

<p><b>Institution: The University of Manchester</b></p>
<p><b>Unit of Assessment: 3</b></p>
<p><b>Title of case study:</b> Falls prevention amongst older people: Development of effective interventions and improvement of uptake and adherence to services (Case Study author Todd)</p>
<p><b>1. Summary of the impact</b>          Falls are a common (30-40% &gt;65 year olds fall each year) and important age-related health problem costing the NHS and social care &gt;£5.6m each day. University of Manchester research has contributed to reducing the burden of falls worldwide.</p> <p>We demonstrated that falls are better predictors of fracture than bone mineral density. We developed an effective intervention, reducing falls amongst older people by 30%; identified barriers to service use, and approaches to increasing uptake and adherence; and developed a fear of falling instrument (FES-I), now translated into 30+ languages and widely used in clinical practice.</p> <p>By 2012, 54% NHS Trusts used training programmes based on our research. It moulded service provision nationally and internationally, changing the emphasis of how falls prevention services are presented, from “reducing risk” to “improving/maintaining independence”.</p>
<p><b>2. Underpinning research</b> See section 3 for references [1-6]; see section 5 for corroborating sources (S1-S10); UoM researchers are given in bold.</p> <p>The impact is based on research undertaken at the University of Manchester since 2001.</p> <p><u>Key Researchers</u></p> <ul style="list-style-type: none"> <li>• <b>Chris Todd</b> (Professor, 2001-date)</li> <li>• <b>Dawn Skelton</b> (Research Fellow, 2003-2007)</li> <li>• <b>Jackie Oldham</b> (Professor, 1993-date)</li> <li>• <b>Maria Horne</b> (Lecturer, 1999-date)</li> <li>• <b>Malcolm Campbell</b> (Lecturer, 1991-date)</li> <li>• <b>Emma Stanmore</b> (Lecturer, 2005-date)</li> <li>• <b>Terence O’Neill</b> (Clinical Research Fellow, 1990-1995; Senior Lecturer, 1996-2007; Reader, 2007-2011; Professor, 2011-date)</li> <li>• <b>Mark Lunt</b> (Lecturer, 1999-2004; Senior Lecturer 2004-2013; Reader 2013-date)</li> <li>• <b>Alan Silman</b> (Reader, 1988-1990; Professor 1990-2011; Honorary Professor 2011-date)</li> </ul> <p>Much of the work has been conducted as part of international collaborations led from Manchester; the large scale epidemiology European Vertebral Osteoporosis Study (PI <b>Silman; O’Neill, Lunt, Todd</b>) and then the EC funded Prevention of Falls Network Europe (ProFaNE) (PI <b>Todd</b>).</p> <p><u>Key studies:</u></p> <ol style="list-style-type: none"> <li>1. Our large scale epidemiology of osteoporosis revealed that falls are a better predictor of fractures than bone related health and lifestyle variables (<i>JBMR</i> 2002 31:712-7; <i>Bone</i> 2005 36:387-98) giving more credence to focus on falls prevention.</li> <li>2. We demonstrated that a structured group and home exercise programme (FAME strength and balance programme) brings about a 31% reduction in falls. [1]</li> <li>3. Our quantitative and qualitative studies revealed that older people often view falls prevention advice as theoretically interesting, but not personally relevant. We showed that many older people deny personal risk of falling, so rather than focusing on risk, it is better to focus on positive benefits of exercises. [3] (<i>Gerontologist</i> 2006 45:650-60, <i>J Gerontol Psychol Sci</i> 2007 62:119-25).</li> <li>4. Using review and consensus methods we devised a set of evidence-based recommendations for implementing fall prevention programmes. [4]</li> <li>5. Fear of falling, an important issue for many older people, can be accurately assessed for clinical and research purposes using the FES-I and Short FES-I measures we developed. [2,5]</li> <li>6. We found that social deprivation and ethnicity are associated with poorer access to falls related services [6] (<i>J Public Health</i> 2010 32:117-24). To encourage ethnic minority engagement requires cultural modification of approaches (<i>Age Ageing</i> 2009 38:68-73).</li> </ol>

### 3. References to the research

1. **Skelton D**, Dinan S, **Campbell C**, Rutherford O. Tailored group exercise (Falls Management Exercise- FaME) reduces falls in community-dwelling older frequent fallers (an RCT) *Age and Ageing* 2005 34:636-639. DOI:10.1093/ageing/afi174
2. Yardley L, **Todd C**, Beyer N, Hauer K, Kempen G, Piot-Ziegler C. Development and initial validation of the Falls Efficacy Scale International (FES-I). *Age and Ageing*. 2005. 34:614-619. DOI: 10.1093/ageing/afi196
3. Yardley L, Donovan-Hall M, Francis K, **Todd CJ**. Older people's views of advice about falls prevention: A qualitative study. *Health Education Research*. 2006. 21:508-51. DOI: 10.1093/her/cyh077
4. Yardley L, Beyer N, Hauer K, McKee K, Ballinger C, **Todd C**. Recommendations for promoting the engagement of older people in activities to prevent falls. *Quality and Safety in Health Care*. 2007. 16:230-234. DOI: 10.1136/qshc.2006.019802
5. Kempen GJ, Yardley L, van Haastregt JCM, Zijlstra RGA, Beyer N, Hauer K, **Todd C**. The Short FES-I: a shortened version of the falls efficacy scale-international to assess fear of falling. *Age and Ageing*. 2008. 37:45-50. DOI: 10.1093/ageing/afm157
6. Yardley, L, Kirby, S, Ben-Shlomo, Y, Gilbert, R, **Whitehead, S, Todd, C**. How likely are older people to take up different falls prevention activities? *Preventive Medicine*. 2008. 47:554-558. DOI:10.1016/j.ypmed.2008.09.001

### 4. Details of the impact

#### Context

Falls are the most serious and frequent home accident. About 1/3 people aged >65 fall each year, with 50% resulting in injuries; many minor injuries but 10% result in major injuries and fractures. Falls have psychological and social consequences. For example, fear of falling is more common amongst older people than fear of crime. Falls are major predictors of loss of independence and admission to long term care. Falls cost more than £5.6m per day (>£2.3b per year) in NHS and social care costs. Whilst prevention is cost effective, there has been poor uptake of prevention programmes in populations at risk.

#### Pathways to Impact

Our research contributed to changes in policy in the UK and across the world. We developed a large network of practitioners, clinicians and policy makers via the ProFaNE website, which had 4,500 members from 30 countries in 2008. **Todd** and **Skelton** wrote the WHO Europe 2004 policy synthesis on falls; and **Todd** was a co-author of the WHO 2007 Global Report on Falls Prevention in Older Age. We worked with the British Geriatrics Society, Help the Aged (now Age UK) and professional groups across Europe to inform policy. We provided advice to the National Clinical Director for Older People, and Quality and Outcomes Framework (QOF) on falls in the UK, advised the Ministry of Health in British Columbia, Canada and fall and injury prevention groups across Europe through the European Association for Injury Prevention and Safety Promotion.

There are more than 2000 qualified Postural Stability Instructors (PSI) in the UK. This qualification is disseminated by Later Life Training Ltd and validated by the Register of Exercise Professionals. It is a direct implementation of the FAME programme; published in 2005 when **Skelton** worked at the UoM [1] (S1).

#### Reach and Significance of the Impact

##### **Falls interventions**

According to the RCP 2012 audit, 54% of NHS Trusts report they have PSI trained staff delivering falls prevention services (S1&S2). PSI is recommended best practice by AgeUK Expert Series (S3) and in DH Guidance (S4). The US Centers for Disease Control and Prevention (US CDC) recommends the FAME programme as a core fall prevention intervention (S6).

##### **Uptake and adherence**

UK: Prior to our work NHS and voluntary sector services presented themselves as falls prevention services, with the risks of falls writ large. Our findings that older people reject personal risk but would be more likely to be motivated by positive benefits, resulted in clear changes in the way services were presented by professionals; away from emphasising the dangers of falls to emphasising positive coping. *“National falls prevention policy has been heavily influenced by the*

*work of Prof Todd and his team at the University of Manchester... There has been a shift in emphasis in the way falls prevention is promoted to older people, which is a direct result of the work of Prof Todd's ProFaNE project... At a fundamental level this is reflected by the way services were rebadged from 'Fall Prevention' to 'Healthy Living'.*" [Former National Clinical Director for Older People (2010-13) (S5)]. Much of this came about through the publication of the booklet "Don't mention the F-word", which was completely based on our research commissioned by Help the Aged (S3&S5). Our findings resulted in change to AgeUK and DH policy nationally, exemplified in the DH Best Practice Guidance "*Falls and fractures: effective interventions in health and social care 2009*" (S4&S5). "*This research underpinned the development of National Falls Awareness Day which remains a high profile annual UK event hosted by AgeUK*" [Former Head of Healthy Ageing, Help the Aged (S5)]. Our work stimulated DH fall prevention policy to consider equity related to deprivation and ethnicity. "*The research of Todd's group on the attitudes to falls and exercise amongst ethnic minority populations in England... was the main evidence informing this assessment*" [Former National Clinical Director for Older People (Acting 2008-10) (S5)]. Our work continues to influence services following Public Health reorganisation (S4).

Europe: One of a number of examples is to be found in the Netherlands. The national Stichting Consument en Veiligheid (Consumer & Safety Institute: CSI) in 2006 developed a TV campaign focused on risk and death from falls. "*Based on the research presented by Prof. Todd, the campaign management team recognised that the campaign was based on the idea that raising awareness by drawing attention to the threat of falls may not be the most productive approach. Prof Todd consulted with the campaign manager (Hannelore Schoultzen) on the need to emphasise positive benefits rather than risk (threat). On this basis CSI redesigned its campaign on falls prevention and subsequent campaigns emphasise benefits of staying active*" [Former Director of Stichting Consument en Veiligheid (S7)].

North America: Our research has influenced policy across Canada. "*Professor Todd's ground breaking studies... strongly influenced recommendations on the social context of fall prevention that formulates key messaging in our national fall prevention curriculum for health professionals... delivered to over 3,000 health professionals in Canada... and shown to bring about positive changes in practice... In Canada we have embraced the message as a key component of all our fall prevention programs...*" [Senior Advisor Fall and Injury Prevention, BC Ministry of Health (S8)].

Worldwide: The WHO adopted our format when writing the 2007 WHO Global Report on Falls Prevention in Older Age and our work is cited throughout the report but especially in Chapter 4, which presents best practice on how to implement effective fall prevention campaigns. The WHO guidance reflects the findings of our work on uptake and adherence and is modelled on our recommendations paper [4] (S9).

### ***Fear of Falling***

We developed the Falls Efficacy Scale International (FES-I and Short FES-I), measures now translated into 30 languages. FES-I is generally recognised as the lead instrument in the field (Hartford Institute for Geriatric Nursing USA; Best Tool Try This assessment 2011; S10). The FES-I is widely used clinically to assess patients' fear of falling and as an outcome measure of interventions. A survey of UK exercise instructors 2013 reveals FES-I used by 23% in clinical practice. Numerous hospital and community guidelines recommend use of FES-I: examples include services in Berkshire or Shropshire, and Health Foundation Best Practice Guidance recommends use of FES-I (S10). In the USA, the national Collaboration for Homecare Advances in Management and Practice Program recommends FES-I as part of its Geriatric Falls Prevention Toolkit (S10).

### ***Wealth generation***

There is a contribution to the UK economy from the development of the FaME exercise intervention implemented as PSI [1] (S1). Later Life Training Ltd is a "not for profit" company, which trains exercise instructors to deliver evidence based exercises to older people. Much of the business is based on PSI/FaME. The company has an annual turnover of £359k, employs 3FTE administrative and office staff, and 16 self employed tutors derive incomes by training exercise trainers and delivering PSI themselves. Around UK about 700 PSI instructors currently earn at least part of their livings based on delivering PSI/FaME to older people [1] (S1).

## 5. Sources to corroborate the impact

### 1. FAME implemented as PSI

Source 1. <http://www.laterlifetraining.co.uk/courses/postural-stability-instructor/>  
Letter from Director of Later Life Training Ltd.

### 2. RCP 2012 audit of falls services revealing use of PSI/FAME across NHS

Source 2. <http://www.rcplondon.ac.uk/projects/falls-patient-and-public-involvement>  
<http://www.rcplondon.ac.uk/projects/national-audit-falls-and-bone-health-older-people>  
[http://www.rcplondon.ac.uk/sites/default/files/documents/patient\\_and\\_public\\_involvement\\_report\\_2011\\_final.pdf](http://www.rcplondon.ac.uk/sites/default/files/documents/patient_and_public_involvement_report_2011_final.pdf)

### 3. Evidence of our work on exercise and attitudes in use in UK

Source 3. AgeUK Resources: <http://www.ageuk.org.uk/professional-resources-home/services-and-practice/health-and-wellbeing/falls-prevention-resources/>  
[http://www.ageuk.org.uk/Documents/EN-GB/For-professionals/Research/Falls\\_Prevention\\_Guide\\_2013.pdf](http://www.ageuk.org.uk/Documents/EN-GB/For-professionals/Research/Falls_Prevention_Guide_2013.pdf)

Source 4. DH Prevention package for older people resources  
[http://webarchive.nationalarchives.gov.uk/+www.dh.gov.uk/en/Publicationsandstatistics/Publications/dh\\_103146](http://webarchive.nationalarchives.gov.uk/+www.dh.gov.uk/en/Publicationsandstatistics/Publications/dh_103146)

For PSI exercises: Exercise DH Best Practice Guidance *Falls and fractures: Exercise Training to Prevent Falls 2009*

[http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod\\_consum\\_dh/groups/dh\\_digitalassets/@dh/@en/@pg/documents/digitalasset/dh\\_103151.pdf](http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@pg/documents/digitalasset/dh_103151.pdf)

For work on attitudes: DH Best Practice Guidance "Falls and fractures: effective interventions in health and social care 2009". (pp5-6)

[http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod\\_consum\\_dh/groups/dh\\_digitalassets/@dh/@en/@pg/documents/digitalasset/dh\\_109122.pdf](http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@pg/documents/digitalasset/dh_109122.pdf)

For continuing influence of our work under new public health organisation:

[http://www.manchester.gov.uk/download/meetings/id/14901/7\\_falls\\_in\\_older\\_people](http://www.manchester.gov.uk/download/meetings/id/14901/7_falls_in_older_people)

Source 5. Letters from former National Clinical Directors for Older People (Prof Finbarr Martin & Prof David Oliver) and Director of Falls Programme for Help the Aged (Ms Pamela Holmes) providing narrative confirmation of how the work fed into policy and practice across UK.

### 4 Evidence of international use of our work

Source 6: CDC recommendation of FAME

<http://www.cdc.gov/HomeandRecreationalSafety/Falls/compendium.html>

Source 7: Letter from Mr Wim Rogmans, CEO EuroSafe and former Director of Stichting Consument en Veiligheid Netherlands about the Consument Veiligheid Senioren Campagne. See also websites <http://www.veiligheid.nl/voorlichtingsmateriaal/module-valpreventie-blijf-staan>  
<http://valpreventie.veiligheid.nl/csi/valpreventie.nsf>

Source 8: Letter from Dr Vicky Scott, Senior Advisor to Ministry of Health BC Canada

Source 9: WHO Global Report on Falls Prevention in Older Age 2007.

[http://www.who.int/ageing/publications/Falls\\_prevention7March.pdf](http://www.who.int/ageing/publications/Falls_prevention7March.pdf)

### 5 Fear of falling and FES-I

Source 10:

Hartford Institute for Geriatric Nursing USA; Best Tool Try This assessment 2011

[http://consultgerim.org/uploads/File/trythis/try\\_this\\_29.pdf](http://consultgerim.org/uploads/File/trythis/try_this_29.pdf)

Ballinger C, Brooks C. *An overview of best practice for fall prevention from an occupational therapy perspective*. The Health Foundation 2013.

[http://patientsafety.health.org.uk/sites/default/files/resources/an\\_overview\\_of\\_best\\_practice\\_for\\_falls\\_prevention\\_from\\_an\\_occupational\\_therapy\\_perspective\\_0.pdf](http://patientsafety.health.org.uk/sites/default/files/resources/an_overview_of_best_practice_for_falls_prevention_from_an_occupational_therapy_perspective_0.pdf)

FES-I recommended for use by many Trusts in UK see for examples

<http://www.bhps.org.uk/falls/healthprofinfo.htm>

<http://www.shropscommunityhealth.nhs.uk/content/doclib/10362.pdf>

Collaboration for Homecare Advances in Management and Practice Program Geriatric Falls Prevention Toolkit <http://champ-program.org/page/99/geriatric-falls-prevention-toolkit>