

A Cochrane Systematic Review: Occupational therapy-led fall- prevention home hazard assessments reduce falls

Professor Alison Pighills



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Home Hazard assessment / Environmental Assessment and Modification



1. A. PIGHILLS, L. CLEMSON AND S. STARK (2024) WALKING AND FALLS. IN: OCCUPATIONAL THERAPY FOR PEOPLE EXPERIENCING ILLNESS, INJURY OR IMPAIRMENT-E-BOOK: PROMOTING OCCUPATIONAL PARTICIPATION, EDITED BY M. CURTIN, M. EGAN, Y. PRIOR, T. PARNELL, R. GALVAAN, K. SAUVÉ-SCHENK, ET AL. ELSEVIER HEALTH SCIENCES. 8TH EDN.

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22 STUDIES FROM 10 COUNTRIES INVOLVING 8463 COMMUNITY-RESIDING OLDER PEOPLE



Cochrane Database of Systematic Reviews

Environmental interventions for preventing falls in older people living in the community (Review)

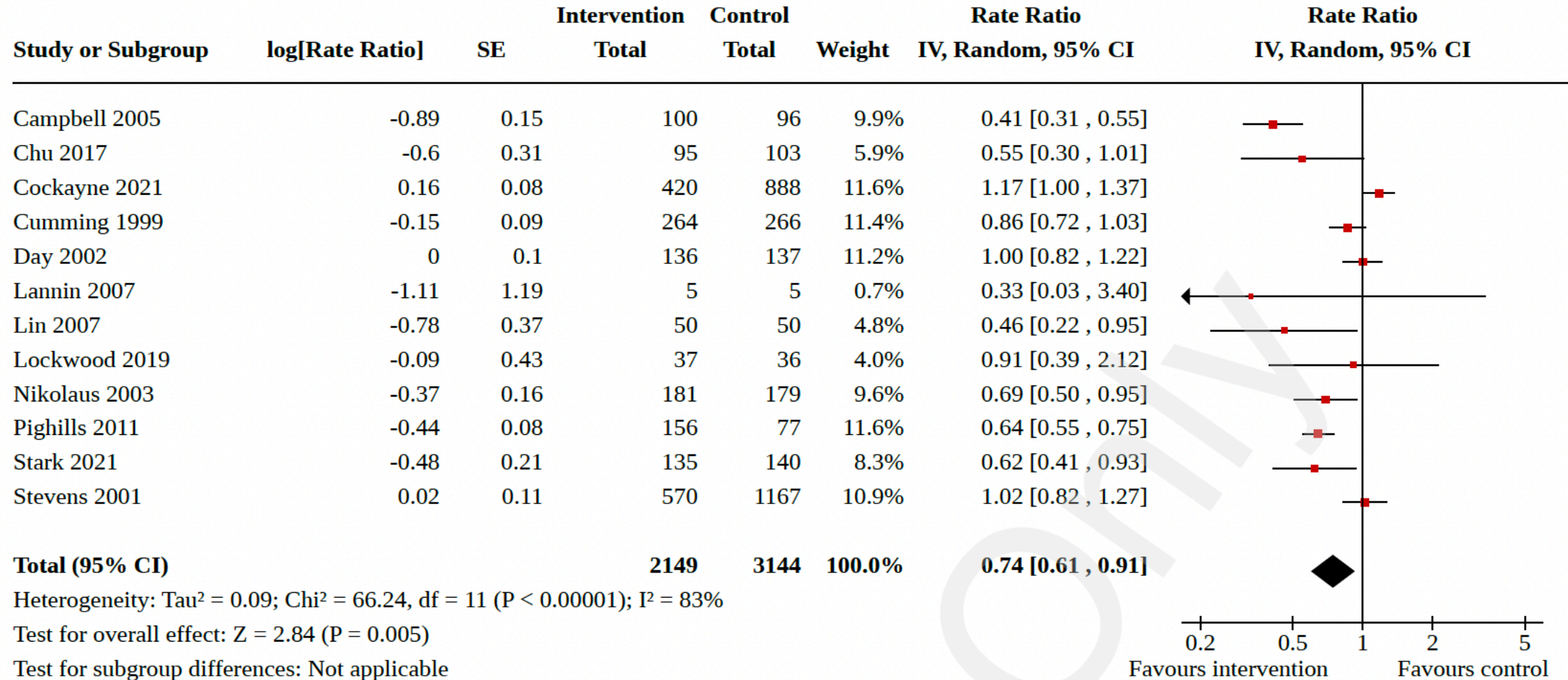
Clemson L, Stark S, Pighills AC, Fairhall NJ, Lamb SE, Ali J, Sherrington C

2. CLEMSON, L; STARK, S; PIGHILLS, AC; FAIRHALL, NJ; LAMB, SE; ALI, J; SHERRINGTON, C (2023). ENVIRONMENTAL INTERVENTIONS FOR PREVENTING FALLS IN OLDER PEOPLE LIVING IN THE COMMUNITY. COCHRANE DATABASE OF SYSTEMATIC REVIEWS, ISSUE 3. ART. No.: CD013258. DOI: 10.1002/14651858.CD013258.PUB2.

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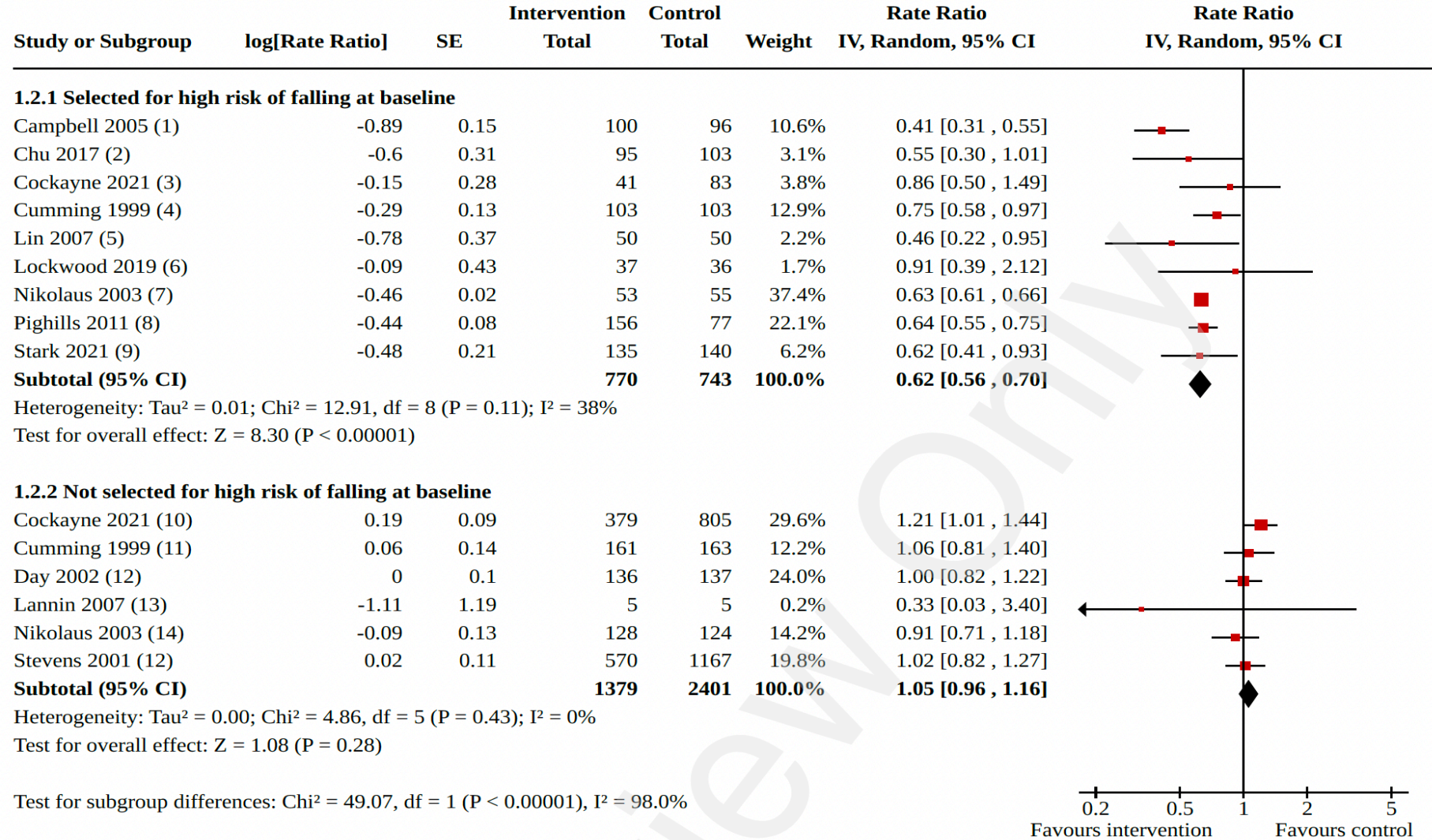
Analysis 1.1. Comparison 1: Home fall-hazard reduction versus control: primary outcome: rate of falls, Outcome 1: Rate of falls - overall analysis



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Analysis 1.2. Comparison 1: Home fall-hazard reduction versus control: primary outcome: rate of falls, Outcome 2: Rate of falls - subgrouped by risk of falls at baseline



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Results Summarised

- 26% REDUCTION IN FALLS FOR INTERVENTION TARGETING **ALL FALLS RISK** CATEGORIES (RAR 0.74, 95% CI 0.61 TO 0.91, $p=0.005$)
- 38% REDUCTION IN FALLS FOR INTERVENTION TARGETING **HIGH FALLS RISK** CATEGORY (RAR 0.62, 95% CI 0.56 TO 0.70, $p<0.00001$)
- NO REDUCTION IN FALLS FOR INTERVENTION TARGETING **LOW FALLS RISK** CATEGORY (RAR 1.05, 95% CI 0.96 TO 1.16, $p=0.28$)
- 39% REDUCTION IN FALLS FOR **OT LED** INTERVENTION TARGETING **HIGH FALLS RISK** CATEGORY (RAR 0.61, 95% CI 0.53 TO 0.71, $p=<0.00001$)
- NO REDUCTION IN FALLS FOR **OT LED** INTERVENTION TARGETING **LOW FALLS RISK** CATEGORY (RAR 1.07, 95% CI 0.91 TO 1.27, $p=0.24$)

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High-Intensity Environmental Assessment

1. HAZARD
IDENTIFICATION

2. VALIDATED AX
TOOL

3. OBSERVATION OF
FUNCTIONAL
CAPACITY

4. FOLLOW-UP

1-4 = HIGH
INTENSITY
INTERVENTION

5. WAS THE OLDER
PERSON ACTIVELY
INVOLVED IN THE AX
AND PRIORITY SETTING?

(TO BE DEEMED HIGH INTENSITY THE INTERVENTION
MUST MEET 3 OUT OF THE FIRST 4 CRITERIA)

2. CLEMON, L., MACKENZIE, L., BALLINGER, C., CLOSE, J., & CUMMING, R. G. (2008). ENVIRONMENTAL INTERVENTIONS TO PREVENT FALLS IN COMMUNITY-DWELLING OLDER PEOPLE: A META-ANALYSIS OF RANDOMIZED BLANCHET, R., & EDWARDS, N. (2018). A NEED TO IMPROVE THE ASSESSMENT OF ENVIRONMENTAL HAZARDS FOR FALLS ON STAIRS AND IN BATHROOMS: RESULTS OF A SCOPING REVIEW. BMC GERIATRICS, 18(1), 272-272. DOI:10.1186/s12877-018-0958-1

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Implications for practice



ENVIRONMENTAL ASSESSMENT, AIMING TO REDUCE FALLS, SHOULD BE A SPECIFIC TARGETED PROFESSIONALLY PRESCRIBED INTERVENTION — NOT JUST A COMPONENT OF A GENERIC HOME VISIT



IT IS A PREVENTION FOCUSED INTERVENTION AS OPPOSED TO A THERAPEUTIC INTERVENTION TO ENHANCE INDEPENDENCE



ENVIRONMENTAL ASSESSMENT IS A JOINT PROBLEM-SOLVING APPROACH

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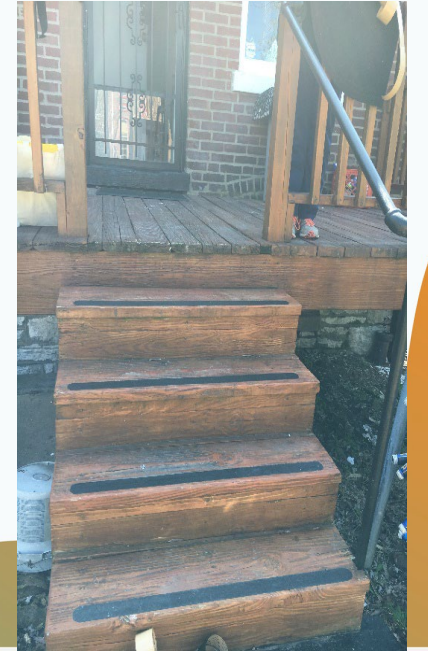
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Conclusions

HOME FALL-HAZARD INTERVENTIONS:

- REDUCE THE RATE OF FALLS AND THE NUMBER OF PEOPLE EXPERIENCING FALLS WHEN TARGETED TOWARD PEOPLE AT HIGH RISK OF FALLING
- SHOW GREATER REDUCTIONS WHEN THE INTERVENTION IS TAILORED TO FALLS
- ARE MORE EFFECTIVE WHEN DELIVERED BY AN OCCUPATIONAL THERAPIST



4. CLEMSON, L; PIGHILLS, A (2021). MODIFYING THE ENVIRONMENT TO PREVENT FALLS IN LORD, S. R., SHRERRINGTON, C., & MENZ, H. B. EDS. FALLS IN OLDER PEOPLE; RISK FACTORS AND STRATEGIES FOR PREVENTION. CAMBRIDGE: CAMBRIDGE UNIVERSITY PRESS

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Age and Ageing 2022; 51: 1–36
<https://doi.org/10.1093/ageing/afac205>

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GUIDELINE

World guidelines for falls prevention and management for older adults: a global initiative

MANUEL MONTERO-ODASSO^{1,2,3,†}, NATHALIE VAN DER VELDE^{4,5,†}, FINBARR C. MARTIN⁶, MIRKO PETROVIC⁷, MAW PIN TAN^{8,9}, JESPER RYG^{10,11}, SARA AGUILAR-NAVARRO¹², NEIL B. ALEXANDER¹³, CLEMENS BECKER¹⁴, HUBERT BLAIN¹⁵, ROBBIE BOURKE¹⁶, IAN D. CAMERON¹⁷, RICHARD CAMICOLI¹⁸, LINDY CLEMONS¹⁹, JACQUELINE CLOSE^{20,21}, KIM DELBAERE²², LEILEI DUAN²³, GUSTAVO DUQUE²⁴, SUZANNE M. DYER²⁵, ELLEN FREIBERGER²⁶, DAVID A. GANZ²⁷, FERNANDO GÓMEZ²⁸, JEFFREY M. HAUSDORFF^{29,30,31}, DAVID B. HOGAN³², SUSAN M.W. HUNTER³³, JOSE R. JAUREGUI³⁴, NELLIE KAMKAR¹, ROSE-ANNE KENNY¹⁶, SARAH E. LAMB³⁵, NANCY K. LATHAM³⁶, LEWIS A. LIPSITZ³⁷, TERESA LIU-AMBROSE³⁸, PIP LOGAN³⁹, STEPHEN R. LORD^{40,41}, LOUISE MALLET⁴², DAVID MARSH⁴³, KOEN MILISEN^{44,45}, ROGELIO MOCTEZUMA-GALLEGOS^{46,47}, MEG E. MORRIS⁴⁸, ALICE NIEUWBOER⁴⁹, MONICA R. PERRACINI⁵⁰, FREDERICO PIERUCCINI-FARIA^{1,2}, ALISON PIGHILLS⁵¹, CATHERINE SAID^{52,53,54}, ERVIN SEJDIC⁵⁵, CATHERINE SHERRINGTON⁵⁶, DAWN A. SKELTON⁵⁷, SABESTINA DSOUZA⁵⁸, MARK SPEECHLEY^{3,59}, SUSAN STARK⁶⁰, CHRIS TODD^{61,62}, BRUCE R. TROEN⁶³, TISCHA VAN DER CAMMEN^{64,65}, JOE VERGHESE^{66,67}, ELLEN VLAEYEN^{68,69}, JENNIFER A. WATT^{70,71}, TAHIR MASUD⁷², the Task Force on Global Guidelines for Falls in Older Adults[‡]

Downloaded from <https://academic.oup.com/ageing/article/51/9/a>



5. MONTERO-ODASSO, M., VAN DER VELDE, N., MARTIN, F. C., PETROVIC, M., TAN, M. P., RYG, J., . . . TASK FORCE ON GLOBAL GUIDELINES FOR FALLS IN OLDER ADULTS. (2022). WORLD GUIDELINES FOR FALLS PREVENTION AND MANAGEMENT FOR OLDER ADULTS: A GLOBAL INITIATIVE. AGE AND AGEING, 51(9). DOI:10.1093/AGEING/AFAC205 (ALISON PIGHILLS IS A CO-AUTHOR)

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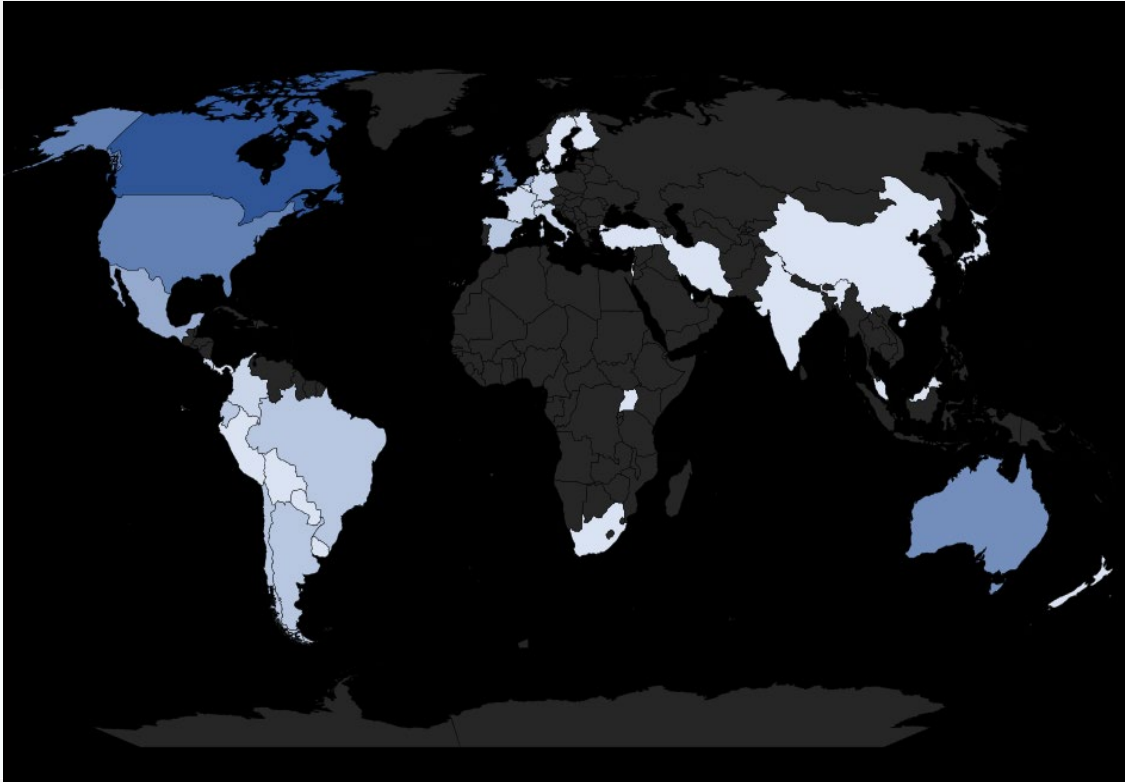
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<https://worldfallsguidelines.com/>

GLOBAL REPRESENTATION

THIS MAP SHOWS OUR LEVEL OF REPRESENTATION FROM COUNTRIES ACROSS THE GLOBE (DARKER SHADES OF BLUE INDICATE HIGHER REPRESENTATION)



INVOLVED

- **96** WORLD “CORE EXPERTS”
- **40** COUNTRIES
- **36** SOCIETIES/AGENCIES
- **25** STEERING COMMITTEE MEMBERS
- **12** WORKING GROUPS
- **11** SYSTEMATIC REVIEWS

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Implementation Pilot

7. TYNAN, A; PIGHILLS, A; WHITE, W; EDEN, A, MICKAN, S (2022). IMPLEMENTING BEST PRACTICE OCCUPATIONAL THERAPIST LED ENVIRONMENTAL ASSESSMENT AND MODIFICATION TO PREVENT FALLS: A QUALITATIVE STUDY OF TWO RURAL PUBLIC HEALTH SERVICES IN AUSTRALIA. AUSTRALIAN OCCUPATIONAL THERAPY JOURNAL. DOI:10.1111/1440-1630.12849



6. PIGHILLS, A; TYNAN, A; FURNESS, L; RAWLE, M (2019). OCCUPATIONAL THERAPIST LED ENVIRONMENTAL ASSESSMENT AND MODIFICATION (EAM) TO PREVENT FALLS IN OLDER PEOPLE IN REGIONAL AND RURAL SETTINGS: A PILOT STUDY USING IMPLEMENTATION SCIENCE. AUSTRALIAN OCCUPATIONAL THERAPY JOURNAL. 66: 347-61. DOI:10.1111/1440-1630.12560

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Australian Government
Department of Industry, Science and Resources
Department of Health and Aged Care

Grant Opportunity Guidelines

Medical Research
Future Fund



Medical Research Future Fund – Rapid Applied Research Translation Initiative

2022 Rapid Applied Research Translation Grant Opportunity Guidelines

What next?

AIM: TO EXAMINE THE EFFECT OF
TAILORED IMPLEMENTATION
STRATEGIES ON THE UPTAKE OF
ENVIRONMENTAL ASSESSMENT
AND MODIFICATION AMONGST
OCCUPATIONAL THERAPISTS
WORKING WITH OLDER PEOPLE AT
HIGH RISK OF FALLS IN A VARIETY
OF COMMUNITY SETTINGS

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The Research Team

DO YOU PROVIDE A SERVICE TO OLDER PEOPLE AT HIGH RISK OF FALLS? DO YOU CARRY OUT HOME BASED OT ASSESSMENTS? IF YES, YOU COULD PARTICIPATE IN OUR MRFF FUNDED NATIONAL IMPLEMENTATION STUDY. FOR FURTHER DETAILS CONTACT: PROFESSOR ALISON PIGHILLS. EMAIL: ALISON.PIGHILLS@JCU.EDU.AU

CHIEF INVESTIGATOR A

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FALLS PREVENTION Online Workshop

HOME AND COMMUNITY SAFETY

[Home](#) [About](#) [Course Guide](#) [Get Started](#) [Resources](#) [Contact](#) [Student Login](#)



Resources

Falls prevention online workshop for health professionals:

<https://fallspreventiononlineworkshops.com.au/>

Aims to enable clinicians to: Identify environmental hazards and behavioural risks related to falls; problem-solve solutions jointly with patients; reduce or prevent future falls and the consequences of falls; learn to develop a tailored action plan for clients; apply an evidence-based approach in everyday practice

Home and Community Safety
Online Training Module and Resources

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References

1. A. PIGHILLS, L. CLEMONS AND S. STARK (2024) WALKING AND FALLS. IN: OCCUPATIONAL THERAPY FOR PEOPLE EXPERIENCING ILLNESS, INJURY OR IMPAIRMENT-E-BOOK: PROMOTING OCCUPATIONAL PARTICIPATION, EDITED BY M. CURTIN, M. EGAN, Y. PRIOR, T. PARNELL, R. GALVAAN, K. SAUVÉ-SCHENK, ET AL. ELSEVIER HEALTH SCIENCES. 8TH EDN.
2. PIGHILLS, ALISON C., TORGERSON, DAVID J., SHELDON, TREVOR A., DRUMMOND, AVRIL E., & BLAND, J. MARTIN. (2011). ENVIRONMENTAL ASSESSMENT AND MODIFICATION TO PREVENT FALLS IN OLDER PEOPLE. JOURNAL OF THE AMERICAN GERIATRICS SOCIETY, 59(1), 26-33. DOI: 10.1111/J.1532-5415.2010.03221.X
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