

Risk Matters



Dear Reader,

The effect of falls on the elderly can be devastating, leading to serious injury, protracted pain, long-term morbidity and increased dependence on others for help. Just the fear of falling can reduce independence, limit instrumental activities of daily life and even curtail social functioning.

Falls and fear of falling represent some of the most common reasons for being admitted into a residential facility, and they are also a marker for early mortality. The cause of falls can be linked to failing sight, thyroid, nervous and circulatory problems as well as conditions directly affecting balance.

This edition looks at recent evidence concerning the frequency and burden of falls, the value of exercise programmes and the prediction of future falls.

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In recent times there has been a drive to reduce the risk of falls, notably within residential institutions (Neyens, et al. 2009) but also an increased focus on those who have already fallen (Hansma et al. 2009) and those at risk of falling (Laforest et al. 2009).

Shumway-Cook et al. (2009) surveyed a large cohort (12,699) of Medicare recipients in the US. By extrapolation to the larger American population, they estimated that 3.7 million people had experienced a single fall, 3.1 million recurrent falls and 2.2 million a fall causing injury requiring medical attention. Recurrent falls were associated with greater age, female sex, being non-white, having only fair or poor health and suffering limitations to activities of daily living (ADLs) and instrumental activities (IADLs) and with physical co-morbidities. Only about half of those who had experienced falls had consulted their healthcare providers.

Using a different methodological approach based on a telephone survey of 1700 people, Boyd and Stevens (2009) came to a similar estimate that about 3.5 million, or 9.6%, of the U.S. population over age 60 have fallen at least once. 36.2% of their population said that they were either moderately or very afraid of falling. Despite this level of concern, few older adults who had fallen reported making any changes in their lives to help prevent future falls. Stevens et al. (2008) came up with an even higher estimate. 5.8 million (15.9%) persons aged ≥ 65 years reported falling at least once during the preceding three months, and 1.8 million (31.3%) of those who fell sustained an injury that resulted in a doctor visit or restricted activity for at least one day. This represents a significant cause for concern as fear of falling can lead to significant disability in its own right.

Gribbin et al. (2009) sought to fill in a gap in the knowledge about falls in primary care in the UK. In a nationally published falls care guidance a great deal of stress has been placed on the role of primary care, but little is known about the rates of falling in the population served. Examining an extensive primary care database, the incidence of falls in the over 60s group was 3.58/100 person-years (95% confidence interval 3.56–3.61). The rate of

recurrent falls was 0.67/100 person-years (95% confidence interval 0.66–0.68). This suggests that fewer than half a million falls are reported in primary care each year. Read in conjunction with the study above, this number is likely to be a significant under-reporting of the real numbers. Recurrent falls were associated with females, greater age and lower social class, mirroring the results of the U.S. study. Recurrent fallers had twice the mortality rate of population controls.

Given the high incidence and the damaging effects of falls, interventions to prevent falls from happening are clearly of key importance. There has been a great deal of investment in falls clinics and other prevention programs, sometimes without much firm evidence that they have a significant impact on morbidity or consideration of what they should actually provide.

Sherrington et al. (2009) set out to define what features of exercise should be included in a program to prevent falls in older people through a meta-analysis of 44 randomised control trials of differing programs. The authors conclude that overall exercise programs are effective. However, “high-challenge” balance training and a “dose” of exercise of over 50 hours increased the treatment effect by 21% and 29% respectively. Counter-intuitively, including walking in the program reduced the treatment effect by 31%. Masoodi (2009) commenting upon this paper draws attention to an earlier meta-analysis of falls prevention interventions in which multi-factorial risk assessment and subsequent modification is highly effective in reducing falls in all environments (Gillespie et al. 2003) and argues that this should be the work of the “Falls Clinic”.

Hill et al. (2008) report the work of 13 outpatient falls clinics in Australia. 450 people were referred to these clinics, all of whom had a high risk of falls. 78% had a fall in the previous 6 months; 63% were multiple fallers, and 10% had sustained fractures. An average of 7.6+/-2.8 risk factors were identified per client and the clinical team organized an average of 5.7+/-2.3 interventions. At 6 months 61% returned to the clinic and a reduction of 50% in falls was recorded. The average adherence to the recommendations was 74.5%. Good adherence was predicted by younger male patients, those co-habiting with others and the presence of a career. The reader will have noticed that these are almost the direct opposite of the individuals at high risk of falling identified in the earlier studies. 39% did not return to the clinic for follow-up. The authors suggest that this group were those at highest risk of falling. Understandably the authors are very positive about their results but also candid about the limitations of their study.

This study raises the familiar problem that interventions are often not taken up by those who need them most, so identifying potential fallers and engaging those most likely to fall is of prime importance to a successful outcome. A wide variety of falls prediction tools have been developed over the years usually built around the two major risk issues, ageing and a previous history of falls. Recent offerings in this area include Russell et al. (2009) who developed the delightfully named FROP-Com, Falls Risk for Older People in the Community

screening tool, intended for people who had attended the emergency department following a fall. These patients were followed up for a further 12 months. The items significantly predictive of further falls and combined to form the FROP-Com screen include falls in the previous 12 months, observation of the person’s balance and the need for assistance to perform domestic ADLs. It is perhaps unsurprising that the screening worked well given the high prevalence of falls already in the population and this being one of the components thought to be predictive. The more archly named CAREFALL Triage Instrument (CTI) (Boele van Hensbroek et al. 2009) identifies medication, balance and mobility, fear of falling, orthostatic hypotension, mood, high risk of osteoporosis, impaired vision, and urinary incontinence as important future predictors of falls in those who had already fallen and attended hospital as an emergency.

The theme of ADL assessment in the prediction of falls is echoed in the work of Okamura and colleagues (2009) who explored a new scoring system for these activities with a group of elderly, community dwelling Japanese. In the follow-up study, every one-point decrease in total score was significantly associated with a 39% elevated risk of a stumble or fall ($P = 0.022$). This simple process of scoring ADL function in some detail is attractive to underwriting Long Term Care (LTC) insurance as it appears relatively easy to get useful information without great expense. Even easier is the approach proposed by Wagner and her co-workers (2009) which was to “simply ask them about their balance”. Undertaking computer-assisted telephone interviews amongst 24,598 Swedish twins age 55 or older found 12% reported impaired balance. Twin pairs who were discordant for their reports on balance were analysed. The Odds Ratio (OR) for sustaining a fall due to impaired balance and resulting in a hip fracture was 3.1 (95% CI 1.62, 6.05) compared to their co-twin with normal balance. When previously recognised risk factors for osteoporotic fracture were included in the analysis, the OR increased to 3.88 (95% CI 1.49, 10.72). This study demonstrates the importance of gathering information relevant to LTC at underwriting stage which can be highly predictive of future problems.

Information gathered to underwrite LTC applications rarely reveals detail about the environment in which a person is living. But the study by Iwarsson et al. (2009) explored the importance of the relationship between the person and their environment in the prediction of future falls. Although future fallers were frailer than non-fallers, poor “person—environment fit” was a strong predictor of falls (OR = 1.025; $P=0.037$). The number of “barriers” in the home was similar for fallers and non-fallers, but the fallers found their homes less “useable”.

This study once again highlights the issue that many people do little to change their environment or themselves in response to falls or a risk of falling as they age. Falls are under-reported and under-recorded in medical notes, and interventions vary greatly when they do take place.

Falls and fear of falling represent significantly increased risks for claim in the LTC market. The assessment of risk may not be very complex but must be specifically attended to in ways that traditional evidence gathering practices perhaps do not serve well.

Further reading

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