



## Welcome

This issue features a report on Falls Prevention in NSW and the current status of NSW Falls Prevention Program initiatives against the 9 action areas in the new Policy Directive PD2011\_029 *Prevention of Falls and Harm from Falls among Older People 2011-2015*. There is also a report on CAREX - Aged Care Expo, 2011.

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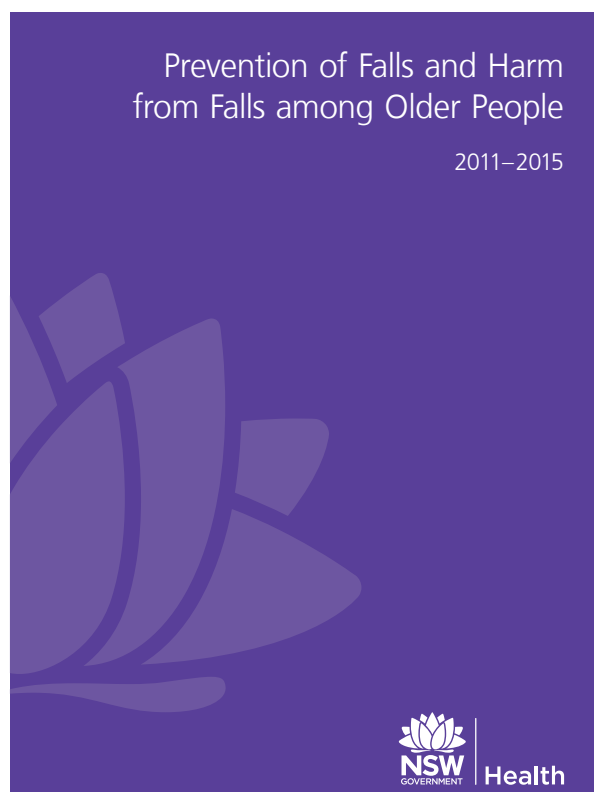
<http://fallsnetwork.neura.edu.au/>

## Carex 2011



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## Falls Prevention in NSW



New Falls Plan, Policy Directive: PD 029-2011.

*Prevention of Falls and Harm from Falls among Older People 2011 – 2015.*

[http://www.health.nsw.gov.au/policies/pd/2011/pdf/PD2011\\_029](http://www.health.nsw.gov.au/policies/pd/2011/pdf/PD2011_029)

The new Falls Plan was announced by Mrs Jillian Skinner MP, Minister for Health, and Minister for Medical on 27th May 2011. Since then there has been a further announcement of the future arrangements for governance structures for NSW Health. At this time processes are in place to establish the new framework for NSW Health. This is a good time to provide you with a state-wide summary of the activities of the NSW Falls Program across the state to date.

This summary provides a brief overview on the current status of initiatives that have been developed and implemented across health services. This program work has been supported by Falls Co-ordinators, (in each of the former Area Health Services), the Clinical Excellence Commission, the NSW Falls Prevention Network and the Centre for Health Advancement, NSW Department of Health. None of this would have been possible without the commitment provided by health staff in working with us to improve the care of older people at risk of a fall. The summary of activity is against the new 9 action areas of the new Falls Plan.

Detailed summaries from each of the former Area Health Services will be available on the NSW Falls Prevention Network website at: <http://fallsnetwork.neura.edu.au/news/index.php#latest>

SUMMARY NSW FALLS PREVENTION PROGRAM - SEPTEMBER 2011		
Area No	Action Area	Current Status
1	Provide or arrange for screening, assessment and management of falls risk factors among older people presenting to NSW Health services following a fall, or at high risk of falls in accordance with best practice guidelines	<ul style="list-style-type: none"> <li>• Implementation of Falls Prevention and Management Policy PD 2005-2007 across Area Health Services since 2006 and now implementation of PD 029-2011 <i>Prevention and of Falls and Harm from Falls among Older People 2011-2015.</i></li> <li>• Established Area -wide Governance structure: Area Falls Management Committees to support implementation of the Falls Plan. These are currently under review in line with the new structures.</li> <li>• Established Falls Prevention Community Working Groups to support implementation of falls plan. These are currently under review in line with the new structures.</li> <li>• Australian Commission on Safety and Quality in Health Care (ACSQHC) Falls Prevention 2009 Best Practice Guidelines disseminated to acute/subacute, community health services, residential aged care including MPSs, Ambulance NSW.</li> <li>• Developed falls prevention best-practice Community Guidelines for health and community services.</li> <li>• Validated Falls Risk Screening tools (eg Ontario Modified Stratify Sydney Scoring) incorporated into comprehensive nurse admission forms/or as component of admission documentation.</li> <li>• Validated Falls Risk screening tool - Ontario Modified Stratify, Sydney Scoring incorporated into ED First Net.</li> <li>• Introduced validated Falls Risk screening tools for the community eg QuickScreen®</li> <li>• Specific Staff training packages developed for health services including QuickScreen® on line training.</li> <li>• Annual April Falls Day® Falls Prevention-awareness raising activities for health services – April Falls Day® identified in the NSW Health Calendar.</li> </ul>

SUMMARY NSW FALLS PREVENTION PROGRAM - SEPTEMBER 2011		
Area No	Action Area	Current Status
2	Minimise the risk of falls occurring within NSW Health facilities and minimise the risk of injury should a fall occur, by implementing the recommendations from best practice guidelines on falls prevention	<ul style="list-style-type: none"> <li>Established Area Falls Prevention Working Groups: Acute/subacute to support development of strategies and implementation. These are currently under review in line with the new structures.</li> <li>ACSQHC Falls Prevention 2009 Best Practice Guidelines disseminated to acute and subacute facilities across health services.</li> <li>Development of one page summary 2005 falls prevention best-practice key messages and loaded to CEC website. Revised in 2010 from the 2009 falls prevention best-practice guidelines.</li> <li>Development of Post Fall &amp; Assessment and Management Guideline (revised Sep 2009) distributed across the state. This has been reviewed in 2011 and in draft format for piloting.</li> <li>Acute/Subacute Hospital Guideline (Policy Directive/ Policy Compliance Procedure) developed and updated for Health Services. Standardised falls prevention risk protocol, stickers, brochures and signs used for all screened patients.</li> <li>Staff orientation and education packages around best practice guidelines and use of CEC Education DVD case scenario modules.</li> <li>Falls Prevention included in some health services Mandatory training.</li> <li>Review and reporting of patient falls data – adverse incident reporting in IMMS and investigation of serious patient falls injury incidents.</li> <li>Presentations at conferences on falls best-practice in hospitals.</li> </ul>
3	Implement best practice in management of falls risk for older people residing in NSW Health residential aged care services (such as multi-purpose services)	<ul style="list-style-type: none"> <li>ACSQHC 2009 Falls Prevention Best Practice Guidelines 2009 disseminated to NSW Health Facilities and NFP and Private RACFs.</li> <li>Partnerships established with some Residential Aged Care facilities to deliver falls prevention programs.</li> <li>Representative from RACF on AHS Falls Prevention Management Committee.</li> <li>Presentations at conferences on falls best-practice in Residential Aged Care.</li> </ul>

SUMMARY NSW FALLS PREVENTION PROGRAM - SEPTEMBER 2011		
Area No	Action Area	Current Status
4	Support provision of appropriate exercise programs for older people at risk of falls and promote uptake of these programs	<ul style="list-style-type: none"> <li>Promotion of appropriate exercise programs at educational presentations to service providers and older people in the community.</li> <li>Development of a falls prevention physical activity web-based resource directory <i>Active and Healthy</i>: <a href="http://www.activeandhealthy.com.au">www.activeandhealthy.com.au</a>.</li> <li>Promotion of <i>Active and Healthy</i> website and encouraging public and private providers to list appropriate programs on the website.</li> <li>Supporting the implementation of the <i>Stepping On</i> programs across the State.</li> <li>Providing training and network of Tai Chi leaders and community exercise leaders.</li> <li>Supporting provision of local community falls prevention exercise programs (eg SHARE, Active Over 50's, CHEGS).</li> <li>Professional development of fitness leaders in some LHDs.</li> </ul>
5	Provide older people and their families and carers with information about action they can take to reduce the risk of falls and injury from falls	<ul style="list-style-type: none"> <li>Development of consumer resource: <i>Staying Active and on your feet</i> booklet and promotion to clinicians for older people (families and carers) at discharge from hospital and within community setting</li> <li>Promotion of <i>Active and Healthy</i> website.</li> <li>Development, co-ordination and implementation of April Falls Day® activities to increase awareness of falls risk and prevention among older people and their families/carers.</li> <li>Consumer information brochures and fridge magnets developed.</li> <li>Community Falls Prevention forums conducted in some LHDs.</li> </ul>
6	Support healthy, active ageing by continuing support for healthy lifestyles and for effective management of chronic disease	<ul style="list-style-type: none"> <li>Promotion of healthy and active ageing with Health Promotion programs.</li> <li>Working with service providers and local government to develop avenues to disseminate healthy and active ageing for older people living in the community.</li> <li>Supporting social marketing programs promoting active and healthy living in retirement villages and the community.</li> </ul>

SUMMARY NSW FALLS PREVENTION PROGRAM - SEPTEMBER 2011		
Area No	Action Area	Current Status
7	Consider and respond to specific information and service needs of special groups within the population	<ul style="list-style-type: none"> <li>Developed specific Falls Prevention Health Promotion Programs targeting CALD populations</li> <li>Stepping On programs conducted for some CALD languages such as Cantonese, Mandarin, Greek, Vietnamese, Italian and Macedonian</li> <li>Working with Multicultural Health to develop and maintain CALD Falls Prevention Resources</li> <li>Liaising with Aboriginal Health, Multicultural Health and Specialist Mental Health Services for Older People (SMHSOP) around falls prevention initiatives</li> </ul>
8	Identify opportunities to promote best practice in falls prevention within external organisations and external providers of health and aged care	<ul style="list-style-type: none"> <li>ACSQHC 2009 Falls Prevention Best Practice Guidelines disseminated to many private facilities, private community care providers and residential care facilities</li> <li>Contacts made with GP Networks</li> <li>Facilitation of April Falls Day<sup>®</sup> activities for local government and private providers</li> <li>Information and resources for Home and Community Care Providers (HACC) providers</li> <li>Working with Ambulance NSW in establishing the Enhanced Paramedic Program and falls prevention training.</li> <li>Presentations at conferences on falls best-practice and promotion of resources</li> </ul>
9	Support the conduct and dissemination of research to advance falls prevention policy and practice	<ul style="list-style-type: none"> <li>NSW Falls Prevention Network provides website and list service for members providing information, resources and falls research evidence.</li> <li>Encourage staff to join the NSW Falls Prevention Network and attend Meetings or videoconferences</li> <li>Conduct Falls Prevention Annual Meetings for the dissemination of falls research and good practice.</li> <li>Conduct annual Falls Prevention Rural Telehealth forums for staff in isolated health facilities.</li> <li>Circulate falls prevention information through health service intranet or internal website</li> <li>Run local LHD Falls Forums</li> <li>Collaborative research projects with Falls Researchers</li> <li>Working with Ambulance NSW in analyzing their calls for a fall in the community.</li> </ul>



## CAREX 2011

### Background

CAREX is an expo of products, services, programs and initiatives for acute, residential, retirement or disability care organisations providers to older people, and was held at Rosehill Racecourse on the 10th and 11th August, 2011. Entry to CAREX for attendees is free. The Falls Network had been invited to have a stall (for a small fee) at the last four CAREX expos and this was our fifth.

### Attendance

This year there was a range of professionals attending including: Directors of Nursing (DON), nurses, physiotherapists, exercise physiologists and occupational therapists, dietitians and pharmacist from the aged care.

Staff from community care and hospital sectors also attended as well as Local Government Aged Care Services workers, Ageing and Disability and Home Care Injury Managers, Catering Managers from Residential Aged Care. There were also a number of students studying for Certificate III Aged Care or AIN TAFE Courses and their nurse educators. Attendees came mostly from the Sydney area however there were attendees from Bathurst, Griffith, Narromine, Newcastle, ACT, Victoria and Queensland. All attendees we spoke to were aware of the problems of falls and very interested in falls prevention information especially the *ACSQHC 2009 Falls Prevention Best Practice Guidelines*.

We also engaged with members of the Stroke Association, Diversional Therapy Australia, Occupational Therapy Australia, Vision Australia and Guide Dogs NSW and discussed the circulation of information on falls prevention in their respective newsletters.

### Resources

A number of resources were distributed out over the 2 days including: CDs (290) of the *Australian Commission on Safety and Quality in Healthcare (ACSQHC) 2009, Preventing Falls and Harm From Falls in Older People: Best Practice Guidelines for Australian Hospitals, Residential Aged Care Facilities and Community Care*, fact sheets from the Guidelines relevant to Residential Aged Care and CD s of key expert presentations to support these guidelines.

Other resources distributed included copies of *Staying Active and on your feet* booklet (200 copies) as well as information on the NSW Falls Prevention Network, *Active and Healthy* website, QuickScreen® Falls Risk assessment tool, Basic Steps an exercise resource developed for Residential Aged Care and CDs of presentations from the NSW Falls Network Forum held in May 2011.



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## RECENT ABSTRACTS FROM THE RESEARCH LITERATURE

### REVIEWS

#### **The Effect of Vitamin D on Falls: A Systematic Review and Meta-Analysis.**

Murad MH, Elamin KB, Abu Elnour NO, Elamin MB, Alkatib AA, Fatourehchi MM, Almandoz JP, Mullan RJ, Lane MA, Liu H, Erwin PJ, Hensrud DD, Montori VM.

*J. Clin. Endocrinol. Metab.* 2011; ePub(ePub): ePub. Affiliation: Knowledge and Encounter Research Unit (M.H.M., N.O.A.E., M.B.E., A.A.A., M.M.F., J.P.A., R.J.M., M.A.L., P.J.E., V.M.M.), and Division of Preventive, Occupational, and Aerospace Medicine (M.H.M., D.D.H.), Mayo Clinic, Rochester, Minnesota 55905; Department of Medicine (K.B.E.), Case Western Reserve University, Metrohealth Medical Center, Cleveland, Ohio 44109; Division of Endocrinology, Diabetes, Metabolism, and Nutrition (V.M.M.), Mayo Clinic, Rochester, Minnesota 55905; and Division of Endocrinology and Metabolism (H.L.), Santa Clara Valley Medical Center, San Jose, California 95128. DOI: 10.1210/jc.2011-1193 PMID: 21795448 (Copyright © 2011, Endocrine Society).

#### **ABSTRACT**

**Context:** Vitamin D affects bone and muscle health and likely reduces the risk of falls in the elderly.

**Objective:** The aim of this systematic review is to summarize the existing evidence on vitamin D use and the risk of falls.

**Data Sources:** We searched electronic databases from inception through August 2010. **Study Selection:** Eligible studies were randomized controlled trials in which the intervention was vitamin D and the incidence of falls was reported.

**Data Extraction:** Reviewers working in duplicate and independently extracted study characteristics, quality, and outcomes data. **Data Synthesis:** Odds ratio and associated 95% confidence interval were estimated from each study and pooled using the random effects model.

**Results:** We found 26 eligible trials of moderate quality that enrolled 45,782 participants, the majority of which were elderly and female. Vitamin D use was associated with statistically significant reduction in the risk of falls (odds ratio for suffering at least one fall, 0.86; 95% confidence interval, 0.77-0.96). This effect was more prominent in patients who were vitamin D deficient at baseline and in studies in which calcium was coadministered with vitamin D. The quality of evidence was low to moderate because of heterogeneity and publication bias.

**Conclusions:** Vitamin D combined with calcium reduces the risk of falls. The reduction in studies without calcium coadministration did not reach statistical significance. The majority of the evidence is derived from trials enrolling elderly women.

#### **Management of person with dementia with aggressive and violent behaviour: A systematic literature review.**

Enmarker I, Olsen R, Hellzen O.

*Int. J. Older People Nurs.* 2011; 6(2): 153-162. Affiliation: Associate Professor, Faculty of Health Science, Nord-Trøndelag University College, Namsos, Norway and Faculty of Health and Occupational Studies, University of Gävle, Gävle, Sweden PhD Student, Faculty of Health Science, Nord-Trøndelag University College, Namsos, Norway Professor, Faculty of Health Science, Nord-Trøndelag University College, Namsos, Norway. DOI: 10.1111/j.1748-3743.2010.00235.x PMID: 21539720 (Copyright © 2011, John Wiley and Sons).

#### **ABSTRACT**

**Aim:** Studies indicate that physical and pharmacological restraints are still often in the frontline of aggression management in a large number of nursing homes. In the present literature review the aim was to describe, from a nursing perspective, aggressive and violent behaviour in people with dementia living in



nursing home units and to find alternative approaches to the management of dementia related aggression as a substitute to physical and chemical restraints.

**Methods:** A systematic literature review in three phases, including a content analysis of 21 articles published between 1999 and August 2009 has been conducted.

**Results:** The results could be summarised in two themes: 'origins that may trigger violence' and 'activities that decrease the amount of violent behaviour'. Together, the themes showed that violence was a phenomenon that could be described as being connected to a premorbid personality and often related to the residents' personal care. It was found that if the origin of violent actions was the residents' pain, it was possible to minimise it through nursing activities. This review also indicated that an organisation in special care units for residents who exhibit aggressive and violent behaviour led to the lesser use of mechanical restraints, but also an increased use of non-mechanical techniques.

**Conclusion:** The optimal management of aggressive and violent actions from residents with dementia living in nursing homes was a person-centred approach to the resident. Qualitative studies focusing on violence were sparsely found, and this underlines the importance of further research in this area to elucidate how violence and aggressiveness is experienced and understood by both staff and patients. Relevance to clinical practice: To communicate with people with dementia provides a challenge for nurses and other health caregivers. To satisfy the needs of good nursing care, an important aspect is therefore to get knowledge and understanding about aggressive and violent behaviour and its management.

### **Older people's participation in and engagement with falls prevention interventions in community settings: An augment to the Cochrane systematic review.**

Nyman SR, Victor CR.

*Age Ageing* 2011; ePub(ePub): ePub. Affiliation: School of Health and Social Care, University of Reading, Reading, Berkshire, UK. DOI: 10.1093/ageing/afr103 PMID: 21875865 (Copyright © 2011, Oxford University Press)

#### **ABSTRACT**

**Background:** Randomized controlled trials (RCTs) of fall prevention conducted in community settings have recently been systematically reviewed.

**Objective:** to augment this review by analysing older people's participation in the trials and engagement with the interventions.

**Design:** review of the 99 single and multifactorial RCTs included in the Cochrane systematic review of falls prevention interventions. Setting: community. Participants: adults aged 60+/mean age minus one standard deviation of 60+.

**Methods:** calculated aggregate data on recruitment (proportion who accepted the invitation to participate), attrition at 12 month follow-up (loss of participants), adherence (to intervention protocol) and whether adherence moderated the effect of interventions on trial outcomes.

**Results:** the median recruitment rate was 70.7% (64.2-81.7%, n = 78). At 12 months the median attrition rate including mortality was 10.9% (9.1-16.0%, n = 44). Adherence rates (n = 69) were ≥80% for vitamin D/calcium supplementation; ≥70% for walking and class-based exercise; 52% for individually targeted exercise; approximately 60-70% for fluid/nutrition therapy and interventions to increase knowledge; 58-59% for home modifications; but there was no improvement for medication review/withdrawal of certain drugs. Adherence to multifactorial interventions was generally ≥75% but ranged 28-95% for individual components. The 13 studies that tested for whether adherence moderated treatment effectiveness produced mixed results.

**Conclusions:** using median rates for recruitment (70%), attrition (10%) and adherence (80%), we estimate that, at 12 months, on average half of community-dwelling older people are likely to be adhering to falls prevention interventions in clinical trials.

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## EPIDEMIOLOGY AND RISK FACTORS

### **Predictive values at risk of falling in physically active and no active elderly with Berg Balance Scale.**

Santos GM, Souza AC, Virtuoso JF, Tavares GM, Mazo GZ.

*Rev. Bras. Fisioter.* 2011; 15(2): 95-101. Affiliation: Physical Therapy Department, Universidade do Estado de Santa Catarina, Florianopolis, SC, Brazil

DOI: unavailable PMID: 21789358 (Copyright © 2011, Departamento de Fisioterapia da Universidade Federal de São Carlos)

#### **ABSTRACT**

**BACKGROUND:** The consequences of falls are a major cause of autonomy and independence loss among the elderly. In this context, the Berg Balance Scale (BBS) has been widely used to detect the risk of falls in elderly.

**OBJECTIVE:** To evaluate the predictive value of the BBS for fall risk in physically active and inactive elderly subjects. **METHODS:** The sample included 188 older adults with a mean age of 66 ( $\pm 9$ ) years. Of these, 91 participated in a regular physical activity program and 96 did not. We analyzed the cut-off scores of 45, 47, 49, 51 and 53 in both groups regarding the sensitivity (S), specificity (Sp), positive predictive value (PPV) and negative predictive value (NPV) of the test, including the positive likelihood ratio (PLR) and negative likelihood ratio (RVN) for diagnosing the risk of falls.

**RESULTS:** The mean BBS score was 54.7 in physically active subjects and 50.8 in inactive subjects, which was statistically significant ( $p=0.001$ ). The best cut-off was a score of 49 for physically inactive subjects, with a sensitivity of 91% and a specificity of 92%. On the other hand, the BBS had low sensitivity (from 0 to 15%) and high specificity (between 83% and 100%) for physically active subjects at the cut-off points analyzed. **CONCLUSION:** The scale did not achieve sufficient sensitivity to individual differences among physically active older people with higher levels of functional balance ability.

### **Falls in multiple sclerosis.**

Matsuda PN, Shumway-Cook A, Bamer AM, Johnson SL, Amtmann D, Kraft GH.

*PMR* 2011; 3(7): 624-632. Affiliation: Department of Rehabilitation Medicine, Division of Physical Therapy, University of Washington, 1959 NE Pacific St, Box 356490, Seattle, WA 98195(☒). DOI: 10.1016/j.pmrj.2011.04.015 PMID: 21777861 (Copyright © 2011, Elsevier Publishing).

#### **ABSTRACT**

**OBJECTIVE:** To examine incidence, associated factors, and health care provider (HCP) response to falls in persons with multiple sclerosis (MS).

**DESIGN:** Cross-sectional retrospective design.

**SETTING:** Community setting.

**PARTICIPANTS:** Four hundred seventy-four persons with MS.

**METHODS:** Mailed survey questionnaire examined incidence, risk factors, and HCP response to falls in persons with MS who were dwelling in the community. Univariate and multiple ordinal regression analysis identified variables associated with single and multiple falls.

**MAIN OUTCOME MEASUREMENTS:** Falls, causes and perceived reasons for falls, and HCP response.

**RESULTS:** A total of 265 participants (58.2%) reported one or more falls in the previous 6 months, and 58.5% of falls were medically injurious. Trips/slips while walking accounted for 48% of falls. Factors associated with falls included use of a cane or walker (odds ratio [OR] 2.62; 95% confidence interval [CI] 1.66-4.14), income <\$25,000 (OR 1.85; 95% CI 1.13-3.04), balance problems (OR 1.28; 95% CI 1.11-1.49), and leg weakness (OR

1.26; 95% CI 1.09-1.46). Fifty-one percent of those who fell (135/265) reported speaking to an HCP about their falls; recommended strategies included safety strategies (53.2%), use of gait assistive devices (42.1%), exercise/balance training (22.2%), and home modifications (16.6%). **CONCLUSIONS:** Factors associated with falls in persons with MS are similar to those in other populations with neurologic diseases. Despite the high incidence of falls, fewer than 50% of people with MS receive information about prevention of falls from an HCP.

### **The incidence of falls in intensive care survivors.**

Patman SM, Dennis D, Hill K.

*Aust. Crit. Care* 2011; ePub(ePub): ePub. Affiliation: School of Physiotherapy and Institute for Health and Rehabilitation Research, University of Notre Dame Australia, Fremantle, Western Australia, Australia. DOI: 10.1016/j.aucc.2011.06.001 PMID: 21783378 (Copyright © 2011, Elsevier Publishing).

#### **ABSTRACT**

**BACKGROUND:** Falling among adults in acute care is an important problem with falls rates in tertiary hospitals ranging from 2% to 5%. Factors that increase the risk of falling, such as advanced age, altered mental status, medications that act on the central nervous system and poor mobility, often characterise individuals who survive a prolonged intensive care unit (ICU) admission.

**PURPOSE:** To measure the incidence of falls and describe the characteristics of fallers among intensive care survivors.

**METHODS:** A comprehensive retrospective chart review was undertaken of 190 adults who were intubated and ventilated for  $\geq 168$ h and survived their acute care stay. Using a standardised form, several variables were extracted including falls during hospitalisation and risk factors such as age, severity of illness, and length of stay in intensive care and hospital.

**FINDINGS:** Thirty-two (17%, 95% confidence interval 11.5-22.2%) patients fell at least once on the in-patient wards following their ICU stay. Compared with non-fallers, fallers were younger ( $53.2 \pm 17.9$  vs.  $44.1 \pm 18.3$  years;  $p=0.009$ ) and had a shorter duration of inotropic support in ICU ( $84 \pm 112$  vs.  $56 \pm 100$ h;  $p=0.040$ ). The majority of fallers were aged less than 65 years (84%). Both fallers and non-fallers had similar APACHE II scores ( $20 \pm 8$  vs.  $21 \pm 7$ ;  $p=0.673$ ), length of stay in intensive care ( $14.2 \pm 8.7$  vs.  $14.0 \pm 9.7$  days;  $p=0.667$ ) and hospital length of stay ( $43.9 \pm 33.1$  vs.  $41.0 \pm 38.8$  days;  $p=0.533$ ).

**CONCLUSION:** Falling during hospitalisation is common in intensive care survivors. Compared with non-fallers, fallers were younger and required inotropes for a shorter duration. Those who survive a prolonged admission to an ICU may benefit from specific assessment of balance and falls risk by the multidisciplinary team.

### **A study of the safety and harms of antidepressant drugs for older people: a cohort study using a large primary care database.**

Coupland C, Dhiman P, Barton G, Morriss R, Arthur A, Sach T, Hippisley-Cox J.

*Health Technol. Assess.* 2011; 15(28): 1-202. Affiliation: Division of Primary Care, University of Nottingham, Nottingham, UK. DOI: 10.3310/hta15280 PMID: 21810375 (Copyright © 2011, National Co-ordinating Centre for Health Technology Assessment (UK)).

#### **ABSTRACT**

**OBJECTIVES:** The aim of this study was to establish the relative safety and balance of risks for antidepressant treatment in older people. The study objectives were to (1) determine relative and absolute risks of predefined adverse events in older people with depression, comparing classes of antidepressant drugs [tricyclic and related antidepressants (TCAs), selective serotonin reuptake inhibitors (SSRIs), monoamine oxidase inhibitors (MAOIs) and other antidepressants] and commonly prescribed individual drugs with non-use of antidepressant drugs; (2) directly compare the risk of adverse events for SSRIs with TCAs; (3) determine associations with dose and duration of antidepressant medication; (4) describe

patterns of antidepressant use in older people with depression; and (5) estimate costs of antidepressant medication and primary care visits.

**DESIGN:** A cohort study of patients aged 65 years and over diagnosed with depression.

**SETTING:** The study was based in 570 general practices in the UK supplying data to the QResearch database.

**PARTICIPANTS:** Patients diagnosed with a new episode of depression between the ages of 65 and 100 years, from 1 January 1996 to 31 December 2007. Participants were followed up until 31 December 2008.

**INTERVENTIONS:** The exposure of interest was treatment with antidepressant medication. Antidepressant drugs were grouped into the major classes and commonly prescribed individual drugs were identified.

**MAIN OUTCOME MEASURES:** There were 13 predefined outcome measures: all-cause mortality, sudden cardiac death, suicide, attempted suicide/self-harm, myocardial infarction, stroke/transient ischaemic attack (TIA), falls, fractures, upper gastrointestinal bleeding, epilepsy/seizures, road traffic accidents, adverse drug reactions and hyponatraemia.

**RESULTS:** In total, 60,746 patients were included in the study cohort. Of these, 54,038 (89.0%) received at least one prescription for an antidepressant during follow-up. The associations with the adverse outcomes were significantly different between the classes of antidepressant drugs for seven outcomes. SSRIs were associated with the highest adjusted hazard ratios (HRs) for falls [1.66, 95% confidence interval (CI) 1.58 to 1.73] and hyponatraemia (1.52, 95% CI 1.33 to 1.75), and the group of other antidepressants was associated with the highest HRs for all-cause mortality (1.66, 95% CI 1.56 to 1.77), attempted suicide/self-harm (5.16, 95% CI 3.90 to 6.83), stroke/TIA (1.37, 95% CI 1.22 to 1.55), fracture (1.63, 95% CI 1.45 to 1.83) and epilepsy/seizures (2.24, 95% CI 1.60 to 3.15) compared with when antidepressants were not being used. TCAs did not have the highest HR for any of the outcomes. There were also significantly different associations between the individual drugs for seven outcomes, with trazodone, mirtazapine and venlafaxine associated with the highest rates for several of these outcomes. The mean incremental cost (for all antidepressant prescriptions) ranged between £51.58 (amitriptyline) and £641.18 (venlafaxine) over the 5-year post-diagnosis period.

**CONCLUSIONS:** This study found associations between use of antidepressant drugs and a number of adverse events in older people. There was no evidence that SSRIs or drugs in the group of other antidepressants were associated with a reduced risk of any of the adverse outcomes compared with TCAs; however, they may be associated with an increased risk for certain outcomes. Among individual drugs trazodone, mirtazapine and venlafaxine were associated with the highest rates for some outcomes. Indication bias and residual confounding may explain some of the study findings. The risks of prescribing antidepressants need to be weighed against the potential benefits of these drugs.

**FUNDING:** The National Institute for Health Research Health Technology Assessment programme.

### **Increase in Fall-Related Hospitalizations in the United States, 2001-2008.**

Hartholt KA, Stevens JA, Polinder S, van der Cammen TJ, Patka P.

*J. Trauma* 2011; 71(1): 255-258. Affiliation: Department of Surgery-Traumatology (K.A.H., P.P.), Erasmus MC, University Medical Center Rotterdam, Rotterdam, The Netherlands; Section of Geriatric Medicine (K.A.H., T.J.M.C.v.D.C.), Department of Internal Medicine, Erasmus MC, University Medical Center Rotterdam, Rotterdam, The Netherlands; National Center for Injury Prevention & Control (J.A.S.), Centers for Disease Control & Prevention, Atlanta, Georgia; and Department of Public Health (S.P.), Erasmus MC, University Medical Center Rotterdam, Rotterdam, The Netherlands. DOI: 10.1097/TA.0b013e31821c36e7 PMID: 21818033 (Copyright © 2011, Lippincott Williams and Wilkins).

### **ABSTRACT**

**BACKGROUND:** The objective was to determine secular trends in unintentional fall-related hospitalizations in people aged 65 years and older in the United States.

**MATERIALS:** Data were obtained from a nationally representative sample of emergency department visits from January 1, 2001, to December 31, 2008, available through the National Electronic Injury Surveillance System-All Injury Program. These data were weighted to estimate the number, incidence rates, and the annual percent change of fall-related hospitalizations.

**RESULTS:** From 2001 to 2008, the estimated number of fall-related hospitalizations in older adults increased 50%, from 373,128 to 559,355 cases. During the same time period, the age-adjusted incidence rate, expressed per 100,000 population, increased from 1,046 to 1,368. Rates were higher in women compared with men throughout the study period. The age-adjusted incidence rate showed an average annual increase of 3.3% (95% CI, 1.66-4.95).

**DISCUSSION:** Both the number and rate of fall-related hospitalizations in the United States increased significantly over the 8-year study period. Unless preventive action is taken, rising hospitalization rates in combination with the aging US population over the next decades will exacerbate the already stressed healthcare system and may result in poorer health outcomes for older adults in the future. Further research is needed to determine the underlying causes for this rising trend.

### **Epidemiology of Falls in Residential Aged Care: Analysis of More Than 70,000 Falls From Residents of Bavarian Nursing Homes.**

Rapp K, Becker C, Cameron ID, König HH, Büchele G.

J. Am. Med. Dir. Assoc. 2011; ePub(ePub): ePub. Affiliation: Department of Clinical Gerontology, Robert-Bosch-Hospital, Stuttgart, Germany; Institute of Epidemiology and Medical Biometrie, Ulm University, Ulm, Germany. DOI: 10.1016/j.jamda.2011.06.011 PMID: 21816682 (Copyright © 2011, Lippincott Williams and Wilkins).

#### **ABSTRACT**

**OBJECTIVE:** Falls and fall-related injuries are leading problems in residential aged care facilities. The objective of this study was to provide descriptive data about falls in nursing homes. **DESIGN/SETTING/ PARTICIPANTS:** Prospective recording of all falls over 1 year covering all residents from 528 nursing homes in Bavaria, Germany.

**MEASUREMENTS:** Falls were reported on a standardized form that included a facility identification code, date, time of the day, sex, age, degree of care need, location of the fall, and activity leading to the fall. Data detailing homes' bed capacities and occupancy levels were used to estimate total person-years under exposure and to calculate fall rates. All analyses were stratified by residents' degree of care need.

**RESULTS:** More than 70,000 falls were recorded during 42,843 person-years. The fall rate was higher in men than in women (2.18 and 1.49 falls per person-year, respectively). Fall risk differed by degree of care need with lower fall risks both in the least and highest care categories. About 75% of all falls occurred in the residents' rooms or in the bathrooms and only 22% were reported within the common areas. Transfers and walking were responsible for 41% and 36% of all falls respectively. Fall risk varied during the day. Most falls were observed between 10 am and midday and between 2 pm and 8 pm.

**CONCLUSION:** The differing fall risk patterns in specific subgroups may help to target preventive measures.

### **Patterns of comorbidity in community-dwelling older people hospitalised for fall-related injury: A cluster analysis.**

Vu T, Finch CF, Day L.

*BMC Geriatr.* 2011; 11(1): 45. DOI: 10.1186/1471-2318-11-45 PMID: 21851627 (Copyright © 2011, BioMed Central).

#### **ABSTRACT**

**BACKGROUND:** Community-dwelling older people aged 65+ years sustain falls frequently; these can result in physical injuries necessitating medical attention including emergency department care and hospitalisation.



Certain health conditions and impairments have been shown to contribute independently to the risk of falling or experiencing a fall injury, suggesting that individuals with these conditions or impairments should be the focus of falls prevention. Since older people commonly have multiple conditions/impairments, knowledge about which conditions/impairments coexist in at-risk individuals would be valuable in the implementation of a targeted prevention approach. The objective of this study was therefore to examine the prevalence and patterns of comorbidity in this population group.

**METHODS:** We analysed hospitalisation data from Victoria, Australia's second most populous state, to estimate the prevalence of comorbidity in patients hospitalised at least once between 2005-6 and 2007-8 for treatment of acute fall-related injuries. In patients with two or more comorbid conditions (multicomorbidity) we used an agglomerative hierarchical clustering method to cluster comorbidity variables and identify constellations of conditions.

**RESULTS:** More than one in four patients had at least one comorbid condition and among patients with comorbidity one in three had multicomorbidity (range 2-7). The prevalence of comorbidity varied by gender, age group, ethnicity and injury type; it was also associated with a significant increase in the average cumulative length of stay per patient. The cluster analysis identified five distinct, biologically plausible clusters of comorbidity: cardiopulmonary/metabolic, neurological, sensory, stroke and cancer. The cardiopulmonary/metabolic cluster was the largest cluster among the clusters identified.

**CONCLUSIONS:** The consequences of comorbidity clustering in terms of falls and/or injury outcomes of hospitalised patients should be investigated by future studies. Our findings have particular relevance for falls prevention strategies, clinical practice and planning of follow-up services for these patients.

### **Inferior Field Loss Increases Rate of Falls in Older Adults with Glaucoma.**

Black AA, Wood JM, Lovie-Kitchin JE.

*Optom. Vis. Sci.* 2011; ePub(ePub): ePub. Affiliation: School of Optometry and Institute of Health and Biomedical Innovation, Queensland University of Technology, Queensland, Australia. DOI: 10.1097/OPX.0b013e31822f4d6a PMID: 21873923 (Copyright © 2011, Lippincott Williams and Wilkins).

### **ABSTRACT**

**PURPOSE.:** To examine the visual predictors of falls and injurious falls among older adults with glaucoma.

**METHODS.:** Prospective falls data were collected for 71 community-dwelling adults with primary open-angle glaucoma (mean age, 73.9 ± 5.7 years) for 1 year using monthly falls diaries. Baseline assessment of central visual function included high-contrast visual acuity and Pelli-Robson contrast sensitivity. Binocular integrated visual fields were derived from monocular Humphrey Field Analyzer plots. Rate ratios (RR) for falls and injurious falls with 95% confidence intervals (CIs) were based on negative binomial regression models.

**RESULTS.:** During the 1-year follow-up, 31 (44%) participants experienced at least one fall and 22 (31%) experienced falls that resulted in an injury. Greater visual impairment was associated with increased falls rate, independent of age and gender. In a multivariate model, more extensive field loss in the inferior region was associated with higher rate of falls (RR, 1.57; 95% CI, 1.06 to 2.32) and falls with injury (RR, 1.80; 95% CI, 1.12 to 2.98), adjusted for all other vision measures and potential confounding factors. Visual acuity, contrast sensitivity, and superior field loss were not associated with the rate of falls; topical beta-blocker use was also not associated with increased falls risk.

**CONCLUSIONS.:** Falls are common among older adults with glaucoma and occur more frequently in those with greater visual impairment, particularly in the inferior field region. This finding highlights the importance of the inferior visual field region in falls risk and assists in identifying older adults with glaucoma at risk of future falls, for whom potential interventions should be targeted.

**Falls in older adult psychiatric patients: equipping nurses with knowledge to make a difference.**

Stubbs B.

*Journal of Psychiatric & Mental Health Nursing.* 18(5):457-62, 2011 Jun.

**ABSTRACT**

Falls are the most common cause of accidental death among older adults and are associated with increased morbidity and mortality. A particularly serious sequela of falls is osteoporotic fractures. Older adults with mental illness are at increased risk of both falls and subsequent fractures, because of a range of complex risk factors. Many falls are preventable and an awareness of the risk factors for falls among nurses will empower them to promptly refer a patient at risk to the multidisciplinary team. A multidisciplinary approach is required to be successful in any efforts to reduce an individual's risk of falls and nurses have a central role in achieving this. This article reviews the relevant literature on the causes and consequences of falls in older adults with mental illness in order to enable nurses to reduce falls and subsequent fractures.

**FEAR OF FALLING****Effects of new, individually adjusted, progressive balance group training for elderly people with fear of falling and tend to fall: a randomized controlled trial.**

Halvarsson A, Olsson E, Farén E, Pettersson A, Ståhle A.

*Clin. Rehabil.* 2011; ePub(ePub): ePub. Affiliation: Karolinska Institutet, Department of Neurobiology, Health Care Sciences and Society (NVS), Division of Physiotherapy, Huddinge, Sweden. DOI: 10.1177/0269215511411937 PMID: 21849377 (Copyright © 2011, Sage Publications).

**ABSTRACT**

Objective: To evaluate the effects of a new, individually adjusted, progressive and specific balance group training programme on fear of falling, step execution, and gait in healthy elderly people with fear of falling and tend to fall.

Design: Randomized controlled trial.

Setting: The study was conducted in Stockholm County, Sweden.

Subjects: Fifty-nine community dwelling elderly people were recruited by advertisement, and allocated at random to an intervention group (n = 38) or a control group (n = 21). Intervention: Individually adjusted, progressive and specific balance group training was given three times a week for three months. The training incorporated elements included in, and required for, independent activities of daily living, and for reactions to loss of balance during dual or multiple tasks. Main measures: Fear of falling was assessed with Falls Efficacy Scale International (FES-I). The reaction time of step execution was measured with the step-execution test, and gait was measured with GAITRite(®).

Results: After three months the intervention group showed significant positive changes in the FES-I ( $P = 0.008$ ), in the step-execution phase of dual-task performance ( $P = 0.012$ ), and in gait at preferred speed during single-task performance; in cadence ( $P = 0.030$ ) and, at fast speed, in velocity ( $P = 0.004$ ) and cadence ( $P = 0.001$ ). Significant decreases were also found for the likelihood of depression after participating in the training programme.

Conclusion: This new balance training programme is feasible and leads to decreased fear of falling, decreased time for step execution during dual-task performance and increased velocity during fast walking.

**On the nature of fear of falling in Parkinson's disease.**

Rahman S, Griffin HJ, Quinn NP, Jahanshahi M.

*Behav. Neurol.* 2011; 24(3): 219-228. Affiliation: Sobell Department of Motor Neuroscience and Movement Disorders, Institute of Neurology and the National Hospital for Neurology and Neurosurgery, University

College London, Queen Square, WC1N 3BG, London. DOI: 10.3233/BEN-2011-0330 PMID: 21876261 (Copyright © 2011).

#### ABSTRACT

In the elderly, fear of falling (FoF) can lead to activity restriction and affect quality of life (QoL). Our aim was to identify the characteristics of FoF in Parkinson's disease and assess its impact on QoL. We assessed FoF in 130 patients with Parkinson's disease (PD) on scales measuring perceived self-efficacy in performing a range of activities (FES), perceived consequences of falling (CoF), and activity avoidance (SAFFE). A significant difference was found in FoF between PD patients who had previously fallen and those who had not and between frequent and infrequent fallers. Patient-rated disability significantly influenced FoF. Difficulty in rising from a chair, difficulty turning, start hesitation, festination, loss of balance, and shuffling were the specific mobility problems which were associated with greater FoF in PD. Disability was the main predictor of FoF, additionally depression predicted perceived consequences of falling, while anxiety predicted activity avoidance. The FoF measures explained 65% of the variance of QoL in PD, highlighting the clinical importance of FoF. These results have implications for the clinical management of FoF in PD.

#### RISK ASSESSMENT

##### **Relationship between subjective fall risk assessment and falls and fall-related fractures in frail elderly people.**

Shimada H, Suzukawa M, Ishizaki T, Kobayashi K, Kim H, Suzuki T.

*BMC Geriatr.* 2011; 11(1): 40. DOI: 10.1186/1471-2318-11-40 PMID: 21838891 (Copyright © 2011, BioMed Central).

#### ABSTRACT

**BACKGROUND:** Objective measurements can be used to identify people with risks of falls, but many frail elderly adults cannot complete physical performance tests. The study examined the relationship between a subjective risk rating of specific tasks (SRRST) to screen for fall risks and falls and fall-related fractures in frail elderly people.

**METHODS:** The SRRST was investigated in 5,062 individuals aged 65 years or older who were utilized day-care services. The SRRST comprised 7 dichotomous questions to screen for fall risks during movements and behaviours such as walking, transferring, and wandering. The history of falls and fall-related fractures during the previous year was reported by participants or determined from an interview with the participant's family and care staff.

**RESULTS:** All SRRST items showed significant differences between the participants with and without falls and fall-related fractures. In multiple logistic regression analysis adjusted for age, sex, diseases, and behavioural variables, the SRRST score was independently associated with history of falls and fractures. Odds ratios for those in the high-risk SRRST group ([greater than or equal to]5 points) compared with the no risk SRRST group (0 point) were 6.15 ( $p<0.01$ ) for a single fall, 15.04 ( $p<0.01$ ) for recurrent falls, and 5.05 ( $p<0.01$ ) for fall-related fractures. The results remained essentially unchanged in subgroup analysis accounting for locomotion status.

**CONCLUSION:** These results suggest that subjective ratings by care staff can be utilized to determine the risks of falls and fall-related fractures in the frail elderly; however, these preliminary results require confirmation in further prospective research.

##### **A Prospective Evaluation of Balance, Gait, and Strength to Predict Falling in Women With Multiple Sclerosis.**

Kasser SL, Jacobs JV, Foley JT, Cardinal BJ, Maddalozzo GF.

*Arch. Phys. Med. Rehabil.* 2011; ePub(ePub): ePub. Affiliation: Department of Rehabilitation and Movement Science, University of Vermont, Burlington, VT. DOI: 10.1016/j.apmr.2011.06.004 What is this? PMID: 21840497 (Copyright © 2011, Elsevier Publishing)

**ABSTRACT**

**OBJECTIVE:** To identify measures of balance, gait, and strength that predict falls in women with multiple sclerosis (MS).

**DESIGN:** This prospective study followed participants for 1 year.

**SETTING:** University research laboratories.

**PARTICIPANTS:** A convenience sample of women with MS (N=99).

**INTERVENTIONS:** Not applicable.

**MAIN OUTCOME MEASURES:** Balance was assessed with the limits of stability (LOS) test and the Sensory Organization Test. Peak force, torque, and power of knee flexors and extensors as well as hip abductors and adductors were also measured. Temporal-spatial parameters of gait were measured by an instrumented walkway system. For 1 year after baseline assessments, the participants reported their falls. Participants were then classified based on the number of reported falls for use in logistic regression models to predict either people with at least 1 fall or people with at least 2 falls (recurrent fallers). **RESULTS:** A total of 159 falls were reported by 48% of the participants. Expanded Disability Status Scale scores, leaning forward to the LOS, and standing sway within a visually referenced surround significantly predicted people with at least 1 fall as well as recurrent fallers. Stance-phase asymmetries and base-of-support width during gait, as well as the force and power produced during leg extension or flexion additionally predicted recurrent fallers. The models' overall predictive accuracy ranged from 69% to 85%.

**CONCLUSIONS:** This prospective study confirmed the prevalence and multifactorial nature of falls in this MS sample. In addition to advancing disease status, impaired forward LOS and visually dependent sway (as well as gait asymmetries and leg flexor-extensor weakness for recurrent fallers) predict future falls in women with MS.

**INTERVENTION STUDIES****Balance, executive functions and falls in elderly with Alzheimer's disease (AD): A longitudinal study.**

Pedroso RV, Coelho FG, Santos-Galduróz RF, Costa JL, Gobbi S, Stella F.

*Arch. Gerontol. Geriatr.* 2011; ePub(ePub): ePub. Affiliation: Institute of Biosciences, UNESP, Univ Estadual Paulista, Department of Physical Education, Physical Activity and Aging Lab (LAFE), Avenida 24 A, 1515, Bela Vista, Rio Claro/SP 13506-900, Brazil. DOI: 10.1016/j.archger.2011.05.029 PMID: 21774999 (Copyright © 2011, Elsevier Publishing).

**ABSTRACT**

Elderly individuals with AD are more susceptible to falls, which might be associated with decrements in their executive functions and balance, among other things. We aimed to analyze the effects of a program of dual task physical activity on falls, executive functions and balance of elderly individuals with AD. We studied 21 elderly with probable AD, allocated to two groups: the training group (TG), with 10 elderly who participated in a program of dual task physical activity; and the control group (CG), with 11 elderly who were not engaged in regular practice of physical activity. The Clock Drawing Test (CDT) and the Frontal Assessment Battery (FAB) were used in the assessment of the executive functions, while the Berg Balance Scale (BBS) and the Timed Up-and-Go (TUG)-test evaluated balance. The number of falls was obtained by means of a questionnaire. We observed a better performance of the TG as regards balance and executive functions. Moreover, the lower the number of steps in the TUG scale, the higher the scores in the CDT, and in the FAB. The practice of regular physical activity with dual task seems to have contributed to the maintenance and improvement of the motor and cognitive functions of the elderly with AD.

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**Adherence to recommendations for fall prevention significantly affects the risk of falling after hip fracture: Post-hoc analyses of a quasi-randomized controlled trial**

Di Monaco M, Vallero F, De Toma E, Castiglioni C, Gardin L, Giordano S, Tappero R.

*Eur. J. Phys. Rehabil. Med.* 2011; ePub(ePub): ePub. Affiliation: Osteoporosis Research Center, Presidio Sanitario San Camillo, Turin, Italy<sup>2</sup> Service of Occupational Therapy, Presidio Sanitario San Camillo, Turin, Italy<sup>3</sup> Division of Physical Medicine and Rehabilitation, Presidio Sanitario San Camillo, Turin, Italy - medici@h-sancamillo.to.it, marco.di.monaco@alice.it. DOI: unavailable PMID: 21785404 (Copyright © 2011, Edizioni Minerva Medica).

**ABSTRACT**

**BACKGROUND:** Few studies focused on fall prevention in hip-fracture survivors. Aim. To investigate the role of adherence to targeted recommendations on both home environment and behaviors in affecting the hazard of falling after a fall-related hip fracture.

**DESIGN:** Post-hoc analysis of a quasi-randomized controlled trial.

**SETTING:** Post-acute rehabilitation hospital.

**POPULATION:** Ninety-five of 119 women living in the community with a fall-related fracture of the hip.

**METHODS:** We assessed home hazard of falling and suggested targeted modifications of home environment and behaviors in activities of daily living to prevent falls during inpatient rehabilitation. Falls were recorded at a six-month follow-up during a pre-planned home visit.

**RESULTS:** Nineteen of the 95 women sustained at least one fall during the six-month follow-up. Women with > 2 uncorrected risk factors had a significantly higher risk of falling than those with 0-2 risk factors; the odds ratio adjusted for four confounders was 4.58 (95%CI 1.472-4.250; P=0.009). Adherence to recommendations for fall prevention was negatively associated with fall risk. The adjusted odds ratio for a ten percent increase in adherence rate was 0.749 (95%CI 0.594-0.945; P=0.015).

**CONCLUSION:** Uncorrected environmental and behavioral risk factors and poor adherence to targeted recommendations for fall prevention significantly predicted the risk of falling in community-dwelling women who sustained a fall-related hip fracture.

**CLINICAL REHABILITATION IMPACT:** Fall-risk assessment should be performed during inpatient rehabilitation following a fall-related hip fracture. Improving adherence to targeted recommendations emerges as a major goal to prevent falls in hip-fracture survivors.

**Comparative effectiveness of implementing evidence-based education and best practices in nursing homes: Effects on falls, quality-of-life and societal costs.**

Teresi JA, Ramirez M, Remler D, Ellis J, Boratgis G, Silver S, Lindsey M, Kong J, Eimicke JP, Dichter E.

*Int. J. Nurs. Stud.* 2011; ePub(ePub): ePub. Affiliation: Research Division, Hebrew Home at Riverdale, 5901 Palisade Avenue, Riverdale, NY 10471, United States; Columbia University Stroud Center, Faculty of Medicine and New York State Psychiatric Institute, 100 Haven Avenue, Tower III, 30F, New York, NY 10471, United States; Weill Medical College of Cornell University, Department of Geriatrics, Faculty of Medicine, 1300 York Avenue, New York, NY 10065, United States. DOI: 10.1016/j.ijnurstu.2011.07.003 PMID: 21807366 (Copyright © 2011, Elsevier Publishing).

**ABSTRACT**

**OBJECTIVES:** The aim was to conduct a comparative effectiveness research study to estimate the effects on falls, negative affect and behavior, and the associated societal costs of implementing evidence-based education and best practice programs in nursing homes (NHs).



**DESIGN:** A quasi-experimental design, a variant of a cluster randomized trial of implementation research examining transfer of research findings into practice, was used to compare outcomes among three groups of residents in 15 nursing homes per group.

**METHODS:** Forty-five NHs participated in one of three conditions: (1) standard training, (2) training and implementation modules provided to facility staff, or (3) staff training and implementation modules augmented by surveyor training. After application of exclusion and matching criteria, nursing homes were selected at random within three regions of New York State. Outcomes were assessed using medical records and the Minimum Data Set (MDS).

**RESULTS:** The main finding was of a significant reduction of between 5 and 12 annual falls in a typical nursing home. While both intervention groups resulted in fall reduction, the larger and significant reduction occurred in the group without surveyor training. A significant reduction in negative affect associated with training staff and surveyors was observed. Net cost savings from fall prevention was estimated.

**CONCLUSIONS:** A low cost intervention targeting dissemination of evidence-based best practices in nursing homes can result in the potential for fall reduction, and cost savings.

### **Stakeholders' perceptions of programme sustainability: Findings from a community-based fall prevention programme.**

Hanson HM, Salmoni AW.

*Public Health* 2011; ePub(ePub): ePub. Affiliation: Health and Rehabilitation Sciences, Faculty of Health Sciences, The University of Western Ontario, London, ON, Canada. DOI: 10.1016/j.puhe.2011.03.003 PMID: 21802700 (Copyright © 2011, Elsevier Publishing).

### **ABSTRACT**

**OBJECTIVES:** Sustainability of health promotion and injury prevention programmes is a goal of practitioners and an increasingly common requirement of funding bodies. However, less is known about the views held by individual stakeholders involved in such programmes regarding their perceptions of facilitators and barriers to achieving sustainability. This paper aims to share the perceptions of programme sustainability held by key stakeholders involved in a community-based fall prevention programme in three Ontario demonstration communities in Canada.

**STUDY DESIGN:** A qualitative case study research design.

**METHOD:** A holistic multiple case study method was employed. In total, 45 stakeholders involved in various aspects of the project participated from three demonstration sites. Stakeholders' perceptions were gathered on the individual actions they took in an effort to promote sustainability, and the barriers they perceived as preventing or limiting sustainability.

**RESULTS:** Stakeholders reported taking a number of actions to aid programme sustainability, with some actions deemed to be more functional in aiding sustainability than others. Common actions reported by stakeholders included partnership formation, networking and increasing community capacity. Stakeholders also perceived a number of barriers to achieving sustainability, including insufficient human and financial resources, lack of co-ordination and buy-in, heavy reliance on volunteers and an inability to mobilize physicians. Stakeholders' perceptions of sustainability were used to develop recommendations for sustainability for both communities and funding bodies.

**CONCLUSION:** The views and experiences shared by the stakeholders in this project can serve as lessons learnt to aid in the sustainability of other health promotion and injury prevention programmes in the future.

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**Rhythmic stepping exercise under cognitive conditions improves fall risk factors in community-dwelling older adults: Preliminary results of a cluster-randomized controlled trial.**

Yamada M, Tanaka B, Nagai K, Aoyama T, Ichihashi N.

*Aging Ment. Health* 2011; 15(5): 647-53. Affiliation: Human Health Sciences, Graduate School of Medicine, Kyoto University, Kyoto, Japan. DOI: 10.1080/13607863.2010.551341 PMID: 21815857 (Copyright © 2011, Informa - Taylor and Francis Group).

**ABSTRACT**

**Objective:** The purpose of this pilot trial was to evaluate whether a 24-week program of rhythmic stepping exercise (RSE) would be effective in improving physical function and reducing fear of falling in older adults.

**Participants:** Four units (n = 52) randomized into an RSE group (two units, n = 25) and a non-rhythmic stepping exercise (NRSE) group (two units, n = 27) participated in a pilot cluster randomized controlled trial.

**Methods:** Each exercise group received 60 min group training sessions once a week for 24 weeks. Measurement was based on the difference in physical functions between the RSE and NRSE groups.

**Results:** Significant differences were observed between the two groups for locomotive function with significant group × time interaction. Relative risk was calculated as 2.778 (95% CI: 1.030-7.492) for fear of falling for participants in the NRSE group compared with patients in the RSE group (p = 0.037).

**Conclusions:** The results of this pilot trial suggest that the RSE program is more effective in improving locomotive function and fear of falling.

**An exercise intervention to prevent falls in people with Parkinson's disease: a pragmatic randomised controlled trial.**

Goodwin VA, Richards SH, Henley W, Ewings P, Taylor AH, Campbell JL.

*J. Neurol. Neurosurg. Psychiatry* 2011; ePub(ePub): ePub. Affiliation: Primary Care Research Group, Peninsula College of Medicine and Dentistry (PCMD), University of Exeter, Exeter, UK. DOI: 10.1136/jnnp-2011-300919 PMID: 21856692 (Copyright © 2011, BMJ Publishing Group).

**ABSTRACT**

**Objectives:** To compare the effectiveness of an exercise programme with usual care in people with Parkinson's disease (PD) who have a history of falls.

**Design:** Pragmatic randomised controlled trial.

**Setting:** Recruitment was from three primary and four secondary care organisations, and PD support groups in South West England. The intervention was delivered in community settings.

**Participants:** People with PD, with a history of two or more falls in the previous year, who were able to mobilise independently. Intervention 10 week, physiotherapy led, group delivered strength and balance training programme with supplementary home exercises (intervention) or usual care (control).

**Main outcome measure:** Number of falls during the (a) 10 week intervention period and (b) the 10 week follow-up period.

**Results:** 130 people were recruited and randomised (64 to the intervention; 66 to usual care). Seven participants (5.4%) did not complete the study. The incidence rate ratio for falls was 0.68 (95% CI 0.43 to 1.07, p = 0.10) during the intervention period and 0.74 (95% CI 0.41 to 1.33, p = 0.31) during the follow-up period. Statistically significant between group differences were observed in Berg balance, Falls Efficacy Scale-International scores and recreational physical activity levels.

**Conclusions:** The study did not demonstrate a statistically significant between group difference in falls although the difference could be considered clinically significant. However, a type 2 error cannot be ruled

out. The findings from this trial add to the evidence base for physiotherapy and exercise in the management of people with PD. Trial registration ISRCTN50793425.

### **Predictors of adherence to a multifaceted podiatry intervention for the prevention of falls in older people.**

Spink MJ, Fotoohabadi MR, Wee E, Landorf KB, Hill KD, Lord SR, Menz HB.

*BMC Geriatr.* 2011; 11(1): 51. DOI: 10.1186/1471-2318-11-51 PMID: 21871080 (Copyright © 2011, BioMed Central).

#### **ABSTRACT**

**BACKGROUND:** Despite emerging evidence that foot problems and inappropriate footwear increase the risk of falls, there is little evidence as to whether foot-related intervention strategies can be successfully implemented. The aim of this study was to evaluate adherence rates, barriers to adherence, and the predictors of adherence to a multifaceted podiatry intervention for the prevention of falls in older people.

**METHODS:** The intervention group (n=153, mean age 74.2 years) of a randomised trial that investigated the effectiveness of a multifaceted podiatry intervention to prevent falls was assessed for adherence to the three components of the intervention: (i) foot orthoses, (ii) footwear advice and footwear cost subsidy, and (iii) a home-based foot and ankle exercise program. Adherence to each component and the barriers to adherence were documented, and separate discriminant function analyses were undertaken to identify factors that were significantly and independently associated with adherence to the three intervention components.

**RESULTS:** Adherence to the three components of the intervention was as follows: foot orthoses (69%), footwear (54%) and home-based exercise (72%). Discriminant function analyses identified that being younger was the best predictor of orthoses use, higher physical health status and lower fear of falling were independent predictors of footwear adherence, and higher physical health status was the best predictor of exercise adherence. The predictive accuracy of these models was only modest, with 62 to 71% of participants correctly classified.

**CONCLUSIONS:** Adherence to a multifaceted podiatry intervention in this trial ranged from 54 to 72%. People with better physical health, less fear of falling and a younger age exhibited greater adherence, suggesting that strategies need to be developed to enhance adherence in frailer older people who are most at risk of falling. Trial registration: Australian New Zealand Clinical Trials Registry ACTRN12608000065392.

## **WEBSITES AND RESOURCES**

### **Macular Degeneration Foundation**

<http://www.mdfoundation.com.au>

This website provides useful information on vision loss due to macular degeneration and includes a range of resources including the *Slips, Trips and Falls - A Guide*, booklet which provides useful information around falls prevention for people with low vision, their partners, carers, family and friends.

There are also a number of other useful guides including:

*Low Vision - A guide*, *Low Vision Aids & Technology - A Guide* and *Family, Friend & Carer - A Guide*.



## NEW Website

[www.activeandhealthy.nsw.gov.au](http://www.activeandhealthy.nsw.gov.au)



The **NEW** state wide consumer and professional resource for

- ***Falls Prevention Exercise Programs*** in your local area
- ***Staying Active and On Your Feet*** publication
- Simple and essential ***Home Based Exercises***
- ***Health and Lifestyle*** tips and checklist
- ***A Home Safety Checklist***

## Falls can be prevented



<http://fallsnetwork.neura.edu.au/>

## NSW FALLS PREVENTION NETWORK BACKGROUND

The NSW Falls Prevention Network has existed since 1993.

The role of this network has grown since its inception and now includes:

- Meetings for discussion of falls related issues;
- Dissemination of research findings both local and international;
- Sharing resources developed and exploration of opportunities to combine resources in joint initiatives;
- Encouragement of collaborative projects and research;
- To act as a group to influence policy;
- To liaise with NSW Health to provide information on current State/Commonwealth issues in relation to falls and
- Maintenance of resources pertinent to the field.

The main purpose of the network is to share knowledge, expertise and resources on falls prevention for older people.

***The NSW Falls Prevention Network activities are part of the implementation of the NSW Falls Prevention Policy funded by the NSW Department of Health.***

## Network Information

### Joining the Network

To join the NSW Falls Prevention

Network listserv, send an email to:

[majordomo@lists.health.nsw.gov.au](mailto:majordomo@lists.health.nsw.gov.au)

In the body of the message type

**subscribe nsw-falls-network**

on the next line type **end**

Do not put anything in the subject line. You will receive an e-mail to confirm you have been added to the listserv.

To unsubscribe send an e-mail to the above address and in the body of the message type

**unsubscribe nsw-falls-network**

on the next line type **end**

If you have any problems, contact Esther at [e.vance@neura.edu.au](mailto:e.vance@neura.edu.au).

### Share your news and information/ideas

Do you have any news on Falls Prevention you want to share with others on the network, or do you want to report on a project that is happening in your area.

Please email Esther with your information. We also welcome suggestions for articles and information you would like to see in this newsletter.

Send your information to [e.vance@neura.edu.au](mailto:e.vance@neura.edu.au)

### The Network Listserv

It is great to see the increased activity on the listserv and we want to continue to promote this. To send an item to the listserv where all members of the network can see it, send an email to:

[nsw-falls-network@lists.health.nsw.gov.au](mailto:nsw-falls-network@lists.health.nsw.gov.au)

You need to be a subscriber to the listserv to send an email that will be distributed to all members of the on the listserv. Remember to put a short description in the subject line.

Recently some posts to the listserv have bounced due to email address changes in the area health services, you need to re-subscribe with your new e-mail address and unsubscribe from your old address following the Join the Network instructions as shown on this page.