



Review Article

Prevention of Falls Network Europe: a thematic network aimed at introducing good practice in effective falls prevention across Europe. Four years on.

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Abstract

ProFaNE, Prevention of Falls Network Europe, is a four-year thematic network co-ordinated by the University of Manchester, UK, with 25 partners across Europe and funded by the European Community Framework 5. There are also Network Associates from a number of EU and non-EU countries who give their advice and experience at steering meetings, seminars and conferences. There are four main themes (taxonomy and co-ordination of trials; clinical assessment and management of falls; assessment of balance function; psychological aspects of falling). The work of ProFaNE is practical, in terms of developing the evidence base for implementation of effective interventions, standardising the health processes for people with a history of falls and encouraging best practice across Europe. Over the four years of the Network many key publications by the members have been regularly cited, the web membership has increased to over 2,000 members from 30 countries, there is an active discussion board and there are nearly 1,000 resources available to download. The success of the networking and relationship building in these four years has meant that many countries have adopted new national strategies to prevent falls and injuries.

Keywords: Falls, Fall-related Injuries, Aged, Interdisciplinary Interventions, Assessment

Introduction: Falls across Europe

Falling is a common problem of old age¹. Approximately 30% of people aged over 65 years fall each year and after the age of 75 the rates are higher¹. Falls are the dominant cause of the injuries among elderly people, and 40-50,000 older people in the 28 countries in EU25 and EEA will die due to a fall every year². There is a ten-fold difference in mortality due to falls across the European countries which must be addressed². Between 20 and 30% of those who fall suffer injuries that reduce mobility and independence and increase risk of premature death¹. Older people make up a large and increasing percentage of the population of European coun-

tries. As people grow older they are increasingly at risk of falling and suffering injury from falling³.

Falls are also associated with significant social and psychological consequences, as people lose confidence and become isolated and restrict their activity⁴. A fall may be the first indication of undetected illness³. Repeated falls often herald a decline in an older person's functional ability^{1,3}. Unless action is taken, the number of falls and fall-related injuries is likely to increase over the next 25-30 years^{1,3}. A number of assessment strategies and interventions targeted at specific groups of individuals in specific settings have been shown to work^{5,6}. In practice, however, successful interventions have been put into practice with different population groups and in different settings than the original research suggests they were efficacious. There is an overall need to standardise assessment procedures and tailor interventions to individual situations for effective practice. So far, population-based strategies have not been properly evaluated⁷ and there is no evidence that successful falls reduction interventions can actually significantly reduce fractures and health care costs¹. This points to the need for monitoring, implementation and further evaluation of intervention strategies.

ProFaNE (Prevention of Falls Network Europe)⁸ has been funded by the European Commission (EC) to consolidate and

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disseminate good practice in taxonomy and clinical trial methodology as well as detailed clinical assessment and management protocols for those 'at risk' of falls. ProFaNE also aims to identify how best to assess balance function and to develop work in psychology across Europe in order to more fully understand consequences of falls, methods to reduce fear of falling and how best to increase adherence to falls prevention interventions.

ProFaNE – Prevention of Falls Network Europe

Membership

ProFaNE has 24 originators (Figure 1) focusing on the issue of prevention of falls and improvement of postural stability amongst elderly people. It comprises four work packages, which address key areas in the field of trial design, assessments of risk in different settings and fear of falling:

- (1) taxonomy and co-ordination of trials
- (2) clinical assessment and management
- (3) assessment of balance function
- (4) psychological aspects of falling.

Working across Europe

The essence of ProFaNE's methodology is to engender joint working across disciplines, specialties and sites as well as breaking down barriers (by speaking plain English, standardised terminology and exchange programmes) to build a critical mass of scientists and clinicians focusing on falls assessment and effective implementation of interventions. This has been facilitated in two ways; by selected members attending workshops from other work packages and by the use of a state of the art web-based project management system supplied and maintained by the co-ordinating centre in Manchester (Figure 2), which acts both as communication medium within the network and a user-friendly window for the outside world to access the work of ProFaNE. ProFaNE has started to publish papers in non-English language journals to ensure that dissemination is as wide as possible⁹⁻¹¹. Observers from clinical and academic institutions, non-governmental organisations, and policy makers and planners are invited to meetings so as to facilitate the roll out of conclusions, recommendations and protocols into effective practice.

Work to date

The Network has been running for four years, there have been four main Network and combined Work package Meetings (Utrecht, Manchester, Heraklion and Barcelona) and we have convened over 20 workshops, undertaken personnel exchanges, transferred technology and knowledge, set up collaborative studies (funded separately from this Network), sharing data and worked to develop evidence based protocols and other documents which represent state of the art statements on the topic area. ProFaNE's work has been disseminated at over 30 pan-European and International con-

ferences and a key document for policy makers around Europe, written by ProFaNE members during 2003, was published by the World Health Organisation¹. New funding for research by members (in their own countries) and collaborative pan-European bids have been successful. Some of this success may be due to the backing that the ProFaNE Network can provide to their work. Although aimed at improving practice across Europe, the Network has forged strong links with other groups in Australia, New Zealand and Canada.

Work Package 1 - taxonomy and co-ordination of trials

The Objectives of work package 1 are:

1. To build a network of intervention sites for fall and injury prevention studies.
2. To facilitate technology transfer between researchers.
3. To allow the creation of synergistic effects by common taxonomy and outcome measures to enable pooling of data.
4. To facilitate epidemiological studies, intervention trials and public health policy related to falls prevention in underrepresented European countries.
5. To enable prospective pre-planned meta-analysis and multi-centre trials across Europe.

It is essential that people working in the research and development of interventions across Europe maximise the potential for reducing falls and related injuries by working together to exchange ideas and technologies. Researchers will be able to address questions that cannot be easily addressed by single centre trials because of the required sample sizes, and also to pool data in prospective meta-analysis. The Network thus aims to facilitate multi-centred studies across Europe. However, any multi-centre trial requires the development of a common language or taxonomy to describe interventions and trial outcomes, a register of ongoing trials and a prospective collaboration of trials and trialists with the intention of undertaking pooled analysis of data from different trials. Experience from the Cochrane Review of Fall Prevention⁶ has shown that the manner in which interventions are defined and described in primary research has a large effect on the interpretation of pooled analyses. ProFaNE have come to consensus on a core-set of outcome measures and descriptors would make comparisons much easier¹². This work has been made possible by a series of systematic reviews on falls definitions¹³, psychological outcomes¹⁴ and physical activity measures¹⁵.

This work package provides a structured environment to undertake a consensus building exercise to develop a taxonomy and common data collection system. Full details appear on the ProFaNE website, www.profane.eu.org. The fourth year aims to inform senior organisations, health care providers and policy makers of the current evidence on what works to prevent falls in older people.

Work Package 2 - clinical assessment and management

The Objectives of work package 2 include:

1. To gain an understanding of the current issues surround-

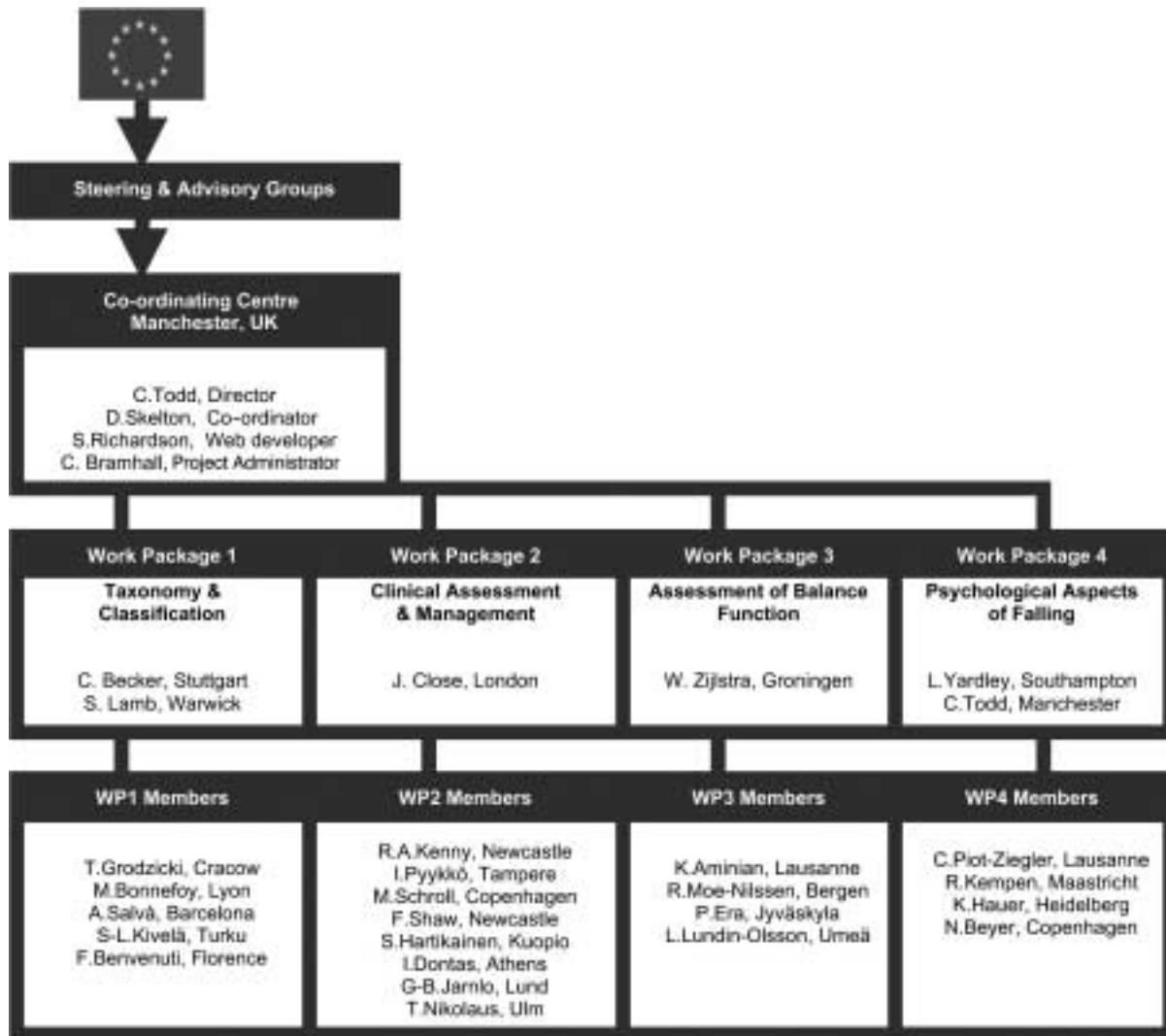


Figure 1. ProFaNE Membership. There are 24 member institutions, some institutions have more than one individual.

ing falls prevention across Europe.

2. To embrace at national level the different political and health service agendas so that recommendations can be translated into working models of practice in each country.
3. To identify key individuals, societies and organisations across Europe instrumental in falls prevention.
4. To establish a network of members across Europe to facilitate dissemination of evidence likely to influence service developments at national and local level.
5. To facilitate the exchange of national and local expertise in falls prevention.
6. To derive consensus for assessment and management of older people at risk of falling using the existing evidence base as well as knowledge of experts in the field.
7. To promote practical and generalisable approaches to the assessment of older people at risk of falling.

This work package focuses on development of consensus

in assessment and management of falls in older people across Europe. Fundamental to this process is the development of a clear understanding of how services across Europe are configured and the national and international drivers for change.

In the first year the work package undertook a series of network visits, enabling members to visit other members and also key individuals in European countries to identify the potential opportunities and constraints of developing and delivering falls services in a co-ordinated and comprehensive fashion. It is imperative to identify effective methods of dissemination of the recommendations as methods will differ from country to country. Next, the focus was on development of assessments which can be tailored to a variety of clinical settings, from community-based assessment to highly specialised investigation units. The work package links closely with work packages 3 and 4 to ensure consensus in recommendations. In addition to the recommendations for clinical assessment and management, work package



Figure 2. ProFaNE Website.

2 provides advice and guidance on evaluation and audit of services and links closely with work package 1. This year focused on the collation of agreed assessment and evaluation methods, finalising systematic reviews in the areas of assessment and preparation of recommendations for dissemination. In 2007 a fully interactive online assessment and management protocol comes online that can be used as a decision-making tree following the pathway of a faller through the healthcare process.

Work Package 3 - assessment of balance function

The Objectives of work package 3 are:

1. To identify instruments and procedures that can be used for assessment of balance function in clinical settings.
2. To identify areas where further development is needed.

3. To combine expertise from different disciplines involved in studying balance and transfer knowledge between these disciplines.
4. To co-operate in research.
5. To provide an intellectual environment for interdisciplinary projects and dissemination of knowledge into disciplines working in the clinical field.

The development of effective fall prevention programs requires the understanding of the underlying causes of falls. Measurement tools are needed that predict the risk of falling and give objective assessment of balance function as required in daily life activities¹⁶. The ultimate goal of the activities within this work package is to combine the expertise of different disciplines for the development of balance assessment tools which can be used routinely in clinical settings. To accomplish the

objectives of this work package, existing instruments and procedures for assessment of balance function have been evaluated and so far, a systematic review on the use of force-platforms in balance assessment has been published¹⁷, further reviews of clinical balance measures and dual-task balance assessments are in progress. This work package particularly focuses on the use of lightweight ambulatory equipment that allows for the measurement of human movement under real-life conditions. This novel approach to the analysis of human movement can potentially fill the need for objective field instruments¹⁸⁻²⁰. However, the approach needs the development of valid, reliable and easy-to-use procedures that will give an insight into the relationship between objective measures of balance function, the level of activity and the occurrence of falls in older people. Work by members of this work package includes the design of protocols which specifically address different aspects of balance function in older people (e.g., assessment of dual-task performance, sensory dependence, and effects of mechanical manipulations), the use of body fixed sensors for an analysis of balance function and physical activity, and the development of appropriate methods for signal acquisition and analysis. The work also addresses the validity and predictive value of instruments and procedures for balance assessment. In 2007 recommendations for objective clinical balance assessment appear.

Work Package 4 - psychological aspects of falling

The Objectives of work package 4 are:

1. To co-ordinate efforts aimed at determining the psychosocial factors which promote or reduce uptake of and adherence to a range of falling-related interventions.
2. To understand attitudes to falls/injury and to falls prevention interventions and behaviour of older people, by the development of measures to assess attitudes towards interventions (e.g., FES-I see below).
3. To agree reliable and valid questionnaire measures, which can be used to assess all aspects of falling-related anxieties, and evaluate the effect of interventions on falling-related anxiety.
4. To co-ordinate development of self-test indices used to evaluate a person's own risk of falling and provide information on how to reduce their risk.
5. To develop guidelines for the design of falling-related interventions in order to maximise acceptability, uptake and adherence in target populations, and promote positive psychosocial outcomes such as increased activity, independence and quality of life.

To accomplish this, the work package brings together clinicians working with different populations of older people at risk of falling, and social scientists with expertise in the psychology of falling, behavioural change, interview-based research, and questionnaire design. The group's particular interest is in what motivates older people to engage in, or reject, a variety of interventions intended to reduce the risk of falls and injury. Guidelines on remedial action that an older person can do themselves to reduce risk are an ultimate aim, particularly guidelines on presentation of

information that appeals to the older person and that they can relate with. The work package has accumulated qualitative primary and secondary data on attitudes, uptake and adherence to different interventions in different populations in order to identify common relevant motivations and concerns^{21,22} and a series of recommendations for professionals is available²³. This work package has produced and validated a new questionnaire, based on the well known FES⁴ which comprehensively assesses all aspects of falling-related anxiety (FES-I, Falls Efficacy Scale-International)^{24,25} and this is now available in fourteen different languages on the ProFaNE website (English, Brazilian-Portuguese, Danish, Dutch¹⁰, Finnish, French, German¹¹, Greek, Hindi, Norwegian, Punjabi, Spanish, Swedish, Urdu). There has been a cross-cultural validation of the FES-I in the UK, the Netherlands and Germany²⁶. The FES-I has 16 questions a short FES-1 of 7 items is available on the website. The work package now also produce guidelines on what attitudes and beliefs predict intention to undertake strength and balance training²⁷ and have designed a questionnaire (Attitudes to Falls-Related Interventions Scale (AFRIS)) which is available on the ProFaNE website. Views on existing self-tests have been sought through the discussion board on the ProFaNE website. A ProFaNE self-test is currently in development. A systematic review of web-based information for older adults on falls prevention is underway.

The wider impact of ProFaNE

Partners, Members and Network Associates of ProFaNE have been invited to join committees for National, Governmental and non-Governmental Organisations on injury prevention; have contributed to many national guidelines on falls prevention; have contributed to the revised AGS, BGS Guidelines on falls prevention²⁸; are connected with other European Networks on Injury Prevention (EuroSafe, APOLLO, EUNESE); have been invited to contribute to Australian and New Zealand Networks on Falls Prevention; have been invited to join programme committees and present at International Conferences in a number of disciplines.

Conclusions

The work of ProFaNE aims to advance science, to improve and standardise health care and research procedures and to introduce best practice widely across Europe. ProFaNE encourages interdisciplinary networking across Europe and beyond.

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