


Reference list (in order of appearance):

- Oliver D, Britton M, Seed P, Martin FC, Hopper AH. Development and evaluation of evidence based risk assessment tool (STRATIFY) to predict which elderly inpatients will fall: case-control and cohort studies. *Bmj*. 1997 Oct 25;315(7115):1049-53.
- Morse JM, Black C, Oberle K, Donahue P. A prospective study to identify the fall-prone patient. *Social science & medicine*. 1989 Jan 1;28(1):81-6.
- Lord SR, Menz HB, Tiedemann A. A physiological profile approach to falls risk assessment and prevention. *Physical therapy*. 2003 Mar 1;83(3):237-52.
- National Institute for Health and Care Excellence. Falls in older people: assessing risk and prevention. NICE; 2013.
- Tideiksaar R, Feiner CF, Maby J. Falls prevention: the efficacy of a bed alarm system in an acute-care setting. *The Mount Sinai Journal of Medicine, New York*. 1993 Nov 1;60(6):522-7.
- Mayo NE, Gloutney L, Levy AR. A randomized trial of identification bracelets to prevent falls among patients in a rehabilitation hospital. *Archives of physical medicine and rehabilitation*. 1994 Dec 1;75(12):1302-8.
- Donald IP, Pitt K, Armstrong E, Shuttleworth H. Preventing falls on an elderly care rehabilitation ward. *Clinical rehabilitation*. 2000 Apr;14(2):178-85.
- Rogers S. Reducing falls in a rehabilitation setting: a safer environment through team effort. *Rehabilitation Nursing*. 1994 Sep 10;19(5):274-6.
- Haines T, Kuys SS, Morrison G, Clarke J, Bew P. Balance impairment not predictive of falls in geriatric rehabilitation wards. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences*. 2008 May 1;63(5):523-8.
- Haines TP, Lee DC, O'connell B, McDermott F, Hoffmann T. Why do hospitalized older adults take risks that may lead to falls?. *Health Expectations*. 2015 Apr;18(2):233-49.
- Haines T, McPhail S. Threat appraisal for harm from falls: insights for development of education-based intervention. *Open Longevity Science*. 2011;5:9-15.
- Haines TP, Bennell KL, Osborne RH, Hill KD. Effectiveness of targeted falls prevention programme in subacute hospital setting: randomised controlled trial. *Bmj*. 2004 Mar 18;328(7441):676.
- Haines TP, Hill KD, Bennell KL, Osborne RH. Patient education to prevent falls in subacute care. *Clinical rehabilitation*. 2006 Nov;20(11):970-9.
- Haines TP, Hill AM, Hill KD, McPhail S, Oliver D, Brauer S, Hoffmann T, Beer C. Patient education to prevent falls among older hospital inpatients: a randomized controlled trial. *Archives of internal medicine*. 2011 Mar 28;171(6):516-24.
- Haines TP, Hill AM, Hill KD, Brauer SG, Hoffmann T, Etherton-Beer C, McPhail SM. Cost effectiveness of patient education for the prevention of falls in hospital: economic evaluation from a randomized controlled trial. *BMC medicine*. 2013 Dec;11:1-2.
- Hill AM, McPhail SM, Waldron N, Etherton-Beer C, Ingram K, Flicker L, Bulsara M, Haines TP. Fall rates in hospital rehabilitation units after individualised patient and staff education programmes: a pragmatic, stepped-wedge, cluster-randomised controlled trial. *The Lancet*. 2015 Jun 27;385(9987):2592-9.
- Hill AM, McPhail SM, Francis-Coad J, Waldron N, Etherton-Beer C, Flicker L, Ingram K, Haines TP. Educators' perspectives about how older hospital patients can engage in a falls prevention education programme: a qualitative process evaluation. *BMJ open*. 2015 Dec 1;5(12):e009780.
- Williams C, Bowles KA, Kiegaldie D, Maloney S, Nestel D, Kaplonyi J, Haines T. Establishing the effectiveness, cost-effectiveness and student experience of a Simulation-based education Training program On the Prevention of Falls (STOP-Falls) among hospitalised inpatients: a protocol for a randomised controlled trial. *BMJ open*. 2016 Jun 1;6(6):e010192.
- Morris ME, Thwaites C, Lui R, McPhail SM, Haines T, Kiegaldie D, Heng H, Shaw L, Hammond S, McKercher JP, Knight M. Preventing hospital falls: feasibility of care workforce redesign to optimise patient falls education. *Age and Ageing*. 2024 Jan 1;53(1):afad250.
- Ang E, Mordiffi SZ, Wong HB. Evaluating the use of a targeted multiple intervention strategy in reducing patient falls in an acute care hospital: a randomized controlled trial. *Journal of advanced nursing*. 2011 Sep;67(9):1984-92.
- Morris ME, Webster K, Jones C, Hill AM, Haines T, McPhail S, Kiegaldie D, Slade S, Jazayeri D, Heng H, Shorr R. Interventions to reduce falls in hospitals: a systematic review and meta-analysis. *Age and Ageing*. 2022 May;51(5):afac077.
- Montero-Odasso M, Van Der Velde N, Martin FC, Petrovic M, Tan MP, Ryg J, Aguilar-Navarro S, Alexander NB, Becker C, Blain H, Bourke R. World guidelines for falls prevention and management for older adults: a global initiative. *Age and ageing*. 2022 Sep;51(9):afac205.



Patient education for the prevention of falls in hospitals

Prof Terry Haines AM

Head of School,

School of Primary and Allied Health Care

Monash University

Chair,

Australian Council of Deans of Health Sciences

Terry.Haines@monash.edu

Today's presentation

- Acknowledgement
- Background
- Theoretical concepts
- Successes and failures of implementation

Falls risk screening, risk factor reduction, and multifactorial interventions are awesome

Papers

Development and evaluation of evidence based risk assessment tool (STRATIFY) to predict which elderly inpatients will fall: case-control and cohort studies

BMJ 1997 ; 315 doi: <https://doi.org/10.1136/bmj.315.7115.1049> (Published 25 October 1997)

Cite this as: BMJ 1997;315:1049

Article

Related content

Metrics

Responses

D Oliver, senior registrar^a, M Britton, senior registrar^a, P Seed, lecturer^b, F C Martin, consultant physician^a,

A H Hopper, consultant physician^a



Social Science & Medicine

Volume 28, Issue 1, 1989, Pages 81-86



A prospective study to identify the fall-prone patient

Janice M. Morse¹, Colleen Black², Kathleen Oberle³, Patricia Donahue⁴

JOURNAL ARTICLE

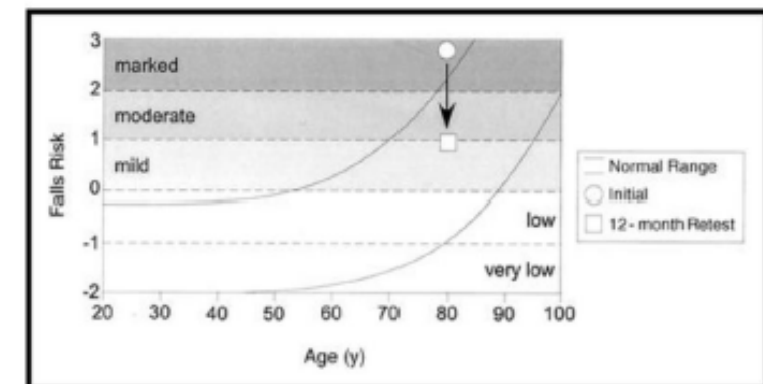
A Physiological Profile Approach to Falls Risk Assessment and Prevention

Stephen R Lord[✉], Hylton B Menz, Anne Tiedemann

Physical Therapy, Volume 83, Issue 3, 1 March 2003, Pages 237–252,

<https://doi.org/10.1093/ptj/83.3.237>

Published: 01 March 2003



Behavioural interventions don't work

NICE National Institute for
Health and Care Excellence

Falls

Assessment and prevention of falls in
older people

Issued: June 2013

NICE guidance number
guidance.nice.org.uk/OG161

- 1.1.12.3 **Cognitive/behavioural interventions.** There is no evidence¹ that cognitive/behavioural interventions alone reduce the incidence of falls in older people living in the community who are of unknown risk status. Such interventions included risk assessment with feedback and counselling and individual education discussions. There is no evidence¹ that complex interventions in which group activities included education, a behaviour modification programme

¹ This refers to evidence reviewed in 2004.

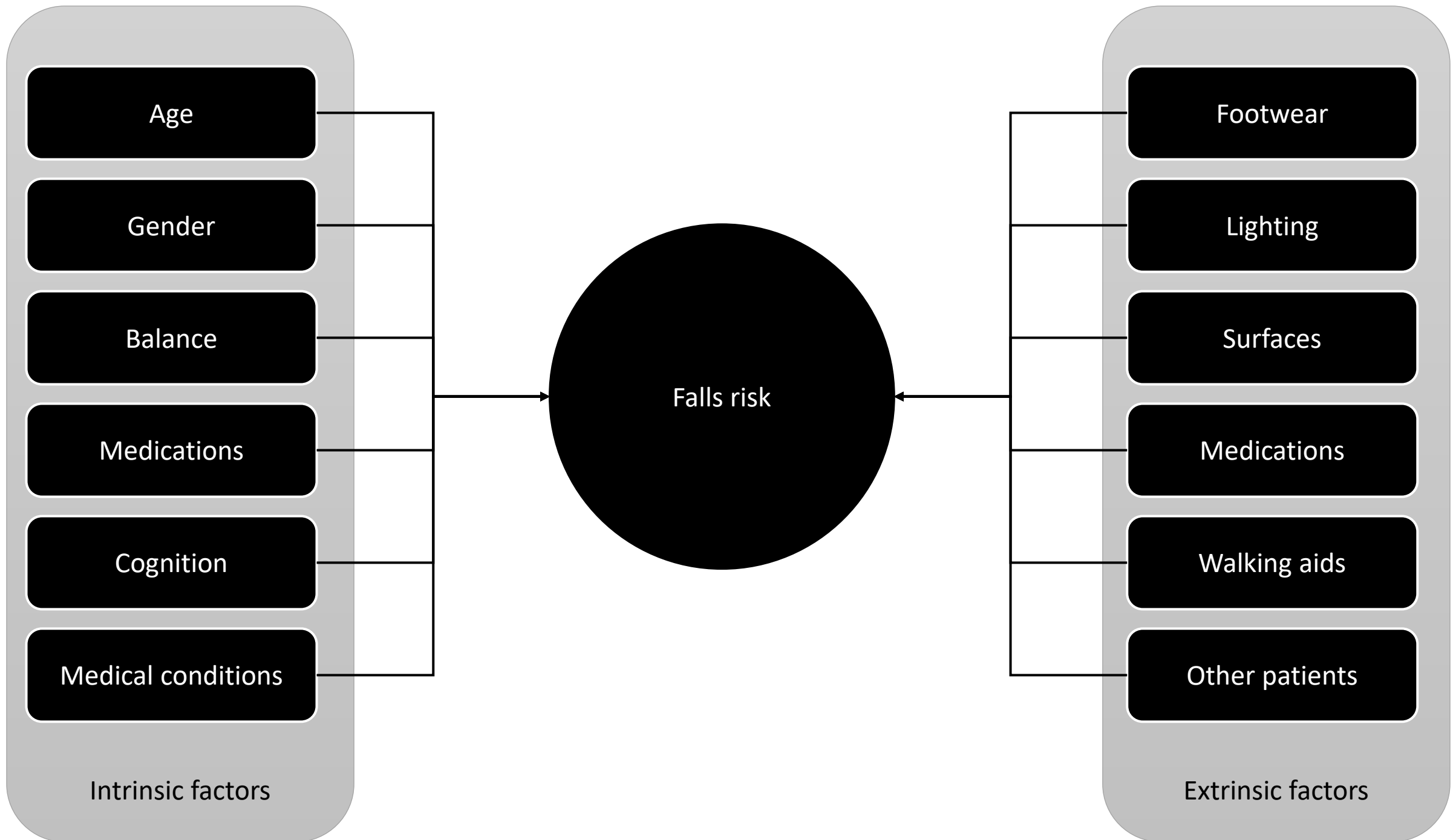
Hospital falls prevention trials to that time

- Tideiksaar (1993)
 - Bed alarms – no significant difference (only 5 falls in total)
- Mayo (1994)
 - Falls risk alerts – trial stopped early due to perceived elevated risk of harm
- Donald (2000)
 - Flooring (carpet vs vinyl)
 - Additional exercise (ankle dorsiflexion, hip flexion)
 - n=54, 11 falls total – strong trend toward vinyl being safer but not significant

Quasi-experimental falls education studies

- Rogers (1994)
 - Historical control group design
 - “...a concerted staff effort took place to remind patients of the recommended levels of assistance...”
 - 20% reduction in falls in first week of admission

Theoretical concepts



Balance Impairment Not Predictive of Falls in Geriatric Rehabilitation Wards

[Get access >](#)

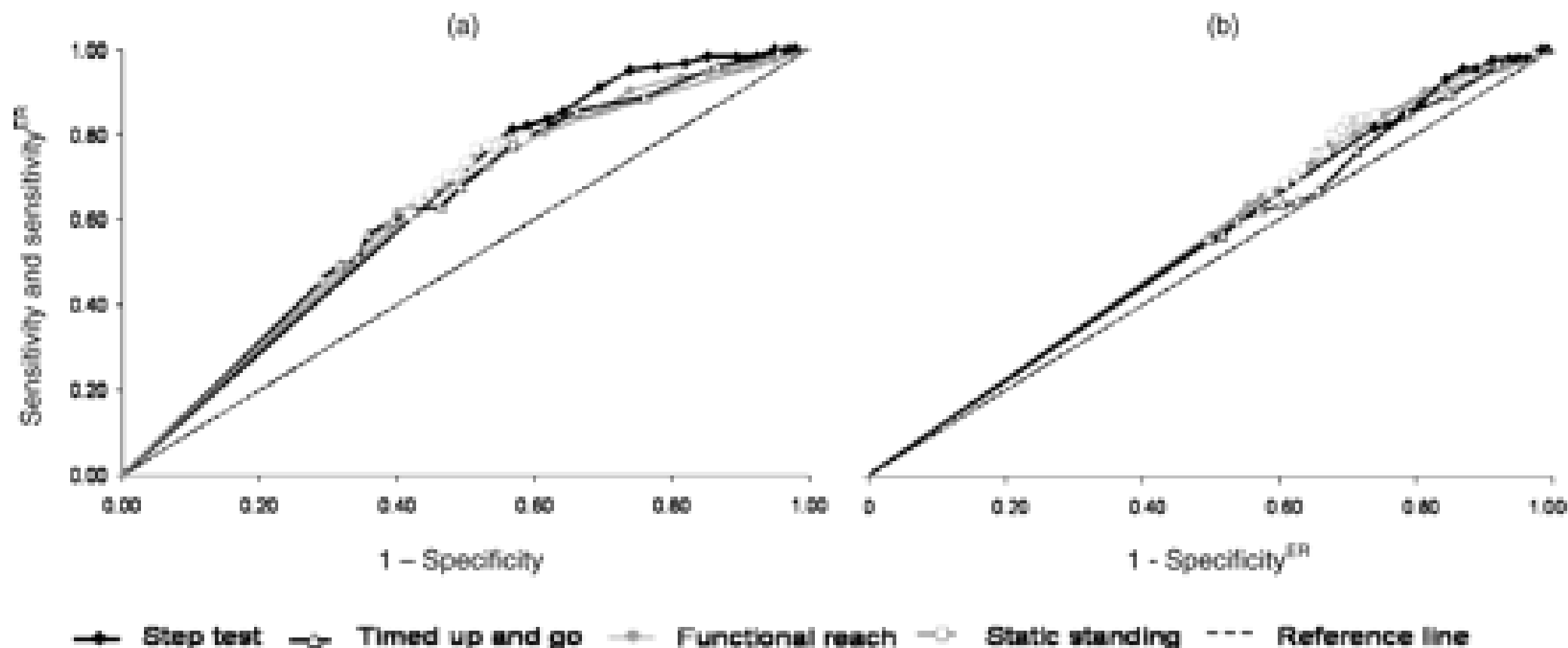
Terry Haines , Suzanne S. Kuys, Greg Morrison, Jane Clarke, Paul Bew

The Journals of Gerontology: Series A, Volume 63, Issue 5, May 2008, Pages 523–528,

<https://doi.org/10.1093/gerona/63.5.523>

Published: 01 May 2008

Article history ▼





“As long as...

...you won't make a
mistake”

A person wise in the ways
of science once said

Difficulty of task
attempted in given
environment

Capability to perform
activity in given
environment



Original Article

Why do hospitalized older adults take risks that may lead to falls?

Terry P Haines PhD G Cert Health Economics B Physiotherapy (Hons) ✉

Den-Ching Angel Lee B Applied Science (Physiotherapy) G Dip Occupational and Environmental Health,

Beverly O'Connell RN PhD FRCNA, Fiona McDermott BA Dip Soc Studs M Urban Planning PhD,

Tammy Hoffmann Bachelor of Occupational Therapy (Hons) PhD ... [See fewer authors](#) ^

First published: 29 November 2012 | <https://doi.org/10.1111/hex.12026> | Citations: 62

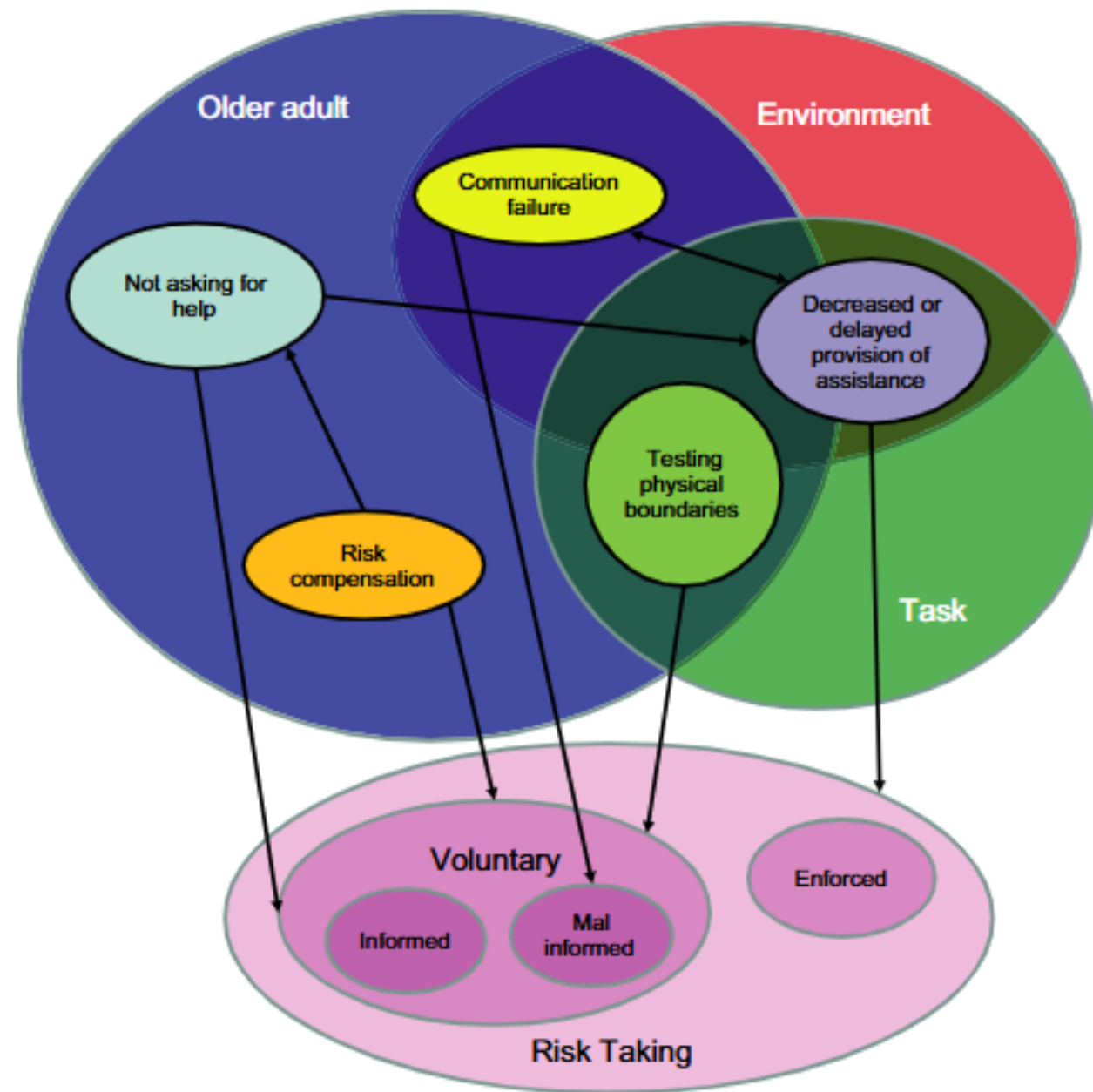


Figure 1 Overall conceptual framework of risk taking by older adults during hospitalization and following discharge.

How can we help people to make
better decisions
(where they have capacity to do so)?

Threat appraisal

Threat appraisal

=

Perceived risk of falling

X

Perceived risk of harm
from falling

Threat Appraisal for Harm from Falls: Insights for Development of Education-Based Intervention

Terry P. Haines^{*1} and Steven McPhail²

Table 1. Association Between Baseline Variables and Self-Perceived Risk of Falling, or Injury if One were to Fall

Variable	Self-Perceived Risk of Falling	Self-Perceived Risk of Injury
Diagnosis – Neurological	1.40 (0.41, 4.72), p=0.59	1.10 (0.33, 3.62), p=0.88
Diagnosis – Orthopaedic / musculoskeletal	0.43 (0.13, 1.36), p=0.15	3.7 (1.19, 11.51), p=0.02
Diagnosis – Amputation	1.91 (0.65, 5.60), p=0.24	0.39 (0.15, 1.01), p=0.05

Using theory to prevent falls

10 *Open Longevity Science, 2011, Volume 5*

Haines and McPhail

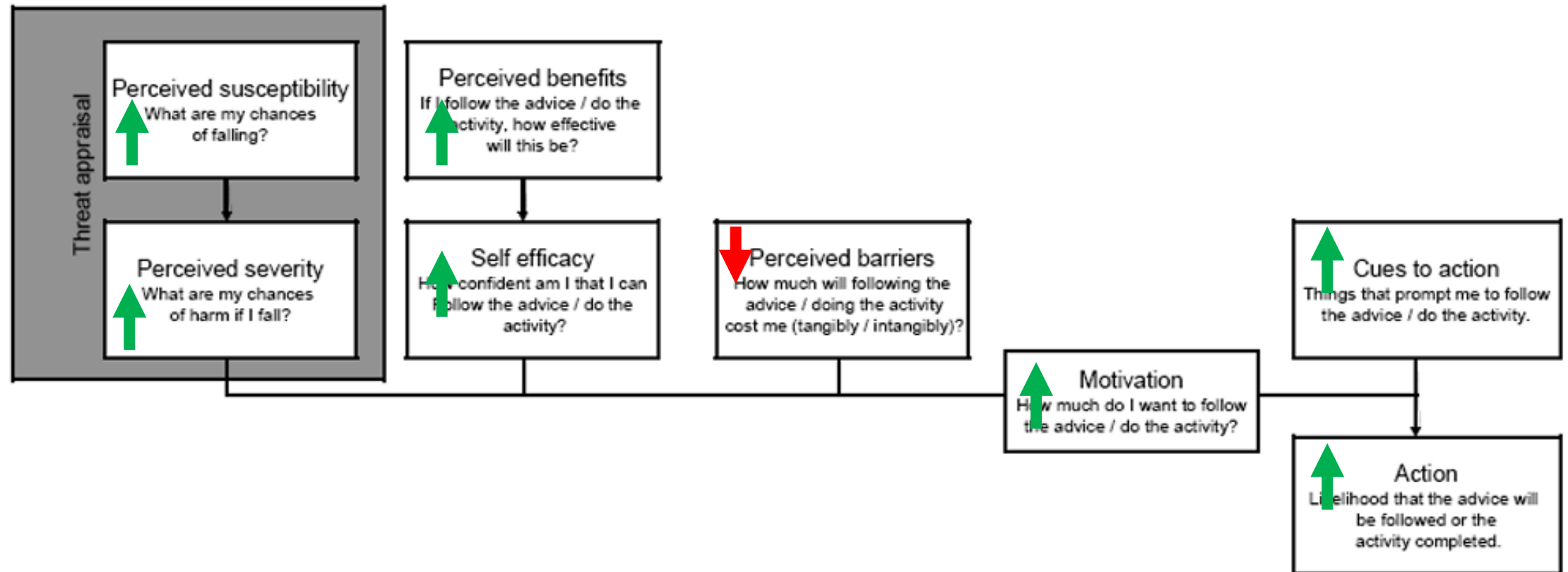


Fig. (1). Adaptation of the Health Belief Model to the prevention of falls in hospitals.

So what did it initially look like?

- 1:1 initial discussion with research occupational therapist
 - Independent of ward staff
 - 15-35 minutes
 - Took place at patient bedside
 - Culminated in goal setting
- Brief review / problem solving / resetting of goals
 - ~3-4 visits
 - Each visit gets closer to the door
- Early piloting indicated group sessions were unlikely to be successful

FALLS PREVENTION INFORMATION BOOKLET

DEVELOPED FOR THE FALLS
PREVENTION PROJECT AT THE
PETER JAMES CENTRE.

INTRODUCTION

This is an information booklet designed for the Falls Prevention Project at the Peter James Centre.

You have received this booklet because you may be able to use the information provided to reduce your risk of falling over while at the Peter James Centre.

IS "FALLING OVER" A PROBLEM AT THE PETER JAMES CENTRE?

Previously one in four people who have come to the Peter James Centre have experienced a fall during their stay.

This rate is approximately ten times greater than that for people who live at home.

AM I AT RISK OF "FALLING OVER"?

Your risk of falling over is increased if:

- ☐ You have previously had falls.
- ☐ Your legs are weak, balance is poor or walking is unsteady.
- ☐ You need to go to the toilet frequently or urgently.
- ☐ You have reduced vision.
- ☐ You take many medications.
- ☐ You have a chronic medical disorder such as Parkinsons Disease, congestive heart failure, cancer or have had a stroke.
- ☐ You have bouts of dizziness.
- ☐ You have difficulty with concentration or memory.
- ☐ You have reduced activity levels.

WHAT HAPPENS TO PEOPLE WHO FALL OVER?

One in six falls at the Peter James Centre results in a "significant injury" such as broken bones, cuts, lacerations or requires an x-ray.

People who fall over may also develop a fear of falling that restricts their confidence and activity levels.

WHERE DO FALLS OCCUR?

Two thirds of all falls at our centre occur at a patients **bedside!**



Falls also tend to occur in passageways, bathrooms and toilets.

WHY DO FALLS OCCUR?

Falls occur for a variety of reasons however, 80% of falls occur when patients are **not in view** of a staff member. From this we know that one common factor in many falls is that patients are attempting to perform activities on their own.

We believe that most people are trying to go to the toilet or get back into bed **on their own** when they have a fall.

At the Peter James Centre, we are aiming to make you as independent with your mobility and daily activities as possible, so that you can perform activities on the ward on your own.

However this must only be done once you are told by a staff member that it is **SAFE** to perform these activities on your own.

When do falls occur?

In the morning, many falls occur between **7:00 and 10:00 AM**. This is when staff are often busy showering and dressing individual people.

We believe that many people who fall at this time are trying to get themselves out of bed and go to the toilet without assistance.

In the afternoon, many falls occur between **5:30 and 7:00 PM**. Staff are often busy bringing people back from the dining room, and taking other people to the toilet.

We believe that many people who fall at this time are trying to get themselves into bed or go to the toilet without assistance.

Please be patient when requesting assistance at these times!

3 SIMPLE STEPS TO STOPPING FALLS.

1) KNOW IF YOU NEED HELP TO WALK AROUND.

Your physiotherapist will tell you if it is safe for you to walk around on your own.

You can also tell by the number of red stripes on your walking aid:

- One red stripe means you can walk on your own.
- Two red stripes means **you must wait** for someone to supervise your walking.
- Three red stripes means **you must wait** for someone to physically help you with your walking.

2) ASK FOR HELP IF YOU NEED IT.

If you have two red stripes (supervision) or three red stripes (assistance) you must press the nurses buzzer to gain the attention of a staff member before you walk anywhere.

If you have one red stripe (independent) but you are tired and feel as if you need some help, you are free to ask for it also.

The nursing staff member looking after you will show you how to use your buzzer.



3) WAIT FOR A STAFF MEMBER TO ARRIVE.

Staff are often busy with other patients and have difficulty coming straight away, but it is very important that you wait for them.

Do not be afraid to ask for assistance when you need it. Our staff will be only too happy to try to help you to move around the ward safely.



It is important to follow this procedure for even the shortest of walks. Remember two thirds of falls occur beside a patients bed!

HOW DO FALLS OCCUR?

1) Losing your balance.



CAUSES:

- Poor balance.
- Not using your walking aid.
- Not waiting for assistance if you need it.
- Using furniture to assist with walking around the bedside instead of your walking aid.
- Reaching to pick something up or to open and close doors.

HOW TO STOP THIS FROM HAPPENING:

- Follow the 3 simple steps to stopping falls.
- Exercise to improve your balance!
- Do not use furniture to assist with walking around your bedside.
- Buzz for a staff member if you want something picked up or opened.
- Keep things that you want to use often (eg. Nurses

HOW DO FALLS OCCUR?

2) Slipping.



CAUSES:

- Wet surfaces (especially in the toilet / bathroom / shower area).
- Footwear (Poor grip, non-supportive heel).
- Leaning back too far when standing up.

HOW TO STOP THIS FROM HAPPENING:

- Scan the environment you are walking into for wet surfaces, if you see a potential problem, call for assistance.
- Ensure you are wearing appropriate footwear.
- Turn lights on before entering the area.
- Ensure you have and are wearing appropriate footwear with a supportive heel and a non-slip grip.
- Lean forwards when standing up and always use the walking aid provided for you.

HOW DO FALLS OCCUR?

3) Tripping over objects.



CAUSES:

- A cluttered bedside environment.
- Consider especially the placement of your television table, bedside table and if there is enough room for you to push your frame between your bed and your chairs.
- Television or radio power cords, and nurses buzzers being left across a passageway.
- Not scanning the passageway that you are about to walk through for potential obstacles.

HOW TO STOP THIS FROM HAPPENING:

- Scan your bedside environment and the passageways that you walk along for any potential obstacles.
- If there is a potential obstacle there, ask a staff member to remove it.
- Wear appropriate footwear and "scan ahead" on the path you are walking for potential obstacles.
- Ensure there is adequate lighting in the area that you are walking into.

HOW DO FALLS OCCUR?

4) Your legs give way beneath you.



CAUSES:

- Weak or tired muscles (especially in front of the thigh).
- Is a common occurrence following knee and hip surgery (eg. A joint replacement), a stroke or a long period of inactivity.
- Can also occur in people with painful joints (especially the knee).
- Trying to walk around without the walking aid or the assistance that you have been told that you need.

HOW TO STOP THIS FROM HAPPENING:

- Follow the 3 simple steps to stopping falls.
- Exercise to strengthen those muscles!
- If your muscles do feel tired, rest or ask for assistance if required. Even people who are allowed to walk around on their own can become tired by the end of the day.

HOW DO FALLS OCCUR?

5) Becoming dizzy or fainting.



CAUSES:

- A drop in blood pressure when moving from lying to sitting or sitting to standing.
- This tends to occur more often in people with heart problems, following meals, on hotter days or when dehydrated.
- Other medical conditions such as problems with the inner ear or a stroke can also cause dizziness or fainting.

HOW TO STOP THIS FROM HAPPENING:

- Rise from lying to sitting and sitting to standing in stages. Take plenty of time to allow your body to adjust to the change in position.
- Be especially careful if you have heart problems, following meals, on hotter days or if you are dehydrated.
- If you do experience dizziness or fainting, please discuss this with your doctor who may be able to help you.

FALLS PREVENTION QUIZ

- 1) Are you at risk of falling over while at the Peter James Centre?
- 2) What activity are you most afraid of falling over doing?
- 3) How do you think that you might fall over doing this?
- 4) How can you stop this type of fall from occurring?
- 5) Where do most people who fall over at the Peter James Centre fall?
- 6) When do most people who fall over at the Peter James Centre fall?
- 7) What do you think most people are trying to do when they fall over?
- 8) What 3 steps can people follow to stop falling over?
- 9) If you were to have a fall at the Peter James Centre, where would you be most likely to fall?

- 10) If you were to have a fall at the Peter James Centre, what activity would you be most likely to be doing when you fall?

- 11) How could you prevent this type of fall from occurring?

Set a goal for the next week to help prevent yourself from falling over.

.....

Did you achieve this goal? Yes / No

Did you have a fall in the last week? Yes / No

Set a goal for the next week to help prevent yourself from falling over.

.....

Did you achieve this goal? Yes / No

Did you have a fall in the last week? Yes / No

Threat appraisal

Protection Motivation Theory

FALLS PREVENTION QUIZ

- 1) Are you at risk of falling over while at the Peter James Centre?
- 2) What activity are you most afraid of falling over doing?
- 3) How do you think that you might fall over doing this?
- 4) How can you stop this type of fall from occurring?
- 5) Where do most people who fall over at the Peter James Centre fall?
- 6) When do most people who fall over at the Peter James Centre fall?
- 7) What do you think most people are trying to do when they fall over?
- 8) What 3 steps can people follow to stop falling over?
- 9) If you were to have a fall at the Peter James Centre, where would you be most likely to fall?

10) If you were to have a fall at the Peter James Centre, what activity would you be most likely to be doing when you fall?

11) How could you prevent this type of fall from occurring?

Set a goal for the next week to help prevent yourself from falling over.

Did you achieve this goal? Yes / No

Did you have a fall in the last week? Yes / No

Set a goal for the next week to help prevent yourself from falling over.

Did you achieve this goal? Yes / No

Did you have a fall in the last week? Yes / No

Successes and failures of implementation

Papers

Effectiveness of targeted falls prevention programme in subacute hospital setting: randomised controlled trial

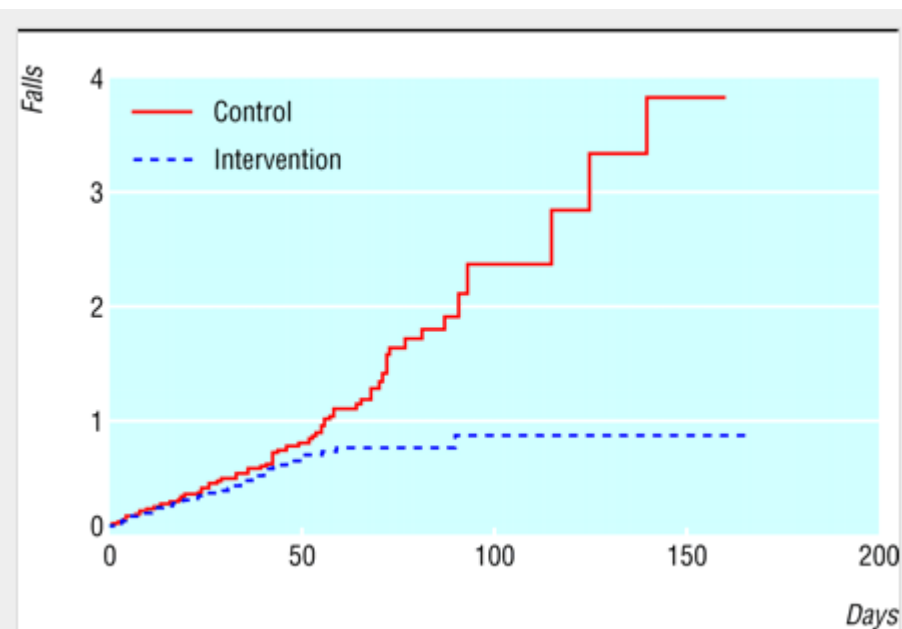
BMJ 2004 ; 328 doi: <https://doi.org/10.1136/bmj.328.7441.676> (Published 18 March 2004)

Cite this as: BMJ 2004;328:676

Analysis of falls, fallers, and injuries related to falls

Compared with the control group, the intervention group had 30% fewer falls (149 v 105) and a lower proportion of participants who experienced one or more falls (71 v 54), relative risk 0.78 (95% confidence interval 0.56 to 1.06).

Thirty five participants in the intervention group fell once compared with 49 in the control group. Both groups had 10 participants who fell twice and three who fell three times, but the intervention group had only six participants who fell four or more times compared with nine in the control group.



Admissions during recruitment period (n=1040)

Excluded (n=414):
Previously enrolled in study (n=47)
Did not provide informed consent (n=367)

Randomisation

Intervention group

Participants (n=310)
Participant days (n=9356)

Control group

Participants (n=316)
Participant days (n=9239)

Recommendations

Falls risk alert card:
Participants (n=151, 5065 days)
Exercise programme:
Participants (n=94, 2625 days)
Attendances by participants
(n=595)
Education programme:
Participants (n=114, 3161 days)
Attendances by participants
(n=473)
Hip protectors:
Participants (n=89, 2692 days)
57% wore hip protectors ≥ 12
hours/day
25% refused to wear at all

Recommendations (not instituted)

Falls risk alert card:
Participants (n=135, 4359 days)
Exercise programme:
Participants (n=80, 2215 days)
Education programme:
Participants (n=111, 3007 days)
Hip protectors:
Participants (n=84, 2396 days)

Baseline and outcome measures collated from medical history by investigator after discharge of participant from subacute hospital

 Available access | Research article | First published November 2006

Patient education to prevent falls in subacute care

[Terry P Haines](#), [Keith D Hill](#), [...], and [Richard H Osborne](#)  [View all authors and affiliations](#)

[Volume 20, Issue 11](#) | <https://doi.org/10.1177/0269215506070694>

Table 3 Comparison of falls rates and proportion of participants who fell by subgroup

Subgroup		Intervention	Control	Logrank test	Relative risk (95% CI)
Any participant recommended for education intervention	Falls (rate of falls/ 1000 patient days)	26 (8.2)	48 (16.0)	$P = 0.007$	
	Fallers (%)	18 (16%)	21 (19%)		1.21 (0.68 to 2.14)
Participants only recommended for education intervention	Falls (rate of falls/ 1000 patient days)	4 (3.9)	9 (13.8)	$P = 0.03$	
	Fallers (%)	4 (3%)	7 (6%)		2.19 (0.70 to 6.82)
Any participant recommended for education intervention with MMSE > 23/30	Falls (rate of falls/ 1000 patient days)	11 (5.6)	24 (10.9)	$P = 0.06$	
	Fallers (%)	8 (11%)	14 (18%)		1.59 (0.71 to 3.58)
Any participant recommended for education intervention with MMSE ≤ 23/30	Falls (rate of falls/ 1000 patient days)	15 (12.3)	24 (29.8)	$P = 0.03$	
	Fallers (%)	10 (23%)	7 (23%)		1.00 (0.43 to 2.34)

95% CI, 98% confidence interval; MMSE, Mini-Mental State Examination.

- Being more careful (generally)–28 responses (44% of respondents)
- Reducing or avoiding a specifically mentioned ‘risky’ activity–13 responses (20%)
- Asking for help from staff–11 responses (17%)
- No changes–10 responses (16%)
- Using gait and reaching aids appropriately–8 responses (13%)
- Planning ahead–7 responses (11%)
- Increased awareness of falls risks (generally)–7 responses (11%)
- Follow staff instructions–5 responses (8%)
- Modify environment–3 responses (5%)
- Perform more exercises–3 responses (5%)
- Monitor own fatigue levels–3 responses (5%).

Further investigation is required to determine the most efficacious and cost-effective method of providing falls prevention education to patients in the subacute setting. Possible options should include one-to-one education, group education, combination of group and one-to-one education, and written material only. Preplanned analyses should also consider interactions between the type of education provided and degrees of patient cognitive impairment.

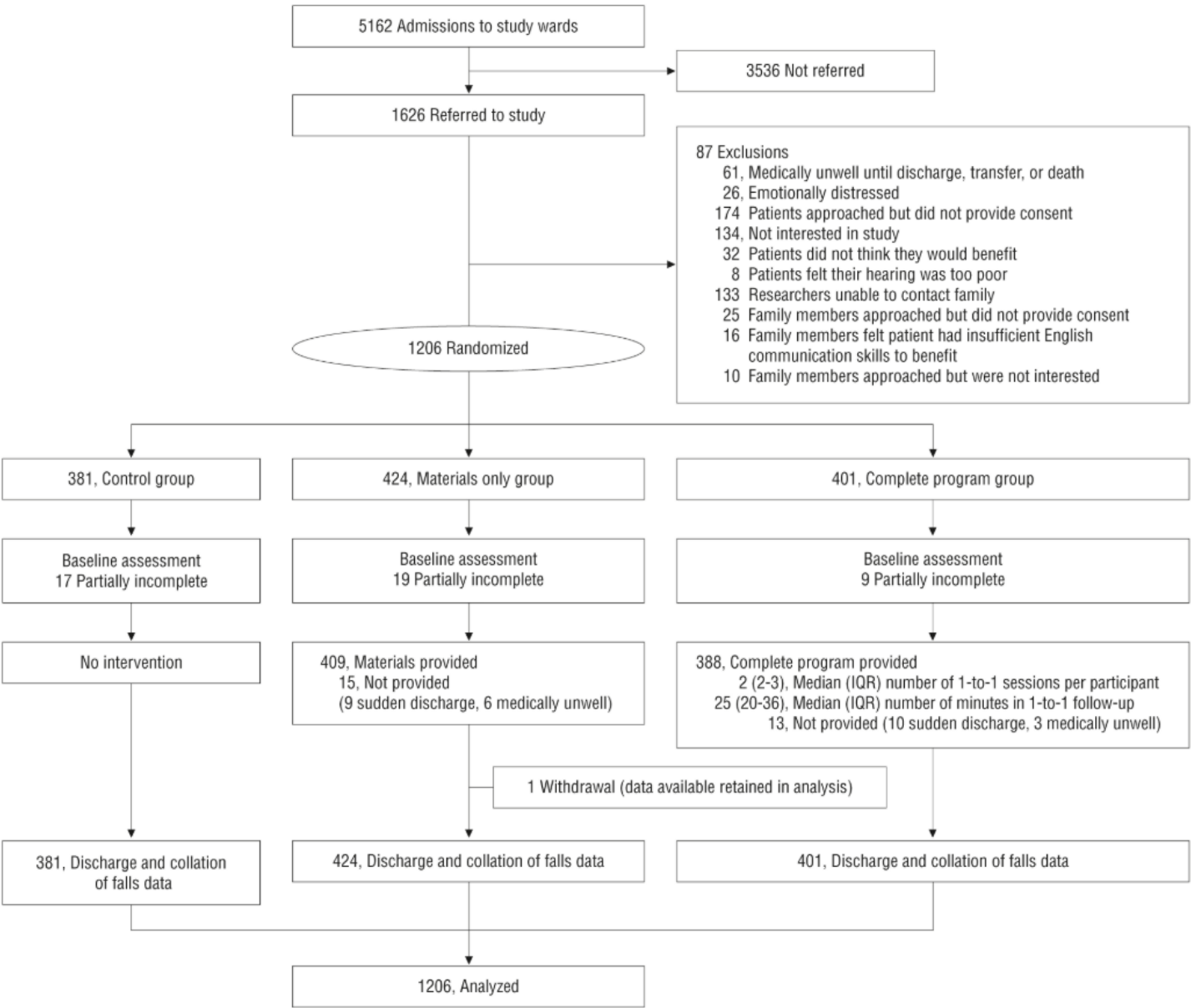
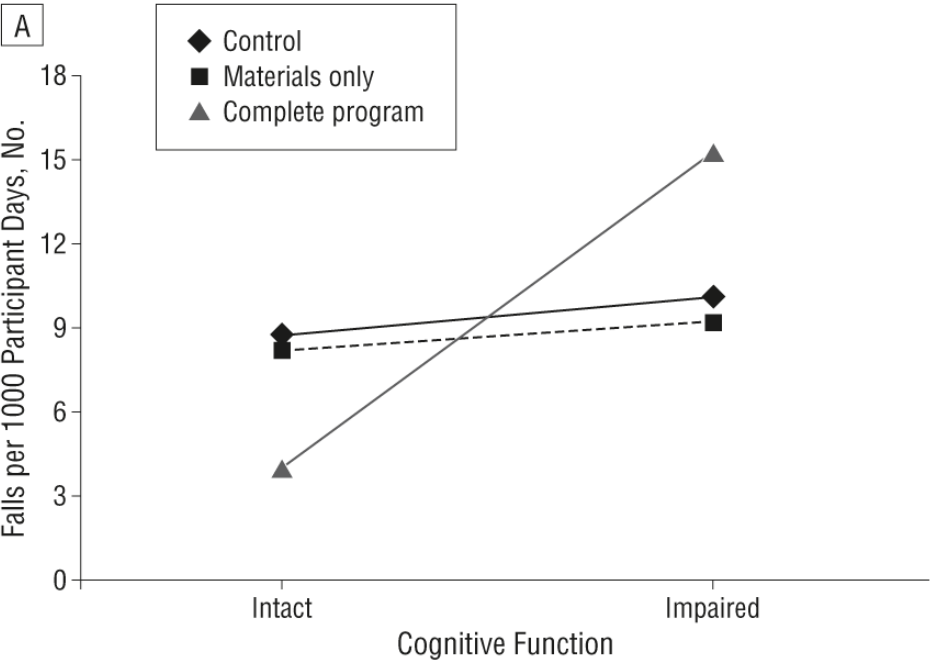
Patient Education to Prevent Falls Among Older Hospital Inpatients

A Randomized Controlled Trial

Terry P. Haines, PhD; Anne-Marie Hill, MS; Keith D. Hill, PhD; [et al](#)

[» Author Affiliations](#) | [Article Information](#)


Arch Intern Med. 2011;171(6):516-524. doi:10.1001/archinternmed.2010.444




Cost effectiveness of patient education for the prevention of falls in hospital: economic evaluation from a randomized controlled trial

Research article | [Open access](#) | Published: 22 May 2013

Volume 11, article number 135, (2013) | [Cite this article](#)

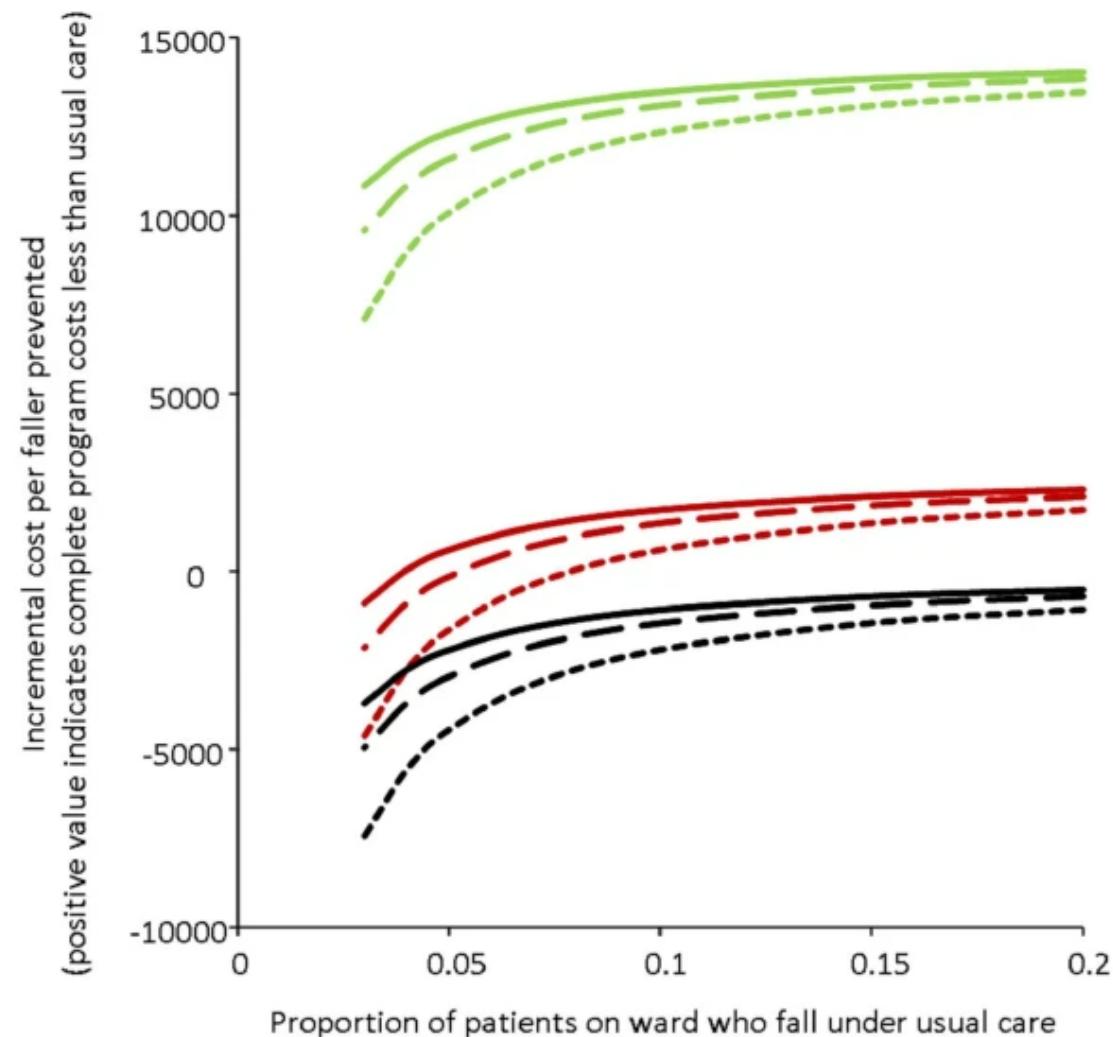
[Download PDF](#) 

✓ You have full access to this [open access](#) article

[Terry P Haines](#), [Anne-Marie Hill](#), [Keith D Hill](#), [Sandra G Brauer](#), [Tammy Hoffmann](#), [Christopher Etherton-Beer](#) & [Steven M McPhail](#) 

The present economic evaluation was designed to assist health care providers decide in what circumstances provision of the patient education program should be provided. If the proportion of cognitively intact patients falling on a ward under usual care conditions is 4% or greater, then provision of the complete program in addition to usual care will likely both prevent falls and reduce costs for a health service. Three key caveats should be noted

Figure 3



Green: Cost per faller = \$14591 AUD (2008)

Red: Cost per faller = \$2867 AUD (2008)

Black: Cost per faller = \$58 AUD (2008)

Solid: Intervention prevents 40% fallers

Long dash: Intervention prevents 30% fallers

Short dash: Intervention prevents 20% fallers

Decision tree modeling with three-way sensitivity analyses of incremental cost effectiveness

ARTICLES · Volume 385, Issue 9987, P2592-2599, June 27, 2015

Download Full Issue

Fall rates in hospital rehabilitation units after individualised patient and staff education programmes: a pragmatic, stepped-wedge, cluster-randomised controlled trial

Dr Anne-Marie Hill, PhD ^{a,b} · Steven M McPhail, PhD ^{c,d} · Nicholas Waldron, MD ^{e,f} · Prof Christopher Etherton-Beer, PhD ^{g,h} · Katharine Ingram, MBBS ⁱ · Prof Leon Flicker, PhD ^{g,h} et al. [Show more](#)

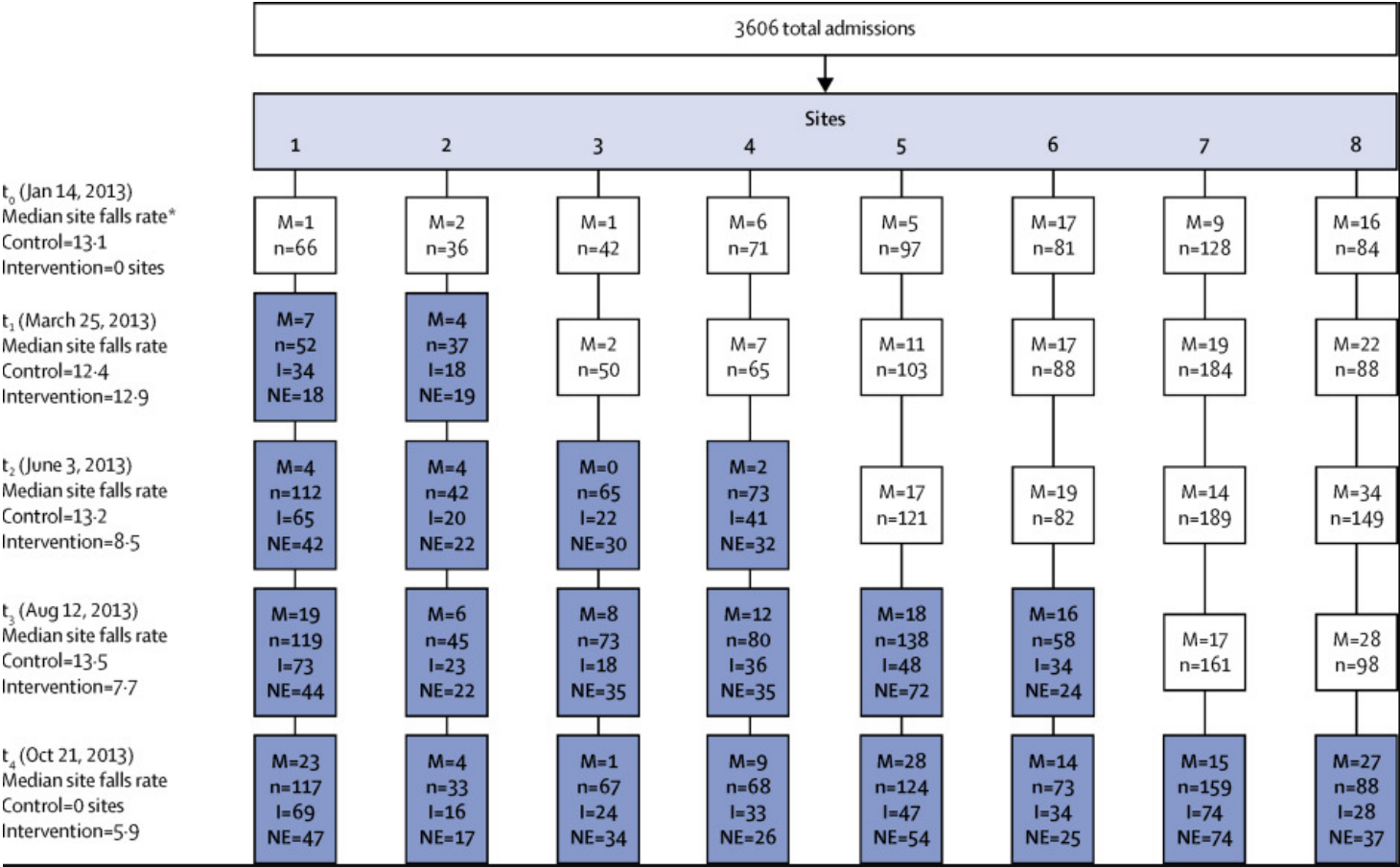


Table 2. Falls outcomes compared between the intervention and the control period

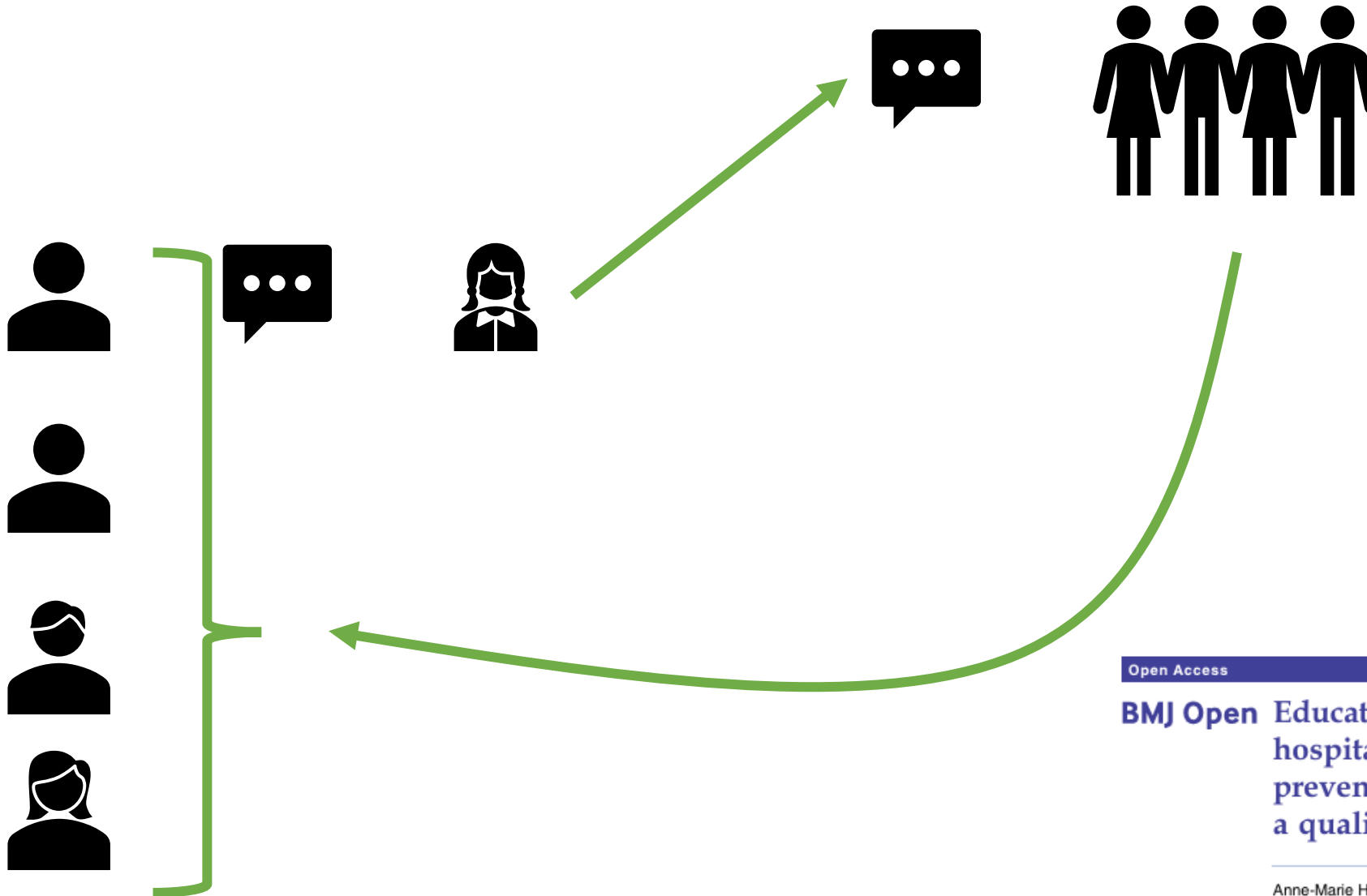
	Intervention period (n=1623 admissions)	Control period (n=1983 admissions)	Adjusted ratio (robust 95% CI), p value [*]	Cumulative unit-level effect of intervention over time (adjusted ratio [robust 95% CI], p value) [*]	Intraclass correlation coefficient (95% CI)
Falls/injurious falls/fallers/fractures	196/66/136/4	380/131/248/6			
Falls, rate per 1000 patient-days	7.80	13.78	IRR 0.60 (0.42– 0.94), 0.003	0.95 (0.92– 0.99), 0.02	0.02 (0.00– 0.04)
Injurious falls, rate per 1000 patient- days	2.63	4.75	IRR 0.65 (0.42– 0.88), 0.006	0.96 (0.92– 0.99), 0.01	0.00 (0.00– 0.01)
Fallers, % group having one or more falls	8%	13%	OR 0.55 (0.38– 0.81), 0.003	0.97 (0.93– 1.00), 0.05	0.02 (0.00– 0.04)

IRR=incident rate ratio. OR=odds ratio.

Table 3. Falls outcomes based on cognition levels

	Intervention period (n=1623 admissions)	Control period (n=1983 admissions)	Adjusted ratio (robust 95% CI), p value [*]
Higher cognition score [†]	914 (56%)	1016 (51%)	
Falls/injurious falls/fallers	61/23/52	137/34/92	
Falls, rate per 1000 patient-days	4.87	10.68	IRR 0.53 (0.36–0.77), 0.001
Lower cognition score	709 (44%)	967 (49%)	
Falls/injurious falls/fallers	135/43/84	243/97/156	
Falls, rate per 1000 patient-days	10.70	16.46	IRR 0.65 (0.40–1.05), 0.08

Data are n (%) unless otherwise stated. IRR=incident rate ratio. OR=odds ratio.



Open Access

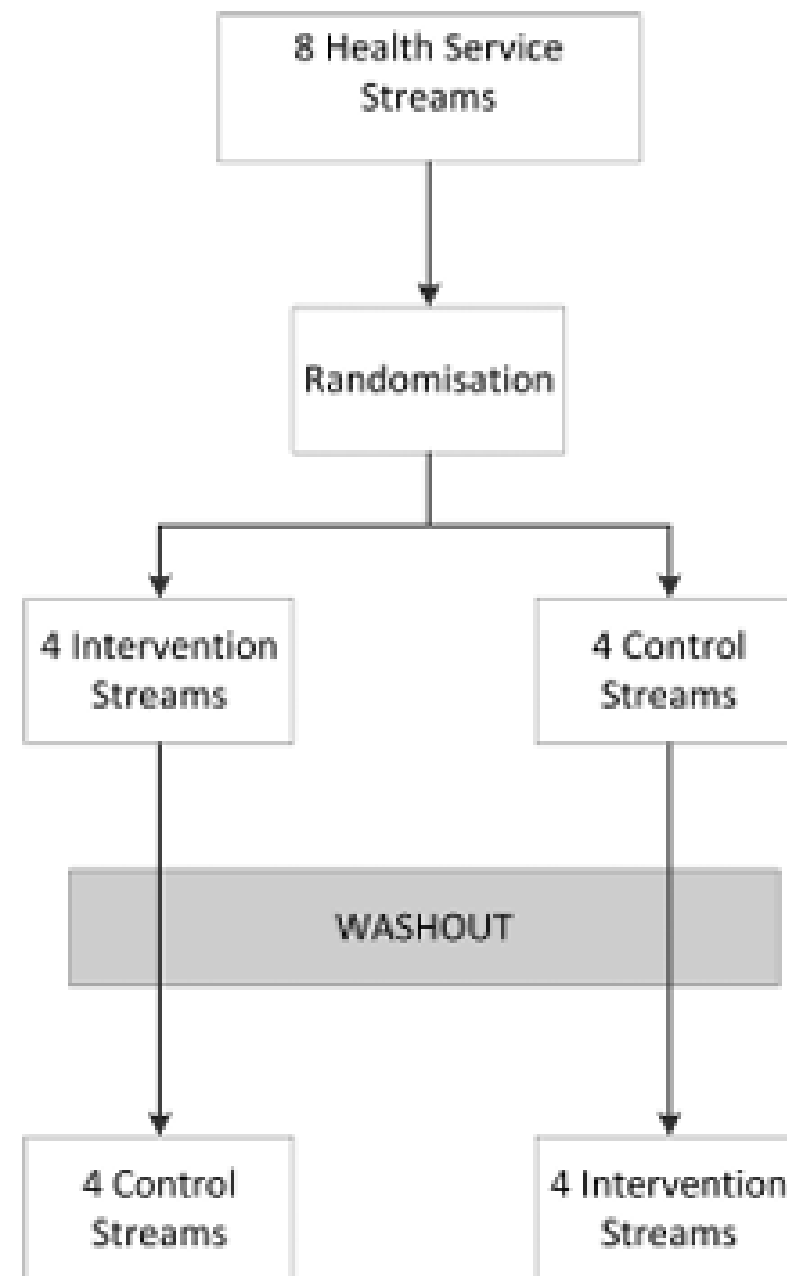
Research

BMJ Open Educators' perspectives about how older hospital patients can engage in a falls prevention education programme: a qualitative process evaluation

Anne-Marie Hill,^{1,2} Steven M McPhail,^{3,4} Jacqueline Francis-Coad,^{1,2}
Nicholas Waldron,^{5,6} Christopher Etherton-Beer,⁷ Leon Flicker,⁷ Katharine Ingram,⁸
Terry P Haines^{9,10}

BMJ Open Establishing the effectiveness, cost-effectiveness and student experience of a Simulation-based education Training program On the Prevention of Falls (STOP-Falls) among hospitalised inpatients: a protocol for a randomised controlled trial

Cylie Williams,^{1,2} Kelly-Ann Bowles,^{2,3} Debra Kiegaldie,⁴ Stephen Maloney,² Debra Nestel,⁵ Jessica Kaplonyi,¹ Terry Haines^{2,3}



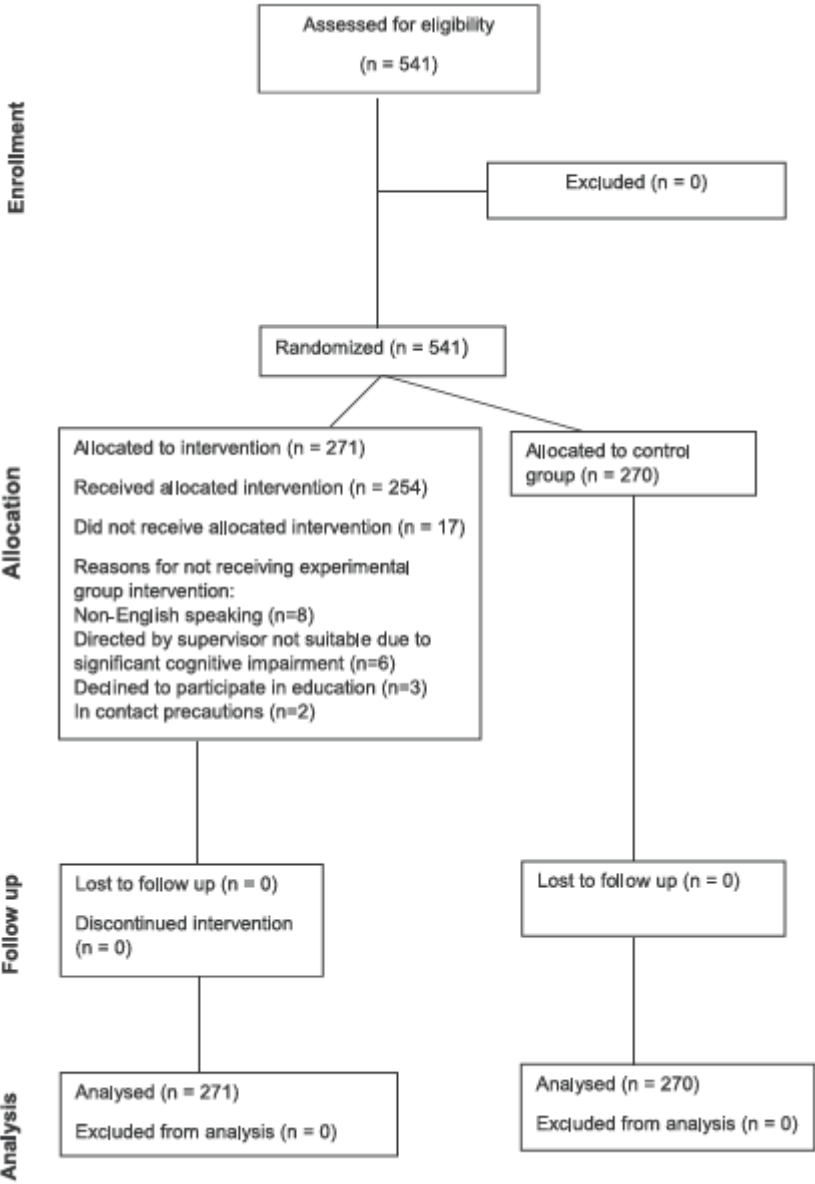
RESEARCH PAPER

Preventing hospital falls: feasibility of care workforce redesign to optimise patient falls education

MEG E. MORRIS^{1,2}, CLAIRE THWAITES^{1,2}, ROSALIE LUI², STEVEN M. MCPHAIL^{3,4}, TERRY HAINES⁵, DEBRA KIEGALDIE^{6,7}, HAZEL HENG^{8,9}, LOUISE SHAW^{1,10}, SUSAN HAMMOND², JONATHAN P. MCKERCHER¹, MATTHEW KNIGHT², LEEANNE M. CAREY^{1,12}, RICHARD GRAY¹³, RON SHORR¹⁴, ANNE-MARIE HILL¹⁵

Table 3. Fall outcomes and adverse events in each group

	Control group	Experimental group
Falls rate/1,000 bed days ^a	8.07	5.69
Number of falls	32	22
Number of participants who fell	23	15
Falls with injury	8	4
Falls with serious adverse event ^b	1	0
Required transfer to acute medical facility	7	2



Evaluating the use of a targeted multiple intervention strategy in reducing patient falls in an acute care hospital: a randomized controlled trial

Emily Ang, Siti Zubaidah Mordiffi, Hwee Bee Wong

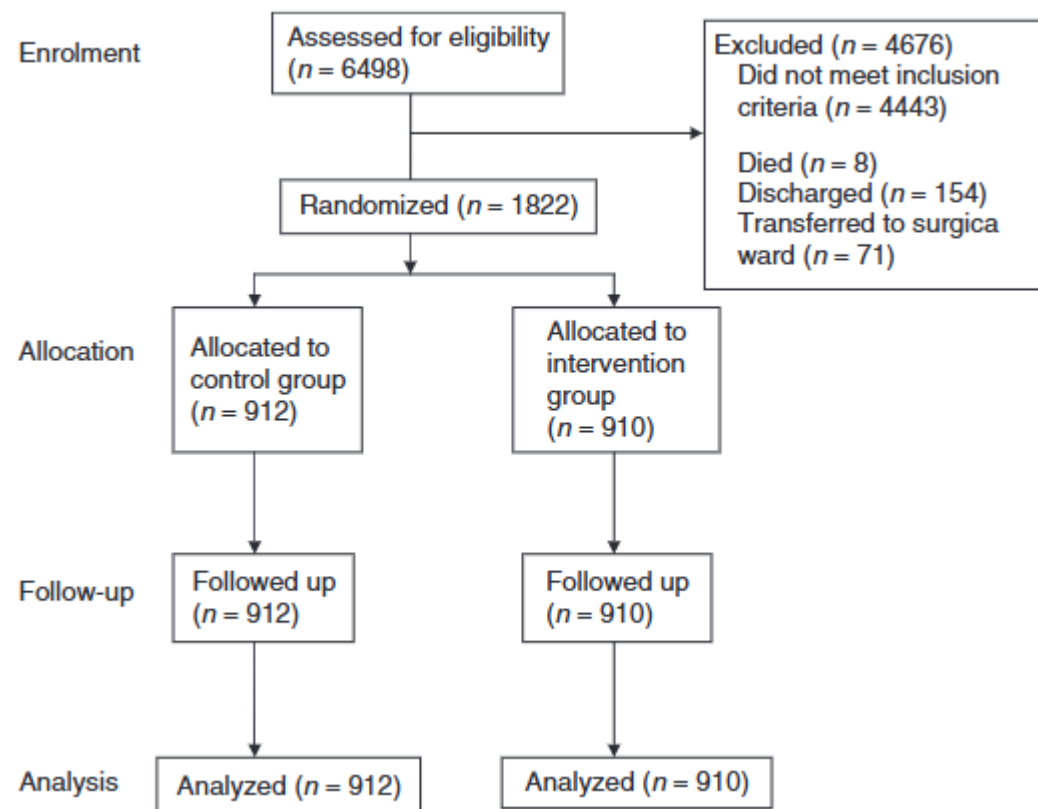
First published: 20 April 2011 | <https://doi.org/10.1111/j.1365-2648.2011.05646.x> | Citations: 74

✉ E. Ang: e-mail: emily_nk_ang@nuhs.edu.sg

(Mehagnoul-Schipper *et al.* 2001). The usual care received by the participants in the intervention group was similar to that received by the participants in the control group. In addition to the usual care, the participants in the intervention group received an educational session, lasting no more than 30 minutes, on targeted multiple interventions, according to the participants' risk factors. The aim of the educational session was to increase the participants' awareness of their specific risk of falling during hospitalization and to give strategies to reduce the specific risk. For example, a patient who has a risk factor of dizziness associated with postural hypotension, will have a discussion with the research nurse on the cause of the dizziness. In this situation, the nurse will advise the participant to stand up slowly when trying to get up from a sitting or lying position, and the rationale for taking the precautionary measure explained. The educational session was conducted in a language that the participants could comprehend; English, Malay or Mandarin. The educational session was also given to the relatives of participants who were confused and/or delirious.

Table 2 Fall information

Fall description	Intervention (<i>n</i> = 4)	Control (<i>n</i> = 14)
Severity outcome of falls		
No injury	1 (25)	9 (64)
Small skin tear or laceration	2 (50)	1 (7)
Contusion	1 (25)	4 (29)

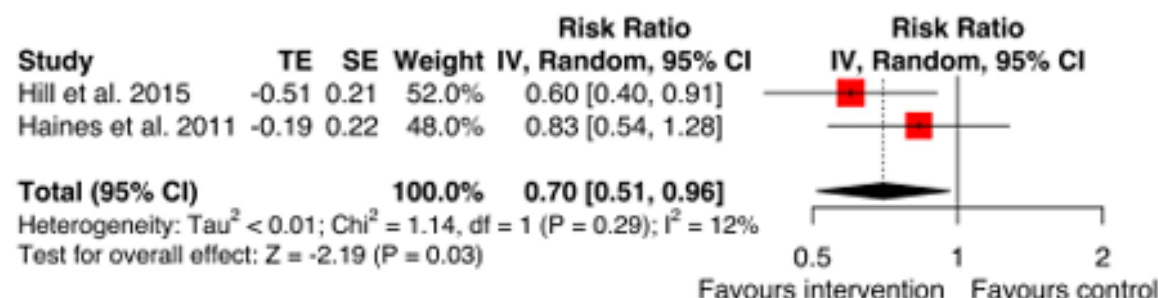


REVIEW

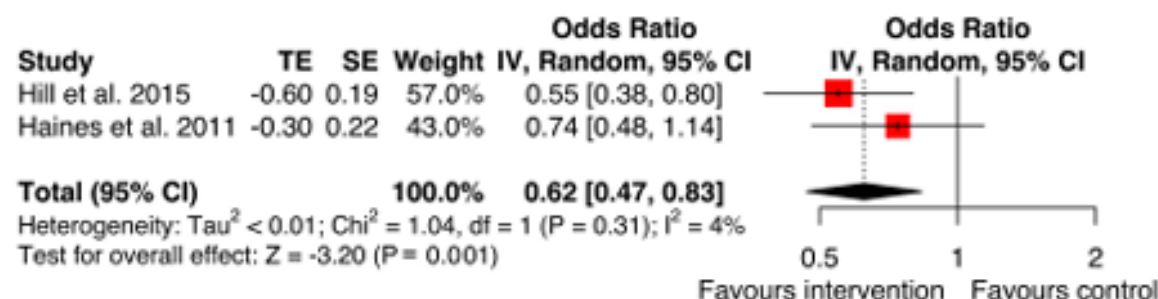
Interventions to reduce falls in hospitals: a systematic review and meta-analysis

MEG E. MORRIS^{1,2,†}, KATE WEBSTER^{3,†}, CATHY JONES¹, ANNE-MARIE HILL⁴, TERRY HAINES⁵, STEVEN MCPHAIL^{6,7}, DEBRA KIEGALDIE⁸, SUSAN SLADE¹, DANA JAZAYERI¹, HAZEL HENG¹, RONALD SHORR^{9,10}, LEEANNE CAREY^{3,11}, ANNA BARKER^{5,12}, IAN CAMERON¹³


a) Falls rate



b) Falls risk



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

Manuel Montero-Odasso , Nathalie van der Velde, Finbarr C Martin, Mirko Petrovic, Maw Pin Tan, Jesper Ryg, Sara Aguilar-Navarro, Neil B Alexander, Clemens Becker, Hubert Blain ... [Show more](#)

[Author Notes](#)

Age and Ageing, Volume 51, Issue 9, September 2022, afac205,

<https://doi.org/10.1093/ageing/afac205>

Published: 30 September 2022 **Article history** ▼

Management and interventions

Strong recommendation. A tailored education on falls prevention should be delivered to all hospitalised older adults (≥ 65 years of age) and other high-risk groups ([Appendix 2](#), available in *Age and Ageing* online). **GRADE: 1A.**