

2023 Annual Report

The Centre of Research Excellence in the Prevention of Fall-related Injuries

**A research collaboration funded by the National Health and
Medical Research Council.**

Welcome to the 2023 annual report of the Centre of Research Excellence Prevention of Fall-related Injuries (CRE-PFI). This report was prepared by Ms Sandra O'Rourke, CRE-PFI manager, and Professor Cathie Sherrington, CRE-PFI Chief Investigator.

This report will provide an update on the progress of the CRE in the Prevention of Falls Injuries in the 2023 year.

Background

Who are we?

The NHMRC Funded CRE - Prevention of Fall-related Injuries brings together a diverse team of researchers that will collaboratively develop and evaluate strategies in fall prevention that will have the best chance of reducing Australia's rising rate of fall-related injuries.

What we do

We strive to extend our knowledge base by linking with stakeholder groups to co-create, implement, scale-up and evaluate strategies designed to reduce fall-related injuries. We support and guide implementation of evidence-based falls prevention strategies into policies, practices, and programs.

Our Mission

Our mission is to develop and implement evidence-based strategies to prevent fall injuries.

Aims

We will focus on solutions that can be implemented within current health, community services or residential care. All strategies will be developed with input from policy makers, health service managers, clinicians, consumers, and carers to maximise their chance of success. The CRE-PFI is divided into four research streams.

Research Themes

Theme 1. Better use of existing data to develop new solutions

Identify the most effective solutions for fall-related injuries in different Australian settings and circumstances.

Theme 2. Co-design new solutions

Co-design fall-injury prevention interventions and implementation strategies, suitable to be scaled up and embedded into existing services in conjunction with clinicians, managers, policy makers, patients and carers.

Theme 3. Test implementation of evidence-based interventions

Evaluate implementation of evidence-based fall-prevention interventions with pragmatic trials using effectiveness-implementation hybrid designs.

Theme 4. Test new pragmatic interventions

Test new pragmatic fall-injury prevention interventions that build on previous evidence and offer novel solutions.

Our Team

Our CRE team consist of researchers from many disciplines including:

- Falls prevention
- Falls injury prevention
- Geriatric Medicine and Gerontology
- Physiotherapy
- Occupational therapy
- Implementation science
- Orthopaedics
- Endocrinology
- Rehabilitation Medicine
- Health Economics
- Epidemiology

OUR TEAM

Chief Investigators

Professor Cathie Sherrington

Professor, Sydney School of Public Health, University of Sydney. Cathie leads the 28-person Physical Activity, Ageing and Disability Research Stream within the Institute for Musculoskeletal Health (a partnership between the University and Sydney Local Health District) and is Deputy Director of the Institute. She has led or collaborated on 47 RCTs (18 with NHMRC funding) and 25 systematic reviews about exercise to prevent falls and enhance mobility. *Scopus* ranks her 3rd in the world for research into independent living and falls. She co-leads the physiotherapy group of the Global Fragility Fracture Network.



Professor Stephen R Lord

A Scientia Professor at UNSW and NHMRC Senior Principal Research Fellow. He works in the areas of applied neurology, psychology, instability, falls and fractures in older people. He has co-edited a Handbook of Neurology on Balance, Gait and Falls and published 145 peer-reviewed journal articles, 3 reviews, four book chapters and nine other articles. He has received a Tomson Reuters Highly Cited Researcher Award ranking him among the top 1% most cited researchers internationally.



Professor Maria Crotty

A Rehabilitation Physician who leads the Rehabilitation Studies Unit at Flinders University College of Medicine and Public Health, which undertakes research on treatments in rehabilitation. She is a clinician manager and Director of Rehabilitation in Southern Adelaide. Her expertise lies in running pragmatic clinical trials within rehabilitation and aged care settings and she has led trials on home rehabilitation, day rehabilitation, transition care and case conferencing, which have informed Australian funding models. Professor Crotty has extensive networks with clinicians, managers and policy makers working in aged care and in the disability and rehabilitation sectors.



Professor Terry Haines

Head of School, School of Primary and Allied Health Care at Monash University. This follows his previous appointment as Director of Monash Health & Monash University Allied Health Research Unit, Monash Health. He has pursued work in the areas of falls prevention, implementation science and translation of evidence into policy and practice.



Professor Julie Byles

Director of the Research Centre for Generational, Health and Ageing – a Priority Research Centre at the University of Newcastle. As a clinical epidemiologist, Professor Byles' interests are in risk determination, health assessment, other health care evaluation, and measurement of health outcomes. As a Gerontologist and Fellow of the Australian Association of Gerontology, Professor Byles' research interests in ageing include the role of health services, preventive activities, and treatments in maintaining quality of life for older people. Her work has included health assessment, medications used by older people, sleep disturbance, health effects of alcohol, nutrition screening and interventions, health and retirement, and prevention of falls in residential care.



Professor Markus J Seibel

Professor of Endocrinology at the University of Sydney and the Inaugural Director of the Bone Research Program at Sydney's ANZAC Research Institute. He has an extensive track record in basic and clinical research into musculoskeletal health and biology. In recognition of his substantial contributions to biomedical sciences and health, Markus was elected Fellow of the Australian Academy of Health & Medical Sciences in 2017. Since 1986, his research has been continuously funded through competitive grants and his work has been cited >20,000 times.



Professor Ian Cameron

Prof Cameron is the Head of the John Walsh Centre for Rehabilitation Research, Faculty of Medicine and Health, University of Sydney. He is a Consultant Physician in Rehabilitation Medicine and the Chair in Rehabilitation Medicine, at the University of Sydney. His current research themes are injury, rehabilitation, and disability; specifically, disability and health in older people, musculoskeletal injury in compensable settings, and catastrophic injury (associated with severe long-term disability).



Professor Jacqueline Close

A consultant in Orthogeriatrics at the Prince of Wales Hospital in Sydney and Clinical Director of the Falls, Balance and Injury Research Centre at Neuroscience Research Australia. Her primary research area is falls in people with cognitive impairment and dementia and particularly the relationship of cognitive function to postural stability, falls and fractures. She has an epidemiological interest in the impact of falls and injury to health service use and the way in which health services are designed to prevent and manage falls and injury in older people. She sits on a number of State and National committees in relation to Aged Health and is Co-Chair of the ANZ Hip Fracture Registry, Chair of the ACSQHC Clinical Care Standards Working Group for Hip Fracture.



Professor Jacqueline Close has been recognised in the Australia Day Honours this year. Jacqui was honoured as a Member of the Order of Australia (AM) for significant service to medical research and to medicine as an Orthogeriatrician.



Professor Kirsten Howard

Professor of Health Economics in the Sydney School of Public Health at the University of Sydney. Her research focuses on methodological and applied health economics research. She has led the economic evaluations of a large number of intervention trials in kidney disease and falls prevention interventions and has conducted many discrete choice experiments of patient and consumer preferences in areas as diverse as cancer screening, including benefit harm trade-offs, labour induction, aged care services, exercise interventions for older people, dialysis services and organ donation and allocation policy. She is Chair of the Economics Sub Committee of the Pharmaceutical Benefits Advisory Committee (PBAC) and a member of the PBAC.



Professor Adrian Bauman

A professor of Public Health at Sydney University, Australian Prevention Partnership Centre leader in Implementation Science and scale up evaluation and leader of the Sydney-based World Health Organization Co-ordinating Centre on Physical Activity. He is very widely published in physical activity and public health research. He brings epidemiological expertise in use and analysis of cohort and intervention data, interpretation and policy-translation of physical activity evidence, experience in research and practice-based methods for research translation, including the design and evaluation of communications research and assessing the reach of physical activity and exercise evidence into professional and public arenas and into policy and practice, management of scale up and research translation projects. He has broad collaborative relationships nationally and internationally.



Associate Investigators

Professor Richard Lindley

An academic geriatrician at the University of Sydney with experience of conducting large scale randomised controlled trials in stroke, aged care, frailty and falls. He remains in hospital clinical practice (Blacktown Hospital) two days a week. He is the Co-Chair of the University of Sydney's Lifespan Research Network that supports innovative new research for those in major life transitions such as the frail elderly. He is a mentor for the Science in Australia Gender Equity program.



Professor Allison Tong

Professor at the Sydney School of Public Health, The University of Sydney. Her main interest is in using applied qualitative research methods to the areas of chronic disease and disability to improve practice and policy for improved patient-centred outcomes. She has published reporting guidelines for primary qualitative research (COREQ) and systematic reviews of qualitative health research (ENTREQ) which are endorsed by the EQUATOR network and by international peer-reviewed journals.



Professor Andrew Milat

Director, Evidence and Evaluation at the NSW Ministry of Health. Prof Milat is a leading authority on the scale-up of health interventions in complex health systems and his scalability framework will guide efforts to facilitate system-wide adoption of effective interventions implemented into policy and practice. With over 20 years' experience in the design, implementation and evaluation of innovative health policies and programs at national, state and local levels he has a unique appreciation of the interface between research and its adoption into policy and practice.



Professor Vasi Naganathan

An academic at the University of Sydney, a Geriatrician at the Centre for Education and Research on Ageing and the Deputy Project Director of the Concord Health and Ageing in Men Project. His research interests are wide including: health of older men, oral health, falls, fractures and osteoporosis, pharmacology in the older people and the application of evidence-based medicine to older people. His research strength is his ability to collaborate with people from a variety of disciplines who share his passion and interest in conducting research that has the potential to improve the health and quality of life of older people.



Dr Xenia Dolja-Gore

A NSW Health Prevention research fellow at the University of Newcastle and the project biostatistician for the Analysis for Policy program at the Sax Institute. Dr Dolja-Gore is a senior biostatistician, she has substantial experience using linked longitudinal health data to identify and analyse key areas of quality and efficiency in health service utilisation. She has very strong methodological skills, with a focus on data quality; with expertise in the analysis of treatment optimisation and identification of the delivery of health services. Dr Dolja-Gore has undertaken the application of systems theory methodology by using mathematical modelling techniques to frame, understand, and describe complex issues and problems to help with decision making in disease prevention.



Professor Ian Harris

Professor of Orthopaedic Surgery at the South Western Sydney Clinical School, UNSW and is Honorary Professor at the School of Public Health, University of Sydney. As a clinician, his interest is in trauma surgery and this aligns with his academic activities, many of which focus on fractures in older people. Previous co-chair of the ANZ Hip Fracture Registry and is conducting multicentre randomised trials on wrist fractures and hip fractures in older people in Australia. He has extensive experience in clinical trials and clinical and teaching expertise in fall-related injuries in older people.



Mr Matthew Jennings

Director of Allied Health at Liverpool Hospital, the Director of Physiotherapy, South Western Sydney Local Health District and Deputy Lead for the Musculoskeletal Health Clinical Academic Group, The Sydney Partnership for Health Education, Research and Enterprise (SPHERE). He has a role in policy and practice as a member of the hospital executive, as Co-Chair of the NSW Agency of Clinical Innovation (ACI) Musculoskeletal Network and as member of the NSW Department of Health Physiotherapy Advisors Group. Mr. Jennings has led the multidisciplinary development, implementation and evaluation of a number of NSW care programs.



A/Professor Patrick Kelly

Associate Professor in Biostatistics at the Sydney School of Public Health, The University of Sydney and is the Program Director of the Masters of Biostatistics at The University of Sydney. He has extensive experience in developing and applying statistical methods to research in health and medicine. His main areas of research include randomised control trials especially cluster RCTs, survival analysis and analysing linked health services data for retrospective cohort studies.



Professor Rob Herbert

NHMRC Principal Research Fellow and Senior Principal Research Scientist at Neuroscience Research Australia. He conducts clinical trials investigating the effectiveness of physiotherapy interventions as well as laboratory research into the mechanical properties of human muscles in health and disease. He is a founder of the Centre for Evidence-Based Physiotherapy which developed and maintains the PEDro database.



Dr Danielle Currie

A System Dynamics Modeller at The Sax Institute and a Research Fellow in Menzies Centre for Health Policy at the University of Sydney. Her work focuses on creating user friendly dynamic simulation models to help decision-makers gain insight of the complex public health problems they routinely encounter. Her research interests have included exploring population-level approaches to preventing communicable and non-communicable disease, building systems capacity through participatory model building, and improving the integration of evidence into public health decision-making processes.



CRE PFI Manager

Ms Sandra O'Rourke

Ms O'Rourke has been a research project coordinator in falls prevention studies for over 20 years. She coordinates the day-to-day running of the CRE. She is responsible for CRE management, collaboration with all the researchers and organisation of meetings and events.



CRE Funded Early Career Research Post-Doctoral Fellows

Dr Morag Taylor

Dr Morag Taylor is a Senior Postdoctoral Research Fellow at Neuroscience Research Australia. She was awarded a prestigious NHMRC-ARC Dementia Research Development Fellowship 2016 – 2019. Her work is currently focusing on physical and cognitive function and fall/fall-injury risk and prevention in older people with dementia. She completed her PhD (Understanding fall risk in cognitively impaired older people) in 2014 and has presented her work nationally and internationally and has 33 publications. Morag is a physiotherapist with extensive experience working in Aged Care Rehabilitation, as well as the Falls, Balance and Bone Health clinic. Her role within the CRE is to undertake a body of work aimed at understanding care and outcomes in older people with dementia who have sustained a hip fracture. She plans to pilot an intervention aimed at improving care and outcomes for this group.



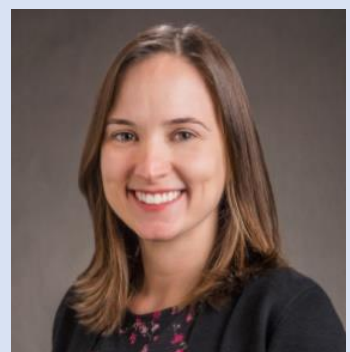
Dr Jasmine Menant

Dr Menant is a Research Fellow at Neuroscience Research Australia. Her research involves gait laboratory-based experiments, longitudinal studies and randomised controlled trials investigating balance control mechanisms, fall risk factors and effective interventions to improve health outcomes in ageing and clinical populations. She has written 9 book chapters, 74 peer-reviewed papers. She is the communication manager of the ANZ Falls Prevention Society and the blog editor of the International Society for Posture and Gait Research. Within the CRE, Jasmine will work on the update of ANZ best practice guidelines on fall prevention intervention, systematic reviews and secondary analyses of falls studies datasets as well as conduct a study to explore risk factors for falls in cancer survivors with chemotherapy-induced peripheral neuropathy.



Dr Marina De Barros Pinheiro

Dr Pinheiro is a NHMRC Early Career Fellow at Sydney School of Public Health, The University of Sydney. Her research focuses on investigating the cost-effectiveness of physical activity programs and implementing solutions to improve physical activity promotion by health professionals within routine care. She has published 61 peer-reviewed papers and has attracted more than \$2.6 million dollars in research-related grants and fellowships. Marina will work on projects investigating the cost-effectiveness of solutions to fall-related injuries and will also contribute to the co-design of fall-injury prevention interventions and implementation strategies.



Dr Juliana Souza De Oliveira

Dr Oliveira is a Postdoctoral Research Fellow physiotherapist at the Institute of Musculoskeletal Health at the University of Sydney. Juliana has a leading role in coordinating NHMRC funded trials on physical activity coaching and yoga for fall prevention. Juliana’s research focuses on clinical trials for optimising physical activity and preventing falls among older people.



Dr Suzanne Dyer

Dr Suzanne Dyer is a Senior Research Fellow at Flinders University. She has been conducting research in the public and private sector for over 20 years, with expertise in evidence-based medicine methodologies including health technology assessment, systematic reviews, meta-analysis and guideline development. Suzanne is an author of 46 publications and 24 contracted research reports for government and NGOs, including the Cochrane Collaboration Review of Interventions for preventing falls in older people in care facilities and hospitals, two reviews conducted for the Aged Care Royal Commission and the Australian Clinical Practice Guidelines for Dementia. In her role with the CRE, Suzanne aims to improve the evaluation and interpretation of existing trial evidence for falls prevention strategies, contributing to improved recommendations and cost-effectiveness evidence for falls prevention approaches. She will also guide South Australian clinicians on evaluation of existing falls prevention strategies in hospitals.



Dr Meghan Ambrens

Meghan’s PhD evaluated technology-delivered fall prevention programs for community dwelling older people. Her research to date has explored the effectiveness, acceptability, and economic evaluation of technology-delivered programs, including factors affecting adherence to fall prevention programs. Meghan’s research interest is in qualitative research, preventive health, healthy ageing and the translation and implementation of research to policy and practice. She is currently involved in a study to test the effectiveness of social media in the dissemination of knowledge about falls prevention in older people on Falls prevention.



Dr Saman Khalatbari-Soltani

Saman is a Social Epidemiologist and Senior Research Fellow at the University of Sydney School of Public Health and the ARC Centre of Excellence in Population Ageing Research (CEPAR). Saman completed her PhD in Public Health and Epidemiology from the University of Lausanne and the Swiss School of Public Health. Her current research encompasses the areas of social determinants of health, healthy ageing, health inequities, and the role of behavioural, psychological, and biological factors in the genesis of health inequities at older ages. She is on the International Journal of Epidemiology and Journal of Gerontology: Medical Sciences editorial board. Within the CRE, Saman contributes to epidemiological research on preventing falls and fall-related injuries in older adults.”



Dr Jenni Suen

Dr Jenni Suen is a Research Associate in Rehabilitation, Aged and Extended Care at Flinders University. She is an Early Career Researcher who completed her PhD in May 2021. Her research aims to improve access to care and/or quality of care for older people in the hospital, aged care, and the community. On behalf of the Falls CRE she conducts Intervention Component Analyses and Qualitative Comparative Analyses on interventions for falls prevention, collaborating with experts from University College London. She is also an Accredited Practising Dietitian working in community private practice, at Cardiovascular Dietetics within Advanced Vascular Care.



CRE Higher Degree Research Candidates

Ms Venisa Kwok

Venisa is a PhD student at the Institute of Musculoskeletal health at the University of Sydney. She is a physiotherapist and has been working with older people in residential aged care facilities and in the community. Venisa’s research focuses on preventing falls and fall related injuries in older adults.



Mr Rik Dawson

Rik Dawson is an experienced aged care physiotherapist. Rik was the owner of Agewell Physiotherapy, a practice that employed physiotherapists and occupational therapists in aged care across Australia. Rik sold his practice in 2020 and enrolled at Sydney University as HDR candidate where he is focusing on telehealth for older people under the supervision of Professor Sherrington and Dr Pinheiro. Rik had a scholarship awarded by this CRE to support his HDR program. He will investigate the effectiveness, cost-effectiveness, and acceptability of physiotherapy led exercise programs delivered via telehealth for older Australians. This research will answer key questions about whether the role of technology can reduce falls, enhance mobility and quality of life of older people with and without dementia receiving aged care services in their home or in residential aged care. Rik is the Vice President of the Australian Physiotherapy Association.

**Ms Charlotte McLennan**

Charlotte is a Physiotherapist and Health Manager in Sydney Local Health District and a PhD candidate with the University of Sydney. Her clinical background is in aged care and rehabilitation. Charlotte's current position of Inpatient Falls Research Manager is based within the Institute for Musculoskeletal Health and is supported by Sydney Local Health District. Her research focuses on understanding and reducing falls in hospital settings. Will be working on the PROTECT trial.

**Ms Kelly Stephen**

Kelly is an occupational therapist at Eastern Health in Melbourne and PhD candidate in the School of Primary and Allied Healthcare at Monash University. Her previous research exploring older people's experiences of mobilisation alarms ignited further interest to explore the place for such devices in hospital falls prevention. She is part of an NHMRC-funded project team using a disinvestment approach to investigate the effectiveness of mobilisation alarms for falls prevention in a large multi-centre trial. She has a scholarship awarded from the CRE to conduct research focusing on hospital staff attitudes towards mobilisation alarms and their experiences of being part of this research trial including how participation in research evidence generation affects its uptake in clinical practice.



Dr. Veethika Nayak

Dr. Veethika Nayak (PhD candidate at The University of Sydney) Dr. Veethika Nayak is an overseas-trained physician, completing her medical training in 2016. With a rich background in clinical and public health settings, she's gained invaluable experience in casualty departments and community health services. She is a Research Manager for inpatient falls research at the Institute for Musculoskeletal Health and is at the forefront of advancing patient safety and outcomes, focusing on understanding inpatient falls and implementing preventive measures. Currently she is enrolled as a PhD candidate at the University of Sydney under the guidance of supervisors Dr Marina Pinheiro and Professor Cathie Sherrington. Her research delves into the crucial link between healthcare provider well-being and quality of care, aiming to enhance healthcare delivery and patient outcomes under the guidance of supervisors DR Marina and Professor Cathie Sherrington.



CRE-PFI 2023 Project Updates

Dr Morag Taylor

Project 1: Characteristics and outcomes of older people with dementia who do and don't receive rehabilitation after surgery for a hip fracture. The data analyses and tables have been completed; paper draft has been started.

Project 2: Care provision and outcomes in older people with and without cognitive impairment who sustain a hip fracture data analysis is complete for 2 papers, papers are in draft.

Current students supervising: 1 PhD student (UNSW), 1 Geriatric Advanced trainee, 1 Geriatrician PhD student successfully completed degree (submitted June 2023; completed 2 Feb 2024)

Funding Awarded

2024 Ageing Futures Institute Seed Grant. Beyond Step Counts: Using Wrist-Mount Motion Sensors to Evaluate Real-World Mobility Performance in Clinical Populations Relying on Walking Aids. \$50,000. CIA Lloyd Chan; CIs Reza Argha, Morag Taylor, Jasmine Menant, Kim van Schooten.

2023 – 2025 HCF Translational Research Grant. StandingTall eHealth balance exercise to foster mobility and prevent falls in older people receiving home care. \$293,450. CIA Kim van Schooten; CIs Kim Delbaere, Lin Perry, Chris Poulos, Anna Barker, **Morag Taylor**.

Guidelines

1. ACSQHC Falls Best Practice Guidelines 2023: acknowledged expert contributor

Presentations

1. Psychotropic and anti-dementia medication use and falls in people with cognitive impairment, Taylor ME, Santiago Martínez P, Close JCT, Lord SR, oral abstract, ANZFPS Conference, Perth, Nov 2023 (Best scientific oral presentation).
2. Implementation of the StandingTall program to prevent falls in older people, Taylor ME, Todd C, Ambrens M, Hawley-Hague H, O'Rourke S, Clemson L, Close JCT, Lord SR, Delbaere K, oral abstract, ANZFPS Conference, Perth, Nov 2023.
3. Understanding and preventing falls and fall-related injuries in people with dementia, Taylor ME, invited speaker, Umea University, Oct 2023.
4. Potentially modifiable factors associated with poorer outcomes after hip fracture in patients with cognitive impairment, Taylor ME, Harvey LA, Crotty M, Harris IA, Sherrington C, Close JCT, oral abstract, FFN World Congress, Oslo Norway Oct 2023.
5. Digital gait monitoring: time for implementation (Symposium), Organiser, chair and moderator, ISGR World Congress, July 2023.
6. Translating falls prevention research into practice, Facilitator panel discussion, NSW Falls Forum, May 2023.
7. Care provision and outcomes for people with and without dementia after hip fracture surgery, Taylor ME, invited presentation, CRE for the Prevention of Fall-related Injuries, May 2023
8. Writing for publication, Montayre J & Taylor ME, invited presentation, RACER - RMH aged care research, May 2023.

Co-author conference presentations

1. Implementation of the StandingTall program to prevent falls in older people: a process evaluation, Delbaere K, Ambrens, M, Hawley-Hague H, Todd C, Clemson L, Close JCT, Lord SR, Lung T, Berlowitz

- D, Blennerhassett J, Dayhew J, Hodge W, Howard K, Johnson P, Lasrado R, Merlene M, Miles L, O'Rourke S, Said CM, White L, Wilson N, Zask A, Taylor ME, Oral abstract, European Falls Fest, Malta, April 2024.
2. Co-creation of the HIFE-cog program: A high-intensity functional exercise programme enriched with cognitive exercise for older people with falls risk, Hallin J, Arola A, Toots A, Domellöf M, Zingmark M, Taylor M, Sandlund M, Toots A. Oral abstract, European Falls Fest, Malta, April 2024.
 3. Effect of cognitive training on cognitive function in community-dwelling older people with mild to moderate dementia: a single-blind randomised controlled trial, Chantanachai T, Sturnieks D, Lord SR, Close JCT, Delbaere K, Kurrle S, Payne N, Savage R, Taylor ME, 5x5 oral, ANZFPS Conference, Perth, Nov 2023.
 4. Risk factors for falls in community-dwelling older people with mild cognitive impairment: a prospective one-year study, Sturnieks D, Chantanachai T, Lord SR, Taylor ME, 5x5 oral, ANZFPS Conference, Perth, Nov 2023.
 5. Cognitive-motor exercise interventions effects on fall risk factors: systematic review and meta-analysis, Menant J, Toots A, Jehu D, Schoene D, Sturnieks D, Taylor ME, Lord SR, Poster, ANZFPS Conference, Perth, Nov 2023.

Other achievements

Editor Special issue: Falls and fall-related injury: ascertainment, risk and prevention. Australasian Journal of Ageing. 2023. (Invited and reviewed Editorials [Hill et al. and Waters et al.] and put together collection of past papers).

Deputy Editor-in-Chief, Australasian Journal on Ageing (June 2022 – October 2023).

Associate Editor, Dementia and Geriatric Cognitive Disorders (July 2020 –)

Associate Editor, Journal of Alzheimer's Disease (2020 –)

Expert panel member, Development of a scalable physical activity program for improving physical activity and reducing risk factors for falls in older people with dementia who receive home support, Angel Lee (Supervisor Prof Keith Hill), Rehabilitation, Ageing and Independent Living (RAIL) research center, Monash University, Australia 2021-2023

Podcast host, ANZHFR Fasting and Sip Til Send (Nov 2023)

Dr Jasmine Menant

During the year 2023, Jasmies CRE-related work was dedicated to the writing of the Australian Best Practice Falls Prevention Guidelines commissioned by the Australian Commission on Safety and Quality in Healthcare. The guidelines include a set of evidence-based recommendations and good practice points and some larger background documents, across the Community, Residential Aged Care and Hospital settings. The guidelines will be launched at the end of 2024. Jasmine has also been setting up the randomised-controlled trial of cognitive-motor step training in cancer survivors with chemotherapy-induced peripheral neuropathy in which recruitment should start mid-2024.

Current students supervising:

Completion of 3 Honours students I primarily supervised: 2 received 1st class Hons, 2 received 2.1 Hons.

Completion of 1ILP (independent learning project) 4th year UNSW medical student. Received distinction.

Funding Awarded

2023 World **Cancer Research Fund International (Menant, Goldstein, Park, Lord, Mizrahi, Sturnieks, Sherrington) (2024-2025) (~\$113, 832 (59, 942 British Pounds). "Integrated balance training to**

improve symptoms, balance and quality of life in cancer survivors with chemotherapy-induced peripheral neuropathy: a feasibility study”

2023 National Health & Medical Research Council (NHMRC) Clinical Trials and Cohort Studies grant (Menant, Sturnieks, Park, Goldstein, Lord, Davis, Mizrahi, Koczwara, Grimison, Yates) (2023-2026) (\$808,943). “Cognitive-motor step training to reduce chemotherapy-induced peripheral neuropathy (CIPN) symptoms in cancer survivors”.

2023 UNSW Ageing Futures Institute seed grant (Jugé, Brown, Menant, Cysique, Bilston, Rae) (\$29,921). “Understanding obstructive sleep apnoea-related cerebellar degeneration for dementia and fall risk prevention”.

2023 Research Grants Council Hong Kong (Chan W, Yeung, Menant, Sturnieks, Chan S, Mok, Lord) (2024- 2026) (~ \$315, 759 (1,564,925 HKD)). “Investigating the effects of step training and the mediating effects of prefrontal cortex functioning in older adults with mild dementia: a randomized wait-list controlled trial”.

Presentations

1. **Menant JC.** *Falls in neurological conditions.* Third International Motor Impairment Conference. Nov 20-22, 2023, Sydney, Australia.
2. **Menant JC,** Obaidi S, Sturnieks D, Delbaere K, Okubo Y and **Lord S.** *Neural efficiency during walking in older people with fear of falling.* 10th Biennial ANZ Falls Prevention Conference, Perth WA, 26-28th November 2023.
3. **Menant JC,** Obaidi S, Sturnieks D [...] and **Lord SR.** *An interactive step training system to reduce falls in people with Multiple Sclerosis: a multi-centre randomised controlled trial.* World Congress of the International Society of the Posture and Gait Research Society, Brisbane, Australia, 9-13th July 2023.
4. **Menant JC,** Hoang P, Sturnieks D, Delbaere K, Okubo Y and **Lord SR.** *Does fear of falling affect neural efficiency during walking in older people?* World Congress of the International Society of the Posture and Gait Research Society, Brisbane, Australia, 9-13th July 2023

Dr Marina De Barros Pinheiro

We finished the project entitled “Development of a system dynamic model to project the health and economic impact of fall prevention initiatives in the community and aged care facilities” in partnership with the Sax Institute. We are currently writing the manuscript and planning dissemination activities. The investigators are Marina B Pinheiro, Danielle Currie, Saman Khalatbari Soltani, Cathie Sherrington

Funding Awarded

Budget: \$979,506.10

Title: Quality coaching to implement a hospital fall prevention strategy: intervention development and evaluation in a stepped wedge trial

Role: Associate Investigator

Grant type: Partnership Projects **Grant code:** 2023/GNT2023898

Investigators: Sherrington C, Naganathan V, Richards B, Hallahan A, Heppleston E, Jennings M, Jackson D, NiChoinin D, Hill AM, Haines T, Tilden W, Biswas RK, Haynes A, Hassett L, Howard K, Pinheiro MB, Macpherson A, Chasle B, Lovitt L, Rayner J.

Date: January 2023 to September 2026. **Budget:** \$586,939.18

Title: Implementation of a co-designed, community led exercise program to reduce falls in older people from culturally and linguistically diverse communities: a pilot trial

Role: Chief Investigator

Grant type: Medical Research Future Fund **Grant code:** 2022/MRF2023755

Investigators: Said CM, Batchelor F, Callisaya M, Vogrin S, Klaic M, McDonald C, Brijnath B, Ramage ER, Engel L, Pinheiro, MB, Lim WK, Bicknell E, Francis J, Chudecka A, Bongiovanni L, ROSA CB, Zanker J. **Date:** January 2023 to September 2026

Budget: \$1,498,604.40

Title: Implementation and evaluation of a co-designed exercise program to reduce falls in older people from culturally and linguistically diverse communities

Role: Associate Investigator

Grant type: Medical Research Future Fund **Grant code:** 2022/MRF2023806

Investigators: Said CM, Batchelor F, Callisaya ML, Vogrin S, Klaic M, McDonald C, Ramage ER, Engel L, Zanker J, Lim WK, Francis JJ, Bicknell E, Chudecka A, Brijnath B, Bongiovanni L, ROSA CB, Mastrantuono D, Pinheiro MB, Sherrington C. **Date:** February 2023 to January 2028.

Presentations:

1. Pinheiro MB. Effectiveness and cost-effectiveness of physical activity programs for older adults: rapid reviews commissioned by the WHO. *Menzies Emerging Health Policy and Economics Research Conference - Feb 2024*. (Speaker selected from abstract)
2. Pinheiro MB. Enhancing transition from hospital to community-based exercise for patients with musculoskeletal disorders: A co-design study. *Sydney Health Partners Clinical Academic Group (Musculoskeletal) Webinar: Consultation with Consumers and Providers – Nov 2023 (invited speaker)*
3. Pinheiro MB. What is the value for money of fall prevention exercise programs for older adults living in the community? *SydneyMSK Update in Falls Prevention: Part Two – Nov 2023 (hybrid event)* (Invited speaker)
4. Pinheiro MB. Economic evaluation of digitally enabled aged and neurological rehabilitation care in the Activity and MObility UsiNg Technology (AMOUNT) trial. *SydneyMSK Annual Scientific meeting – Dec 2023* (Speaker selected from abstract)
5. Pinheiro MB. A systematic review of economic evaluations of fall prevention exercise programs. *Joint Conference of the Australian and New Zealand Falls Prevention Conference and World Falls Congress – Dec 2023* (Speaker selected from abstract)
6. Pinheiro MB. Effectiveness and cost-effectiveness of physical activity programs for older adults: overview of reviews. *SydneyMSK Annual Scientific meeting – Nov 2023* (Speaker selected from abstract)
7. Pinheiro MB. Economic evaluations for physical activity interventions. *Australian & New Zealand Musculoskeletal (ANZMUSC) Clinical Trials Network Scientific Meeting – October 2023* (invited speaker)

Dr Juliana Souza De Oliveira

Dr Oliveira is a Postdoctoral Research Fellow at the Institute for Musculoskeletal Health, and she works in the Centre of Research Excellence in the prevention of fall-related injuries, designing strategies to implement supported referral to community-based fall prevention exercises into health services. This year she was part of a team that received two grants: She has presented her research at national conferences & scientific meetings. She has also provided major contributions to a report for the WHO on the best available evidence for the effectiveness of physical activity programmes and services for older adults.

Dr Jenni Suen

On behalf of the Falls CRE she conducts Intervention Component Analyses and Qualitative Comparative Analyses on interventions for falls prevention, collaborating with experts from University College London.

Dr Meghan Ambrens

Throughout 2023, Meghan Ambrens continued representing the CRE Falls Injury as part of the CERI Coordinating Group. Throughout 2023, Meghan was a member of the special interest working group involved with CERI-sponsored special issue of *Public Health Research and Practice*. The theme for the special issue was '*Collaborative partnerships for prevention: health determinants, systems and impact*'.

Dr Saman Khalatbari-Soltani

Led by Dr Saman Khalatbari-Soltani, the Healthy Ageing Toolkit is a searchable cohort information repository that includes 287 ageing cohort studies across the globe designed to support the study of healthy ageing and its trajectories, as well as inequities in healthy ageing. The toolkit has an online search dashboard that researchers can use to find a list of available cohort studies from different geographical regions with information about the availability of relevant healthy ageing measures for their research question of interest. See below registration details to the launch.

Dr Suzanne Dyer

In 2023, Suzanne lead updates of the evidence for falls prevention in residential aged care facilities and hospitals which informed the draft updated Australian Falls Prevention guidelines developed for the Australian Commission on Safety and Quality in Health Care. Re-analysis of evidence for exercise interventions to prevent falls in care facilities provided strong evidence, for the first time, that exercise can prevent falls in this setting, but only if it is sustained. She also led novel analyses (intervention component analysis and qualitative comparative analysis) of the components of effective trials of exercise and multifactorial falls prevention interventions in care facility settings, and for all interventions in hospitals, informing better use of existing trial data and providing information to guide implementation recommendations within the draft Australian Falls prevention guidelines. These findings were published in two Age and Ageing manuscripts and were shortlisted for a poster prize at the Fragility Fracture 2023 meeting in Oslo, Norway. Suzanne also presented this work as a keynote speaker at the joint conference of the Australian and New Zealand Falls Prevention Society and World Falls Congress in Perth. At the Australian & New Zealand Hip Fracture Registry (ANZHFR) Binational Hip Festival, on the Gold Coast, she provided guidance on interventions to improve outcomes after hip fracture as an invited plenary speaker, discussing the latest evidence from Cochrane Collaboration reviews including the co-authored 2022 review on Interventions for improving mobility after hip fracture surgery. Suzanne co-supervised an online e-Community of Practice of staff from ten residential aged care facilities aiming improve evidence-based post-hip fracture recovery, including secondary falls prevention. This pilot study demonstrated feasibility of the intervention, including the launch of quality improvement projects at nine sites and improved care facility staff knowledge of best practice care. She also co-supervised a Masters student (Lorraine Ng) who examined patient outcomes, including falls, before and after the opening of a therapeutic garden on a high dependency psychogeriatric unit in an acute hospital.

Presentations:

1. Falls prevention in residential aged care: updated meta-analyses with novel analyses for complex interventions. Keynote Speaker, Australian and New Zealand Falls Prevention Society and World Falls Congress, Perth, Nov 2023.
2. Recovery from hip fracture. Rehabilitation: What the evidence tells us. Invited Speaker, Australian & New Zealand Hip Fracture Registry (ANZHFR) Binational Hip Festival, Gold Coast, Sept 2023.
3. Multifactorial interventions for falls prevention in aged care: intervention component analysis, qualitative comparative analysis, updated systematic review and meta-analysis. Short-listed for Poster prize, Fragility Fracture Network Global Congress, Oslo, Norway (presented by Maria Crotty).

Ms Kelly Stephen PhD candidate

Kelly is 18 months into her PhD investigating staff attitudes towards mobilisation alarms and their use in clinical practice under the supervision of Professor Terry Haines (Monash University), Dr. Debbie Pu (Monash University) and Professor Jenny Weller-Newton (University of Canberra). A large NHMRC funded trial used a stepped-wedge disinvestment approach to investigate the effectiveness of alarms for falls prevention in 18 acute and subacute wards across five Victorian health services. The trial commenced in April 2023 and concluded in January 2024. Kelly's research is embedded within this large trial investigating staff attitudes towards the usefulness of alarms, preferences regarding if and how alarms should be used and staff experiences of participating in the trial. This research also aims to investigate whether change in practice following the disinvestment trial occurs more readily at sites involved in the trial compared with sites not involved. Hence a concurrent study of 18 external impact wards have been provided with the evidence of alarm effectiveness including the results of the stepped wedge trial but have not been requested to make any specific changes to alarm use.

Clinical risk managers and health care professionals working on the participating wards were interviewed at baseline (47 interviews/focus groups), one week prior to entering the intervention phase (27 interviews/focus groups) and following the trial conclusion where staff were provided with the preliminary results of the trial (site visits in progress). The final phase of staff interviews are planned to be completed in early 2025 to again investigate attitudes towards alarms combined with audits of fall prevention guidelines encompassing alarms and a count of how many alarms are in use.

This research will help form recommendations regarding the use of alarms for falls prevention in hospitals. Kelly and her research team are currently completing analysis of the interviews and a systematic review of the effectiveness of alarms.

Presentations

May 2023: Invited speaker, Victorian Falls Prevention Alliance, 'Practical steps for falls prevention.'

Venisa Kwok PhD candidate

Project update

Using the Australian Longitudinal Study on Women's Health (ALSWH), we have progressed understanding the association between physical activity participation from mid-life to older age and falls. We have also extended our investigation to examine the effect medication of physical function limitation or frailty on the association between physical activity and falls. We are planning to use men's data from the Concord Health and Ageing in Men Project (CHAMP) to further investigate the association between physical activity participation and falls.

Presentations

1. Kwok WS, Khalatbari-Soltani S, Dolja-Gore X, Byles J, Oliveira JS, Sherrington C. Physical activity, physical function and falls in Australian women. Australia and New Zealand Falls Prevention Society & World Falls Congress 2023, Perth, Australia (Oral presentation)
2. Kwok WS, Khalatbari-Soltani S, Dolja-Gore X, Byles J, Sherrington C. Bi-directional prospective relationship between physical activity (PA) and falls. Australian Physiotherapy Association Conference 2023. Brisbane, Australia. (Oral presentation)
3. Kwok WS, Khalatbari-Soltani S, Dolja-Gore X, Byles J, Sherrington C. Exploring bi-directional prospective relationship between physical activity (PA) and falls, and long-term relationship between PA and falls in Australian women. World Physiotherapy Congress 2023, Dubai (Oral presentation)
4. Kwok WS, Oliveira JS, Nyman S, Tiedemann A, Pinheiro M, Khalatbari-Soltani S, Sherrington C. Use of behaviour change techniques, adherence and effectiveness of exercise intervention targeting falls prevention in community-dwelling adults aged 60+. World Physiotherapy Congress 2023, Dubai (Oral presentation)

<https://crepreventfallsinjuries.org.au/better-use-of-existing-data/>

Rik Dawson PhD candidate

We are pleased to announce Rik Submitted his PhD under the guidance of his supervisors Professor Sherrington, Dr Haynes, Dr Oliveira and Dr Pinheiro, and other CRE collaborators, Professor Naganathan and Dr Taylor was completed in 2023. The TOP UP Study received ethics approval from Concord Hospital HREC in May 2021. This randomised controlled trial aimed to evaluate the effect and acceptability of a telehealth physiotherapy program on mobility and falls compared to usual care in 242 older people receiving aged care services in the community and residential aged care setting. Recruitment target was met with 191 available for follow up data collection representing a loss to follow up of 21%. Outcomes achieved

- Tele physiotherapy breaks down access barriers and expands access to evidence-based fall prevention and mobility programs.
- Over 50 aged care workers were trained by physiotherapists from University of Sydney across 27 sites to support tele physiotherapy programs in aged care.
- TOP UP had high satisfaction rates – all participants would recommend tele physiotherapy to other older people.
- Implementation outcomes suggest that tele physiotherapy is feasible with adoption rates at 47% and a 79% completion rate during the TOP UP study.
- TOP UP included some behaviour changes training that aimed to increase therapeutic alliance and exercise adherence which facilitated 52% of participants to do independent

Funding Awarded

- 2023 *FMH Rewarding Research Success – Final COVID Recovery Support*
Project title: A physiotherapy-led telehealth and exercise intervention to improve mobility in older people receiving aged care services: an effectiveness and implementation randomised controlled trial (The TOP UP Study).
Amount: \$33,391.80
- 2023 Award: The Hal Kendig Research Development Program 2023.
Project: Delivering exercise in aged care services to improve quality of life: co-designing the TOP-UP program app.
Investigators: Abby Haynes, Juliana Souza de Oliveira, Cathie Sherrington, Rik Dawson, Marina Pinheiro, Anne Tiedemann
Amount: \$19,958.

Charlotte McLennan PhD candidate

Charlotte will be working on the NHRMC Partnership Program Grant 2023-2026
Implementation of a quality improvement-based Falls Prevention Strategy in an acute inpatient hospital setting: a feasibility study; awarded \$979,506.10

Exploring the success of safety and quality programs for older people in Australian hospitals: a qualitative study: SLHD ethics submission and approval; ongoing recruitment (32 participants so far).

Implementation of a quality improvement-based Falls Prevention Strategy in an acute inpatient hospital setting: a feasibility study. Intervention completed across 4 inpatient wards. Staff survey and routinely collected hospital data undergoing analysis.

Considerations across multiple stakeholder groups when implementing fall prevention programs in the acute hospital setting: a qualitative study. Interviews completed with 50 participants.

Presentations:

1. Dec 2023: Oral Presentation, Sydney Musculoskeletal Scientific Meeting, 'Considerations when implementing a hospital fall prevention strategy: qualitative analyses'.
2. Nov 2023: Oral Presentation, Australian and New Zealand Falls Prevention Society & World Falls Congress Conference, 'Considerations when implementing a hospital fall prevention strategy: qualitative analyses'.
3. June 2023: Invited presenter, Population Ageing and Health Seminar, USYD, 'Implementing fall prevention in hospitals.'
4. May 2023: Oral Presentation, NSW Falls Forum, 'Understanding and reducing falls in the inpatient hospital setting'.
5. May 2023: Invited presenter, Monash Partners, Melbourne Academic Health Centre, Western Alliance Practical Steps for Fall Prevention, 'Implementing fall prevention in hospitals'.

<https://crepreventfallsinjuries.org.au/test-new-interventions/>

CRE-PFI 2023 Meetings and Events

CRE Executive meetings

Attendees: Prof Sherrington, Prof Lord, Prof Crotty, Prof Bauman.

This meeting is scheduled every 2 months and designed to update the executive board members. The goal of this meeting is to make decisions, bring up and solve problems, align cross-functionally, and gain insights into the progress of the CRE-PFI projects. Held: February, February, May, September, November 2023.

Scientific meetings

Attendees: All CIs, AIs, ECRs and students.

The first half of this meeting is designed to update all CRE-PFI members on the general progress of the CRE. The second half of the meeting will see presentations from CRE members on their projects where others can provide feedback. Held: June 2023.

CRE Planning Day meeting.

Attendees: All CRE-PFI members and other Mid-career Research collaborators.

Held annually to update everyone on the CRE PFI progress. Updates on projects and discuss new grant applications and projects for the upcoming year. Held: 29th November 2023 in Perth

Research Ideas session (CRE members, funded ECRs, students)

These meetings are scheduled every 2 months. Currently we have ECR and PhD students give a quick update on the status of their project. Held: Mar, May, September 2023.

Research Seminars

Attendees: All CRE-PFI members and other collaborators.

These seminars are scheduled every two months and have been designed and initiated by our early career researchers on topics that interest them and designed to promote discussions and potentially collaborations. Occasionally we have guest speakers on relevant topics. All seminars have been recorded and the link can be accessed on our website. Website: crepreventfallsinjuries.org.au/

Four research seminars topics held in 2023.

A system dynamics model of minimal trauma fractures. (Pang C): 29th March 2023

Falls and the Environment (Clemson L): 21st June 2023

The Australian Falls Prevention Guidelines update (Lord S R): 16th August 2023

Embedding Bone Health treatment into practise (Seibel M): 11th October 2023

CERI/CRE-PFI Collaborations update



What is CERI?

The Collaboration for Enhanced Research Impact (CERI) is a joint initiative between The Australian Prevention Partnership Centre (Prevention Centre) and Centres of Research Excellence (CREs) studying topics related to the prevention of chronic disease. CERI was established to enhance the profile and impact of chronic disease prevention research in Australia.

<https://preventioncentre.org.au/resources/collaboration-for-enhanced-research-impact-ceri/>

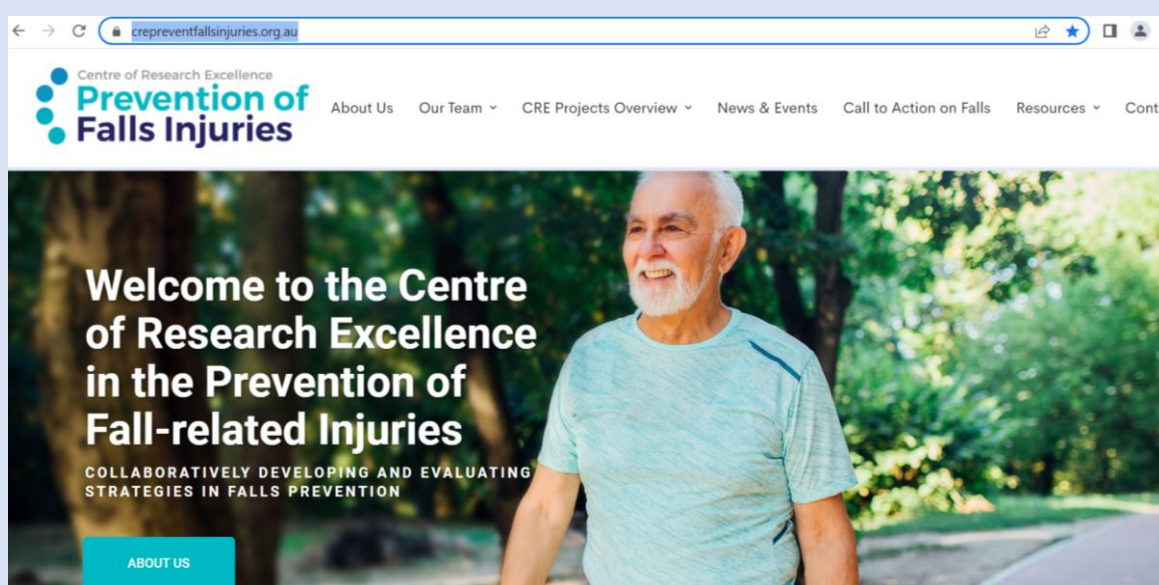
CERI update for 2023

Throughout 2023, Meghan Ambrens continued representing the CRE Falls Injury as part of the CERI Coordinating Group. Meghan was a member of the special interest working group involved with CERI-sponsored special issue of *Public Health Research and Practice*. The theme for the special issue was 'Collaborative partnerships for prevention: health determinants, systems and impact'

The CRE Falls Injury was chosen to submit a paper, which provided a review of Australian policy documents and showed there is no national policy exclusively focused on [falls prevention](#) for older people.

You can read more about the CERI and the special issue [here](#).

Website <https://crepreventfallsinjuries.org.au/>



Our website is continually updated to give visitors an overview of our activities. On average the website received 3000 visits per month in 2023. You can find the latest CRE Project updates, Annual reports, Newsletters, Publications and News and events.

Relevant 2023 Publications from CRE-PFI Investigators

Ambrens M; Stanners M; Valenzuela T; Razee H; Chow J; Van Schooten KS; **Close JCT**; Clemson L; Zijlstra GAR; **Lord SR**; **Tiedemann A**; Alley SJ; Vandelanotte C; **Delbaere K**; Valenzuela Arteaga T, 2023, 'Exploring Older Adults' Experiences of a Home-Based, Technology-Driven Balance Training Exercise Program Designed to Reduce Fall Risk: A Qualitative Research Study Within a Randomized Controlled Trial', *Journal of Geriatric Physical Therapy*, 46, pp. 139 - 148, <http://dx.doi.org/10.1519/JPT.0000000000000321>.

Baldwin J, He J, Bates A, **Oliveira JS**, **Tiedemann A**, **Hassett L**, **Sherrington C**, **Pinheiro MB**. Responsiveness of patient-reported and device-based physical activity measures: secondary analysis of four randomised trials. *Medicine & Science in Sports & Exercise*. Acceptance date: 06/10/23.

Chan LLY; Brodie MA; **Lord SR**, 2023, 'Prediction of Incident Depression in Middle-Aged and Older Adults using Digital Gait Biomarkers Extracted from Large-Scale Wrist Sensor Data', *Journal of the American Medical Directors Association*, 24, pp. 1106 - 1113.e11, <http://dx.doi.org/10.1016/j.jamda.2023.04.008>.

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