

## Session 7A Concurrent Translating research into practice

**Dr Nicholas Waldron** graduated from Otago University completing training as a Consultant Geriatrician in Perth. Through his research as the NHMRC NICS – WA Health Fellow and role as the clinical lead of the WA health falls prevention network, he continues to facilitate the implementation of falls evidence into practice.

**Dr Lesley Day** is a Senior Research Fellow, and Deputy Director, at the Monash University Accident Research Centre, in Melbourne, where she manages a research program on injury among high risk populations. Current research includes the association between falls prevention and disability, and modeling the population level impact of falls prevention trials.

**Stephen Maloney** is a lecturer within the Monash University Physiotherapy Program in Melbourne. Stephen has a special interest in the field of clinical education and is currently researching the use of supporting technologies to improve the value of the education experience for both students and clinicians.

**Meryl Lovarini** is an occupational therapist who has worked in a variety of clinical and research roles. She is nearing completion of a PhD at The University of Sydney. Her professional interests include improving the health of older adults and the translation of research evidence into clinical practice.

**Mooch Williams** is a Programme Manager in the Injury Prevention team at ACC in Wellington. Mooch has worked in a variety of health related roles and has a post graduate qualification in Osteoporosis and falls management. Mooch established a successful Fracture Liaison Service at the Bristol Royal Infirmary, UK prior to joining ACC in 2007.

**Luke Slawomirski** is A/Senior Policy Officer at the Office of Safety and Quality in Healthcare at the WA Department of Health. He has a clinical background in physiotherapy and holds a Masters degree in Health Economics.

**Esther Vance** is the Project Officer for the NSW Falls Prevention Network and is based at Neuroscience Research Australia. She has been in this role since late 2005. She has a background in public health and information management.

**Master Rod Ferguson** is National Director of Training with the Australian Academy of Tai Chi. A full time professional instructor since 1978, Rod has worked with state and local government to provide free classes for up to 100 people at each lesson. Although internationally acclaimed Rod's teaching style is natural.

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### A MULTIFACETED INTERVENTION TO IMPLEMENT GUIDELINE CARE FOR EMERGENCY DEPARTMENT FALLERS

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#### **Aim:**

Guidelines recommend that older people should receive multifactorial interventions following an injurious fall but there is limited evidence that this is routine practice. We aimed to improve the delivery of evidence based care to patients presenting to the Emergency Department (ED) following a fall.

#### **Methods:**

A prospective before and after study was conducted in the ED of a medium sized (280 bed) hospital in Perth, Western Australia. Participants included 313 community dwelling patients greater

than age 65 years old, presenting to ED as a result of a fall over a 14 month timeframe. A multifaceted change strategy was implemented after 7 months which included a referral pathway, audit and feedback to allied health staff and additional falls specialist staff. Key measures for improvement comprised the proportion of patients reviewed by allied health, the proportion of patients referred for guideline care and a quality of care index, all determined by record extraction.

#### **Results:**

Allied health staff improved the proportion of patients being reviewed from 62.7% in the before period to 89% after the intervention ( $p < 0.001$ ). Before the intervention a referral for comprehensive guideline care occurred for only 6/177 (3.4%) of patients, afterwards for 28/136 (20.6%) (difference 17.2%, 95% CI 11% to 23%). The average quality of care index (maximum score 100) increased from 18.6 (95% CI 16.7 to 20.4) to 32.6 (95% CI 28.6 to 36.6).

#### **Conclusion:**

A multifaceted change strategy was associated with an improvement in allied health in ED prioritising the review of ED fallers as well as subsequent referral for comprehensive geriatric care. The processes of multi-disciplinary care also improved indicating improved care received by the patient.

### **REDUCING FALLS AMONG OLDER PEOPLE IN VICTORIA: BETTER EVIDENCE, BETTER TARGETING, BETTER OUTCOMES**

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#### **Aim:**

We are undertaking a partnership project to enable more effective policy responses to the falls prevention challenge in Victoria. We report our experience using the RE-AIM model<sup>1</sup> to inform future Victorian Department of Health falls prevention initiatives.

#### **Methods:**

RE-AIM was used to identify strategies required for an effective program. Research objectives were developed following an analysis of the current state of knowledge relative to these required strategies. The research results will subsequently guide strategy details for the falls

prevention plan. Finally, evaluation will be integrated into the plan, using RE-AIM.

#### **Results:**

Planning and evaluation approaches for the five core RE-AIM dimensions as these related to the falls prevention plan were identified. Relevant research objectives included: (1) identification of sub-groups of older people most frequently admitted to hospital; (2) examining the acceptability of proven falls interventions to those sub-groups; (3) identification of factors that encourage and support relevant lifestyle changes; (4) identifying opportunities to incorporate proven falls interventions in existing programs and services; (5) developing and testing guidelines for sustainability within agencies and programs. The application of RE-AIM to evaluating the integration of home hazard assessment and modification into hospital discharge planning will be presented as an example.

#### **Conclusion:**

Using a model which supports the whole process from planning a state-wide falls prevention program, identifying the necessary evidence-base, through to designing the evaluation provides coherence, ensures systematic consideration of critical factors, and incorporates feedback into program planning from the outset.

#### **Reference:**

1. Glasgow RE, Vogt TM, Boles SM. Evaluating the public health impact of health promotion interventions: the RE-AIM framework. *Am J Public Health* 1999;89:1322-7.

### **EFFICACY OF ONLINE VERSUS FACE-TO-FACE DELIVERY OF FALLS PREVENTION EDUCATION TO HEALTH PROFESSIONALS**

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#### **Aim:**

Exercise is an effective intervention for the prevention of falls, however some forms of exercises have been shown to be more effective than others.<sup>1,2</sup> There is a need to train health professionals as to appropriate methods in optimal exercise prescription for falls prevention.

This study aims to compare two approaches for delivering training in exercise prescription for falls prevention to clinicians with relevant undergraduate degrees.

#### **Methods:**

This study utilizes a randomised trial design. Participants were physiotherapists, occupational

therapists, nurses and exercise physiologists working in Victoria, Australia.

One intervention group received 'face-to-face' traditional education using a one-day seminar format with additional video and written support material. The second intervention group received 'online delivery' of the equivalent educational material over a four-week period with remote tutor facilitation.

Outcomes were measured across levels one to three of Kirkpatrick's hierarchy of educational outcomes, including: attendance, adherence, satisfaction, knowledge gains and self-reported change in practice.

#### **Results:**

Of the 166 participants initially recruited, there was gradual attrition from randomisation to participation in the trial (n = 67 online, n = 68 face-to-face), to completing the educational content (n = 45 online, n = 50 face-to-face), to completion of the post-education examinations (n = 42 online, n = 48 face-to-face).

Participant satisfaction was equivalent between the two groups, as were exam results, assignment results and reported change in clinical practice.

Online participants reported spending significantly more time (total of 90 minutes compared with 30 minutes) engaged with the additional learning materials.

#### **Conclusion:**

Face to face and online approaches produced equivalent results with the exception of online participants reporting more time engaged with the optional learning resources. Practical considerations should arguably drive delivery selection choice, which may favour online provision for its ability to overcome access issues for health professionals in regional and remote settings.

#### **References:**

1. Gillespie LD, Robertson MC, Gillespie WJ et al. Interventions for preventing falls in older people living in the community. *Cochrane Database Syst Rev* 2009; Issue 2. Art.No.: CD007146. DOI: 10.1002/14651858.CD007146.pub2
2. Sherrington C, Whitney J, Lord S et al. Effective exercise for the prevention of falls: a systematic review and meta-analysis. *J Am Geriatr Soc* 2008;56(12):2234-43.

## **CONDITIONS NECESSARY FOR ACHIEVING PROGRAM SUSTAINABILITY IN FALLS PREVENTION: A GROUNDED THEORY**

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#### **Aim:**

Limited research exists on how falls prevention programs can be sustained in the community. This study explored the factors affecting sustainability of the Stepping On program, a falls prevention program for older adults living in the community, that has been shown to reduce falls, improve self-efficacy and increase the use of protective behaviours. The aim of the study was to determine the conditions necessary for program sustainability and to develop a theory for how program sustainability can be achieved.

#### **Methods:**

A grounded theory methodology was used in this qualitative study. Forty-two interviews were conducted with 34 participants from 15 organisations. Observations were recorded in 69 field notes. Data were collected from February 2007 to November 2009 and analysed systematically according to recognised processes for constructing grounded theory. Data from interviews, observations and other records such as emails and reports were included in the analysis. Ethical approval was received for this study.

#### **Results:**

Organisations will sustain the program providing they have both the motivation and capacity to do so. Maintaining motivation and capacity rests on a number of key conditions being met: the program must offer benefits and value, skilled and motivated people must be available and tailored and timely support must be received. These conditions are applicable across diverse and changing organisational contexts. A network of support is a potential mechanism to enhance the motivation and capacity of organisations and assist them in achieving the conditions necessary for program sustainability. A theoretical framework encapsulating the conditions for achieving program sustainability will be presented.

#### **Conclusion:**

The Stepping On program can be sustained providing certain conditions are met. Based on the experiences of practitioners, this study provides a theoretical explanation and framework for how program sustainability can be achieved.

## THE D-FENCE AGAINST FALLS: VITAMIN D FOR FALL PREVENTION IN RESIDENTIAL CARE

### Williams M

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#### Aim:

In 2007, the Accident Compensation Corporation (ACC) and the Ministry of Health commissioned research to determine successful and cost effective strategies to prevent falls in older adults.

ACC aimed to increase the provision of vitamin D to aged care residents throughout New Zealand to reduce the incidence and severity of falls in this population.

A recent Cochrane review confirmed that provision of vitamin D supplements to older adults in nursing care facilities could reduce falls by 28% (rate ratio 0.72, 95% CI 0.55 to 0.95).<sup>1</sup>

#### Methods:

In 2008, the programme was trialled in six areas in New Zealand. ACC worked with local health authorities and used an educational campaign to target general practitioners, facility staff and residents. The local health authority and facilities provided ACC with progress reports on uptake and effectiveness of the educational campaign.

#### Results:

In the pilot sites, components of the programme set-up did not work optimally. In four of the pilot sites, the local health authority did not have the capacity to implement the educational campaign without support from ACC. It was also difficult to establish progress and uptake of vitamin D as facility reports varied in standard due to competing priorities.

The programme set-up was reviewed in 2009 and ACC is now providing support to local health authorities and facilities to implement the educational package. The method of data collection to assess uptake has been automated therefore facilities do not need to provide uptake reports. This has resulted in a significant improvement in capturing uptake numbers. Following these changes, national rollout of the programme has occurred and vitamin D prescribing has increased from 17% in 2007 to 49% in June 2010.

#### Conclusion:

Working with local health authorities to implement a national educational campaign can increase the uptake of vitamin D in aged care in New Zealand.

#### Reference:

1. Cameron ID, Murray GR, Gillespie LD et al. Interventions for preventing falls in older people in nursing care facilities and hospitals. *Cochrane Database Syst Rev* 2010, Issue 1. Art. No.: CD005465. DOI: 10.1002/14651858.CD005465.pub2.

## A FALLS PREVENTION 'COMMUNITY OF PRACTICE': INNOVATIVE SOFT NETWORKING FOR QUALITY IMPROVEMENT

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#### Aim:

To enhance continuous quality improvement in system-wide inpatient falls prevention activity by facilitating improved communication, learning and information sharing among staff.

#### Methods:

A Falls Prevention Community of Practice (CoP) was created in November 2009, modelled on the format described by Li et al.<sup>1</sup> A period of engagement with stakeholders was followed by identification of key CoP roles including leadership, facilitation, champions, experts and core participating staff. Face to face meetings with video link to rural sites were held 3-monthly. No additional funding was attained. An online survey was undertaken prior a formal meeting and after 6 months to evaluate consistency of documentation, communication methods and perception about CoP efficacy.

#### Results:

The first three meetings (November 2009, March 2010, June 2010) were attended by an average of 25 people with broad inter-professional representation. An initial early outcome was development and agreement over a statewide Falls Risk Management Tool.<sup>2</sup> The survey sent to all quality improvement staff had a 36% (24/67) response rate at baseline increasing to 56% (38/68) at follow-up. In both surveys 83% of respondents felt communication was very or extremely important, however the percentage who felt this was optimal increased from 17% to 49%. Staff feeling very or highly supported in their workplace increased from 35% (7/20) to 56% (14/25). Those feeling adequately resourced to perform falls prevention work increased from 40% (8/20) to 72% (18/25). Staff who felt committed to the CoP as an innovation increased from 60% (12/20) at inception to 83% (20/24) at 6 months.

## Conclusion:

The WA Falls Prevention CoP has facilitated increased communication between quality improvement staff, as well as their perception of being supported and adequately resourced to achieve work tasks. Members have embraced the CoP which has been an effective, cost neutral method for facilitating inter-agency collaboration.

## References:

1. Li LC, Grimshaw JM, Nielsen C et al. Use of communities of practice in business and health care sectors: a systematic review. *Implement Sci* 2009;4:27.
2. [http://www.healthnetworks.health.wa.gov.au/docs/11642\\_Falls\\_Risk\\_Management.pdf](http://www.healthnetworks.health.wa.gov.au/docs/11642_Falls_Risk_Management.pdf)

## REACHING OUR REMOTE HEALTH PROFESSIONALS: THE ROLE OF VIDEOCONFERENCING

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### Introduction:

Ensuring that our rural and remote health workforce has access to the latest falls prevention research information and practice is an important strategy of the NSW Falls Prevention Network. The tyranny of distance combined with reduced budgets makes it difficult for staff to attend a central location and for experts to travel to distant locations. Access to more advanced internet technologies such as Webcam and Skype are also not available to NSW Rural Area Health staff.

The NSW Falls Prevention Network in partnership with the Clinical Excellence Commission has conducted successful rural videoconferencing forums with multiple rural health sites.

### Discussion:

Falls prevention videoconference sessions have been run across two rural Area Health Services (AHS) in NSW (Greater Western AHS and North Coast AHS) with over 400 participants taking part. These have showcased presentations from key experts such as Professor Stephen Lord providing an update of the evidence in falls prevention research, A/Professor Jacqueline Close on falls and medications, and A/Professor Lindy Clemson on motivating older people in self management and awareness of falls prevention. Key falls champions have also provided information about special projects.

These sessions also provide a vehicle for sharing local initiatives, an opportunity to 'network' with colleagues and for participants to consult directly with the experts. Each session was recorded and

distribution by CD enables wider access to information. All videoconference sessions were evaluated with a questionnaire for participants.

### Conclusion:

Evaluation of the videoconferencing sessions found that it is both cost effective and a very acceptable mechanism for providing key research and local initiatives to health professionals who are unable to attend centrally located meetings or conferences.

## APPLIED TAI CHI – A FALLS PREVENTION PROGRAM: TRANSLATING RESEARCH INTO PRACTICE

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<sup>1</sup>*Australian Academy of Tai Chi & Qigong, Brisbane, QLD, Australia*  
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### Aim:

To create and implement an "Applied Tai Chi for Balance & Stability" program that is 1) sustainable, 2) cost-effective, 3) appropriate for all levels of ability, and 4) adaptable to reach across the continuum of care, from healthy independent community dwellers to the high-risk and low-mobility residents in aged care facilities.

### Methods:

By extracting the essential principles from Traditional Tai Chi our evidence based falls prevention program exercises are modified to target specific outcomes. Non-expert facilitators, "practice leaders" were trained. Several "Train the Trainer" course models were designed to develop the competency of these leaders. The courses varied in length and content depending on their experience, e.g. allied health workers already have an understanding of safety requirements for elderly people.

### Results:

Utilising existing allied health workers kept the program low cost and sustainable in the residential settings. Creating and maintaining partnerships with government and non-government organisations and community groups assists with promotion and cost-sharing for general community dwellers. These "Applied Tai Chi" programs are still running successfully in remote areas of the state (they are accessible and cost-effective). Community classes have had a high rate of repeat attendance; many students also practise at home with the DVD.

### Conclusion:

As the population ages, it is vital that people become active and maintain their fitness, balance

and strength. The activity they choose must be cost-effective, enjoyable and sustainable, and provide a social element to allow interaction with their peers. This program provides all these elements, and can be an intervention now to reduce skyrocketing costs of health resources in the coming years. Using just any “Tai Chi” choreography without regard to, and knowledge of, the principles that make Tai Chi so effective in falls prevention (up to 47% reduction in falls<sup>1,2</sup>) may not meet the specific outcomes. There are

also many additional benefits gained from regular Tai Chi practice.

**References:**

1. Gillespie LD, Robertson MC, Gillespie WJ et al. Interventions for preventing falls in older people living in the community. *Cochrane Database Sys Rev* 2009, Issue 2. Art.No.: CD007146. DOI: 10.1002/14651858.CD007146.pub2.
2. Voukelatos A, Cumming RG, Lord SR et al. A randomized, controlled trial of tai chi for the prevention of falls: the Central Sydney tai chi trial. *J Am Geriatr Soc* 2007;55(8):1185-91.