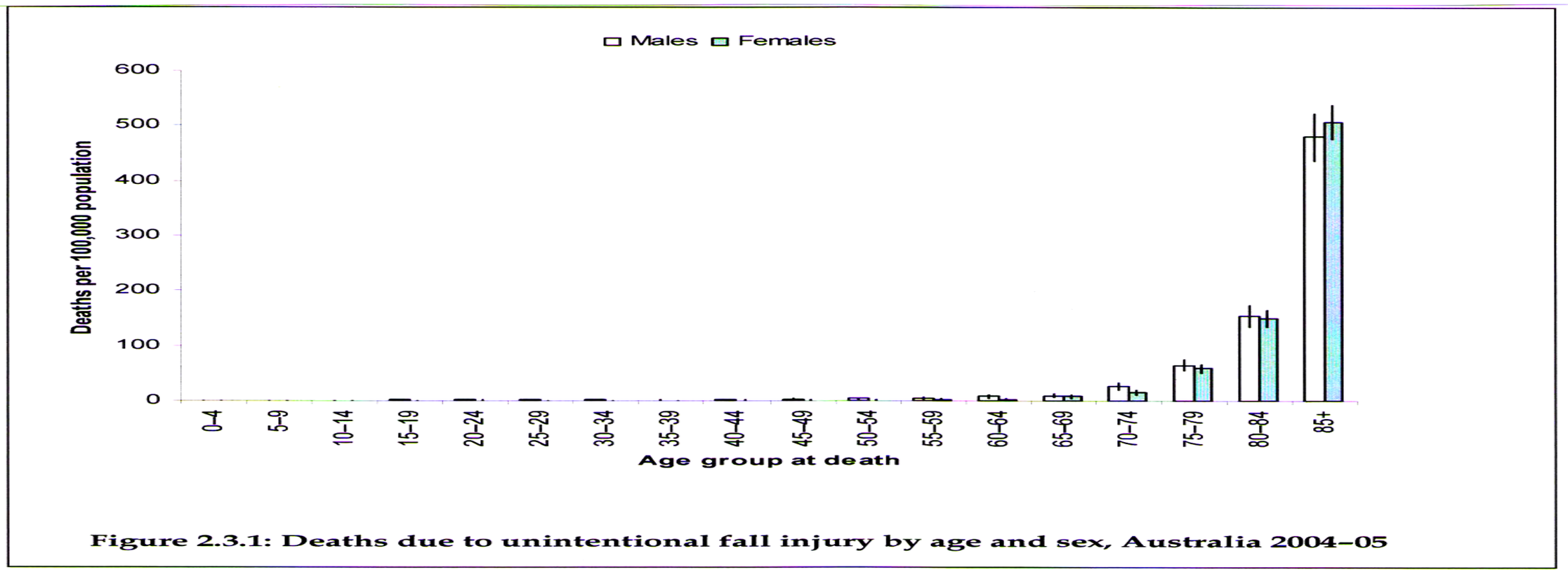

Figure 2.3.1: Deaths due to unintentional fall injury by age and sex, Australia 2004–05

"Deaths due to unintentional fall injury by age and sex, Australia 2004-05"

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OUTCOMES 2

- 3X risk of intracranial bleeding than younger TBI
- 2X length of hospital stay
- longer periods of post-traumatic amnesia (PTA)
- increased risk of developing Alzheimer's Disease
- only 30%-50% returned directly home
- increased risk of residential aged care placement
- higher incidence of general brain deterioration
- reduced psychosocial and financial support
- "lowered expectations for recovery *by staff* and patient"

severity?

1. every 10 years of age increases “odds on poor outcome” by 40% - 50%

2. “optimal change points” in age at TBI were 60 years (for mortality) and 29 years (for “unfavourable outcome“)

“…occur among those who *already have* a measure of neurodegenerative disease and especially among those in resicare – the majority *already have* disabling dementia…”

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PREVENTION?

- falls prevention programs – no mention?

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Help Seniors Live Better, Longer:
Prevent Brain Injury

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

PREVENTION?

- falls prevention programs – no mention?
- falls "from heights"
- women – (outlive men), home hazards
- "old old" – residential aged care (5X rate at home)
- "hit head" or no? (anti-thrombotics?)
- neurological observations (72 hours+?)
- "perfect storm"? = ageing population + increased life expectancy + activity
- "baby boomers"

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