



Progress Report

Implementing falls prevention research into policy and practice in Australia: Past, present and future

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ABSTRACT

Introduction: Falls in older Australians are a significant public health issue with one in three older people falling one or more times each year. **Method:** Many fall prevention randomized controlled trials have been conducted in Australia as well as across the world. **Results:** The findings of these studies now constitute a substantial evidence base that can provide direction for health and lifestyle interventions for preventing falls in older people. This research evidence has contributed to health policy in Australia to some extent, but is yet to be widely implemented into practice. This opinion piece overviews previous policy initiatives and describes a new Partnership research program funded by the Australian National Health and Medical Research Council (NHMRC), which seeks to further influence health policy and address the ongoing research-practice gap.

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1. Introduction

Falls in older Australians are a significant public health issue. With one third of people aged 65 years and over falling one or more times every year, the community burden from falls is very significant. It has been projected that, by 2051, the total annual Australian health bill for fall-related injury will increase almost threefold to AUD\$1.4 billion (Moller, 2003). The aging of Australia's population – estimates suggest that by 2021 more than 5 million Australians will be aged 65 years and over – means this problem is substantially increasing in magnitude (Moller, 2003). Developing and implementing strategies to prevent falls and fall-related injuries among older people is therefore an urgent public health challenge and one of the key priority areas previously identified by national and state government health departments.

Several fall prevention randomized controlled trials have been conducted in Australia. These have included interventions aimed at reducing hazards in the home (Stevens, Holman, & Bennett, 2001), improving vision (Cumming et al., 2007; Haran et al., 2010), improving balance and strength through exercise (Barnett, Smith, Lord, Williams, & Bauman, 2003; Day et al., 2002; Voukelatos, Cumming, Lord, & Rissel, 2007), maximizing home safety through occupational therapy interventions (Cumming et al., 1999), and addressing multiple risk factors (Clemson

et al., 2004). Along with other studies conducted across the world these studies have contributed to a substantial evidence base that is now summarized in Cochrane Collaboration systematic reviews (Cameron et al., 2008; Gillespie et al., 2008).

This research evidence has contributed to health policy in Australia to some extent but is yet to be widely implemented into practice. This opinion piece overviews previous policy initiatives and describes a new Partnership research program funded by the Australian National Health and Medical Research Council (NHMRC), which seeks to further influence health policy and address the ongoing research-practice gap.

1.1. Fall prevention policy initiatives in Australia

In 1999, the Australian Government commenced its National Falls Prevention for Older People Initiative (National Public Health Partnership, 2004). The aims of this initiative included:

- extending the evidence base through research.
- facilitating evidence-based best practice in fall prevention in the community, residential aged care, and acute care settings.
- increasing awareness of falls and interventions among stakeholders.
- enhancing access to fall prevention information, strategies, and activities for stakeholders.
- building fall prevention capacity through workforce development.
- building partnerships among stakeholders interested in fall prevention in older people.

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- incorporating fall prevention messages into a broad range of health policies.

As part of the National Falls Prevention for Older People Initiative, new funding (AUD\$18 million) was allocated to programs aimed at identifying best practice in fall prevention. Subsequent State Government Health Department fall prevention policies and action plans have reinforced the national Initiative (*New South Wales (NSW) Falls Prevention Network, n.d.*; *Queensland Stay on Your Feet, n.d.*; *Fall Injury Among Older People - Management Policy to Reduce in NSW Health, 2005*).

Two further initiatives have complemented the national and state health programs. In 2005, the Australian Council for Safety and Quality in Health Care released the first edition of *Best Practice Guidelines for Preventing Falls and Harm from Falls in Older People in Australian Hospitals and Residential Aged Care Facilities* (Australian Council for Safety and Quality in Health Care, 2005). These guidelines provided sections on standard fall prevention strategies, fall risk screening and assessment, as well as chapters addressing important risk factors for falls. Importantly, in 2009, the guidelines were updated and expanded by the Council's successor: The Australian Commission on Safety and Quality in Health Care (ACSQHC). In the revised version (*Fall prevention guidelines, 2009*), ACSQHC developed three separate guidelines that address the community, hospital and residential aged care settings. These guidelines are based on research evidence (Cameron et al., 2008; Gillespie et al., 2008) and are supplemented with fact sheets for personnel involved in care of older people at risk of falls as well as implementation guidelines.

The second important initiative was the introduction of a quality standard in 2008 addressing fall prevention in Australian hospitals by the Australian Council on Health Care Standards (ACHS). The ACHS oversees hospital accreditation as part of its four year Evaluation and Quality Improvement Program (EQulP, 2008). The standard relating to falls provides a rigorous framework for evaluating current care in relation to systematization of risk identification and the application of effective intervention strategies to prevent falls and minimize harm in older hospitalized patients.

Despite these important initiatives, feedback from clinicians and health promotion staff indicates that research evidence about falls prevention is yet to be widely implemented into practice. As in other fields, the implementation of research evidence into daily practice presents an ongoing challenge. As the evidence base to guide fall prevention is rapidly growing, the incorporation of the latest evidence into health policy also presents an important challenge for researchers and policy makers.

2. Methods and Results

2.1. Partnership grant on implementing fall prevention research into policy and practice

The Australian National Health and Medical Research Council (NHMRC) seeks to facilitate the integration of research evidence into health policy and service delivery and encourage collaboration between researchers and policy makers with the NHMRC Partnerships for Better Health funding scheme (NHMRC, n.d.). In late 2009 one of the newly funded grants focused on implementing fall prevention research into policy and practice. This grant, awarded to the authors and colleagues (Lord, Delbaere, Tiedemann, Smith, & Sturnieks, in press), brings together researchers, policy makers, practicing clinicians, educational institutions, and the information technology industry and has two main themes: (1) **Research** - expanding research where gaps in evidence have been identified, and (2) **Knowledge Translation** - evaluating strategies to translate evidence into practice and disseminating evidence to inform policy and practice.

2.2. Research

There are now encouraging findings from well-planned and executed studies that indicate that many falls are preventable (Cameron et al., 2008; Gillespie et al., 2008). The research projects within this partnership will focus on three identified gaps in the literature.

2.2.1. Early identification of community-dwelling older people at risk for falls and fear of falling (Years 1–3)

Patients presenting to emergency departments or requesting ambulance services due to a fall-related injury represent an easily identifiable high risk population. The evidence to date suggests that these people benefit from a multi-disciplinary fall risk assessment (Close et al., 1999; Davison, Bond, Dawson, Steen, & Kenny, 2005) closely linked to tailored multifactorial interventions (Close et al.). This project will develop screening tools for use in the Emergency Department and by the Ambulance Service of New South Wales. The tools will be designed specifically to identify those people at high risk of future falls who stand to benefit from comprehensive falls assessment and intervention and to streamline referral protocols to appropriate services equipped to deal with the identified need.

There is also strong evidence that the inclusion of psychological and cognitive factors can improve the accuracy of fall risk assessment tools in the prediction of falls (Delbaere, Close, Brodaty, Sachdev, & Lord, 2010). This project will develop and validate clinical diagnostic tools for screening older people for excessive fear of falling, risk taking behavior, and physical activity levels. Additionally, the utility of these tools for guiding approaches to intervention and evaluating treatment effects will be tested in two experimental studies. Results of these experiments will be incorporated into new proposals aimed at developing accessible, individually-tailored, cognitive-behavioral treatment methods to reduce fear of falling.

2.2.2. Telehealth technology for a cost-effective delivery of quality healthcare (Years 1–5)

Telehealth technology, which combines digital data acquisition and communication technologies to monitor health status in the home, is gaining recognition as a promising modality for acquiring accurate and reliable data on health markers (Pare, Jaana, & Sicotte, 2007). This project will explore the use of four different telehealth technologies in a falls related context. It will: (a) validate a device for measuring and monitoring balance and gait among older people in their homes; (b) develop prototypes of mobile internet devices to enhance independent living; (c) develop and validate activity monitors and automated fall detection software applications for the iPod Touch; and (d) develop age-appropriate Wii-style "exergames" for home-based exercises.

2.2.3. Predictors of adherence to prescribed exercise interventions (Years 1–2)

Current best evidence indicates that exercise could play a crucial role in the widespread prevention of falls and disability in older people (Gillespie et al., 2008; Sherrington et al., 2008). While randomized controlled trials have been successful, compliance with exercise interventions is often disappointing, suggesting some reluctance on the part of older adults to participate in such programs. This project aims to establish predictors of adherence to a home-based exercise programs in people recently discharged from the hospital. This study has the potential to enhance clinical and public health practice by enabling exercise programs to be designed with uptake and adherence in mind.

2.3. Knowledge Translation

The translation of research findings into sustainable improvements in clinical practice and patient outcomes remains a substantial

obstacle to improving the quality of health care. As indicated above, we will develop fall risk screening tools for use in ambulance and emergency department settings in one of the research projects, and with the NSW Health Department funding we have recently developed a fall risk screening tool for rehabilitation units (Sherrington et al., 2010). As part of this partnership project we will undertake further validation of these tools and assess their utility in daily clinical practice. Large implementation studies will investigate whether these fall risk screening tools can be incorporated into routine practice by the Ambulance Service of NSW, Emergency Department staff, and Rehabilitation Units. These tools have the potential to prevent falls by providing a valid yet quick indication of an individual's likely risk of falling so that preventive strategies can be put in place.

Improved dissemination and uptake of falls research into policy and practice is a key aspect of the Partnership Program. We aim to disseminate the results of research to clinicians from a range of disciplines, health promotion and public health practitioners, policy officers, and older people themselves. Researchers increasingly recognize the need to take active steps to facilitate the translation of research findings into practice. Five different strategies will be employed as part of this project to actively disseminate available evidence-based research findings.

2.3.1. Development of Evidence-Based Guidelines (Years 2–5)

Clinical guidelines are crucial to provide health practitioners with evidence based risk assessment and intervention strategies to prevent falls and fall related injury in older people. By improving the practice of clinicians, the guidelines can also improve health outcomes for older people. This project will assist the ACSQHC to review and update the current *Fall Prevention Guidelines (2009–2013; Fall prevention guidelines, 2009)* by 2014. The Cochrane Collaboration Systematic Review about falls in older people in nursing care facilities and hospitals (Cameron et al., 2008) will also be revised and updated by 2013.

2.3.2. Enhancement of the Australian and New Zealand Falls Prevention Society (Years 1–5)

The Australian and New Zealand Falls Prevention Society (ANZFPS) was officially launched in 2008. The objectives of the ANZFPS are to plan and run biennial conferences and to promote the broad discipline of fall prevention research (Australian and New Zealand Falls Prevention Society, n.d.). As part of this project, the ANZFPS will be enhanced so that it provides a nation-wide one-stop source for the provision of fall prevention information and resources for researchers, clinicians, and older people. This will include the development of a web based clinical assessment and intervention educational resource.

2.3.3. Policy round tables (Years 1–5)

To improve the dissemination and uptake of fall research into policy and practice, and to foster the development of policy-appropriate research, a Falls Translation Task Group (TTG) was trialed as one mechanism as part of a recent NHMRC Population Health Capacity Building Grant (Poulos & Zwi, 2005; Poulos, Zwi, & Lord, 2007). The NHMRC Partnership program will establish and maintain a National Falls TTG with broad membership comprising falls researchers, policymakers from State, Territory and Australian Departments of Health, practitioners including allied health practitioners and clinicians, and representatives from non-government sectors such as the aged care industry and the fitness industry. The National Falls TTG will provide the infrastructure necessary to actively involve knowledge users in the research process and promote dialogue between falls researchers, policymakers, and stakeholders and thus encourage a policy sensitive research agenda and enhance capacity for evidence-informed policy and practice in falls management.

2.3.4. Presenting fall prevention evidence to clinical groups (Years 1–5)

One of the major barriers to the implementation of fall prevention research into clinical practice is communicating the current evidence

to medical practitioners involved in the routine and specialist care of older people. The Chief Investigators of this project will present up-to-date evidence based falls research in symposia, breakfast sessions, and proffered presentations to general practitioners, medical specialists, and physical and occupational therapists and optometrists at their annual scientific meetings.

2.3.5. Curriculum development (Years 1–5)

Allied health professionals, including physiotherapists and occupational therapists, have a crucial role to play in fall prevention. These professionals can prescribe the necessary exercise and environmental interventions for people with specific needs and can accommodate differing levels of frailty and disability to minimize handicap and maximize independence. Curricula for allied health professionals need to be enhanced to build the workforce to provide necessary services to prevent falls in older people (Sturnieks et al., 2009). This project will involve researchers working with university departments to assess current physiotherapy and occupational therapy curricula and develop and implement new curricula that reflect the needs of an aging population. It will evaluate outcomes in terms of knowledge and skills.

3. Discussion

Research evidence about falls prevention has contributed to health policy in Australia to some extent but is yet to be widely implemented into practice. This is due to numerous reasons, but principal barriers include a failure to recognize the need to resource a translational component to research with appropriately skilled people, inadequate communication between researchers, policy makers and clinicians, and health system barriers including inadequate financial and human resources to implement new research evidence.

With respect to fall and fall injury prevention, both researchers and decision-makers have shown a desire to bridge the gap between research and policy and practice. National and State Government initiatives have: (a) provided a greater awareness of the impact of falls in older people; (b) increased research funding for fall prevention; and (c) facilitated greater adoption of evidence-based practice in clinical settings. The development of best practice guidelines and fall prevention hospital standards have complemented and reinforced these initiatives.

Poulos et al. (2007) have emphasized the importance of improving the dissemination and uptake of fall prevention research into policy and practice and fostering the development of “evidence informed policy.” It is recognized that policy needs to accurately reflect the evidence but also incorporate issues including cost-effectiveness, education, training, workforce development, and resource implications. Ongoing work is required to ensure that as new information is generated in the research setting, it is appropriately evaluated and implemented. A new Partnership Project will maintain the Falls Translation Task Group and bring together key Australian fall prevention researchers, policy makers, clinicians, and technology companies with the aim of building on this work and undertaking new studies aimed at filling the gaps in fall prevention research, implementing research into routine clinical practice, and translating and disseminating project findings. We hope this will enhance workforce capacity to prevent falls and associated injuries in the future and lead to better outcomes for older people in Australia.

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