FALLS LINKS

Volume 4 issue 2
2009

WELCOME

Welcome to our second issue for 2009.
April Falls Day and month has been a great success across NSW with numerous displays and forums happening throughout each Area Health Service. A summary of some of the April Falls Day activities commences on Page 2.

This issue also features a report on the development of a workforce education program for exercise practitioners in falls prevention on page 11.

The 2009 NSW Falls Prevention Network Meeting will be held on Wednesday 17th June at the Matthews Theatres at the University of NSW. A flyer is on page 19. A copy of the flyer and registration form are also available on our website at: http://www.powmri.edu.au/fallsnetwork

Inside this issue:

April Falls Day 2009

The Green Team at Bankstown Hospital (SSWAHS)

APRIL FALLS DAY IN GREATER WESTERN AREA HEALTH SERVICE (GWAHS)

The Greater Western Area Health Service celebrated April Falls Day this year with a number of health facilities having information displays and staff activities.

From Brewarrina to Balranald and many facilities in between across the wide expanse of our health service staff endeavored to educate each other, residents, patients and the community in falls prevention. We had 16 sites involved. In a number of health services competitions and games were popular, with the grand prize of a special falls pen for those winners who completed quizzes and challenges. Cudal Health Service celebrated by assessing participants in sit to stand and balance exercises, information on falls prevention and a wonderful morning tea. Blayney Health Service conducted an information display at the local shopping centre with assistance of the local Tai Chi leader.

Balranald took the display outside under a tree and involved the residents from the facility in the day. Mudgee health service conducted a display with information for staff and the community.

GWAHS released information to the media which resulted in three radio interviews and a number of newspaper articles across the area. Well done to all the staff involved.

Jacaline Kelly
Greater Western Area Falls Coordinator

Balranald health Service

Mudgee health Service

Cudal Health Service
'Sit to Stand testing'

Blayney Health Service Staff at the
Local Shopping centre

Culcairn Health Service

Once again we had another great year of staff awareness and this year. There were Community education session with our physiotherapists and presentations on exercise, diet, being aware of your own health, being aware of unfamiliar surrounds, encouraging to take time in mobility...don't rush. Information on how to talk with your local Doctor/Nurse on any changes with health and well being. All who attended stated they learnt more about how to stay on their feet ,and about 60% who attended had fallen in the last 12 months.

Culcairn Staff on April Falls

Presentation to Local Community

Robyn Wood
Falls prevention champion
Culcairn Health Service.

SOUTH EASTERN SYDNEY ILLAWARRA AREA HEALTH SERVICE (SESIH)

APRIL FALLS DAY/MONTH ACTIVITIES 2009

SESIH organised several activities across the three hospital networks to raise staff, patient and visitor awareness of falls risk factors and prevention. The activities were planned and organised by site and network falls advisory groups. A summary of the activity across the three networks appears below.

Southern Hospital Network

This network has held a network April Falls Day event annually since 2006.

It held a competition between the nine hospitals and their activities were judged according to one of three criteria: best falls prevention display; best innovative approach to clinical practice and best risk management activity.

- April Falls Day Perpetual Trophy: *Bulli District Hospital.*
- Best innovative approach to clinical practice change: *Wollongong Hospital.*
- Best Risk Management Activity: *David Berry Hospital* and *Milton-Ulladulla Hospital.*
- Recognition award was presented to *SHN Community Health Nursing* team for their participation in the campaign.

Wollongong Hospital
Ward B4– Aged Care

A new aspect of the southern hospital network activity for 2009 was the involvement of the community health centres with three centres (Warilla, Piccadilly and Fairymeadow) undertaking Quickscreen falls risk assessment on clients visiting their centres that day and received a recognition award.

Milton–Ulladulla Hospital

David Berry Hospital at
Berry near Nowra

Central Hospital Network

Sutherland Hospital had a falls prevention poster competition between the wards and then displayed the resulting posters in the foyer for staff and visitors to vote on their preferred poster. The posters will be used in the wards for patient falls prevention education. Visitors to the display area were invited to guess how many patient falls occurred in the last 12 months. A morning tea was held for the Falls Volunteers to say thank you for all their hard work.

Sutherland Hospital Foyer

The falls prevention information table was coordinated by the Allied Health staff. Interactive learning opportunity was provided by physiotherapists asking staff and visitors to do a free balance test using an alternate step test.

Calvary hospital had a staff quiz on falls prevention and a service provider spoke to rehabilitation patients on how to use the vital call service.

St George Hospital had a foyer display on falls prevention, which was coordinated by nursing staff. They also had a competition to guess the number of patient falls in the last 12 months. The Australian Safety and Quality Commission DVD on falls prevention was continuously showing.

Staff were invited to complete a 5 question Quiz. Falls prevention brochures were provided on all patient meal trays to help raise patient awareness.

Two facilities of the Anglican Retirement Villages at Donald Robinson Village at Sutherland and Wooloware Shores at Taren Point also held April Falls Day activities during the month of April that were well attended by their residents. They included talks on strength and balance activities, medication and falls, vision and footwear involved external service provider presenters.

Northern Hospital Network

St Vincent's Hospital had a falls prevention display in their foyer, which was organised by the St Vincent's Community Health centre health promotion team. Physiotherapists, health promotion officers and allied health staff all wore their "April No Falls Month" t-shirts and offered balance quizzes, balance assessments and walking aid checks for patients, visitors and staff, and advised them on various services and programmes related to falls

prevention in the hospital catchment areas. This included the Stepping On program and exercises classes and activities running in different areas in our catchment. There was a lot of staff and patient interest in the falls prevention display. Some people were challenged by the balance assessments or quizzes which gave them food for thought about falls risks and the need for prevention strategies.

Staff will continue to wear their shirts during April when running groups. St Vincent's Hospital Community Health staff have already met to discuss plans for next year's events and activities and are hoping to increase the impact of this campaign. Staff are eager to continue to promote awareness of the importance of falls prevention in the wider community.

St Vincent's Hospital

War Memorial Hospital also had a falls prevention display in the Day Centre entrance to their gym area and an out-door event/ display in their central kiosk on the hospital grounds.

Prince of Wales Hospital undertook two activities as part of April Falls Day Activity. The first activity was a one month analysis of reported falls in older patients and their causes, time of occurrence and patient age identifying patients with confusion. The second activity was a two day snapshot audit of older patients admitted to the hospital in early April, to check clinical practice on patient falls prevention. They reviewed whether patients had a falls risk screen in Emergency, a cognitive screen, a falls risk assessment on admission to the ward, a medication review, referral to aged care assessment and analysis of the cause and time of falls occurring in the first two days of admission. The results of both activities were presented to the hospital falls advisory group, which consists of the NUMS of each ward, pharmacy and ASET representatives, a clinical educator, area dementia clinical nurse consultant and a Medical Assessment Unit representative.

Kathy Richardson
Area Falls Coordinator, SESIH

APRIL FALLS DAY IN SYDNEY WEST AREA HEALTH SERVICE
April Falls Day 2009 at Blacktown-Mt Druitt Hospital (BMDH)

Falls are a common issue faced by older people living in both the community and residential settings. They are also one of the main incidents recorded on the Incident Information Management System (IIMS).

Fear of falling affects up to 80% of the elderly, and can lead to individuals restricting their participation in important and meaningful activities.

BMDH staff and patients were involved in a number of activities to raise fall awareness on April Falls Day the 1st of April with many of the staff wearing green. Staff on wards showed enthusiasm developing and displaying posters and involving patients and visitors in the activities.

Surgical 1 and SMS staff developed posters and ward displays to improve falls prevention strategies. The surgical ward encouraged participation from staff, patients and visitors.

Blacktown Hospital had a foyer display with falls prevention material and posters to increase awareness and provide educational resources for the public.

Mary Isles (RN OPERA) developed an excellent poster which was displayed in the foyer.

Blacktown and Mt Druitt Rehabilitation and Aged Care Services are committed to raising awareness of falls prevention among older adults and their carers. Rehabilitation and Aged Care services will be running educational programs throughout April for staff and patients.

Blacktown Aged Care unit commenced the promotion of April Falls Month on the 1st of April with staff, patients and family/carers participating in the "April Falls Day" Program developed by Robyn McLachlan (Occupational Therapist) and Sue Crowe (Physiotherapy Assistant).

Our falls prevention program kicked off in the morning with patients and staff attending a falls prevention education session. Patients were provided with information regarding factors that lead to an increased risk of falls, and strategies to address these risk factors. Patients and staff then participated in an exercise program focused on balance retraining. This followed with Ken Poon (Physiotherapist) conducting a Tai Chi falls prevention session. Patients learnt about the benefits of Tai Chi, and had the opportunity to practice different Tai Chi techniques. After a break, patients and carers participated in our falls prevention quiz. Finally, patients and family were provided with a falls prevention checklist and patient's personal risk factors were identified and discussed.

Each participant was given a falls prevention resource package that contained information regarding fitness providers in the local area, a falls prevention booklet, balance exercise programs and falls prevention fridge magnets.

Family members also had the opportunity to talk to therapists about any concerns related to falls prevention.

Overall, staff, patients and family had an enjoyable day. As a result Blacktown Rehabilitation and Aged Care Services is considering holding our falls prevention program on a regular basis to increase awareness of, and hopefully prevent falls among older people.

Jenny Bawden
Falls Prevention Coordinator,
Sydney West AHS

SYDNEY SOUTH WEST AREA HEALTH SERVICE (SSWAHS) APRIL FALLS DAY

BANKSTOWN HOSPITAL

Bankstown Hospital celebrated April Falls Day through a range of activities aimed at increasing both staff, patients and visitor's awareness of falls prevention strategies.

A series of promotional messages were sent via the email to all staff in Bankstown, together with a letter of support from the Director of Nursing who encouraged "a no falls day" on April Falls Day.

- Display stalls were set up in both the foyer of the hospital and in the staff cafeteria with a variety of information on falls prevention both for nursing staff and community members
- Staff were asked to wear a touch of green, the designated colour for falls
- Falls related quizzes and crosswords were given out to staff
- Posters were placed in strategic areas around the hospital reminding staff, patients and visitor's of falls prevention strategies

The new SSWAHS 'Fall Injury Prevention and Management in Acute Settings' Policy was promoted.

One of the highlights included the *CNC* – Dementia, donning a pair of hip protectors and looking very glamorous parading around the front foyer !! See Photo on the front of this newsletter.

Anne Hollahan
CNC Dementia
Bankstown Hospital SSWAHS

APRIL FALLS DAY AND MONTH IN NORTHERN SYDNEY CENTRAL COAST AREA HEALTH SERVICE (NSCCH)

On April Falls Day 2009 at each NSCCH hospital there was an orange display where staff could grab some orange goodies, learn about what was being done to prevent falls, and meet their local falls prevention champions. Staff wore their orange falls prevention t-shirts, had orange balloons, food, sweets and orange mouse mats and pens as 'give aways'. Quizzes and crosswords provided competitive interest for prizes. Patients in aged care wards had orange meal tray mats with falls facts on them provided at lunchtime. This year we also had similar orange themed April Falls Day activities at other associated NSCCH and private facilities: Greenwich, RRCS, Neringah, Sydney Adventist Hospital, The Mater Private, plus The Anglican Retirement Villages (ARV).

Hornsby Hospital

ARV Better Balance Centre

Community April Falls Month was celebrated with two community forums and expos for community service providers: Reducing Risk - Falls Prevention Is Everyone's Business. One was held in Northern Sydney (Belrose) and the other on the Central Coast. Presenter topics included nutrition for older people; encouraging physical activity; the NSCCH Community Falls Prevention Guidelines; facilitating behaviour change; home hazard reduction, and medication management. Local service providers had 'expo stalls' to display their services.

Margaret Armstrong
NSCCH Coordinator, NSW Falls Policy

Community Service providers at the Belrose Forum

Falls Forum on the Central Coast

Margaret Armstrong at the Belrose Forum

CEC APRIL FALLS DAY - 29 APRIL 2009

The Clinical Excellence Commission (CEC) hosted an April Falls Day on 29th April 2009 with a showcase of initiatives selected by each of the Area Health Services. The day was opened by Professor Clifford Hughes, CEO, CEC who provided an overview of falls prevention in NSW.

Summary of Presentations

Community based follow-up of fallers presenting to ED

Mr Ian O'Dea, Director of Nursing/Service Manager, Rankin Park Centre, Hunter New England AHS

This presentation reported the results of a pilot project aiming to reduce the rate of re-presentations for falls injury to ED.

Operating independently of ED and using data trawling, an algorithm was used to stream prospective patients into risk groups and make appropriate referrals and subsequently increase the uptake of appropriate falls injury prevention strategies. Around 48% of people initially contacted accept the offer of some form of intervention and follow-up indicates good initial compliance.

Prince of Wales (POW) Falls Advisory Group 'Medications Prescribing and Patients Falls Monitoring in older patients'

Associate Professor Jacqueline Close
Staff Specialist Geriatrician, Prince of Wales Hospital, SESIAHS
Honorary Senior Research Fellow, Prince of Wales Medical Research Institute

The project has been undertaken at POWH to monitor data on medication prescribing and falls trends for a two and half year period from July 2006 to present on specific units with high falls risk patients including aged care, rehabilitation, neurology, cardiology, orthopedic and oncology. The medication prescribing and falls data reports are displayed at unit level on a monthly basis to influence clinical practice in relation to medication prescribing. Monitoring has been undertaken for medications that

- Increase the risk of patient falls (such as benzodiazepines and psychotropic drugs) showing decrease in prescribing.
- Medications that decrease the likelihood of injury following a fall incident (such as Calcium, Vitamin D and bisphosphonates) showing an increase in prescribing.

There has been a corresponding decrease in patient falls injury in these units since early 2008. This initiative may have contributed to a reduction in patient falls in combination with other falls prevention strategies implemented in the hospital including strategies implemented by the hospital falls advisory group review of serious incident investigation and recommendations reports and following up of action taken.

This POWH project was also a successful nomination for the 2008 Baxter's Health Award

High risk Fallers in the community setting

Dr Max Graffen - Wagga Aged Care Services Greater Southern AHS

The project focused on high risk fallers in the community setting and identified them through the Emergency department, General practice setting and over 75 yrs health assessment. Through collaboration with Wagga Aged Care Services and Riverina Division of General Practice it offered multidisciplinary assessment and follow up. An outreach model was developed to support clinicians in several rural communities with limited access to Allied Health and expertise in comprehensive falls risk assessment, intervention and management.

Greater Western Area Health Service Tai Chi Program

Rosemary Stapleton, Health Promotion Officer, Population Health, Greater Western AHS

The Tai Chi Program in Greater Western AHS is an evidence-based falls prevention program. The Health Promotion Team uses the Capacity Building Framework to support trained health service staff and volunteers to run Tai Chi classes in their communities. It was commenced in 2004 and classes are currently offered in 30 communities across the Area. Leaders are trained every 2 years and receive technical support from two Senior Tai Chi Trainers. Sustaining the program is a challenge due to the natural turnover of leaders and the need to continually highlight the benefits of prevention programs.

Fit and Strong: 65 and Beyond

Samantha Raheb, Health Promotion Campaigns Coordinator and Jenny Bawden, Area Falls Co-ordinator - Sydney West AHS

The Fit & Strong: 65 & Beyond Challenge is a social marketing program targeting older people living in the Sydney West Area. It aims to increase awareness and uptake of four health behaviours to prevent fall injury. Working in conjunction with local community partners and using resources developed by SWAHS Health Promotion staff, participants are engaged in a fun way to learn about what they need to do to stay fit and strong.

Anglican Retirement Village (ARV) - Falls Prevention Program

Sharon Butler, Better Balance Centre Co-ordinator, Physiotherapist, ARV Castle Hill – Northern Sydney Central Coast AHS

Anglican Retirement Villages (ARV) is located in the Sydney Metropolitan area and is involved in the care of older Australians through their independent villages and assisted care to those people on community packages. The Foundation for Aged Care, which is the charitable arm of ARV, has sponsored the Better Balance Program to prevent falls, encourage activity and to enhance a person's quality of life.

The program involves the assessment developed by Prof Stephen Lord and the Prince of Wales Medical Research Institute, FallScreen, and an Occupational therapy assessment to identify a person's falls risk. Interventions are then applied to decrease these risk factors. ARV also supported April Falls Month for the first time by not only adopting the Orange theme but also engaging various medical personnel to talk about the prevention of falls in older people.

Falls Champion Workshop - An education program

Linda Kelly, Nurse Educator and Rose Meiruntu, Manager of Area Nursing & Midwifery Education - Sydney South West AHS

The Sydney South West Area Health Service (SSWAHS) falls initiative is an education program in response to area wide implementation of standardised adult admission risk assessments in 2008 and policy in 2009. Twelve months down the track the Centre for Education and Workforce Development is excited with 75 falls champions trained prior to the launch of the SSWAHS policy and commencement of area wide audits of risk assessment tools.

Some of the presenters from the day: Linda Kelly, Max Graffen, Sharon Butler, Rosemary Stapleton **and Ian O'Dea**

FEATURE FOCUS REPORT

DEVELOPMENT OF A WORKFORCE EDUCATION PROGRAM FOR EXERCISE PRACTITIONERS IN FALLS PREVENTION AND EXERCISE PRESCRIPTION FOR OLDER PEOPLE

Daina L Sturnieks[1], Deborah A Pascoe[2], Caroline F Finch[2], Jacqueline CT Close[1, 3], Anne Tiedemann[1], Stephen R Lord[1]

[1]Prince of Wales Medical Research Institute, University of New South Wales, NSW

[2]University of Ballarat, Ballarat, VIC, [3]Prince of Wales Hospital

Despite good evidence that appropriate exercise can help reduce the risk of falls in older people, there is limited delivery of effective exercise programs available in the community. A need exists for a larger appropriately trained workforce with skills in delivering group exercise and prescribing targeted exercise for at-risk populations. This project (funded by the Commonwealth Department of Health and Ageing) first assessed the knowledge standards regarding falls and exercise prescription for falls prevention of current university exercise science students. Subsequently, a university-based falls prevention education program was developed, implemented and evaluated in a group of 3rd and 4th year exercise science students, as future exercise prescription experts.

Study 1 - Identification of workforce training needs

A knowledge scoping survey was designed to examine knowledge in relation to falls in older people and exercise prescription for falls prevention. The survey was administered to 566 students in 2nd 3rd and 4th years of exercise science degrees across seven Australian universities. Mean scores were compared against an expected competency level set at 70%, across four subtopics: 1) epidemiology; 2) risk factors and assessment; 3) physiology and biomechanics of balance and gait; 4) falls prevention interventions.

Student knowledge levels were significantly greater with increasing year of study. However, overall knowledge levels remained significantly less than the desired competency level of 70%. Mean scores were lowest for the subtopic of falls risk factors (53%). The 2nd and 3rd year students scored highest on epidemiology (mean 62% and 66%, respectively), while 4th year students had the best knowledge about falls interventions (mean 72%).

Exercise scientists with their knowledge of human physiology, biomechanics and exercise prescription have the potential to make a significant contribution to falls prevention. However the results from this knowledge survey demonstrate that current training does not adequately equip them with the necessary knowledge to develop and implement effective falls prevention strategies. A clear need has been identified to incorporate falls prevention into the curriculum for these exercise professionals.

Study 2 - Implementation of a falls prevention education module

Following on from the knowledge scoping survey, an evidence-based falls prevention education module was developed. The training module was implemented to 48 3rd and 4th year students at the University of Ballarat, delivered as a 6-hour (2- week) format for 3rd year students and a 9-hour (3-week) format for 4th year students. An exam was administered prior to and immediately following the completion of the education module so that knowledge gain could be analysed. Students were also asked to provide a rating, on an 11-point scale, of confidence in prescribing exercise to older people for falls prevention.

3rd year students significantly increased their knowledge levels, from a mean 41% correct at baseline, to 72% correct following the intervention. 4th year students also significantly increased their knowledge levels, from 54% to 78% correct. Student's self-reported confidence increased from a mean 4.0 to 7.2 following completion of the education module.

Given the limited access to evidence-based falls prevention exercise programs in the community, exercise scientists are potentially well placed to partially address this gap for the future. Clearly, people delivering exercise programs need to have the pre-requisite skills and knowledge to do this effectively. This project has indicated that the addition of a module into the existing curriculum can address this knowledge gap in exercise science students. The opportunity therefore presents itself to implement this approach across all universities offering exercise science as a degree course.

Some of this work has been published in the Journal of Science and Medicine in Sport: http://dx.doi.org/10.1016/j.jsams.2008.11.005

RECENT ABSTRACTS FROM THE RESEARCH LITERATURE

REVIEWS

Interventions for preventing falls in older people living in the community

Lesley D Gillespie[1], M Clare Robertson[1], William J Gillespie[2], Sarah E Lamb[3], Simon Gates[3], Robert G Cumming[4], Brian H Rowe[5]

Cochrane Database of Systematic Reviews, Issue 2, 2009 (Status in this issue: *New*)

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[1]Department of Medical and Surgical Sciences, Dunedin School of Medicine, University of Otago, Dunedin, New Zealand. [2]Hull York Medical School, University of Hull, Hull, UK. [3]Warwick Clinical Trials Unit, Warwick Medical School, University of Warwick, Coventry, UK. [4]Centre for Education and Research on Ageing, University of Sydney, Concord, Australia. [5]Department of Emergency Medicine, University of Alberta, Edmonton, Canada.

ABSTRACT

Background: Approximately 30% of people over 65 years of age living in the community fall each year.

Objectives: To assess the effects of interventions to reduce the incidence of falls in older people living in the community.

Search strategy: We searched the Cochrane Bone, Joint and Muscle Trauma Group Specialised Register, CENTRAL (*The Cochrane Library* 2008, Issue 2), MEDLINE, EMBASE, CINAHL, and Current Controlled Trials (all to May 2008).

Selection criteria: Randomised trials of interventions to reduce falls in community-dwelling older people. Primary outcomes were rate of falls and risk of falling.

Data collection and analysis: Two review authors independently assessed trial quality and extracted data. Data were pooled where appropriate.

Main results: We included 111 trials (55,303 participants).
Multiple-component group exercise reduced rate of falls and risk of falling (rate ratio (RaR) 0.78, 95%CI 0.71 to 0.86; risk ratio (RR) 0.83, 95%CI 0.72 to 0.97), as did Tai Chi (RaR 0.63, 95%CI 0.52 to 0.78; RR 0.65, 95%CI 0.51 to 0.82), and individually prescribed multiple-component home-based exercise (RaR 0.66, 95%CI 0.53 to 0.82; RR 0.77, 95%CI 0.61 to 0.97). Assessment and multifactorial intervention reduced rate of falls (RaR 0.75, 95%CI 0.65 to 0.86), but not risk of falling. Overall, vitamin D did not reduce falls (RaR 0.95, 95%CI 0.80 to 1.14; RR 0.96, 95% CI 0.92 to 1.01), but may do so in people with lower vitamin D levels. Overall, home safety interventions did not reduce falls (RaR 0.90, 95%CI 0.79 to 1.03); RR 0.89, 95%CI 0.80 to 1.00), but were effective in people with severe visual impairment, and in others at higher risk of falling. An anti-slip shoe device reduced rate of falls in icy conditions (RaR 0.42, 95%CI 0.22 to 0.78). Gradual withdrawal of psychotropic medication reduced rate of falls (RaR 0.34, 95%CI 0.16 to 0.73), but not risk of falling. A prescribing modification programme for primary care physicians significantly reduced risk of falling (RR 0.61, 95%CI 0.41 to 0.91). Pacemakers reduced rate of falls in people with carotid sinus hypersensitivity (RaR 0.42, 95%CI 0.23 to 0.75). First eye cataract surgery reduced rate of falls (RaR 0.66, 95%CI 0.45 to 0.95). There is some evidence that falls prevention strategies can be cost saving.

Authors' conclusions: Exercise interventions reduce risk and rate of falls. Research is needed to confirm the contexts in which multifactorial assessment and intervention, home safety interventions, vitamin D supplementation, and other interventions are effective.

Quality of life as an outcome of fall prevention interventions among the aged: a systematic review.

Vaapio SS, Salminen MJ, Ojanlatva A, Kivela SL. Eur J Public Health. 2009 Jan; 19 (1): 7-15.

ABSTRACT

Measuring quality of life (QOL) is an important part in assessing the effects of treatments and health services on patients' well-being. This kind of an assessment should be included when assessing the effects of preventive programmes. The aim was to explore whether QOL has been used as an outcome measure in fall prevention trials and to provide a systematic review of randomized controlled trials (RCTs) that involve fall prevention interventions with an assessment of the effects on QOL among the aged. No previous systematic review about this topic among the aged was found.

METHODS: A search covering various medical databases was conducted to identify RCTs about the effects of fall prevention programmes on QOL. The 12 included studies were classified according to an appraisal of the population, the method of randomization, the intervention and control programmes, the QOL measures and the results. Methodological quality was assessed in relation to blinding at outcome assessment, length of follow-up and using intention to treat analysis.
RESULTS: Six studies out of 12 showed a positive effect on some dimensions of QOL (physical function, social function, vitality, mental health, environmental domain). The methods of interventions showing a positive effect varied.
CONCLUSION: Only a few fall prevention studies reported a positive effect on QOL. Studies with larger sample sizes, longer follow-ups and multiple outcome measures are needed. QOL should be taken into account as an secondary outcome measure.

The effects of fall prevention trials on depressive symptoms and fear of falling among the aged: a systematic review.

Sjosten N, Vaapio S, Kivela SL. Aging Ment Health. 2008 Jan;12(1):30-46.

ABSTRACT

Firstly, to explore whether depressive symptoms and fear of falling have been used as outcome measures in fall prevention trials. Secondly, to determine the effects of fall prevention trials on these variables among the aged. A literature search covering various medical databases was conducted to identify randomised controlled trials regarding the effects of fall prevention programmes on depressive symptoms and fear of falling among the aged. The studies were classified according to the intervention method (single/multifactorial) and study results (positive/negative) regarding depressive symptoms or fear of falling. Methodological quality was assessed in relation to blinding at outcome assessment, follow-up and whether intention-to-treat analysis was used. Depressive symptoms were used as an outcome measure in eight and fear of falling in 21 studies. A multifactorial approach seems the most effective method in reducing fear of falling, while some single methods such as Tai Chi also seem beneficial. Little evidence was found relating to the effects of fall prevention trials on depressive symptoms. Fear of falling may be reduced by fall prevention programmes. More studies assessing the effects on depressive symptoms, especially among the depressed aged are needed.

Fall risk factors in older people with dementia or cognitive impairment: a systematic review.

Härlein J, Dassen T, Halfens RJ, Heinze C. J Adv Nurs 2009; ePub(ePub): ePub.

Affiliation: School of Nursing, General Hospital Furth, Germany. (Copyright © 2009, John Wiley and Sons)

ABSTRACT

Aim. This paper is a report of a review conducted to identify and summarize specific risk factors for falls in older people with dementia or cognitive impairments as documented by prospective or case-control studies.
Background. People with dementia have a doubled to threefold risk for falls, but the reasons for this have not yet been fully explained. Several integrative literature reviews discuss possible specific fall risk factors. However, there is lack of a systematic evaluation of studies. Data sources. The CINAHL, PubMed, EMBASE and PsychInfo databases were searched for the period between 1980 and May 2007.
Review methods. A systematic review was conducted. Cohort or case-control studies published in English or German were included if they investigated risk factors for falls or fall-related injuries in a sample consisting of participants with dementia or cognitive impairment. Two reviewers independently assessed study quality.
Results. Six prospective studies were included in the review. These differed concerning samples, settings, follow-up periods and examined variables. Therefore, meta-analysis was not possible. Eight categories of risk factors emerged: disease-specific motor impairments, impaired vision, type and severity of dementia, behavioural disturbances, functional impairments, fall history, neuroleptics and low bone mineral density.
Conclusion. There is lack of sound studies examining fall risk factors in cognitively impaired elders. Well-known risk factors such as motor impairment show particular characteristics in people with dementia. In addition, behavioural disturbances contribute to their high risk for falls. Further prospective studies are needed.

EPIDEMIOLOGY AND RISK FACTORS FOR FALLS

Fall detection of elderly through floor vibrations and sound.

Litvak D, Zigel Y, Gannot I. Conf Proc IEEE Eng Med Biol Soc 2008; 1: 4632-5.

Affiliation: Department of Biomedical Engineering, Faculty of Engineering, Tel-Aviv University, 69978, Israel. (Copyright © 2008, IEEE)

ABSTRACT

Falls are very prevalent among the elderly especially in their home. The statistics show that approximately one in every three adults 65 years old or older falls each year. Almost 30% of those falls result in serious injuries. Studies have shown that the medical outcome of a fall is largely dependent upon the response and rescue time. Therefore, reliable and immediate fall detection system is important so that adequate medical support could be delivered. We have developed a unique and inexpensive solution that does not require subjects to wear anything. The solution is based on floor vibration and acoustic sensing, and uses a pattern recognition algorithm to discriminate between human or inanimate object fall events. Using the proposed system we can detect human falls with a sensitivity of 95% and specificity of 95%.

Physical activity, muscle function, falls and fractures.

Karlsson MK, Nordqvist A, Karlsson C. Food Nutr Res 2008; 52: ePub.

Affiliation: Department of Orthopaedics and Clinical and Molecular Osteoporosis Research Unit, Department of Clinical Sciences, Malmö University Hospital, Lund University, Sweden. (Copyright © 2008, Co-Action Publishing)

ABSTRACT

STUDY DESIGN: A thematic review.
OBJECTIVES: To evaluate if physical activity enhances muscle strength, improves balance, and reduces the fall frequency and the fracture incidence.
BACKGROUND: One of the major medical problems of today is the increasing incidence of fragility fractures. Muscle strength and fall is one of the major determinants of a fracture. If physical activity could increase muscle strength, improve balance and reduce the fall frequency, then training could be recommended as prevention for fractures.
METHODS: The review used Medline (PubMed) and the search words exercise, physical activity, muscle strength, balance, falls, fractures. Randomized controlled trials (RCT) were predominantly included, although this not is a systematic review.
RESULTS: The evidence that physical activity modifies the risk factors for fall is compelling, although RCT with fractures as end point are lacking. Physical activity is associated with improved muscle strength, co-ordination and balance. Physical training increases muscle strength also in octogenarians by up to 200%, i.e. a much more pronounced effect than the corresponding increase in muscle volume or bone mass. There is also evidence that physical activity decreases the actual number of falls. Observational cohort and case-control studies imply that physical activity is associated with reduced hip fracture risk. If exercise reduces the number of vertebral fractures and other fragility fractures are less evaluated.
CONCLUSIONS: Physical activity in older ages can be recommended to improve muscle strength and balance, to reduce the risk to fall and fractures, although the highest level of evidence - RCT with fracture as endpoint - is lacking.

Fall risk factors in elderly patients with cognitive impairment on rehabilitation wards.

Vassallo M, Mallela SK, Williams A, Kwan J, Allen S, Sharma JC. Geriatr Gerontol Int 2009; 9(1): 41-6.
Affiliation: Royal Bournemouth Hospital, Bournemouth, UK. michael.vassallo@rbch.nhs.uk
(Copyright © 2009, John Wiley and Sons)
ABSTRACT

BACKGROUND: Confusion and cognitive impairment, are risk factors for falls in hospital. Evidence for reducing falls in cognitively-impaired patients is limited and to date no intervention has consistently been shown to reduce falls in this group of patients. We explored characteristics associated with falls in cognitively-impaired patients in a rehabilitation setting.
METHODS: In a prospective observational study, 825 consecutive patients were studied. Patient characteristics were assessed on admission. Factors predisposing to falls in cognitively-impaired patients were identified.
RESULTS: Cognitively-impaired patients were more likely to be fallers or recurrent fallers and more likely to sustain an injury than cognitively intact patients. They had a higher incidence of nursing home discharges and a significantly higher mortality. Logistic regression analysis showed that an unsafe gait ($P < 0.001$; 95% confidence interval, 0.13-0.57) was the only independent risk factor for falls in this group of patients. There was a cumulative higher risk of falling associated with an unsafe gait demonstrable throughout the patients' stay.

CONCLUSION: Unsafe gait was the only significant independent risk factor for falls among cognitively-impaired patients in a rehabilitation environment. Interventions that improve gait patterns or that enhance safety for patients with abnormal gait are required if fall reduction in this group of patients is to be achieved.

Identification of fall risk factors in older adult emergency department patients.

Carpenter CR, Scheatzle MD, D'Antonio JA, Ricci PT, Coben JH. Acad Emerg Med 2009; 16(3): 211-9.
Affiliation: Division of Emergency Medicine, Washington University, St. Louis, MO, USA. carpenterc@wusm.wustl.edu (Copyright © 2009, John Wiley and Sons)

ABSTRACT

OBJECTIVES: Falls represent an increasingly frequent source of injury among older adults. Identification of fall risk factors in geriatric patients may permit the effective utilization of scarce preventative resources. The objective of this study was to identify independent risk factors associated with an increased 6-month fall risk in community-dwelling older adults discharged from the emergency department (ED).

METHODS: This was a prospective observational study with a convenience sampling of noninstitutionalized elders presenting to an urban teaching hospital ED who did not require hospital admission. Interviews were conducted to determine the presence of fall risk factors previously described in non-ED populations. Subjects were followed monthly for 6 months through postcard or telephone contact to identify subsequent falls. Univariate and Cox regression analysis were used to determine the association of risk factors with 6-month fall incidence.

RESULTS: A total of 263 patients completed the survey, and 161 (61%) completed the entire 6 months of follow-up. Among the 263 enrolled, 39% reported a fall in the preceding year, including 15% with more than one fall and 22% with injurious falls. Among those completing the 6 months of follow-up, 14% reported at least one fall. Cox regression analysis identified four factors associated with falls during the 6-month follow-up: nonhealing foot sores (hazard ratio [HR] = 3.71, 95% confidence interval [CI] = 1.73 to 7.95), a prior fall history (HR = 2.62, 95% CI = 1.32 to 5.18), inability to cut one's own toenails (HR = 2.04, 95% CI = 1.04 to 4.01), and self-reported depression (HR = 1.72, 95% CI = 0.83 to 3.55).

CONCLUSIONS: Falls, recurrent falls, and injurious falls in community-dwelling elder ED patients being evaluated for non-fall-related complaints occur at least as frequently as in previously described outpatient cohorts. Nonhealing foot sores, self-reported depression, not clipping one's own toenails, and previous falls are all associated with falls after ED discharge.

Cost-Effectiveness Analysis of Screening for Risk of In-Hospital Falls Using Physiotherapist Clinical Judgment.

Haines T, Kuys SS, Morrison G, Clarke J, Bew P. Med Care 2009; ePub(ePub): ePub.
Affiliation: Department of Physiotherapy, Monash University, Cheltenham, Australia; Department of Physiotherapy, Princess Alexandra Hospitalm, Queensland, Australia; Department of Physiotherapy, St Andrews War Memorial Hospital, Queensland. (Copyright © 2009, Lippincott Williams and Wilkins).

ABSTRACT

INTRODUCTION: Screening hospital patients for falls risk is now a contentious component of geriatric care despite its widespread clinical use. The economic implications of using a falls risk screening approach to deliver an effective falls prevention intervention have not previously been examined.

METHODS: This was a multicenter prospective longitudinal cohort and incremental cost-effectiveness analysis.

PARTICIPANTS/SETTING: One thousand one hundred twenty-three geriatric inpatients from 17 rehabilitation units across Australia.

MEASURES: Physiotherapist accuracy in predicting patient who will fall was captured with the question "Will this patient experience one or more falls during their rehabilitation period?" Falls were measured using hospital incident reporting systems.

PROCEDURE: The multicenter longitudinal cohort was undertaken to establish the predictive accuracy of physiotherapist clinical judgement. This data was used in the incremental cost-effectiveness analysis where estimates of the cost of falls and effectiveness of an intervention program were taken from previous research.

RESULTS: The accuracy of physiotherapist clinical judgement in predicting falls was high relative to previous research (sensitivity = 0.61, specificity = 0.82, Youden index = 0.43). Selectively providing patient falls-prevention education using physiotherapist clinical judgement would reduce falls [2.2 (SD: 0.19) fallers per 100 inpatients reduction] and reduce resources spent on trying to prevent and treat injuries from in-hospital falls [$2704 AUD (SD: $432) per 100 inpatients reduction] compared with doing nothing. However, there was greater uncertainty as to whether the patient education intervention modeled should be provided selectively or universally.

CONCLUSIONS: Preventing in-hospital falls using a targeted falls prevention intervention approach utilizing physiotherapist clinical judgement was more cost-effective than a "no intervention" approach.

Lifestyle predicts falls independent of physical risk factors.

Faulkner KA, Cauley JA, Studenski SA, Landsittel DP, Cummings SR, Ensrud KE, Donaldson MG, Nevitt MC. Osteoporos Int 2009; ePub(ePub): ePub.
Affiliation: University of Pittsburgh, 130 DeSoto Street, Pittsburgh, PA, 15261, USA, kaf24@pitt.edu.
(Copyright © 2009, Springer Science+Business Media)

ABSTRACT

Summary Many falls occur among older adults with no traditional risk factors. We examined potential independent effects of lifestyle on fall risk. Not smoking and going outdoors frequently or infrequently were independently associated with more falls, indicating lifestyle-related behavioral and environmental risk factors are important causes of falls in older women.

Introduction Physical and lifestyle risk factors for falls and population attributable risks (PAR) were examined.

Methods We conducted a 4-year prospective study of 8,378 community-dwelling women (mean age = 71 years, SD = 3) enrolled in the Study of Osteoporotic Fractures. Data on number of falls were self-reported every 4 months. Fall rates were calculated (# falls/woman-years). Poisson regression was used to estimate relative risks (RR).

Results Physical risk factors ($p \leq 0.05$ for all) included tall height (RR = 0.89 per 5 in.), dizziness (RR = 1.16), fear of falling (RR = 1.20), self-reported health decline (RR = 1.19), difficulty with Instrumental Activities of Daily Living (IADLs) (RR = 1.12, per item), fast usual-paced walking speed (RR = 1.18, per 2 SD), and use of antidepressants (RR = 1.20), benzodiazepines (RR = 1.11), or anticonvulsants (RR = 1.62). Protective physical factors ($p \leq 0.05$ for all) included good visual acuity (RR = 0.87, per 2 SD) and good balance (RR = 0.85 vs. poor). Lifestyle predicted fewer falls including current smoking (RR = 0.76), going outdoors at least twice weekly but not more than once a day (RR = 0.89 and vs. twice daily). High physical activity was associated with more falls but only among IADL impaired women. Five potentially modifiable physical risk factors had PAR ≥ 5%.

Conclusions Fall interventions addressing modifiable physical risk factors with PAR ≥ 5% while considering environmental/behavioral risk factors are indicated.

Three-year follow-up of the fall risk and physical function characteristics of the elderly participating in a community exercise class.

Yokoya T, Demura S, Sato S. J Physiol Anthropol 2009; 28(2): 55-62.
(Copyright © 2009, Japan Society of Physiological Anthropology)

ABSTRACT

OBJECTIVES: This study targeted the elderly participating in community exercise classes implemented by the local government, and followed their fall risk and physical function characteristics for three years. This study aimed to compare these changes between low and high fall risk individuals.

METHODS: The participants consisted of 34 male and 163 female Japanese elderly people aged 60 years or over who participated in a community exercise class once a week for three years. Physical fitness and activities of daily living (ADL) capability were evaluated by the physical fitness test of the Ministry of Education, Culture, Sports, Science and Technology in Japan. The fall risk was evaluated using a Fall Assessment Chart (Suzuki, 2000), and if the total score was >or=5, the subject was assessed as a high fall risk. Significant changes in the fall risk characteristics were examined by McNemar's test. Significant changes in physical function characteristics (Physical fitness and ADL tests) were examined by two-way (fall risk group and pre-post) ANOVA.

RESULTS: The fall risk and number of falling incidents decreased only for the high risk group. In addition to the observed decrease in risk and incidents, it was found that the elderly who exercised were able to maintain their physical function (ADL capability level) with regard to muscular strength, walking, and maintaining and changing posture over the course of the three-year study.

CONCLUSIONS: Effectiveness of the exercise class implemented by the local government for fall prevention was found for the high fall risk elderly. These findings indicate the possibility that health promotion activities based on exercise classes may be a prevention strategy for falls within the community-dwelling elderly by incorporating more diverse activities adapted to an individual's functional level.

INTERVENTION STUDIES

Using senior volunteers as peer educators: What is the evidence of effectiveness in falls prevention?

Peel NM, Warburton J. Australas J Ageing 2009; 28(1): 7-11.
Affiliation: Australasian Centre on Ageing, The University of Queensland, Australia. n.peel@uq.edu.au
(Copyright © 2009, John Wiley and Sons)
ABSTRACT
Peer education models are well established as a means of delivering health and social welfare information. Common themes identified in regard to peer education are that information sharing and transfer take place; attempts are made to influence knowledge, attitudes or behaviour; that it occurs between people who share similar characteristics or experiences; and that it relies on influential members of a social group or category. Although it is most often associated with younger age-groups, there is growing evidence of involvement of older people as peer educators. As part of community-based fall prevention interventions, there is considerable scope for contribution by peer mentors. This paper explores the theoretical basis for using senior volunteers as peer educators, discusses advantages and disadvantages of this model of service delivery for health promotion of older people and, specifically, reviews the evidence for effectiveness in relation to fall prevention.

Combined effects of functionally-oriented exercise regimens and nutritional supplementation on both the institutionalised and free-living frail elderly (double-blind, randomised clinical trial)

Marek Zak, Christian Swine and Tomasz Grodzicki. BMC Public Health 2009, 9:39-54.
ABSTRACT:
Background: Consistently swelling proportion of the frail elderly within a modern society challenges the over-strained public health sector to provide both adequate medical care and comprehensive assistance in their multiple functional deficits of daily living. Easy-to-apply and task-specific ways of addressing this issue are being sought out, with a view to proposing systemic solutions for nationwide application.
Methods: The present randomised, double-blind, placebo-controlled, 7-week clinical trial aimed to determine whether specifically structured, intensive exercise regimens, combined with nutritional supplementation, might improve and help sustain individual muscle strength and mobility, and possibly enhance individual functional capabilities in an on-going quest for active prevention of care-dependency. Ninety-one frail elderly (F 71 M 20; mean age 79 years) were recruited from both nursing home residents and community dwellers and randomly split into four groups: Group I progressive resistance exercises (PRE) + functionally-oriented exercises (FOE) + nutritional supplementation (NS), Group II PRE + FOE + placebo, Group III standard exercises (SE) + FOE + NS, Group IV SE + FOE + placebo. Each group pursued a 45 min. exercise session 5 times weekly. The subjects strength with regard to four muscle groups, i.e. hip and knee extensors and flexons, was assessed at 80% (1 RM) weekly, whereas their balance and mobility at baseline and at the end of the study.
Results: The study was completed by 80 subjects. Despite its relatively short duration significant differences in muscle strength were noted both in Group I and Group II ($p = 0.01$; $p = 0.04$; respectively), although this did not translate directly into perceptible improvement in individual mobility. Notable improvements in individual mobility were reported in Group III and Group IV ($p = 0.002$), although without positive impact on individual muscle strength.
Conclusion: Comprehensively structured, high-intensity regimen made up of diverse exercise types, i.e. functionally-oriented, progressive resistance and standard ones, preferably if combined with nutritional supplementation in adequate volume, demonstrates clear potential for appreciably improving overall functional status in the frail elderly in terms of individual walking capacity and muscle strength.

Preventing falls among older adults: No "one size suits all" intervention strategy.

Rose DJ. J Rehabil Res Dev 2008; 45(8): 1153-66.
Affiliation: Center for Successful Aging and Fall Prevention Center of Excellence, KHS 245, California State University, Fullerton, 800 N. State College Boulevard, Fullerton, CA. drose@fullerton.edu.
(Copyright © 2008, Rehabilitation Research and Development Service, U.S. Department of Veterans Affairs)
Physical activity (exercise) serves primary, secondary, and tertiary roles in the prevention of falls among older adults. In its primary role, physical activity can prevent the onset of pathology and system impairments that lead to disability and increased risk for falls. Slowing the progression of disease and system impairments is its secondary role, while its tertiary role lies in the restoration of function to a level that allows for more autonomy in the

performance of essential activities of daily living. Whether used as a stand-alone strategy or a core component of a multifactorial intervention approach, exercise constitutes an effective means by which to reduce fall risk and/or fall incidence rates. At low levels of risk, many exercise choices are available to older adults. As the level of risk increases, however, more tailored and progressive exercise programs that target the physical risk factors associated with falls are more effective in lowering fall risk. Adopting a multifactorial intervention approach with exercise as an integral component may also be necessary at the highest levels of risk. Although more labor intensive, multifactorial approaches, if carefully staged, should still be considered the most effective intervention approach for older adults identified at high risk for falls.

UPCOMING COURSES

THE GEORGE INSTITUTE *for International Health*

The University of Sydney

COURSES IN INJURY PREVENTION AND FALLS PREVENTION

Two-day workshop in Injury Prevention
Date: Friday 7 and Monday 10 August, 2009
Venue: The University of Sydney

This introductory level course is a two-day workshop covering principles of injury prevention, policy and practice, and injury-specific content. It is offered by the George Institute for International Health to students of Graduate Diploma/Masters/Doctor of Public Health/PhD programs and to external individuals interested in, or working in, injury prevention and control, or related fields.

One-semester online course in Injury Epidemiology, Prevention and Control
Semester commences: Monday 27 July, 2009

This one-semester online unit teaches students about the principles of injury epidemiology, prevention and control. It provides a basis for the assessment and investigation of injury issues, and the development, implementation and evaluation of injury prevention programs. It offers:
- Practical case studies to illustrate injury issues and promote interaction
- Online discussions with leading injury control professionals
- Content developed by leaders in injury prevention and control throughout Australia.

One-semester online course in Falls Prevention and the Older Person
Semester commences: Monday 27 July, 2009

This one-semester online unit will teach students about the principles of falls prevention and falls injury prevention in the older person, with a focus on the practical aspects of these principles. If offers:
- Content materials developed by leaders in the field of falls prevention
- Interactive online discussions, moderated by an expert in the field
- Practical case studies to promote learning

For more information on the courses above, please go to www.thegeorgeinstitute.org or email us directly via injurycourses@george.org.au or phone (02) 9657 0361

We acknowledge the support of The Australian Government Department of Health and Ageing's Public Health Education and Research Program during the development of these courses.



Photos © Queensland

NSW FALLS PREVENTION NETWORK

2009 NSW FALLS PREVENTION NETWORK MEETING

WEDNESDAY, 17th June 2009

9:30am-4:00pm

Venue: *Mathews Theatres*

University of NSW

Plenary Speakers

Professor Stephen Lord - Evidence Based Best Practice Falls Prevention
Professor Kaarin Anstey - Psychological Factors influencing Falls Risk
A/Prof Lindy Clemson - Empowering Older People to Prevent Falls
Dr John Ward - Aged Care Demonstration Project
Ms Lorraine Lovitt - Update on NSW Falls Prevention Program

Afternoon Concurrent Sessions

Facilitated Sessions with 2-3 short presentations and discussion time for:
Hospital
Community
Residential Aged Care

Cost : $40 per person
includes arrival tea/coffee
morning tea and light lunch

A registration form and further details are available on the NSW Falls Prevention Network website at:
http://www.powmri.edu.au/fallsnetwork

Enquiries to Esther Vance at e.vance@powmri.edu.au or phone (02)9399 1063

www.powmri.edu.au/fallsnetwork

NSW FALLS PREVENTION NETWORK BACKROUND

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 injury 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

- 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 write unsubscribe nsw-falls-network on the next line type end

If you have any problems contact Esther at e.vance@powmri.edu.au.

SHARE YOUR NEWS AND INFORMATION/IDEAS ON FALLS PREVENTION

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@powmri.edu.au

THE NETWORK LISTSERV

It is great to see the increased activity on the listserv and 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

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.