

## **Chapter 1: The Significance Of Falls In The Elderly**

### **1.1 Falls In Australia**

The elderly population of the world's more developed countries is increasing at a considerable rate, as a result of improved medical care which has improved both survival from disease and overall life expectancy (2-5). Falls have been clearly demonstrated to be a substantial health problem amongst Australia's elderly population (6), being the most common cause of accidental injury or death in this age group(4, 7, 8). A fall is defined as "inadvertently coming to rest on the ground or other lower level with or without loss of consciousness"(9).

In 1997/8 16 951 persons in NSW aged greater than 65 years were hospitalised for more than one day following a fall(6). Research has demonstrated that all falls contribute significantly to psycho-social and physical morbidity and mortality (6, 8-15). The most common injury sustained from a fall is an isolated fracture (10, 12, 16-18). Fractures occurred more commonly in women than men (16). Twenty-five percent of elderly patients who sustain fall related fractures require prolonged hospitalisation (9). It has been reported that up to 50% of those who were hospitalised following a fall failed to regain their pre-fall functional status and required either nursing home or community support services (6, 9, 10, 17, 19).

South Western Sydney is a region of 6512 km<sup>2</sup> with a population of 720,000. The region has 1 rural and 5 urban hospitals (20) as well as more than 60 residential aged care facilities. The elderly population in SWSAHS is expanding rapidly, with 92,840 people over 60 in the region in 1996 (See Figure 1) (21). During the year 2000, 896 older individuals (60 years and older) were admitted to hospital after presenting to the Emergency Departments of South Western Sydney Area Health Services with falls related injuries, resulting in a total of 9170 bed days (22). The projection for 2006 is for 124,868 people over the age of 60 living within SWSAHS. Conservative projections estimate that falls related bed days would increase to 29,975 by 2006 (Shown in Figure 2) (21). The number of fall related injuries would clearly need to be minimised as the population expands, to reduce the burden on both acute and long term care facilities in the region.

### **1.2 The Consequences Of Falling**

Falls in the elderly have potential for causing significant physical injury. In NSW during 1992-3 the major injuries seen amongst individuals hospitalised secondary to falls were fractures of the hip (31.4%), upper limbs (17.6%), spine and trunk (13.2%) and lower limbs (10.8%) (6). Fall-associated fractures in older people have been reported as a significant source of morbidity and mortality (23). There is also the risk of the fallen person not being able to reach assistance promptly, thus sustaining more severe injury as the result of secondary physiological insults such as dehydration, rhabdomyolysis and pneumonia (6). Indeed, injury represents the sixth leading cause of death amongst the elderly (15). Many elderly patients with fall related injuries require hospitalisation to facilitate the management of both the injuries and a range of co-existing health problems. Hospital environments have been found to be

hazardous for older people as elderly patients decline functionally in hospital (17). For those patients discharged home from emergency departments 50% experience functional decline following the fall (19).

Other more subtle effects of falls can impact upon the elderly client. These effects include reduced functioning; due to increased anxiety, fear of falling, loss of confidence and increased functional dependence (6). In one study 50% of fallers admitted that they were afraid, 25% avoided essential activities and 40% related that falls contributed to the decision for institutional care. The NSW Health Department reports that an estimated 40% of older hospitalised fallers are discharged to nursing home accommodation and a further 10% require home services (6).

### **1.3 The Cost Implications Of Falls**

During 1997 it was reported that 190,700 bed days were utilised by older people in NSW for treatment of a fall. The total cost of falls treatment in this age group during 1997 was \$302 million. It is predicted that without the implementation of effective identification and management strategies by 2051 this will more than double (441,000 bed days). This means that if the rate of falls remains unchanged, the total cost of care required by those who fall will have reached \$644 million (6). Such potential for spiralling health costs and growing need for resources highlights the urgency for planning suitable evidence-based identification, assessment, intervention and follow-up strategies.

### **1.4 Treatment**

There have been multitudes of treatment options investigated for the reduction of falls risk. The evidence for these is presented in subsequent chapters. The process of falls management requires a combination of the identification and assessment of those at risk, the implementation of multi-disciplinary interventions and an active follow-up program to measure outcomes (9, 15). In a Systematic review published by the Cochrane Collaboration it was concluded that fall prevention programs should strongly consider health screening of at risk elderly people, followed by the implementation of interventions targeted at both the intrinsic and environmental risk factors. There was inadequate evidence to demonstrate the effectiveness of single interventions (eg. group exercise or health education classes) in reducing the incidence of falls (24).

Evidence based treatment strategies include exercise and strength/balance re-training to improve physical functioning, patient/carer education to minimise risk factors, and staff education and checklists to improve knowledge and maximise assessment and implementation of prevention strategies (10). The determination and treatment of the underlying causes of falls can return the patient to baseline functioning and reduce the risk of subsequent falls (12). The Commonwealth Department of Health and Aged Care has published an analysis of research on preventing falls and falls injury in older people, addressing falls related issues and strategies in the community, residential aged care and acute care settings. This report evaluates the available

research evidence for effective strategies for reducing the incidence of falls and fall related injury within the elderly population (25).

### 1.5 Conclusion

Our significantly growing aging population has caused substantial escalations in health care costs as a consequence of fall related injury. If the rate of falls goes unchecked, within the next fifty years the number of bed days devoted to fall related hospitalisations may more than double current figures (6).

The NSW Health Department estimates that such increased utilisation would create the need for an additional 800 acute care beds throughout NSW alone. With the current shortage of financial, physical and human resources such expansion may not be possible.

Currently, we have a significant understanding of the magnitude of the problems that falls amongst the elderly creates, in terms of acute and long term care needs. We need now to take the ever-growing knowledge of falls prevention to develop evidence based strategies in order to minimise the impact of falls related injury in the future. Focussing on the elderly patient who has presented to a health care provider after a fall provides both the patient and the health service with a unique opportunity to minimise costs, and more importantly to reduce morbidity and mortality.

Figure 1. Population Projections By Age Group For South Western Sydney  
(Adapted from (21))

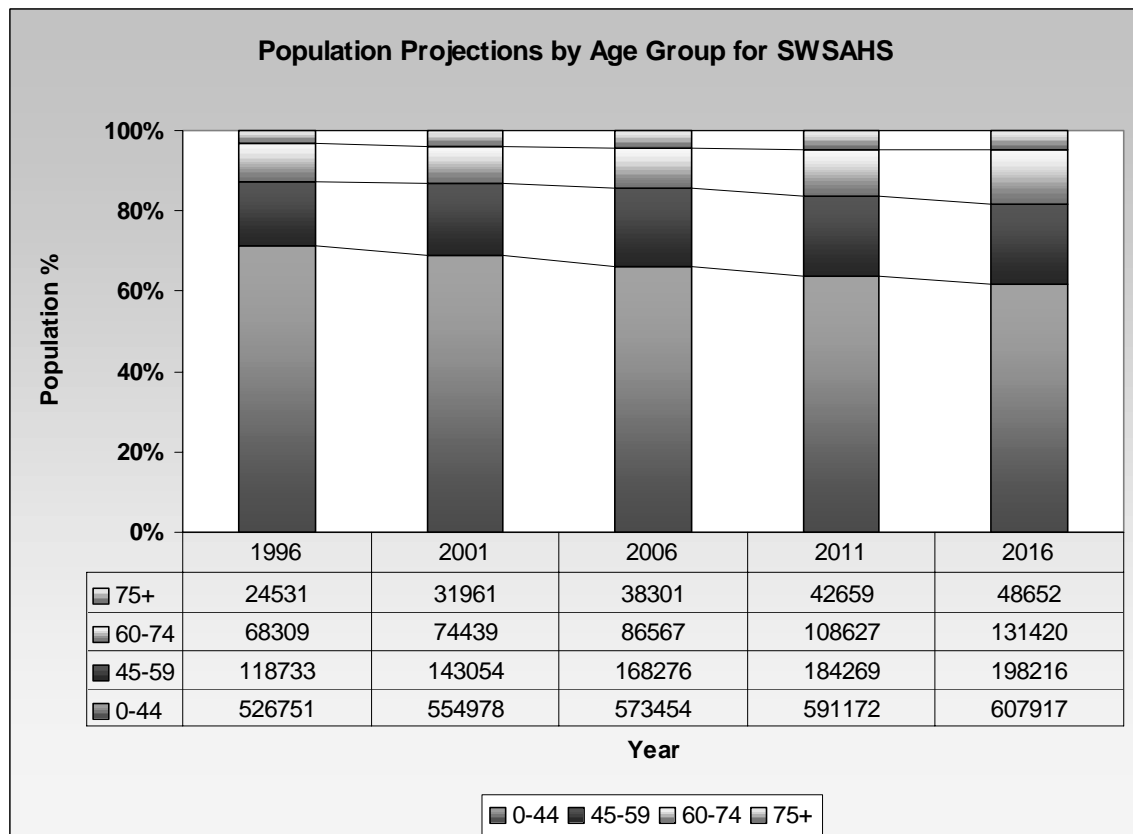


Figure 2. Fall Related Bed Day Projections By Age Group For SWSAHS

(Adapted from<sup>(21)</sup>)

