



*THE 2004  
HEALTHY AGEING  
CONFERENCE*

*SAFETY AND  
OLDER PEOPLE*

Conference Proceedings



National Council on Ageing and Older People

# The 2004 Healthy Ageing Conference

## Safety and Older People

### Conference Proceedings

Yvonne McGivern (Editor)



National Council on Ageing and Older People  
An Chomhairle Náisiúnta um Aosú agus Daoine Aosta

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## Foreword



As Chairperson of the National Council on Ageing and Older People, it gives me great pleasure to present the proceedings from the 2004 Healthy Ageing Conference on safety and older people.

The conference took place on 30 November 2004 in the Tullamore Court Hotel, Tullamore, Co. Offaly. It was opened by Mr Sean Power, TD, Minister of State at the Department of Health and Children.

The conference attracted over 120 delegates from across the statutory, voluntary and private sectors. It provided the opportunity for delegates to examine the issue of healthy ageing from the point of view of safety for older people. A major focus of the conference was the impact of the three main causes of unintentional injury and death among older people: falls; road traffic injuries; and fire and burns. The cost to the individual and to society of these injuries and the scope for prevention were also considered. Delegates had the chance to hear about international prevention strategies as well as examples of best practice from Ireland.

I would like to express my appreciation to Mr Sean Power, TD, for his opening address to the conference and to Dr Marie Laffoy for presenting a summary of the way forward and recommendations for action at the close of the conference. I would also like to thank Dr Helen McAvoy, formerly Healthy Ageing Programme Advisor at the National Council on Ageing and Older People, for setting the scene and outlining the need for a national injury prevention strategy.

Several speakers travelled considerable distances to be with us at the conference and I thank them sincerely for that. I would like to thank Dr Robert Conn of SMARTRISK, Canada, for sharing with us the current work underway to develop a national strategy for injury prevention in Canada and for describing the logic behind some of the arguments being used to mobilise key decision makers. I would also like to thank Dr Dinesh Sethi of the World Health Organisation (WHO) European Region for presenting the key findings in relation to older people of the *World Report on Road Traffic Injury Prevention*. Thanks are also due to Ms Dawn Irwin who presented

key findings on strategic approaches to falls prevention in European countries, findings that have come via ProFaNE (Prevention of Falls Network Europe).

The three parallel workshop sessions that took place were very informative and of huge interest to the delegates. I would like to extend my gratitude to the speakers in these workshops for presenting such excellent papers. I would also like to thank those who chaired each of the plenary sessions – Mr Eddie Shaw, Dr Nazih Fagher Eldin and Mr Chris Fitzgerald; and those who chaired the workshop sessions – Mr Forbes Vigors, Dr Michael Loftus and Dr Catherine Blake. I would also like to thank the rapporteurs for collating the information from the sessions and the conference participants for their valuable contributions to the workshop discussions.

The Council would also like to thank its Director, Mr Bob Carroll. A special thanks is due to the Council's administrative staff for their invaluable assistance in organising the conference. Finally, thanks to Ms Yvonne McGivern who edited the proceedings for publication and to Sandwell Third Age Arts for providing the image used on the cover of this report.



**Cllr Éibhlín Byrne**  
**Chairperson**

# Introduction

## The structure of the report

The structure of this report follows in large part the format of the conference. It begins with the opening address by Mr Sean Power, TD, the Minister of State at the Department of Health and Children, a change from the published programme in which the Minister was scheduled to give the closing address.

There were three plenary sessions, a parallel session to accommodate three workshops and, finally, a closing plenary session.

The Opening Session, chaired by Cllr Éibhlin Byrne, Chair of the NCAOP, contains a paper entitled, 'Setting the Scene', by Dr Helen McAvoy, the Healthy Ageing Programme Advisor at the Council.

In the Second Session, chaired by Mr Eddie Shaw, Chair of the National Safety Council (NSC), and titled, 'Saving Lives and Saving Money', there were two papers:

- Dr Declan Bedford, a specialist in public health medicine at the North Eastern Health Board (NEHB), outlined the nature and extent of injuries in older people and the scope for prevention
- Ms Valerie Nagle, an economist at the Eastern Regional Health Authority (ERHA), examined the costs of injury and the cost savings available by promoting safety and injury prevention.

The Third Session, entitled 'International Strategies' was chaired by Dr Nazih Fakher Eldin, Regional Health Promotion Officer and Drugs Services Coordinator in the NEHB, and a member of the Council's Healthy Ageing Consultative Committee.

Three papers were presented in this session:

- Dr Robert Conn, founder, President and CEO of SMARTRISK, Canada, presented details of the experience of developing an injury prevention strategy in Canada and outlined the logic behind some of the arguments being used to mobilise key decision makers;



- Dr Dinesh Sethi, Technical Officer in Accidents, Transport and Health at the WHO presented the findings from the *World Report on Road Traffic Injury Prevention* with a focus on older people
- Ms Dawn Irwin, in a paper with Dr Dawn Skelton, presented the work done to date by ProFaNE into best practice in falls prevention, in particular in the area of assessment and management.

The Parallel Session, entitled 'Best Practice', comprised three workshops aimed at examining work done and discussing further the challenges and strategies for addressing the three main causes of death and injury among older people in Ireland – road traffic accidents, fire, and falls:

- Workshop 1, chaired by Mr Forbes Vigors, Senior Executive Engineer with the National Roads Authority, examined ways of promoting road safety and mobility
- Workshop 2, chaired by Dr Michael Loftus, GP and member of the Council, looked at how fire and burns prevention can be tackled
- Workshop 3, chaired by Dr Catherine Blake, College Lecturer at the Mater Hospital, Dublin, offered examples of falls prevention projects and services in three settings.

In the Final Session, following feedback and conclusions from the workshop sessions, Dr Marie Laffoy, Director of Public Health at the ERHA, presented a summary of the key points from conference papers and set out recommendations for the way forward.

## Opening session

**Dr Helen McAvoy** showed briefly how older people are particularly vulnerable to death and injury from fires, road traffic crashes (especially as pedestrians) and falls. She noted how the targets for 2005, as set out in the Health Promotion Strategy, for reduction in deaths and hospital admissions are unlikely to be met. She argued for a move from local initiatives to a regional and national co-ordinated injury prevention strategy. To be effective, this strategy must involve all stakeholders across all sectors including, for example, older people and their carers; health service providers; budget holders; risk managers; and planners of the built environment. She noted that injuries are costly to the individual, to the health and social care sector, and to society as a whole, but prevention works and it saves money as well as lives.

## **Second session: saving lives and saving money**

**Dr Declan Bedford** showed, with the use of statistics from a variety of sources, the extent and nature of injuries among older people in Ireland. It is clear that injuries in older people are a major cause of hospitalisation and death.

He showed that falls are the most common cause and women are most at risk. The second greatest cause of death is motor vehicle crashes (MVC) and in this case it is men who are more likely to die. Fire and flames claim on average 27 lives per year among this age group, killing roughly equal numbers of men and women. Dr Bedford showed that there are two sets of factors at work in causing injury – internal factors and external or environmental factors. Internal factors include age-related disabilities that make older people more prone to unintentional injuries and can mean that they are slower to recover. Internal factors also include lack of exercise, osteoporosis, inappropriate use of medications, impaired balance, reduced hip strength, and misuse of alcohol. External factors include housing that is often not suited to the older person's needs or level of ability and so more conducive to accidents. Dr Bedford pointed out that it is in the home that most accidents happen. Other external factors include unsafe roads and vehicles, fire, lack of training for carers, and lack of services. Dr Bedford argued that there is huge scope for prevention in the areas of falls, MVCs and fire. He outlined a range of interventions, covered in detail in other papers. He believes, for example, that a two-pronged approach to falls prevention is essential including a multifactorial risk assessment and management and exercise programme aimed at the general population of older people. He argued that, given the increasing number of older people, and the increasing number of older people living alone, the time for action is now.

**Ms Valerie Nagle** looked at the economic cost of injury among older people and in so doing presented a powerful argument for action and resource allocation for prevention. She showed very clearly how much more vulnerable older people are to unintentional injury. An older person will spend a disproportionately greater amount of time in hospital as a result of an injury than will a younger person; older people account for around a fifth of those hospitalised but for almost half of the bed days. With each bed day costing on average €550, the total cost for the 125,000 bed days used by older people as a result of an injury is €70 million. As Ms Nagle showed, this €70 million, however, is just the tip of the iceberg – the cost of acute care only.

Recent research in the UK into falls estimated the healthcare cost of serious falls among the over sixty years group to be in the region of €1.3 billion per year. Translating this to Ireland, Ms Nagle estimates that falls are likely to cost the health service here, in acute and long-term care, around €85 million a year. She estimated that the healthcare costs associated with road traffic injuries in Ireland in 2001 were in the region of €20 million to €32 million. She further noted that these healthcare cost estimates are seldom the total healthcare cost since they often do not include the cost of operations and prostheses, re-admission to hospital, out-patient, GP or community-based health and social care, rehabilitation or long-term care. Ms Nagle also noted the importance of not restricting calculations of the cost of injury to the medical sector alone. She argued that the human cost of pain and suffering, disability, and loss of quality of life for the patient and his or her family, as well as the costs to society of a loss of earnings and productivity, must also be taken into account. This is an argument that Dr Robert Conn also offers in his paper. Ms Nagle showed that there are clear benefits in taking action to prevent injury – in human terms and in terms of the cost to health and social care services. She noted, for example, that investment in road safety measures can generate an eightfold payback; fitting relatively inexpensive grab rails can lead to a 60 per cent reduction in falls. Ms Nagle argued that to understand better how we achieve reductions in injury we should be building economic models of how interventions work.

### **Third session: international strategies**

**Dr Robert Conn** showed in his paper the size of the unintentional injury problem in Canada and summarised the work underway to develop a national strategy for injury prevention. He described the logic behind some of the arguments being used to mobilise key decision-makers. His organisation, SMARTRISK, a charitable organisation funded through public/private partnerships, is now the recognised national leader in injury prevention. Its underlying philosophy is that life is about taking risk and if people learn to see the risk in their lives and learn to manage it in the smartest way possible, there is great benefit. SMARTRISK has been working with the Insurance Bureau of Canada since autumn 2002 to promote the need for an injury prevention strategy and to produce the background materials to support action in this regard. Dr Conn argued that it is important to get a clear understanding of injury as he has found that it is often poorly understood by public and policy-makers alike. Injuries, he stressed, are not accidents; most are predictable and preventable. He presented figures on the economic burden of injury: \$8.7 billion annually – 50 per

cent direct cost (including hospital emergency admissions, hospitalisation, rehabilitation and long-term care); the other 50 per cent indirect cost (including loss of social capital, insurance and time off work). Dr Conn also argued for the importance of expressing the cost of injury as potential years of life lost (PYLL). He noted that the greying of the population means a greying of the workforce, which means that the labour pool is shrinking and labour market shortages are likely. In other words, he said, injury prevention is more about people than about money. He emphasised the need for a national injury prevention strategy made up of four key elements: surveillance; research; evidence-based programming; and public policy. He stated that an effective strategy will include a clear vision, clearly defined goals, a clearly defined approach with guiding principles, clear strategic direction, and priorities or areas of emphasis.

**Dr Dinesh Sethi** in his paper looked at aspects of road traffic crashes and injuries including the scale of the problem across the world; concerns in relation to older people; risk factors influencing road crashes; and policy initiatives to prevent them. A huge number of people, approximately 1.2 million, die every year from road traffic injuries and up to 50 million people are injured or disabled. In fact, as Dr Sethi pointed out, road traffic injuries (RTIs) account for 2 per cent of all deaths worldwide and the ratio of deaths to injuries is highest in older people. Those at greatest risk of dying are men aged over 75 years. One of the main factors underlying these statistics, Dr Sethi noted, is that older people have restricted mobility – transport systems have failed to meet their needs. Whereas young people are more likely to be involved in serious crashes, older people have the lowest crash rates but are more likely to have complications, poor prognosis and a higher death rate from injury. Older people make up 10 per cent of injuries but account for 50 per cent of resources spent on healthcare for injuries. Dr Sethi argued that preventing RTIs in this high-risk group should, therefore, be a priority. Short of providing door-to-door public transport, private cars may be the safest means of transport. He argued that we need to think of older people as drivers and empower them with medication reviews, eye tests etc., and as pedestrians, and invest in walkways and speed control. This argument was reiterated by Prof. Des O'Neill in his workshop paper. Dr Sethi noted that road traffic injuries are a major but neglected public health problem requiring concerted multi-sectoral efforts for effective and sustainable prevention. Road safety, he said, should be an integral aspect of sustainable transport and part of the core business of the health sector, and the time to act is now. He offered five recommendations for policy: strengthen the role of the health sector as a champion of road safety; improve the

mechanisms to implement what is known to be effective for road safety; consider speed as the single most important determinant for safety; strengthen the role of international organisations in preventing RTIs; and control drink driving. He offered examples of good practice from Sweden and Austria.

**Ms Dawn Irwin** presented work done to date by ProFaNE into best practice in falls prevention, in particular, in the area of assessment and management. ProFaNE is a four-year project that began in January 2003. Its aim is to increase knowledge and capacity in order to reduce falls. It plans to achieve this by putting in place evidence-based intervention. As several other speakers noted, falls are a major problem in the UK and Ireland. Ms Irwin illustrated the size of the problem in terms of the incidence of falls among older people and in terms of cost to the health service. For example, she noted that fractures costs the National Health Service (NHS) £1.6 billion a year; that there is on average one hip fracture every ten minutes at a cost of between £12,000 and £15,000 and one wrist fracture every nine minutes at a cost of £480. She noted, as did Dr Declan Bedford in his paper, that a third of all over 65s and half of all over 80s will experience a fall; and that among the over 75s, falls are the leading cause of death from injury. She noted also that 40 per cent of nursing home admissions are due to falls and balance problems and that 75 per cent of those living in residential care settings fall every year; on average there are one and a half falls per bed each year. A third of falls result in serious injury; up to 8 per cent result in fractures. The incidence of hip fractures in residential care is greater than the incidence in the community. Sedentary people, she pointed out, are more at risk of fractures; sedentary behaviour accelerates the loss of performance via loss of bone and muscle. This has implications for nursing home residents, most of whom spend around 80-90 per cent of their time seated or lying down. Ms Irwin emphasised the role of exercise in falls prevention for older people of all ages and she noted the effectiveness of hip protectors in preventing fractures. She gave several examples of useful guidelines (from bodies such as the UK National Institute for Clinical Excellence and the WHO) for falls risk assessment, interventions and for roles and responsibilities of key stakeholders.

## **Parallel session: best practice**

In Workshop 1, 'Promoting Road Safety and Mobility', **Michael Byrne** outlined Dublin City Council's work on road traffic injury prevention. In September 1998, as part of its strategy for accident reduction, the then Dublin Corporation (now Dublin City Council)

launched its Road Safety Plan for 1999 to 2003. This was the first such plan in the country devised by a local authority. It was based on the principle of the four 'E's': engineering; education; encouragement; and enforcement. Mr Byrne gave examples of measures introduced under each of these including tactile pavements, increased crossing times and countdown timers at crossings and the redesign of areas to reduce through traffic and effect a reduction of speed. The overall aim of the Road Safety Plan, said Mr Byrne, was to reduce accidents by 20 per cent over the five-year period. The work was a success and in Dublin City there was a 52 per cent reduction in accidents over the five-year period since 1997 – the corresponding national figure is 22 per cent.

**Eamonn Sayers** outlined work done by the NSC, whose remit is to promote road safety and fire safety through education programmes, media campaigns and community activities. Mr Sayers showed that, despite a decline, road traffic crashes are still a major cause of death in Ireland and that speed is a major cause of road traffic crashes. An important part of prevention is to get people to change their behaviour when it comes to speeding.

**Prof. Des O'Neill** showed that, relative to their proportion of the overall population, older people are over-represented in the traffic death statistics. Older pedestrians in particular are a high-risk group when it comes to road injury and death. Of most concern, Prof. O'Neill noted, is the fact that older people suffer in this way despite being the most sensible road users. He also noted the widespread misconception that older drivers are a threat to traffic safety. Generally speaking, older drivers have the lowest crash rates of all age groups, but because of their frailty, have higher injury and fatality rates. In short, Dr O'Neill said, it is the speed and inconsiderate behaviour of other people which kills and maims older pedestrians. There is, therefore, no point, he argued, in aiming road safety campaigns at older pedestrians. Any preventive measures need to be aimed in the first instance at drivers, in particular those who drive commercial vehicles, to encourage them to drive at moderate speeds and to be mindful of pedestrians. Another important consideration is the design of the road infrastructure to better suit road users of all ages, including the vulnerable road user. He noted that if good quality door-to-door public transport is not available for older people, then the use of private cars remains their safest option for getting around. While it is accepted that certain groups of older drivers should not drive – such as those suffering from advanced forms of dementia – mandatory screening of drivers based on age is not recommended. Indeed, studies show, he

said, that it is associated with more deaths. Improvements in pedestrian infrastructure and interventions to support safe driving as long as possible for older people are generally regarded as better investments for the safety and mobility of older people than attempts to stop them from driving.

In the discussion that followed, chaired by **Forbes Vigors**, workshop participants restated the need for the measures outlined in the workshop papers to be implemented. These included:

- increased crossing times
- campaigns to encourage older people to use designated crossings and to encourage them to wear high visibility clothing in poor visibility conditions
- campaigns to educate road users (pedestrians and drivers) about road etiquette
- a review of the rationale for subjecting older drivers to re-tests and medical examinations on the basis of age despite evidence that exists about their safety record.

In Workshop 2, 'Fire and Burns Prevention Awareness', **Pat Hunt** highlighted the risks of fire to older people, in particular those living in residential care. He outlined a range of preventive measures for the residential care setting including ensuring that there are always sufficient numbers of trained staff; training all staff and residents on evacuation procedures in the event of fire; maintaining all fire safety equipment annually and inspecting it regularly; having all electrical systems inspected every five years by a trained electrician; installing a monitored fire alarm/detection system and checking it regularly; and consulting with the local fire officer or fire service in your area. He also noted the success of community fire safety initiatives worldwide in preventing deaths and injuries and called for a national structured approach to fire safety to be adopted in Ireland to secure the safety of the growing number of older people.

**Mary Ryan** described the most common causes of fire and outlined the risks to us all of being involved in a fire. She described the 'Ageing with Confidence' initiative, which aims to keep older people well and supports them living at home. As part of the initiative, the Southern Health Board (SHB) provides fire safety training to those involved with older people including Public Health Nurses, Home Helps and carers. She covered the key elements of this training: prevention; communication;

evacuation; containment; and extinguishment. She highlighted the Golden Rules of fire safety: to prevent fires before they happen; to install smoke alarms; to ensure that every resident knows what to do in the event of fire; to call the Fire Service as quickly as possible; to encourage practice drills and discussion; and to know the location of the nearest telephone.

**Janice Bisp** outlined the work of The Royal Society for the Prevention of Accidents (RoSPA) in providing information, advice, resources and training in the promotion of safety in the home, where most accidents happen. She described how RoSPA developed the Home Accident Prevention (HAP) Strategy to tackle the issue; it targets all age groups but particularly children and older people. The aim of the strategy is to reduce the number of accidental deaths and serious injuries in the home by promoting awareness of key areas, outlining responsibility and stimulating effective intervention. She described several other recent RoSPA campaigns including the 2004 Fire Safety Campaign on the theme of 'No Smoke Without Fire', referring to smoking in bed, 'Just another way to smoke yourself to death', and the Electric Blanket Safety Check Scheme designed to root out dangerous electric blankets. She noted that electric blankets cause between 800 and 1,000 fires in the UK each year, with nearly twenty deaths and two hundred injuries (mostly in people aged over sixty). Recent checks in Northern Ireland, she said, showed that almost 70 per cent of them fail safety standards and could lead to fires.

The discussion that followed, chaired by **Dr Michael Loftus**, identified the following:

- the need for funding for a national fire prevention strategy
- the benefits of a partnership approach in addressing the issue of fire safety and prevention
- the need to increase awareness and knowledge of fire safety and prevention issues and strategies both in the community and in the residential care setting.

In Workshop 3, 'Falls Prevention Projects and Services', **Evelyn Barry** described work done at Baltinglass District Hospital in Co. Wicklow on a falls prevention project. The aim was to develop and implement a falls prevention programme that would reduce the number of falls and resultant injuries experienced by patients, and improve safety awareness and safety behaviour. The work involved examining hospital data on accidents, documenting falls and monitoring trends; training staff in the awareness of falls risks and prevention methods; assessing and rectifying



environmental risk factors; and putting in place measures to reduce the risk of falls happening. Risk factors identified included highly polished/slippery floors; poor lighting; furniture causing obstruction; lack of handrails; loose mats on bathroom floors; unsuitable chairs and bed heights; and unsuitable clothing and shoes. Over a period of time, improvements were made to eliminate these risks. The hospital, Ms Barry said, also adopted a falls risk assessment procedure for existing and newly admitted patients and on the basis of this assessment put in place measures to reduce the risk. She said that the hospital had clear evidence that fall prevention works, that the risk of falling can be reduced in a hospital setting after implementation of the falls prevention programme, that fewer patients fell and of those who did fall far fewer experienced a serious injury. She noted that simple changes can have a big effect. She recommended that all places in which older people live have a fall prevention plan.

In her paper **Dr Chie Wei Fan** described a multi-disciplinary approach to falls prevention at St James Hospital, Dublin. The aim was to dispel the air of inevitability about falling and to reduce the number of falls in all wards of the hospital. The idea for a multi-disciplinary approach stemmed from the idea that various disciplines within the hospital can and do tackle the problem of falls from their specialty viewpoint. With so many different stakeholders, Dr Fan said, she and her colleagues felt that a coordinated falls injury prevention service would be beneficial in preventing falls and in changing the culture of falls in hospital patients for the better. Thus they set up the Falls and Injury Prevention Service with existing hospital staff who were committed to this cause. Dr Fan described the multi-disciplinary team forum approach, its purpose and its usefulness in presenting the issues around falls with one cohesive voice. She described how the team examined the steps that lead to the older person falling; examined falls risks; kept records of all falls; conducted assessments following a fall; and, if possible, targeted those at risk to prevent the first fall. She noted how they introduced the concept of injury prevention by using the Fracture Prevention Triangle: Falls Risk; Bone Fragility; and Force of Fall, making it clear that all three areas must be targeted in order to provide a balanced approach to injury prevention. She described examples of some of the actions taken including the use of faller identification cards, the use of hip protectors, and education and awareness programmes for staff on falls risk and osteoporosis. The plan is, she said, to roll out the falls education programme and other actions from in-patients to day hospital patients and to expand the model of care they have developed to other parts of the hospital.

**Anna de Siún** noted in her paper the lack of information on patients' views when it comes to falls prevention programmes. To fill this gap in knowledge and, more specifically, to gain insight into how some of the older adults in the Midland Health Board (MHB) who have experienced a fall perceive the event, she conducted a qualitative research study. The study, using semistructured, in-depth interviews, examined the circumstances of the fall, beliefs about falls, and the acceptability of interventions. The findings, Ms de Siun explained, show a relationship between the circumstances of a fall and beliefs about falling. Overall, the combination of circumstances and beliefs seems to have led to a general belief in the inevitability of falling. She noted how a lack of awareness of risk factors places the older person in a vulnerable position and concluded that there is a need for information about risk factors so that a person can build an explanation for why the fall may have occurred. She also reported that she found that a distinct lack of importance is attached to previous falls; often these falls were not mentioned. Here she noted that if a history of falls is to be used as a useful predictor of future falls, then it is important to raise awareness among older people that a previous fall means that they may be at a higher risk of another fall and may need to take preventive action. In addition, she said, we need to ensure that healthcare practitioners ask the right questions when exploring the person's history of falls. The research, she said, also showed that most people believed that they could not prevent future falls. This is linked, she thinks, to the finding that few could explain why the fall occurred and may also explain why some have decided not to worry about falling. Suggested interventions – exercise, home modification, personal alarms, and hip protectors – got a mixed response, indicating, she believes, the need for any falls prevention strategies to be adapted for the individual in question.

The discussion that followed, chaired by **Dr Catherine Blake**, centred around five interrelated issues:

- the urgent need for a well-funded national strategy to address injury prevention in general and falls prevention in particular, backed by commitment at the highest level
- the need to take a multi-disciplinary, multi-agency, coordinated approach
- the need to involve older people and their carers at both the decision-making stage and at the implementation stage and, allied to

this, to provide them with the information they need to help them make informed decisions

- the need to take a holistic, 'ecological' view of the individual and how he or she interacts with the environment; in other words, to address (and engage) the person as a whole rather than addressing 'the problem' in isolation
- the need to acknowledge that older people are a diverse group and that any intervention must be tailored to the needs of the individual; in other words, it must be person-centred, feasible, flexible and adaptable.

In the final paper of the conference, **Dr Marie Laffoy** outlined recommendations for the way forward. The papers presented, she noted, showed clearly how vulnerable older people are to injury and death from falls, road traffic crashes and fires. With an increase in the population of older people in Ireland, more people will be at risk. The economic cost of injury and death from 'accidents', to society in general and to the health and social care sector in particular, is huge. It is, however, clear that the 'accidents' that cause injury and death are predictable and preventable. It is also clear, she noted, that investing in injury prevention not only saves lives, it saves money – a very strong argument for introducing and funding a national injury prevention strategy. As many speakers showed, she noted, injury is a complex, multifactoral, multisectoral issue (not always clearly understood by the public or by policy-makers) with many stakeholders including those in the health and social care sectors, and those responsible for the environment and transport. This, she argued, presents several challenges to developing and implementing a successful prevention strategy and to overcome these challenges it will be necessary to:

- define roles and responsibility
- establish priorities and devise action plans
- set targets with clear performance indicators and measures
- identify and then involve all stakeholders, at local, regional and national level, including older people themselves
- implement awareness and education programmes for all, and training programmes for all those involved with older people.

Finally, she noted that while substantial resources will be required to fund this work, there is overwhelming evidence to show that this investment will save money as well as lives.

## Opening Address

### ***Sean Power, TD, Minister of State at the Department of Health and Children***

It is a pleasure for me to be here at the opening of this conference. It is one of the great achievements of our times that most of us are living longer and staying more active than ever before. It means, of course, that healthy ageing is more and more important to us. Safety is a crucial element of this, and at the conference today you will be looking at three areas in which prevention and safety promotion can save lives and money: falls, road safety and fire.

Falls can be a problem for some older people, with hospitalised older people in particular a high-risk group. Falls are preventable and preventing falls is essential.

There are more and more older drivers on our roads and 40 per cent of them, according to new research, say they are regularly or sometimes the victims of aggressive driving. The freedom to travel by car, whether we are young or old, is important to our independence and quality of life. I welcome the NSC's recently published guidelines for older drivers and pedestrians.

Each year about fifty people die from a fire outbreak, mostly in their own homes. At greatest risk are under 12's and those over sixty. Through its fire safety education and awareness programmes, the NSC aims to remind us to think about fire safety, particularly in winter when most fire tragedies occur.

We must overcome negative attitudes to ageing among people of all ages, and get rid of the belief that older people cannot benefit from changes in behaviour. It is important that older people themselves, health professionals and society in general are convinced of the value of health promotion in the lives of older people. Older people must be encouraged and enabled to participate in all aspects of life that promote their health and well-being.

A strategic objective of the National Health Strategy, *Quality and Fairness: A Health System for You* (Department of Health and Children, 2001), is to provide a health system that supports and empowers people to achieve full health potential. This is

widely recognised as especially important for older people. Health promotion advances this objective and focuses on preserving physical and mental health, reducing preventable illness and unintentional injuries and increasing life expectancy. It strives to make the healthier choice the easier choice. A specific aim of the *National Health Promotion Strategy* (Department of Health and Children, 2000) is to enhance the quality of life and improve longevity for older people.

There are, however, many challenges. Older people are a diverse group and this diversity is often not recognised. We need to open our minds to the need for greater flexibility in our approach to dealing with the 'third age'. While health promotion for some older people may be about keeping fit and healthy, for others it may be about lessening the effects of illness or disability. In all cases, however, health promotion needs to focus on encouraging active participation in society.

A key issue identified in *Adding Years to Life and Life to Years: A Health Promotion Strategy for Older People* (Brenner and Shelley, 1998), is the importance of accident or unintentional injury prevention for older people. Poor muscle strength and decreased flexibility are often cited as factors in injuries experienced by older people. Increasing physical activity is a key objective in tackling these conditions and many programmes have been developed, often in consultation with older people. The Health Promotion Unit of the Department of Health and Children (DoHC) is also involved in supporting initiatives at community level in most health board regions. It also provides ongoing support for community and voluntary organisations. At regional level, physical activity coordinators implement local initiatives that focus on a variety of groups including older people.

I would like to conclude by thanking you for your valuable contributions. I offer my congratulations to the organisers of this most worthwhile and informative conference.

## **Opening Session**

***Chair: Cllr Éibhlin Byrne***

# Setting the Scene

*Helen McAvoy, Healthy Ageing Programme Advisor, NCAOP*

## Introduction

The aim of this short paper is to set the scene for the conference and the papers to follow. The theme of the conference is safety. The aim is to bring together several perspectives on safety in order to inform the way forward.

## Why safety?

The WHO's Active Ageing Policy Framework states that measures to help older people remain healthy and active are a necessity not a luxury.

Injury robs many thousands of older Irish people of what might otherwise have been active and independent years. For the older person, a fall, a house fire or a road crash often results in a physical injury that is painful and disabling. Older people often tell me that one of their greatest fears is to fall at home and be unable to get up, unable to call for help, waiting to be found, wondering whether you will last the next hour or the next day, whether you will ever walk again. Injury is undoubtedly a traumatic experience, not only for older people but also for their family, friends and neighbours.

From the moment of sustaining an injury, the journey to the casualty department to the operating theatre to a rehabilitation ward and back to independent living is a long one. It can often take several months and consume expensive bed days and services. Even with the best care, many do not make it. Some will die. Some will be too disabled and too frightened or debilitated to return to their own homes and will go into long-term care.

*Adding Years to Life and Life to Years: A Health Promotion Strategy for Older People*, published jointly by the NCAOP and the DoHC in 1998, has recognised the

importance of 'accident' prevention in the promotion of health and well-being in later life.

The strategy recognises that an adequate response will require multisectoral involvement. There are many stakeholders with a role to play in the reduction of injury among older people in Ireland. They include:

- older people
- carers
- health service providers
- budget holders
- risk managers
- surgeons, medics and paramedics
- planners of the built environment.

From building stronger bones in early adult life to building better roads and houses, the approach needs to promote safety across the lifecourse.

## **Targets**

In place already is the goal to reduce the number of 'accidents', or rather unintentional injuries, and the associated mortality and morbidity among older people. Here follow the targets that are to be achieved by 2005 among the population 65 years and over:

- To reduce by 17 per cent the death rate from all 'accidents' and their adverse effects; that is, to no more than 67.6 per 100,000 people.
- To reduce by 17 per cent hospital admissions due to falls to no more than 1,171 per 100,000 people (from 1,411 per 100,000 in 1993).

With 2005 almost upon us, it is fitting to revisit these targets and to review the development of national, regional and service-based responses to reduce accidents among older people.

Since the development of the Health Promotion Strategy there has been considerable innovation and development in unintended injury prevention and safety promotion with older people in Ireland. Our challenge now is to move the issue



forward, from local enthusiasm to strategic commissioning at national and regional level.

### ***Summary of key statistics***

#### **Fire-related deaths**

According to the *Fire Service Statistics Bulletin*, in 2003 there were 9,438 fires in domestic premises and 44 per cent of fire-related deaths were among the 65+ age group. The numbers suffering burns and homelessness are unknown.

#### **Road safety**

Between 1998 and 2002, according to Martin, Canavan and O'Neill (2004), 623 pedestrians over the age of 65 were reported killed or injured.

#### **Falls**

In 2001 there were 6,905 hospital in-patient admissions due to falls and in 1999 there were 7,068 fractures, 3,279 of which were hip fractures. In Irish city hospitals, 15 per cent of all admissions of people over the age of 65 were related to falls.

## **Prevention and intervention**

We know that many injuries affecting older people are preventable and with the right intervention the impact of injury can be minimised. What works in preventing injury among older people has been extensively reported in the international literature. Furthermore, the evidence for the effectiveness of different interventions has been reported at several Irish conferences: those run by The International Association for Physical Therapists working with Older People (IPTOP); The Irish Osteoporosis Society (IOS); the NCAOP's conference on the older driver in 2000; and the NSC conferences.

This conference aims to bridge the gap, using this evidence to help define a national strategy for the prevention of unintentional injury, and to make a case for the resources and investment needed to implement it fully and effectively. As we will see in several of the papers, and as we know already from the road traffic strategy, there is a positive payback.

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## **Second Session:**

### **Saving Lives and Saving Money**

*Chair: Eddie Shaw, Chairperson, National Safety Council*

# **Saving Older People's Lives: The Extent and Nature of Injuries Among Older People in Ireland**

***Dr Declan Bedford, Specialist in Public Health Medicine, North Eastern Health Board***

## **Introduction**

The aim of this paper is first of all to outline what we know about injuries in older people and then to look at the data to see the extent and nature of injuries among older people in Ireland. We look at three main sources of data:

- Irish mortality data
- Admissions to acute hospitals
- European Home and Leisure Accident Surveillance System (EHLASS) data.

Finally, we draw some conclusions and look at the scope for prevention.

## **Injury in older persons: what we know**

Injuries in older persons are a major cause of hospitalisation and death. The vast majority occur at home. Injuries are more common among women but fatal 'accidents' or unintentional injuries are twice as likely in men. Falls are the most common cause of injury. A third of all people aged 65 and over fall each year; and half of those aged eighty and over fall each year. Recurring falls are a common problem.

## **The consequences of falls**

Falls lead to injuries, loss of confidence, loss of independence, hospitalisation or nursing home care, and premature death. What causes unintentional injuries in older persons? Two sets of factors are at work – internal factors and external or environmental factors.

### ***Internal factors***

Age-related disabilities make older persons more prone to unintentional injuries and can mean that they are slower to recover. Other internal factors include:

- lack of exercise
- osteoporosis
- inappropriate use of medications
- impaired balance
- reduced hip strength
- slow reaction
- inadequate ability
- misuse of alcohol.

### ***External factors***

Many older people live in older houses that are often ill suited to their needs or level of ability and conducive to 'accidents' or unintentional injuries. Within the home, for example, the following can lead to unintentional injuries:

- floor covering
- poor lighting
- pets
- furniture (for example, low tables)
- lack of suitable appliances.

Other external factors include unsafe roads and vehicles, fire, lack of training for carers and lack of services.

### **Irish mortality data**

For the period 1998 to 2002, on average 450 people aged 65 and over died each year from unintentional injury: 238 women and 212 men per year.

The graph in Figure 1 below (based on data from the Public Health Information System [PHIS]) shows how vulnerable older people are to death from unintentional injury. There is a noticeable increase in the proportion of deaths per 100,000 of the population at age 65 and over; there is a very steep increase at age 75+.

**Figure 1: Death rates from unintentional injury (2002)**

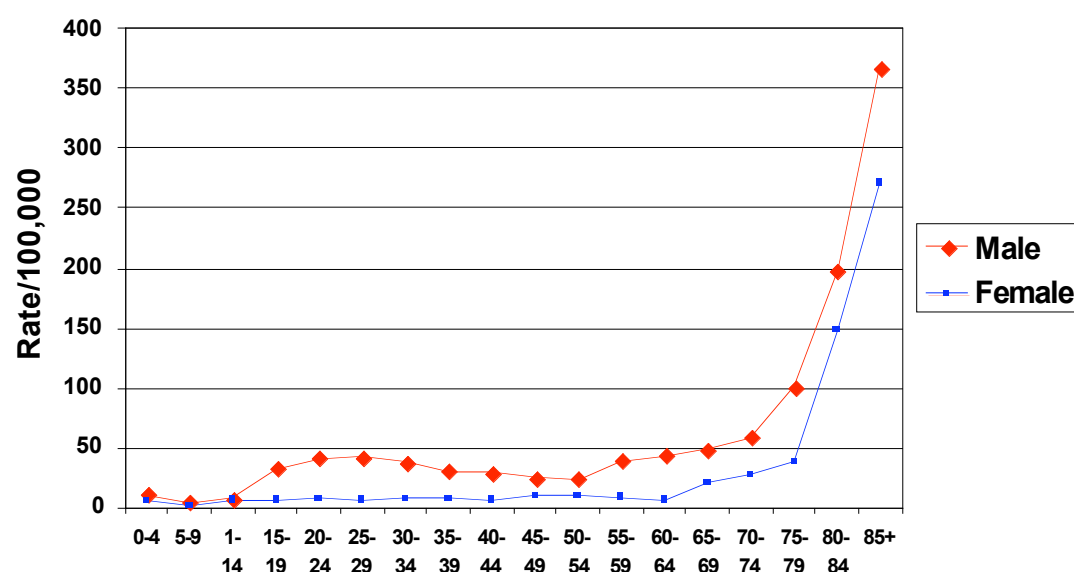


Figure 2 shows the standardised mortality rates per 100,000 of the population from unintentional injury in five-year periods from 1980 to 2002. What is immediately clear from this graph is the much greater proportion of deaths among the 65+ years group than among the population as a whole. What it also shows is that mortality rates, which had been in decline, began to rise in the five-year period from 1996, although there appears to be a slight drop in the five-year periods at 2002.

**Figure 2: Standardised mortality rates from unintentional injury 1980-2002 in five year periods (per 100,000 population)**

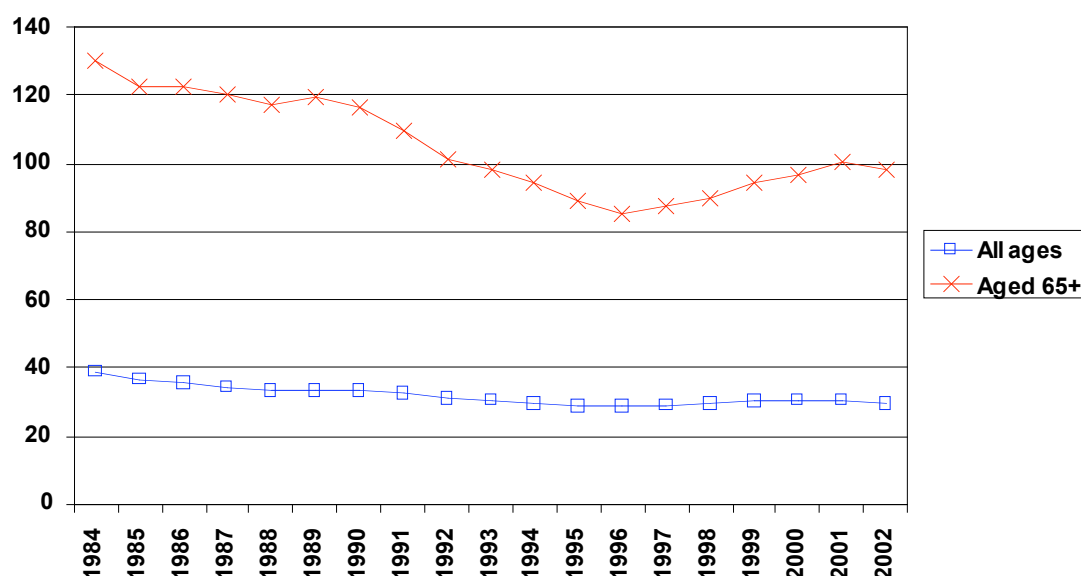
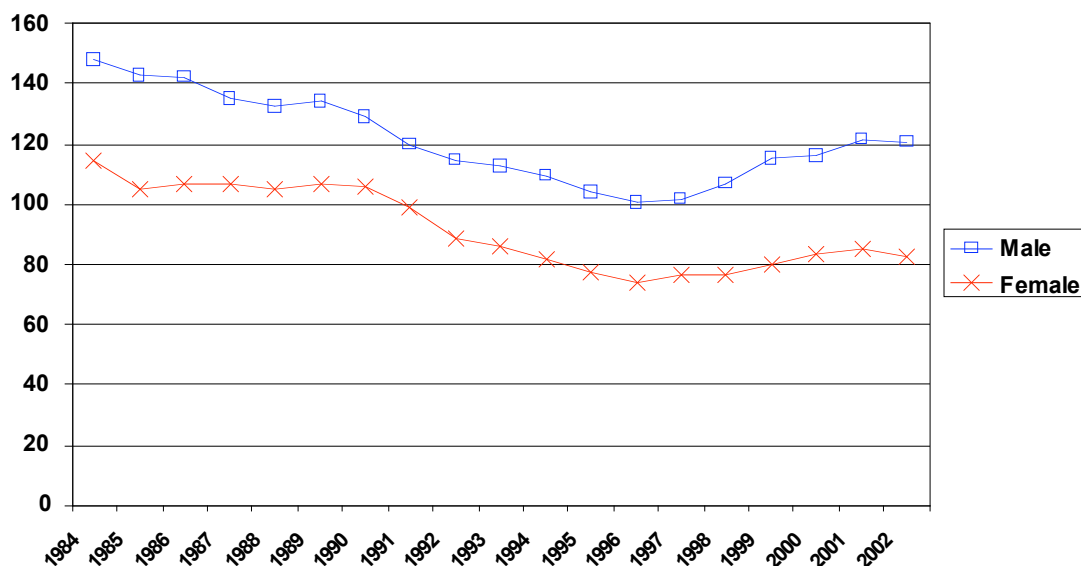


Figure 3 shows the same standardised mortality data, this time for men and women aged 65 and over. It is clear from this graph that while the pattern across time is more or less the same, a greater number of men die from unintentional injuries.

**Figure 3: Standardised mortality rates from unintentional injury men and women aged 65+ (per 100,000 population)**

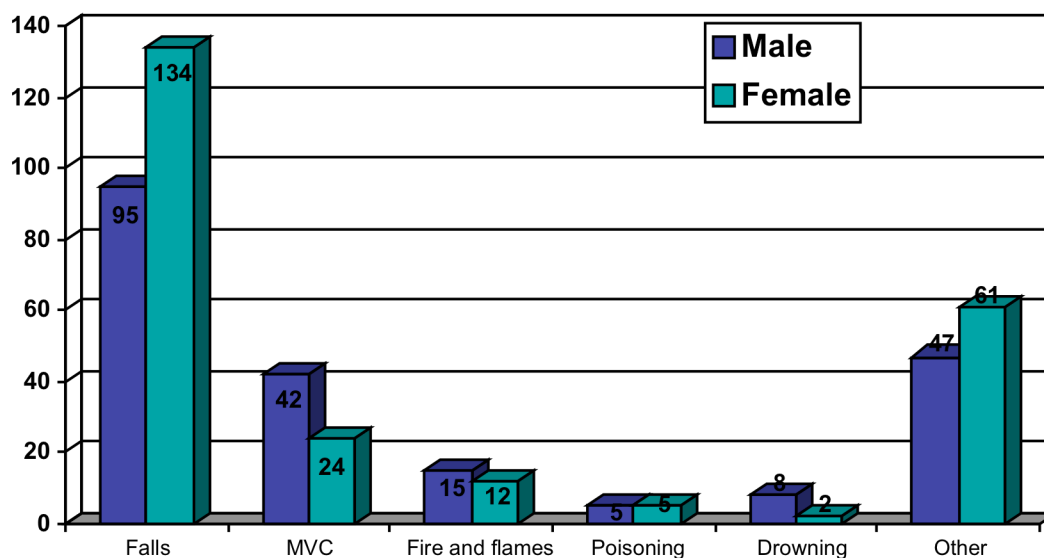


### ***Main causes of death***

As Figure 4 shows, the main cause of death for both men and women is a fall. As the data here show, about a third more women than men die as the result of a fall – on average 134 women per year in the 65+ years group compared to 95 men.

The second greatest cause of death is MVC. In this case it is men who are more likely to die – on average 42 men aged 65+ per year compared to 24 women. Fire and flames claim on average 27 lives per year among this age group – 15 of them men and 12 of them women. The information we have, however, is not complete; there are many deaths (108 per year in the five-year period 1998 to 2003) that we can only describe as being due to 'other' causes.

**Figure 4: Average number of deaths per year of persons aged 65+ from unintentional injury (1998-2002)**



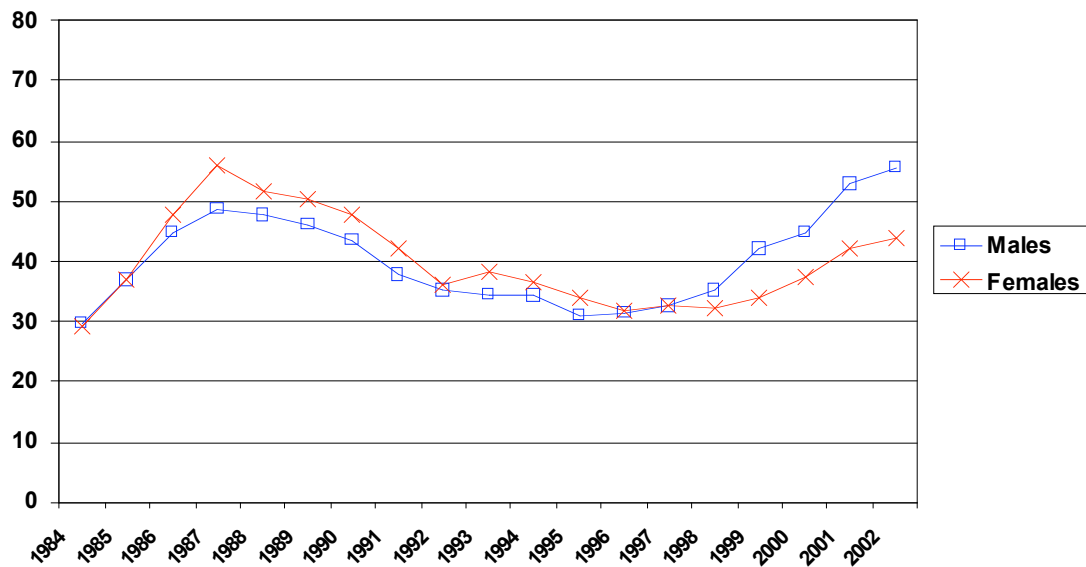
### *Falls*

Looking in more detail at deaths from falls, Figure 5 shows a decline and a levelling out in the number of deaths in the rolling five-year periods from 1980 to 1997 when rates began to rise for both men and women. It seems unlikely on the evidence here that the target for a 17 per cent fall in deaths from falls by 2005, as set out in the *National Health Promotion Strategy*, will be achieved.

What is also worth noting here is that the rate of death from falls was greater for women until the five-year period ending around 1996 and 1997; rates then for men and women were roughly equal before rates for men increased at a greater rate than rates for women. Since the five-year period ending in 1998, a greater proportion of men aged 65+ compared to women have died from falls.



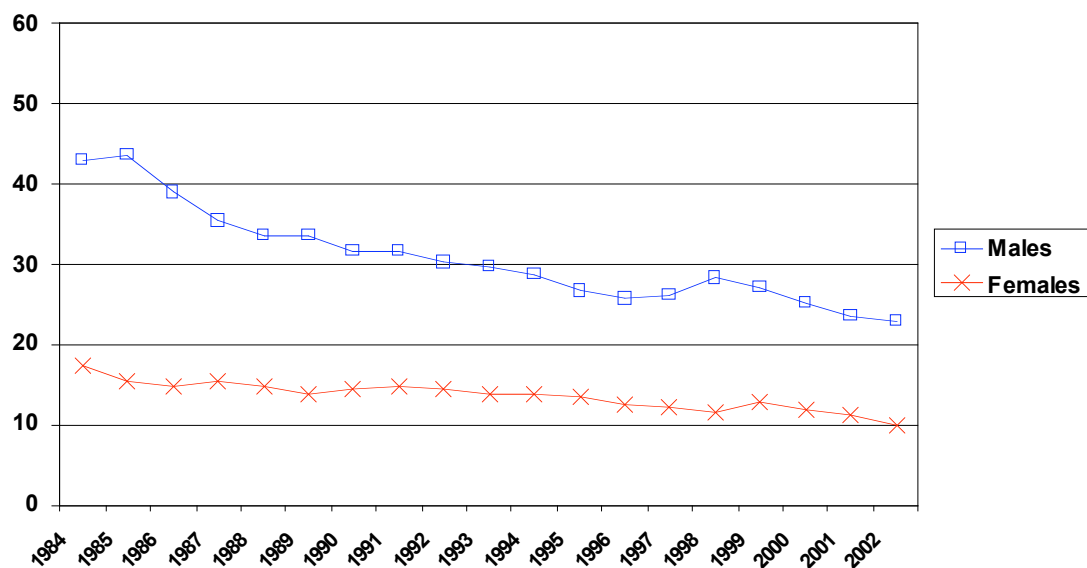
**Figure 5: Standardised mortality rates of persons aged 65+ from falls (1980-2002) in five-year periods (per 100,000 population)**



#### *Motor vehicle crashes*

Figure 6 shows the standardised mortality rates of those aged 65 and over (per 100,000 of the population) from motor vehicle crashes in five-year periods from 1980 to 2002. There has been a steady decline with a slight increase in the five-year period ending in 1998. As we saw above, a greater proportion of men compared to women die as a result of motor vehicle crashes.

**Figure 6: Standardised mortality rates for persons aged 65+ from motor vehicle crashes (1980-2002) in five-year periods. (per 100,000 population)**



As Figure 7 shows, on average, based on figures from 1998 to 2002, 66 people aged 65+ die every year in Ireland as a result of an MVC; 33 of them are occupants of a vehicle and 28 are pedestrians.

**Figure 7: Motor Vehicle Crashes – Average number of deaths per year of persons aged 65+ (1998-2002)**

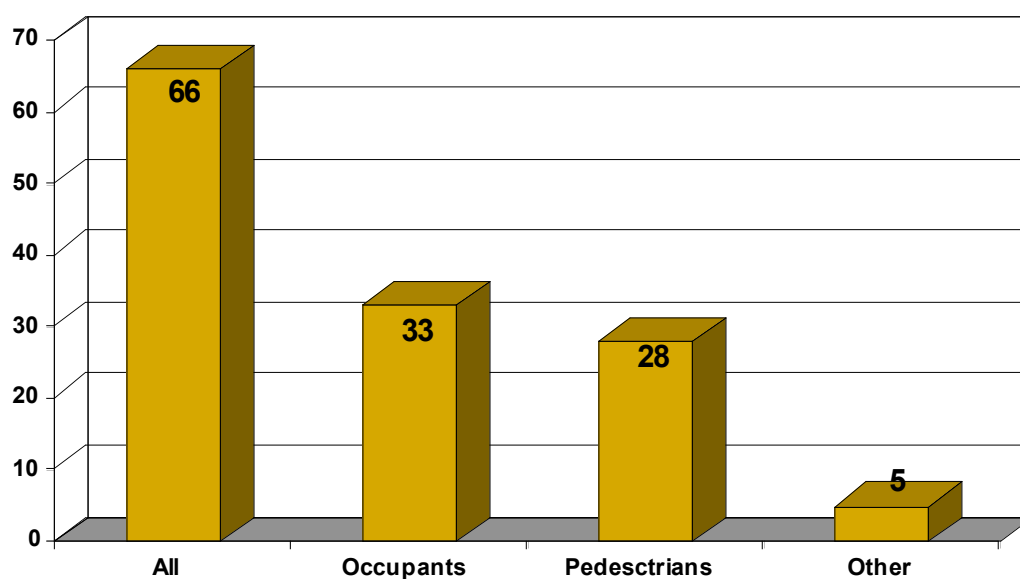
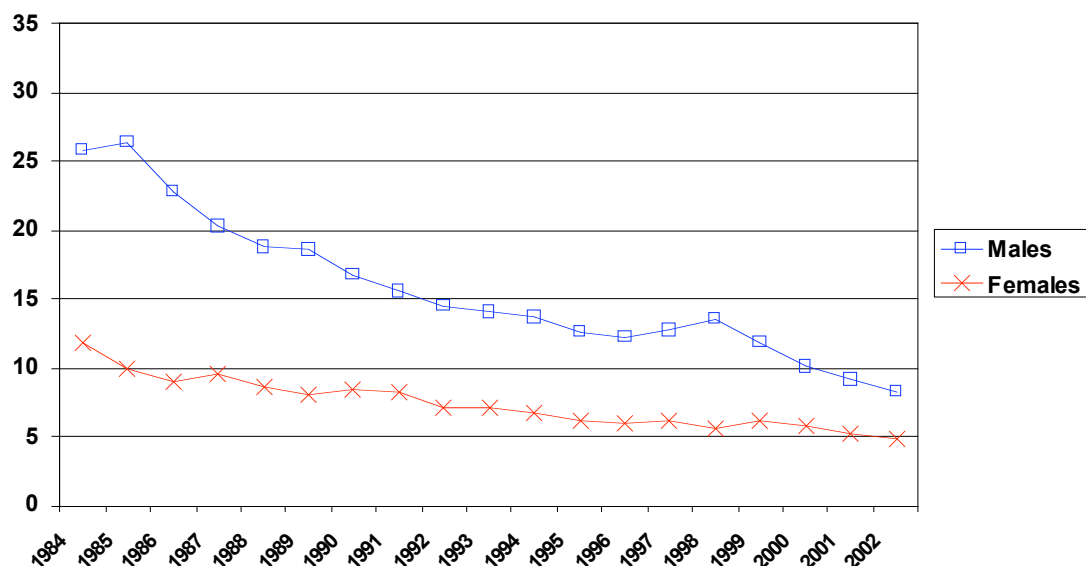


Figure 8 shows the standardised mortality rates of pedestrian deaths, again based on five-year periods from 1980 to 2002, per 100,000 of the population. The number of pedestrian deaths has fallen steadily (with the exception of the five-year period ending in 1998). For the first five-year period (1980 to 1984) men were far more likely to die this way than women. The gap, however, has closed significantly and in the last five-year period the mortality rate for men was only slightly greater than that for women.

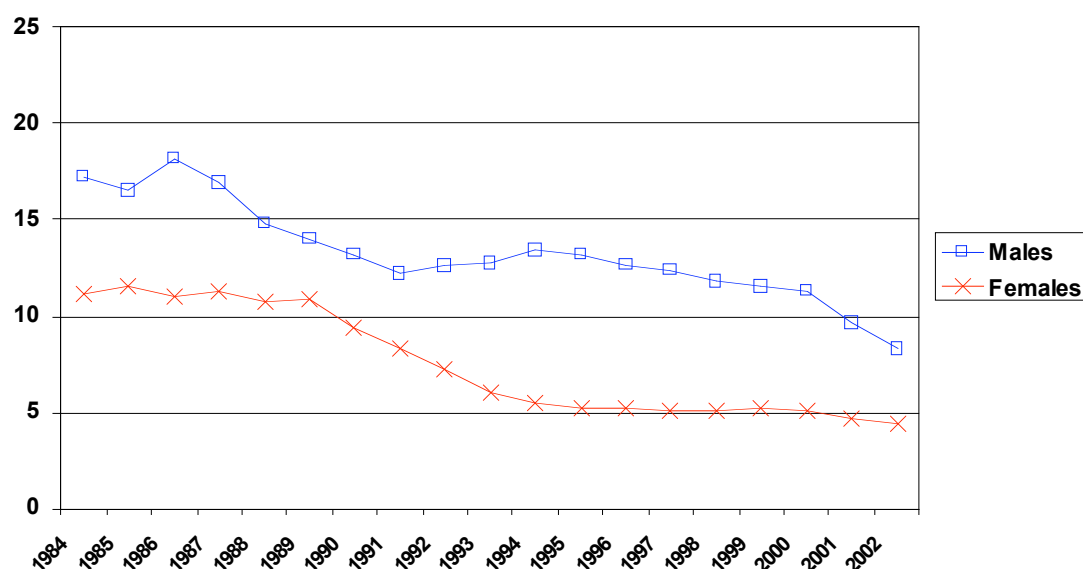
**Figure 8: Pedestrian deaths Standardised mortality rates in five-year periods (1980-2002) per 100,000 population for men and women aged 65+**



### *Fire and flame deaths*

Figure 9 shows the standardised mortality rates from fire and flames in five-year periods from 1980 to 2002 per 100,000 of the population, among men and women aged 65 and over. Again this is a cause of death that remains more common amongst men. From 1980 to 2002 there has been a decline in deaths amongst both men and women. For women there was little change in the rate between the five-year period ending in 1994 and the five-year period ending in 2000. A greater rate of decline is evident amongst men in this same time period. In more recent years, however, success in lowering the death rate is evident with a noticeable falling off in rates in both groups.

**Figure 9: Standardised mortality rates from fire and flames in five-year periods (1980-2002) per 100,000 population for men and women aged 65+**



### *Summary*

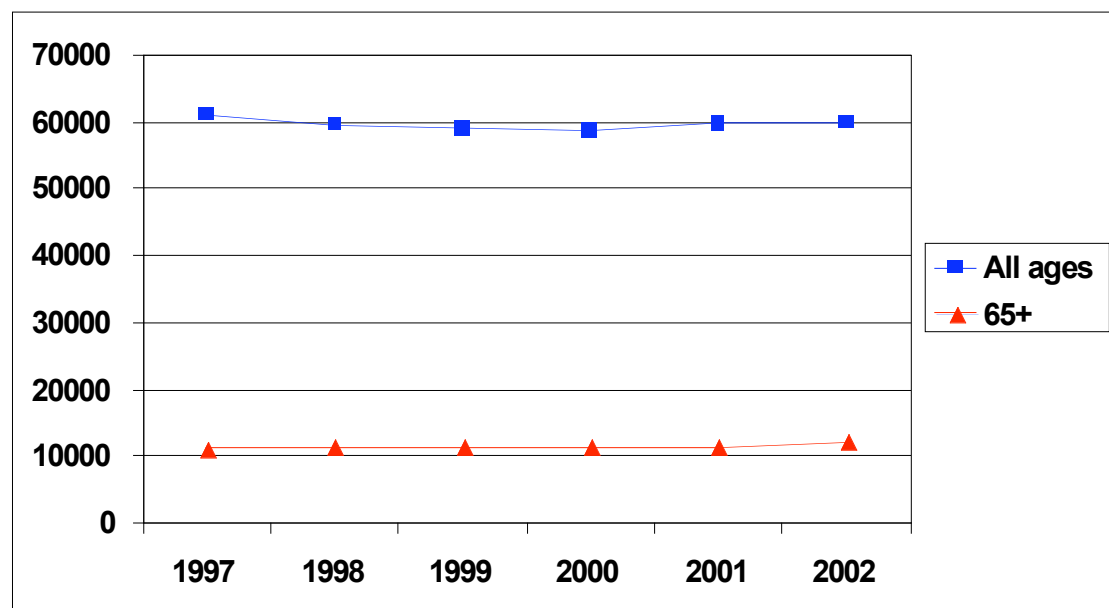
Falls are the major cause of death and the situation is not improving. For motor vehicle crashes and deaths from fire and flame, however, the second and third major causes of death respectively, the number of deaths per 100,000 of the population has fallen.

## **Admissions to acute hospitals<sup>1</sup>**

As Figure 10 shows, the number of admissions to acute hospitals over the period 1997 to 2002 for all ages and for people aged 65 and over with external causes of injury and poisoning has remained more or less the same.

<sup>1</sup> The data I present here come from PHIS and are based on the Hospital In-Patient Enquiry Scheme (HIPE) 1997-2002. The HIPE data on emergency admissions were specifically extracted for this paper by the Economic and Social Research Institute (ESRI).

**Figure 10: Admissions to acute hospitals with external causes of injury and poisoning (1997 to 2002)**



## Use of hospital beds

For an unintentional injury, the average length of stay in hospital for an older person is 12 days with a total of 144,126 bed days used per year. This represents 4.1 per cent of all bed days used in Irish acute hospitals and 8.8 per cent of all bed days used by people aged 65 and over.

In 2002 there were 12,185 emergency admissions of people aged 65 and over with an injury; two thirds of them (67 per cent) were women. More than half of those admitted (57 per cent) had a fracture or dislocation. The most common was a fracture of the hip or femur; there were around three times as many of these fractures as there were of the next most common – fractures of the radius or ulna (the wrist). One in twelve (8 per cent) of the admissions had an open wound; one in sixteen (6 per cent) had a head injury; and just over one in a hundred (1.4 per cent) suffered from poisoning.

Most of these injuries (almost seven out of ten or 69 per cent of them) occurred at home; another 15 per cent happened in a residential care setting; and 12 per cent happened in the street. Most (71 per cent) were due to a fall. Some 4 per cent were due to a motor vehicle crash.

Most people (63 per cent) were discharged home; 16 per cent were discharged to a nursing home or to long-stay accommodation; 15 per cent were transferred to another hospital; and 4 per cent died.

Data on admissions to acute hospitals with accidental falls show that rates are not declining. It is clear that falls, and the resultant fractures, are a major cause for concern, especially among women.

Two other data sources provide clear evidence of the link between injuries and falls: the EHLASS 2002 data (based on 616 people aged 65 and over who were seen in a hospital emergency department) and data from the North East Doctor on Call service (NEDOC), the out of hours GP service, for the period January to August 2004.

The EHLASS data show that 82 per cent of injuries were due to falls; the injury happened when the person was doing their normal household tasks (33 per cent), involved in a leisure activity (34 per cent), DIY or gardening (10 per cent) or personal care (20 per cent). Just over half (52 per cent) of the women and just over a quarter (28 per cent) of the men were diagnosed with a fracture. In total, 30 per cent of those aged 65 and over seen in the emergency department were admitted to hospital.

The NEDOC data show that for the 65-78 years group 83 out of 1,000 calls were about an injury; among the 79 years and over group this rose to 106 out of 1,000 calls. More than 85 per cent of these injuries were due to falls.

## **Scope for prevention**

There is huge scope for prevention of falls, motor vehicle crashes and fire. If we look at interventions to prevent falls, set out in more detail in Dawn Irwin's paper, we see that what is required is the implementation of multifactorial risk assessment and management programmes – those that take into account medication use, vision, blood pressure, environmental hazards and so on. Other useful interventions include:

- exercise programmes
- identification of risks and modification of environmental hazards
- promotion of healthy ageing practices
- awareness programmes on common causes
- awareness re side effects of medications
- prevention of osteoporosis

- prevention of alcohol misuse
- improved housing and road design.

A two-pronged approach to falls prevention is essential: a multifactorial risk assessment and management programme and an exercise programme aimed at the general population of older people. People are living longer. This means that there will be more older people and more older people living alone. The time for action is now.

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# **Saving Money Through Safety Promotion and Accident Prevention**

*Valerie Nagle, Economist, Eastern Regional Health Authority*

## **Introduction**

The aim of this paper is to look at the economics of 'accidents' or unintentional injury in Ireland. We look at four aspects:

- the size of the problem
- cost estimates of injury and potential savings from safety promotion
- funding issues
- policy implications.

## **The size of the problem**

We know from data collected by HIPE, Activity Based Costing (ABC) and the PHIS that among people of all ages there were 1,100 deaths from unintentional injury in Ireland in 2001. In total, 52,000 people were hospitalised for a total of 257,000 hospital bed days.

Older people (those aged 65 and over) are a particularly vulnerable group; in 2001, 402 older people died from unintentional injury and 11,000 were hospitalised for a total of 125,000 hospital bed days. Length of stay for this group is disproportionately high – older people account for approximately one fifth of those hospitalised but almost half of the bed days. With each bed day costing on average €550, the total cost for these 125,000 bed days is €70 million. This €70 million, however, is just the tip of the iceberg – the cost of acute care only.

Table 1 summarises the incidence of death, hospitalisation and bed days from unintentional injury in 2001 per 100,000 people of two groups – people of all ages and people aged 65 years and over. It is clear that older people are at greater risk than the population as a whole.



**Table 1: Vulnerability to unintentional injury (rate per 100,000)**

	<b>All ages</b>	<b>65 years and over</b>
Death	3	9
Hospitalisations	131	249
Bed days	646	2,802

Source: PHIS, 2001 data.

The three main causes of unintentional injury are falls, road traffic incidents and fire. Table 2 shows the proportion of bed days taken by older people and the proportion of older people who died as a result of unintentional injury due to falls, road traffic incidents, fire and other causes in 2001.

**Table 2: Percentage of older person deaths and bed days from unintentional injuries**

	<b>Deaths</b>	<b>Bed days</b>
	<b>%</b>	<b>%</b>
Falls	52	71
Road traffic incidents	12	4
Fire	8	1
Other causes	28	24

Source: PHIS, 2001 data.

In the UK we know that approximately 7 per cent of NHS spend goes towards treating injury. In the US it accounts for 12 per cent of direct medical care costs and 15 per cent of the acute hospital budget. Internationally the 65+ years group accounts for 42 per cent of all medical injury costs.

## **Cost estimates and potential savings**

### ***Falls***

A recent falls study conducted in the UK, reported in the *Journal of Epidemiology and Community Health* (2003), estimated the healthcare cost (acute and long-term care) of serious falls among the sixty years and over group to be in the region of €1.3 billion per year. The study found that just over 5 per cent of the population over sixty years of age attend a hospital emergency department every year as a result of a fall;

that almost 2 per cent were hospitalised as the result of a fall; and that 30 per cent of emergency department attendances due to a fall were admitted to hospital.

The study also showed the cost per year of falls per 100,000 of the population in each group to be as follows:

- 60-64 years group – approx. €500,000
- 65-69 years group – just over €1 million
- 70-74 years group – approx. €800,000
- 75+ plus years group – around €2.75 million.

Those aged 75 and over are clearly the most vulnerable group. They account for two thirds of the total cost of falls. The 75 years and over group are eleven times more likely to be hospitalised and represent 78 per cent of in-patient admissions. Just over one in four (27 per cent) are transferred to long-term care.

What are the implications of this for Ireland? Using information from this study and applying it to Ireland, it is likely that falls cost the health service approximately €85 million per year in acute and long-term care:

- 60-64 years group – approx. €8 million per year
- 65-69 years group – just over €15 million per year
- 70-74 years group – approx. €9 million per year
- 75+ years group – approx. €53 million per year.

A falls study conducted by Timmons (2004) at Cork University Hospital (CUH) found that 810 older people are admitted to the hospital every year with fall-related injuries. They represent 5 per cent of all admissions of those aged 65 and over and 16 per cent of admissions of those aged 85 and over. The average age of these older people is 79 years. Most of them (73 per cent) are women.

In the acute hospital these 810 admissions translated to 8,300 hospital bed days, an average stay of about eleven days. Over a third (37 per cent or 300 older people) were transferred to orthopaedic or rehabilitation hospitals for a total of 6,220 bed days with an average stay of 21 days.

The average cost per day for in-patient care is €892, which means the average cost per patient in the CUH study is €9,100. For orthopaedic and rehabilitation places the average cost per day is €466, which gives a cost per patient transferred of €9,700.

On a national level, therefore, we can see that falls cost the health service around €100 million a year, with acute costs totalling €67 million, in-patient rehabilitation totalling €26 million and re-admissions costing €7 million. This works out on average at €13,000 per falls patient.

## **Road traffic injuries**

In 2001 road traffic injuries resulted in the use, among people of all ages, of 32,250 bed days. At a cost of between €550 and €1,000 per bed day this works out at between €20 million and €32 million in health costs alone.

## **The bigger picture**

Healthcare cost estimates, however, seldom include the cost of operations and prostheses, re-admission to hospital, out-patient, GP or community-based health and social care, or the cost of rehabilitation or long-term care.

It is also important to note that the cost of injury cannot be restricted to the medical arena. There is the human cost of pain and suffering, of disability, and loss of quality of life – for the patient and his or her family. There are also the economic costs and the costs to society of a loss of earnings and loss of productivity. Furthermore, the lifetime cost of the injury must be taken into account.

When we look at the bigger picture for road traffic injuries, for example, the annual estimated cost (as set out in the *Government Strategy for Road Safety 1998-2002*) is in excess of €1 billion. This includes the cost of medical treatment, emergency services, courts, social welfare and lost productivity. Indeed, the healthcare costs represent only about 2-3 per cent of the total €1 billion estimate. In making this wider calculation we are placing an economic value on people's lives. As Dr Robert Conn shows in the next paper, the cost of injury can also be expressed as potential years of life lost (PYLL). This research shows that investment in road safety measures can generate an eightfold payback.

## **Funding issues**

There is clear evidence that funding the promotion of safety and the prevention of unintentional injury is effective. Costs and funding options must be investigated and reviewed.

There are clear benefits in tacking action – in human terms and in terms of the cost to health and social care services (not least in terms of opportunity cost). Indeed, there is potential for some ‘quick’ wins; grab rails, for example, are relatively inexpensive to fit and can lead to a 60 per cent reduction in falls. If we take a risk factor based approach to prevention it is relatively easy to achieve a 50 per cent reduction in injury. With structured interdisciplinary assessment and intervention we can achieve a 50 per cent reduction, equivalent to a reduction of approximately €1,500 or £1,000 per patient. With a GP and social service risk targeted strategy it is possible to achieve a 15 per cent reduction in hospital admissions and a 41 per cent reduction in the total number of hospital bed days needed.

## **Conclusion**

Firstly, we need more information about, and greater knowledge of, the risk factors involved in unintentional injury. It is, therefore, essential that we improve our data and information collection processes. Secondly, it is clear that effective interventions can save money. To understand exactly where and how this can be achieved we should be analysing data and building economic models of how these interventions work. Finally, in building and appraising these economic models, we must always be sure to consider the full cost of unintentional injury – the direct and the indirect health and social care costs as well as the human and social costs.

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## **Third Session:**

### **International Strategies**

***Chair: Dr Nazih Fakher Eldin, Regional Health Promotion Officer/Drugs  
Services Coordinator, North Eastern Health Board and Member of  
NCAOP Healthy Ageing Consultative Committee***

# **Making Injury Prevention a Priority in Canada**

*Dr Robert Conn, Founder, President and CEO, SMARTRISK, Canada*

## **Introduction**

The aim of this paper is to set out the work underway to develop a national strategy for injury prevention in Canada; to highlight the size of the problem in Canada; and to describe the logic behind some of the arguments being used to mobilise key decision-makers. Firstly, some facts about Canada and about SMARTRISK.

### ***Canada***

Canada has a population of almost 32 million. It has ten provinces and three territories covering an area of 9,220,970 square kilometres and six time zones. It has no national strategy for injury prevention.

### ***SMARTRISK***

SMARTRISK is a national charitable organisation founded in 1992 and is now the recognised national leader in injury prevention. It is dedicated to reducing the incidence of serious injury in Canada. The underlying philosophy of the organisation centres on the understanding that life is about taking risk and the realisation that if people learn to see the risk in their lives and learn to manage that risk in the smartest way possible, there is great benefit.

SMARTRISK is funded through public/private (60/40 per cent) partnerships. Public sector partners include Health Canada, Department of National Defence (DND), Coast Guard, Heritage Canada, Transport Canada, and numerous provincial governments. Private sector partners include Royal & SunAlliance Insurance, Ford, Bell, Canadian National (CN), Hydro One, and Manulife.

We have been working with the Insurance Bureau of Canada since autumn 2002 to promote the need for an injury prevention strategy and to produce the background materials to support federal, provincial and territorial government action.

## **Injury prevention**

There are two broad areas of injury prevention:

- unintentional injuries including motor vehicle crashes, falls, drownings and poisonings
- intentional injuries including violence and suicide.

### ***Understanding injury***

It is important to get a clear understanding of injury, to demystify it. It is a diverse issue and one that is poorly understood by the public and policy-makers. All injuries result from one or more of the following:

- transfer of energy (chemical, electrical, kinetic, thermal, or radiation) in excess of the body's ability to cope
- lack of oxygen or heat.

Injury is a leading cause of death in children and the cause of 75 per cent of all teen deaths; this is the largest burden in terms of potential years of life lost. Among adults it is the leading cause of death up to age 44. Among older people falls account for 87 per cent of hospitalisation for unintentional injury over the age of 71 and 75 per cent of deaths. Falls account for \$2.8 billion in direct and indirect costs annually.

### ***Smart moves***

At SMARTRISK we have prepared a toolkit called Smart Moves to help older people reduce their risk of falling. The toolkit contains best practice information and suggestions for older adults to prevent falls in four areas:

- bone health
- exercise
- medication management
- home modifications.

We have also been involved in developing an advertising campaign to get the public to think about the issue of safety and risk in a different way. Until now, negative messages focusing on the consequences and the downside risk have been used. Research has shown, however, that positive messages, showing people what they



can do and what the benefits are, are more effective in changing behaviour. An important learning point from this is that any strategy should be based on real data.

You can find more information on our website, [www.smartrisk.ca](http://www.smartrisk.ca)

### ***Why focus on injury prevention?***

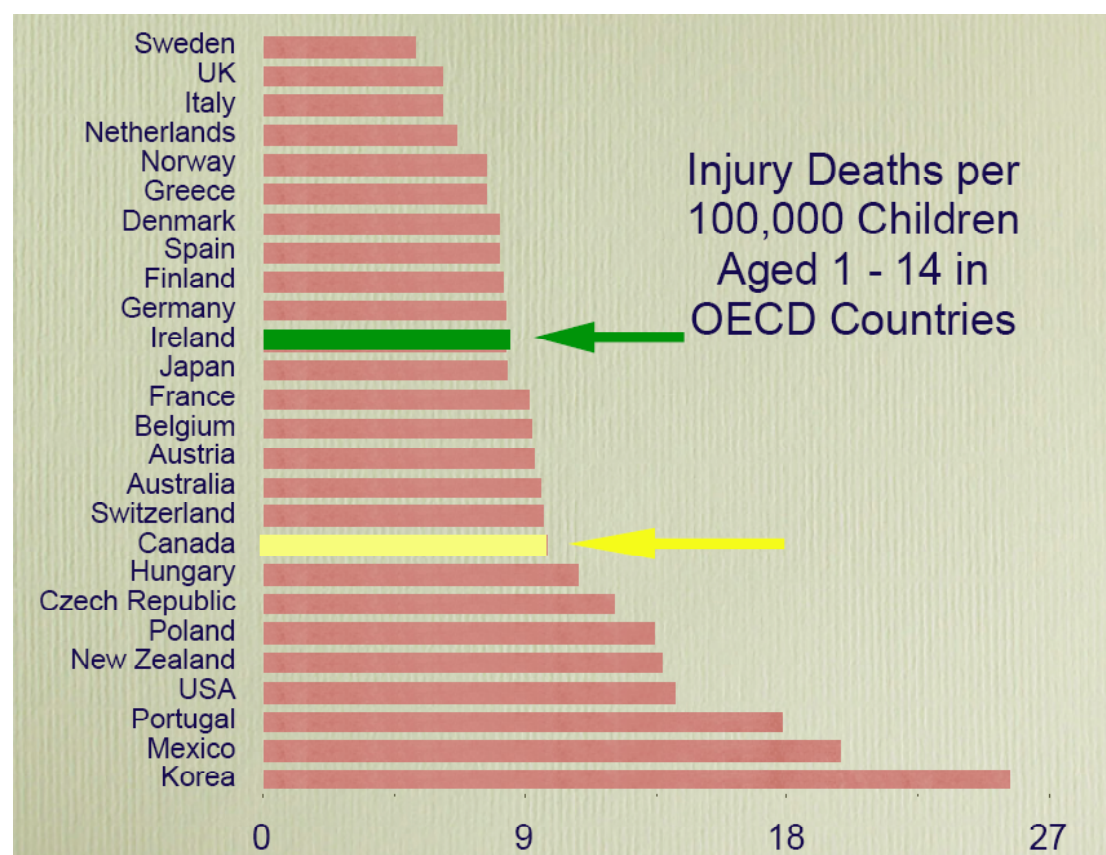
Injuries are not accidents. The vast majority are predictable and preventable. There is a huge economic burden (\$8.7 billion annually) associated with injury. Fifty per cent of this is direct cost, including hospital emergency admissions, hospitalisation, rehabilitation and long-term care. The other 50 per cent is indirect cost including loss of social capital, for example, insurance, and time off work.

### ***Causes of death from unintentional injury***

Injuries are the fourth leading cause of death in Canada. In 1994 there were 7,700 fatalities and 2.1 million people were injured – equivalent to 5,753 injuries every day.

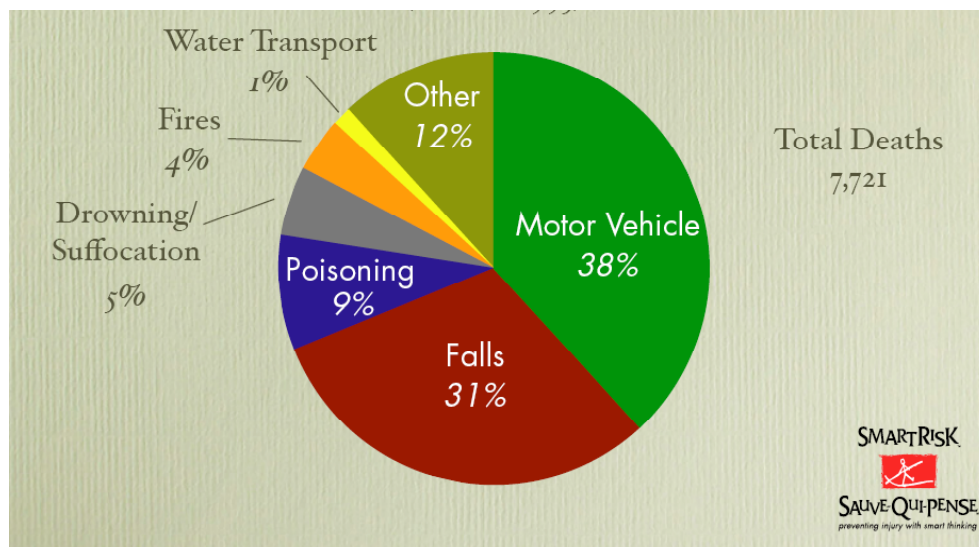
When we look at injury deaths per 100,000 children aged 1-14 years (Figure 11) in the countries that make up the Organisation for Economic Co-operation and Development (OECD), it is clear that Canada is lagging behind; it is in eighteenth place, some way behind Sweden, the UK, Italy, the Netherlands and Japan, for example, and just above Hungary, the Czech Republic and Poland. Ireland is in eleventh place.

**Figure 11: Canada lagging behind**



In 1995 in Canada there were a total of 7,721 deaths from unintentional injury. As Figure 12 shows, 38 per cent of these deaths were due to MVCs; 31 per cent arose from falls; 9 per cent from poisoning; 5 per cent from drowning/suffocation; 4 per cent from fires; 1 per cent from water transport; and 12 per cent from other causes.

**Figure 12: Causes of death from unintentional injury, Canada 1995**



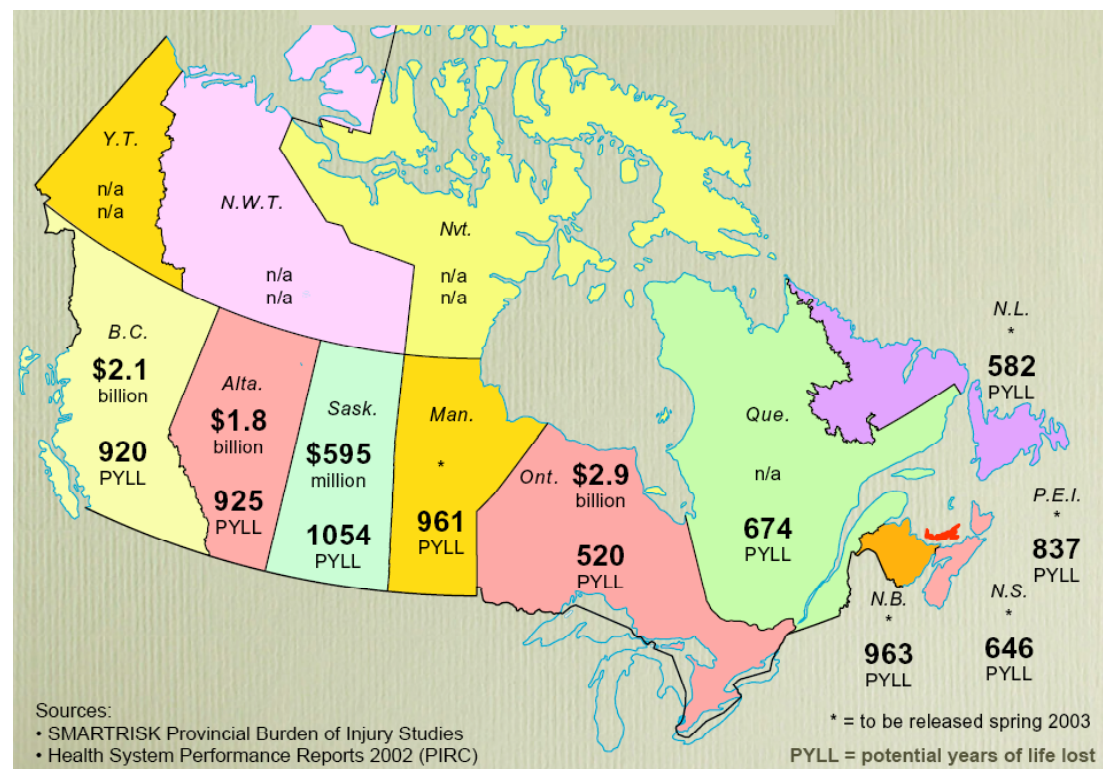
### *Cost of injury*

The total economic cost of these deaths and injuries was \$4.2 billion in direct costs and \$4.5 billion in indirect costs. A substantial proportion of the costs associated with falls are direct costs: \$2,399 million compared to \$1,205 million in indirect costs. For MVCs indirect costs make up the major part: \$1,296 million compared to \$376 million in direct costs.

In the province of British Columbia the costs for treating injured older people was \$211 million. \$180 million or 85 per cent of this sum went towards treating older people who were injured in a fall.

The cost of injury can also be expressed as PYLL. Figure 13 shows the injury burden across Canada in terms of both financial cost and PYLL.

**Figure 13: Injury burden across Canada**



### *Population change and its impact*

The birth rate in Canada (1.5 children per woman) is currently below that needed to replace or maintain the population at its current size. With changes in life expectancy (current life expectancy in Canada is 79 years, a gain of five years over the last three decades), the median age of the population is increasing. The fastest growing age range is the eighty years and over group, which is expected to grow by 43 per cent by 2011.

With this greying of the population comes a greying of the workforce; the median age of the core labour force is 41.3 years, an increase of 3.2 years over the past decade. The labour pool is shrinking as there is a reduction in the population that is economically productive. This may lead to labour market shortages. There is a possibility, for example, of human health resource shortages. How will medical fields compete for scarce human capital? It is clear that sustainability is more about people than money.

## Strategy components

A national injury strategy is needed. There are four key components needed to build such a strategy:

- surveillance (including who is getting hurt and how are they getting hurt)
- research (currently there are very few injury prevention researchers)
- evidence-based programming (at present there is a lack of funding for evaluation, and for examining what works and how we might improve things)
- public policy.

The key elements of a national injury strategy are summarised in Figure 14. An effective strategy will include a clear vision, clearly defined goals, a clearly defined approach with guiding principles, clear strategic direction and priorities or areas of emphasis.

**Figure 14: Key elements of a national injury strategy**



## **Conclusion: the invisible epidemic**

Injury is an invisible epidemic. There are several factors that work to make it so. At present there is still greater interest in treatment than in prevention – partly because it is more ‘visible’. We need to focus on prevention rather than treatment. We need to get rid of the word ‘accident’; there are no accidents – injuries are predictable and preventable. The word ‘accident’ suggests an unavoidable act of fate and if viewed this way many people can go into denial as a method of coping, adopting the attitude that ‘it will never happen to me’. We need further research and access to relevant data. We need to research to understand how to prevent injury – if we do not have valid and reliable research data we cannot develop effective evidence-based programming. At present we lack a single classification system or taxonomy of injuries (we are currently working with the Center for Disease Control and the WHO on this). We also need training and education in injury prevention; it is an area that is overlooked at graduate and postgraduate level. Finally, to achieve what we need to achieve, we need resources.

# Older People and the World Report on Road Traffic Injury Prevention

*Dr Dinesh Sethi, World Health Organisation (WHO) European Centre for Environment and Health, Rome*

## Introduction

In this paper we look at six aspects of road traffic crashes and injuries:

- the size of the problem across the world
- differences between regions
- concerns in relation to older people
- risk factors influencing road crashes
- policy initiatives
- what the WHO is doing.

## The size of the problem

RTIs are a growing tragedy on a global scale. If we compare leading causes of burden of disease, as measured by disability adjusted life years (DALYs)<sup>2</sup>, in 1990 to the levels predicted for 2020, we see that RTIs will have moved from ninth to third place (Figure 15).

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<sup>2</sup> DALYs are defined as the sum of years of potential life lost due to premature mortality and the years of productive life lost due to disability.

**Figure 15: Trs in Ranking of Leading Cause of Burden of Disease and Injury (DALYs)**

1990		2020	
Disease or injury		Disease or injury	
1	Lower respiratory infections	1	Ischaemic heart disease
2	Diarrhoeal diseases	2	Unipolar major depression
3	Perinatal conditions	3	Road traffic injuries
4	Unipolar major depression	4	Cerebrovascular disease
5	Ischaemic heart disease	5	Chronic obstructive pulmonary disease
6	Cerebrovascular disease	6	Lower respiratory infections
7	Tuberculosis	7	Tuberculosis
8	Measles	8	War
9	Road traffic injuries	9	Diarrhoeal diseases
10	Congenital abnormalities	10	HIV

### ***On a global level***

RTIs are a huge global health problem because:

- 1.2 million people die every year from road traffic injuries
- RTIs account for 2.1 per cent of all deaths worldwide
- up to 50 million people are injured or disabled; the ratio of deaths to injuries is highest in older people.

### ***On a European level***

Across Europe RTIs are a huge public health problem. Around 127,000 die as a result of a road traffic injury every year and around 2.4 million more are injured or disabled.



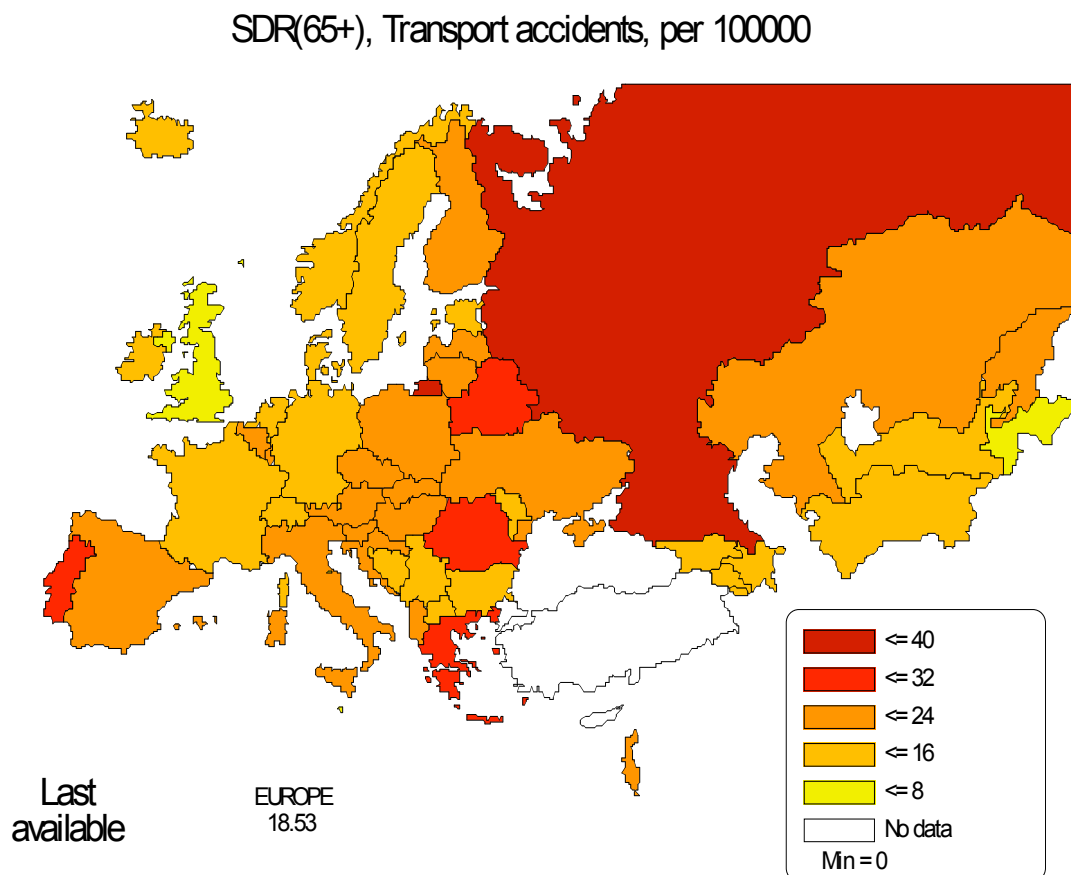
**Box 1: European road traffic injury statistics**

- One out of three deaths involves young people under 29 (about 43,800)
- Of these, nearly 80 per cent are men (about 33,600)
- 65 per cent of crashes occur in towns (over 1.3 million in total)
- One out of three deaths involves a pedestrian or a cyclist
- Costs in the 15 countries of the EU are about €180 billion per year (equivalent to 2 per cent of GDP)
- 11 per cent of RTI deaths are in people aged over seventy (14,950)
- Although not the leading cause of death in older people, older people are more likely to die, to be more disabled and to stay longer in hospital

**Differences across the WHO European Region**

If we look at a map of the WHO European Region (Figure 16) showing the 2002 mortality rates from road traffic injuries per 100,000 among people over 65 years of age, we can see how Ireland compares to other countries. This map also shows the inequalities in RTI death rates between different countries in the Region.

**Figure 16: mortality rates from road traffic injuries per 100,000 among the 65 years and over group**



There are large differences across Europe. On average, the countries in the Commonwealth of Independent States (CIS)<sup>3</sup> have a level of mortality per 100 000 (26.5) for the 65 year olds and over that is more than twice that of the EU15<sup>4</sup> average (13.6 per 100,000). Individual country variations range from 6.7 per 100,000 in the UK, 10.7 per 100,000 in Ireland and 32.6 per 100.000 in the Russian Federation.

In the European Region and in the EU25 countries<sup>5</sup> there has been a general decline in mortality rates since 1980 – in the most part due to improvements in hospital care, but also because of better preventive efforts. In the past, the difference has been even greater with the CIS having a mortality rate up to three times greater than the rate in the EU countries. It is generally believed that the reduction in mortality in the

<sup>3</sup> CIS members constitute Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

<sup>4</sup> The 15 countries of the European Union before 1 May 2004.

<sup>5</sup> The 25 countries of the European Union after 1 May 2004.

late 1990s in the CIS was not achieved only through preventive measures, however, but rather reflected a general decline of traffic activities due to economic crises. Since then, over the past six years, there has been an increasing trend in RTI mortality in CIS countries due to economic prosperity and a failure to introduce effective road safety policies.

**Box 2: A new European policy approach: The Swedish 'Vision Zero'**

In 1997, Sweden's Parliament adopted 'Vision Zero', a new road safety policy based on four principles:

**1. Ethics**

Human life and health are paramount. They take priority over mobility and other objectives of the road transport system.

**2. Responsibility**

Providers, enforcers and users of the road transport system all share responsibility for road safety.

**3. Safety**

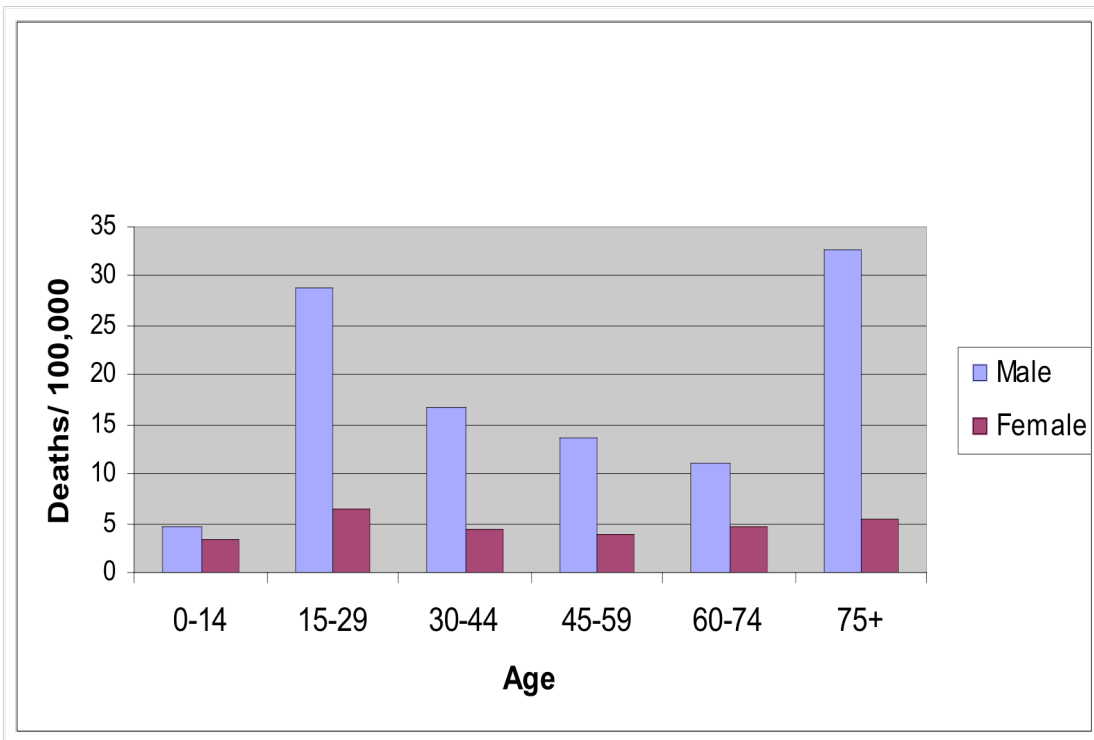
Humans make errors. Road transport systems should minimize the opportunity for error and the harm done when errors occur.

**4. Mechanisms for change**

Providers and enforcers of the road transport system must work together and do their utmost to guarantee the safety of all citizens.

In Ireland in 2001 there were 411 deaths as a result of RTIs. Figure 17 breaks this down by age group and by sex. Those at greatest risk of dying are men aged 75 years and over.

**Figure 17: Death rates by age and sex in Ireland from road traffic injuries 2001**



## Concerns in relation to older people

From a public health point of view, the problems facing older people relate to the fact that their mobility out of doors may be restricted because the transport system has failed to meet their needs, as well as the problem of road safety. Whereas young people are more likely to be involved in serious crashes, older people have the lowest crash rates but are more likely to have complications, a poor prognosis and a higher death rate from injury.

Older people are indeed vulnerable road users; they are more likely to be pedestrians, they are more frail and have a lower threshold for injuries. Pedestrian injury to death ratios are highest among the 70+ years group. The greatest proportion of pedestrian and bus passenger fatalities are among older people. Older people make up 10 per cent of injuries but 50 per cent of resources spent on healthcare for injuries (Polinder, S. *et al.*, 2004). They have longer periods of hospital stay, are more likely to be disabled at discharge and, as a result, their ability to live independently may be affected. They need a longer time to become fully functional and independent after an injury.

Preventing RTIs in this high-risk group should, therefore, be a priority. Short of providing door-to-door public transport, private cars may be the safest means of transport. We need to think of older people both as drivers, and empower them with medication reviews, eye tests etc., and as pedestrians, and invest in appropriate and accessible walkways and control the speed of drivers.

## **Risk factors influencing road crashes and severity of injuries**

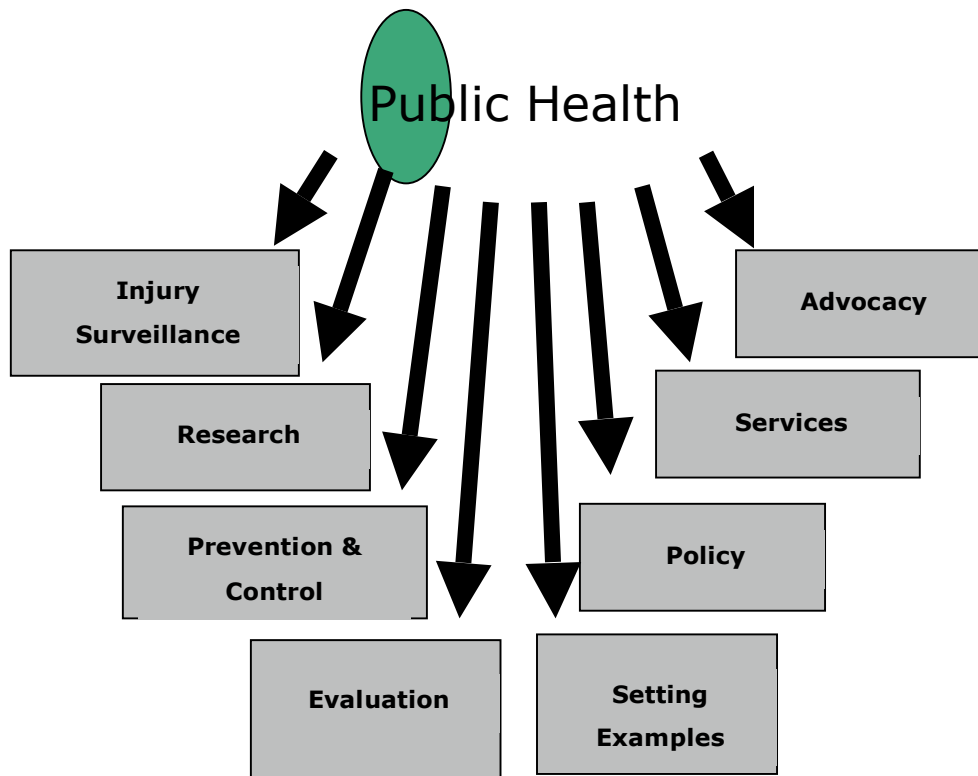
Factors that influence exposure to risk include economic and demographic factors, land use, travel modes and road design. Risk factors that influence crash occurrence include speed, alcohol, drugs and fatigue; the presence of vulnerable road users; the characteristics of the vehicle; and defects in road design. Risk factors that influence crash severity are human tolerance to injury; speed and use of alcohol and drugs; lack of use of seat-belts, child restraints or helmets; insufficient vehicle crash protection; and unforgiving roadside objects. Post-crash risk factors that influence the severity of injuries include the chain of medical care from pre-hospital to rehabilitation.

Speed is the leading killer. Pedestrians have a 90 per cent chance of surviving crashes at 30 kilometres per hour or below, but less than a 50 per cent chance of surviving impacts at 45 kilometres per hour or above. The probability of a pedestrian being killed is multiplied by eight as the impact of the car increases from 30 to 50 kilometres per hour. For the occupants of a car, an increase in speed from 32 to 80 kilometres per hour raises the risk of dying in a crash by twenty times.

## **Policy initiatives**

RTIs are a major but neglected public health problem requiring concerted multisectoral efforts for effective and sustainable prevention. Road safety should be an integral aspect of sustainable transport and part of the core business of the health sector. The important role that the health sector can play is outlined in Figure 18.

**Figure 18: What the health sector has to offer**



The time to act is now. We need to develop transport and land use policies that reduce exposure to road traffic injury risks. We should be shaping the road network for road injury prevention; improving technology of vehicles for crash resistance and protection of road users inside and outside vehicles; and we should be setting and enforcing legislation for road safety. We should also be delivering effective post-crash care.

Although RTIs are a well established health effect of transport, there are other major health effects of transport policy, including physical inactivity, air pollution, noise, psychosocial effects and climate changes. Taken together they represent an even higher burden of transport-related health effects. When developing transport policies all these health effects should, therefore, be taken into account.

As we noted earlier, RTIs cause some 127,000 deaths every year and 2.4 million injuries. They are the leading cause of death for children and young people between the ages of 5 and 29 years. In addition, the contribution of transport-related emissions to outdoor air pollution is associated with tens of thousands of premature deaths. Physical inactivity has been related to some 600,000 deaths every year. A substantial part of the European population is exposed to noise levels that not only

result in annoyance and sleep disturbance but may also interfere with children's learning skills.

Last, but not least, transport infrastructure is highly demanding in terms of space; the overall land use of one kilometre of motorway is estimated at up to twenty hectares.

For road safety there are five solutions with evidence of cost-effectiveness which should be adopted:

- speed control
- alcohol control
- seat-belt and child restraint use
- helmet use
- increasing visibility of road users.

### ***Policy recommendations for Europe***

WHO has five recommendations for policy:

1. Strengthen the role of the health sector as a champion of road safety.
2. Improve the mechanisms to implement what is known to be effective for road safety.
3. Consider speed as the single most important determinant for safety.
4. Strengthen the role of international organizations in preventing RTIs.
5. Control drink driving.

### ***A successful European case study: integrated transport and safety plan, Baden, Austria***

Today, Baden is one of the safest cities in Austria. RTIs and deaths fell by about 60 per cent between 1986 and 1999. Three quarters (75 per cent) of the road network was made part of a 30 kilometre per hour zone and residential streets were given an even lower limit. In total the following measures were put in place:

- construction of an urban through pass and roundabouts and area-wide traffic calming
- enlargement of existing pedestrian and cycling areas
- 30 kilometre per hour zones
- city bus lines, parking management and car parks
- strict enforcement of traffic rules and treating crash black spots.

## What the WHO is doing

Under a UN resolution, WHO was given the role as the lead agency to coordinate road safety activities worldwide. World Health Day on 7 April 2004 was held on the theme of road safety. This was a global event launched in Paris by President Chirac. The *World Report on Road Traffic Injury Prevention* and *Preventing Road Traffic Injury: A Public Health Perspective for Europe* were launched in over twenty countries in an effort to raise the policy profile. A global awareness campaign is also being conducted. A resolution at the World Health Assembly on road traffic safety and health was passed in 2004 which recommends that Member States should prepare a national strategy for road traffic injury prevention. The *World Report on Road Traffic Injury Prevention* presents a synthesis of the evidence and suggests how the burden from road traffic injuries could be reduced. Further information is available on our website:

<http://www.who.int/world-health-day/2004/en/>

<http://www.euro.who.int/transport/injuries>

[http://www.who.int/violence\\_injury\\_prevention/en/](http://www.who.int/violence_injury_prevention/en/)

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# Falls Prevention in Older People: Evidence Base and Best Practice

*Dawn Irwin, and Dr Dawn Skelton, Co-ordinator, Profane, England*

## Introduction

The aim of this paper is to look at the work done to date by ProFaNE into best practice in falls prevention – in particular in the area of assessment and management.

### ***ProFaNE***

ProFaNE is a four-year project that began in January 2003. It is a network of 25 partners including universities, manufacturers and research centres. It focuses on the issue of prevention of falls and improvement of postural stability amongst older people. Its ultimate aim is to increase knowledge and capacity in order to reduce falls. It aims to achieve this by putting in place evidence-based intervention.

It has developed four work packages:

- taxonomy or classification and coordination of trials
- clinical assessment and management
- assessment of balance function
- psychological aspects of falling.

Each package works by convening workshops that bring together experts and observers, running personnel exchanges, transferring technology and knowledge, setting up collaboration for future studies, sharing data, and working to develop evidence-based protocols and other documents which represent state-of-the-art statements on the topic area.

Centralised coordination, based at the University of Manchester, ensures that there is horizontal integration of the work packages.

The idea behind the whole approach is to engender joint working across national barriers, disciplines, specialities and sites. We do this in two ways: selected members attend workshops from other work packages; and we use a web-based project management system, maintained by the coordinating centre, to provide a way for members to communicate and to act as a user-friendly window for the outside world to access the work done.

Our website address is [www.profane.eu.org](http://www.profane.eu.org). You can also register at the website to become a Network Associate to a particular work package.

## **Work Package Two: clinical assessment and management**

The objectives of this work package are to:

- identify key individuals, societies and organisations across Europe that are instrumental in falls prevention
- facilitate the effective dissemination of evidence likely to influence service developments at national and local level
- derive consensus for assessment and management of fallers using the existing evidence base and knowledge
- develop a practical approach to the assessment of fallers using a variety of methods that can be translated into working models of practice in each country.

### ***Falls***

As several other papers have noted, falls are a major problem in the UK and Ireland. In the UK we have 11 million people aged 65 and over, and 28,000 women (who are particularly vulnerable to falls) aged over ninety. Fractures costs the NHS £1.6 billion a year; there is on average one hip fracture every ten minutes at a cost of between £12,000 and £15,000, and one wrist fracture every nine minutes at a cost of £480. Five hundred older people are admitted to hospital every day; 33 of them never go home. In the over 75s, falls are the leading cause of death resulting from injury.

### *Fit to fall?*

Ageing affects all of us – every year we lose 1-2 per cent in functional ability in the following areas:

- strength
- power
- bone density
- flexibility
- endurance
- balance and coordination
- mobility and transfer skills.

Sedentary people are more at risk to fractures, and there are more 'long lies' among sedentary people. Sedentary behaviour accelerates the loss of performance. No standing activity leads to active loss of bone and muscle. For example, after one week of bed rest strength drops by approximately 20 per cent and the bone mass density in the spine reduces by about 1 per cent. Most nursing home residents spend around 80-90 per cent of their time seated or lying down.

### *Who else is at risk?*

A third of all people aged 65 and over, and half of all people aged eighty and over will experience a fall. Forty per cent of nursing home admissions are due to falls and balance problems. According to the *Social Care Access to Research Evidence (SCARE) Briefing: Preventing Falls in Care Homes* (2004), 75 per cent of those living in residential care settings fall every year – on average there are one and a half falls per bed each year. A third of falls (35 per cent) result in serious injury; up to 8 per cent result in fractures. The incidence of hip fractures in residential care is greater than the incidence in the community.

### **Existing guidelines**

Several sets of guidelines already exist for falls risk assessment, interventions, and roles and responsibilities.

### *American and British Geriatrics Society guidelines on falls risk assessment*

According to guidelines published by the American Geriatrics Society (AGS) and the British Geriatrics Society (BGS), all older people under the care of a health professional should be asked about occurrence of falls at least once a year. All older people who report a single fall should be observed performing the 'get up and go' test. Any unsteadiness should lead to further fall risk assessment. All older people who report recurrent falls should be referred for a fall risk assessment performed by a clinician with appropriate skills and experience; this may necessitate referral to a specialist, for example a geriatrician.

The falls risk assessment should include the following:

- history of falls circumstances
- clinical assessment and review (individual risk)
- identification of acute or chronic medical conditions (including cardiovascular review) and medication review
- physical conditioning and/or history of rehabilitation/exercise programs
- education: health professional and patient/resident
- sensory evaluation (vision, neurological, lower limb sensation)
- environmental assessment and modification
- assistive device/walking aid review
- continence management.

### *National Institute for Clinical Excellence guidelines on recommended interventions*

The following interventions when used in a multifactorial programme are set out in National Institute for Clinical Excellence (NICE) guidelines:

- home-based, individual, professionally prescribed exercise interventions to promote dynamic balance, muscle strengthening and walking
- group programmes based on Tai Chi type exercises or dynamic balance, and strength training and exercise as well as floor coping strategies.

There is some evidence to support home visits and home modifications for older people with a history of falling but this should be part of a multifactorial intervention.

Medication review, particularly for those on four or more medicines, can be effective, as can withdrawal of psychotropic medications, where feasible.

The following do not work:

- vision assessment and treatment alone
- education of staff without training in assessment and interventions
- aid modification or hazard modification alone
- restraints (they can lead to injuries and death)
- exercise for those with severe dementia or confusion
- education about risk in those with severe dementia or confusion
- exercise that is not balance and strength oriented.

In the UK Government's *National Service Framework for Older People* (2001) the role of exercise as beneficial is recognised in the following standards:

- standard three – intermediate care
- standard five – stroke
- standard six – falls
- standard seven – mental health
- standard eight – promotion of health and active life in old age.

#### *WHO guidelines on roles and responsibilities*

WHO guidelines set out roles and responsibilities for those involved with older people:

#### **Emergency department medical staff**

- assess main risk factors and implement appropriate referral and advice
- arrange follow-up of older patients seen because of a fall and refer to a specialised out-patient hospital-based falls service, if available.

#### **Geriatricians (rheumatologists, orthopaedic surgeons, emergency department doctors)**

- individualise programmes in rehabilitation and out-patient packages
- review ward (hospital) environment
- identify reversible contributory factors and suggest evidence-based interventions

- investigate risk of osteoporosis and treat as necessary
- consider encouraging patients to use hip protectors.

#### **Primary healthcare team (primary care physicians, nurses, etc.)**

- include individualised risk assessment in care package for frail older people
- encourage patients to be physically active
- in residential care facilities, review medications and physical activity of frail older people
- investigate risk of osteoporosis and treat as necessary.

#### **Managers and staff of residential care facilities for older people**

- organise exercise sessions or physical activity options for residents
- review the home environment for safety
- assess residents after falls for reversible risk factors
- encourage residents (and staff) to use hip protectors
- appoint a delegated falls coordinator for each nursing home.

#### **Sports and physical activity departments and centres**

- train specialised exercise instructors in effective falls prevention exercise to allow referrals
- make Tai Chi sessions and other appropriate activities available in community settings
- promote leisure activities involving physical activity.

#### **Health authorities**

- implement a falls risk assessment for all older patients being admitted to hospital
- implement a protocol for reviewing reversible risk factors for high risk individuals
- implement prompt questions in any data collection practice (computer-based prompts for risk)
- implement a specialised out-patient hospital-based fall service, coordinated by a named individual (falls coordinator)

- support the role of the physiotherapy services involved in the rehabilitation of a faller
- consider falls and fracture prevention as a joint strategy
- review physical activity strategy to include opportunities for fallers.

### **Central Government**

- prioritise falls prevention in national targets for injury prevention
- prioritise falls and fracture prevention in health provision for older people
- prioritise health promotion information and policy on exercise and physical activity amongst older people
- endorse and advocate the inclusion of injury prevention issues in pre-retirement courses
- support nationally recognised training in delivery of appropriate forms of exercise/physical activity.

### ***Exercise***

A remark we hear often in relation to physical activity is, 'My residents are too frail'. Research (Haskell, 1994) shows that the lower the baseline level of physical activity (the 'dose'), the greater the health benefit (the 'response') associated with an increase in physical activity (this relationship is sometimes referred to as the 'dose response curve'). According to Haskell, exercise can be adapted for any medical condition.

#### ***Exercise/physical activity interventions for residential settings***

One example of a successful activity intervention in a residential settings is the 'park and dine' programme – residents leave their wheelchairs outside the dining room and walk with an aide to a table.

There is a wealth of evidence to show that physical activity can help to reduce the risk of falling (Graafmans, 1993).

According to data presented at the second National Conference on Falls and Postural Stability at the Royal College of Physicians, London, in 2001, exercise on

the Balance Master machine shows improvements in four weeks in the following areas:

- ankle strength
- lower limb power
- balance
- balance confidence
- timed 'up and go'.

There is also evidence that chair-based exercises are effective (strength and power exercises: Fiatarone, 1990, 1994, and Skelton 1995, 1996; flexibility and functional ability exercises: McMurdo, 1993, and Skelton 1995, 1996). Exercise has also been found to be effective for arthritic pain (Hochberg, 1995), depression (McMurdo, 1993) and rehabilitation following hip fracture (Nicholson, 1997).

#### *Recommendations for group exercise*

Exercise works best within a multifactorial intervention programme. The exercise should include balance, low impact aerobic and strengthening components, for example safely adapted Tai Chi, targeted home exercise with one-to-one input, exercise for coordination, reaction, power, gait, function and floor work. To be effective the exercise must be specific, regular (once or twice a week) and progressive, and it must exceed 15 weeks duration for those at risk of falls and nine months for those who are already falling regularly. Exercise must be provided by trained staff, whether it is a physiotherapist, a chair-based exercise leader, a postural stability instructor or an exercise instructor for seniors.

#### ***Hip protectors***

Hip protectors have been proven to be effective in preventing fractures and are recommended in residential settings, for people with low bone density and for those prone to falls. They also provide safety during exercise and their use can lead to improvements in confidence. Uptake, however, remains at a low level, although it should improve with staff education.



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**Parallel Sessions:**

**Best Practice**

## **Workshop 1**

### **Promoting Road Safety and Mobility**

*Chair: Forbes Vigors*

# **Dublin City Council Strategy for Accident Reduction**

*Michael Byrne, Road Safety Development Officer, Dublin City Council*

## **Introduction**

As a result of road traffic crashes in Dublin City during the five-year period 1991 to 1996 there were on average 38 deaths and 2,500 injuries per year with a community cost of some €290 million. During the three-year period 1996 to 1998 26 people aged 65 and over were killed in Dublin City, 19 of them pedestrians; a further 194 were injured, 124 of them pedestrians.

In September 1998, as part of its strategy for accident reduction, Dublin Corporation (now Dublin City Council) launched its road safety plan for 1999 to 2003. This was the first such plan in the country devised by a local authority. It was based on the four 'E's' principle:

- engineering
- education
- encouragement
- enforcement.

The aim was to reduce accidents by 20 per cent over the five-year period.

## **Engineering measures**

A variety of engineering measures were carried out during the life of the plan. These included road safety audits and the introduction of 'environmental traffic cells' (areas that have been specially designed to reduce through traffic and effect a reduction of speed). Other measures included increased traffic calming; improvements at streets and junctions and at the ten worst accident sites; and the introduction of new pedestrian facilities. These pedestrian facilities included the installation of countdown timers – displays that show the actual waiting time at crossings. The time available for crossing was also increased and tactile pavements were installed at crossings to facilitate visually impaired pedestrians. The overall aim of these types of measures is to modify pedestrian behaviour and so reduce the number of incidents and injuries.

## **Education and Encouragement Measures**

As part of the road safety plan, a campaign entitled 'Older and Wiser Awareness Programme' was designed to raise awareness levels of road safety among older drivers and pedestrians. The campaign also created awareness among other drivers to take extra care and courtesy when encountering older road users. A number of internal and external focus groups of older drivers and pedestrians were formed to consider plans of action that would focus on specific problems for the older road user. Other measures included engineering and enforcement strategies. The main focus was on a planned media that would include education initiatives specifically targeting pedestrians and drivers. The campaign included 12 weeks of poster advertising (launched in August 1999) and the distribution of over 50 thousand advice leaflets. In addition, just over 15,000 reflective armbands were distributed to pedestrians.

### ***Practical road safety education initiatives***

As part of the strategy, three pilot Driver Refresher courses were held and advertised at the Third Age Expo '99. Participants ranged from 58 to 76 years old. Over a three-day period 102 drivers took part in the courses at the Traffic Education School. The courses were based on the Refresher Driving Advantage courses that are held in the UK using group discussions and video presentations. The courses covered the following:

- health and fitness to drive
- planning for the future
- vision and visibility
- changes in road traffic law
- insurance and the mature driver
- practical driving assessment.

Presentations were given by representatives of An Garda Síochána, the Optometrists Association of Ireland, the Irish Insurance Federation and by a health and safety specialist, advanced driving instructors and road safety staff. The practical element of the course, a driving assessment, covered the following:

- a briefing (about a pre-determined route)
- driver controls (moving off, stopping)
- road procedure (junction assessment)

- judgement (spatial, distance)
- traffic signals (junctions, crossings)
- positioning (on bends, straight, junctions)
- reversing (left/right)
- safety/controls/courtesy/attitude/behaviour.

Participants completed a questionnaire at the end of the sessions. From this we found that less than 49 per cent of those who took the course believed that drivers over the age of seventy should take a driving test, and 90 per cent believed that experience was more important than age. However, 95 per cent agreed that a refresher course would benefit older drivers. Over 70 per cent said they found judging speed and distance difficult.

Feedback on the course was largely positive; 69 per cent said that they found it effective although 75 per cent said that it could be improved in some way. Most (85 per cent) agreed that the course should be held on a regular basis. The practical element of the course was popular – 95 per cent said that it was most beneficial.

In discussions during the sessions almost all participants agreed that speed, aggression and lack of enforcement were the major concerns to them as older drivers. Findings from the questionnaire show that 75 per cent agreed that young drivers get frustrated at older drivers.

## **Overall evaluation: reduction in fatalities and injuries**

Comparing the number of deaths and injuries from road traffic crashes in the three-year period before the road safety initiatives (1996 to 1998) with the number after the initiatives in the three-year period 1999 to 2002, the number of people aged 65 and over involved in fatal crashes was down from 26 to 10 (all 10 were pedestrians) and the number injured was down from 194 to 85 (60 of whom were pedestrians). In Dublin City there was a 52 per cent reduction in accidents over the five-year period since 1997; the corresponding national figure is 22 per cent.



# Road Traffic Crashes and Speed

*Eamonn Sayers, Regional Activities Executive, National Safety Council*

## Introduction

The NSC promotes road and fire safety through education programmes, media campaigns and community activities.

Despite the decline, road traffic crashes are still a major cause of death in Ireland. If we compare road serious incidents to other serious incidents (Figure 2 below) we can see the size of the problem more clearly. In Ireland in 2002 there were 1,828 road serious incidents (including 411 deaths) compared to 335 reported rapes, 171 armed robberies, 61 armed or aggravated burglaries, 58 fire deaths, and 52 murders.

## Speed

Speed is a major cause of road traffic crashes and can be considered in terms of the space you have in which to stop. The following are the stopping distances at a range of speeds for a car with roadworthy tyres on a dry road surface:

- 30 km/h – 3 car lengths (12 metres)
- 60 km/h – 9 car lengths (36 metres)
- 80 km/h – 13 car lengths (53 metres)
- 100 km/h – 24 car lengths (96 metres)

The faster you drive, the harder you hit, the more damage you do – speed kills.

# **Older Road Users: More Sinned Against Than Sinning**

***Prof. Desmond O'Neill, Department of Medical Gerontology, Tallaght Hospital and Trinity College Dublin***

## **Introduction**

Road traffic injuries are not a major cause of death for older people. However, relative to their proportion of the overall population, they are over-represented in the traffic death statistics. Older pedestrians in particular are a high risk group when it comes to road injury and death. This is mainly because older people are more likely to be physically more frail. Given the same type of impact, an older person is more likely to be injured or killed than a younger person.

### ***Older people as pedestrians***

Of most concern is the fact that older people suffer in this way despite being the most sensible road users. Research from the Department of Medical Gerontology at Tallaght Hospital, Dublin, shows that older people are less likely to be killed or injured while crossing a road when their view is obstructed by another car or when the light is poor. This suggests that older people use the safest possible strategies as pedestrians.

### ***Older people as drivers***

There is a widespread misconception that older drivers are a threat to traffic safety. Generally speaking, older drivers have the lowest crash rates of all age groups but, because of their frailty, have higher injury and fatality rates. Older drivers face different types of crashes than younger ones. They experience relatively more crashes in complex traffic situations, for example at intersections, and relatively fewer through lack of caution, for example through speeding or careless overtaking. Injury patterns also differ, partly because of differences in the nature of collisions; older people suffer more fatal chest injuries, for instance, than younger drivers.

## **Prevention**

### ***Targeting other road users***

It is the speed and inconsiderate behaviour of other people which kills and maims older pedestrians. There is, therefore, no point in aiming road safety campaigns at older pedestrians. Any preventive measures need to be aimed in the first instance at drivers (in particular those who drive commercial vehicles) to encourage them to keep to moderate speeds and to be mindful of pedestrians.

### ***Improving road design***

Another important consideration is the design of the road infrastructure to better suit road users of all ages, including the vulnerable road user. Many rural roads and roads in small villages do not have footpaths and pedestrian crossings may be set at timings that do not allow older people to cross with safety. As advocacy for older people develops in Ireland, the design of the road environment should be targeted.

### ***Mandatory screening of older drivers***

The private car can be more important for older people than for those in other age groups because of the mobility it provides. Many people continue to drive until they are very old. For some, driving may be their only option for mobility as certain illnesses can affect ability to walk or to use public transport before affecting ability to drive.

While it is accepted that certain groups of older drivers should not drive, such as those suffering from advanced forms of dementia, mandatory screening of drivers based on age is not recommended. Indeed, studies undertaken in Scandinavia and Australia show that it is associated with more deaths.

## **Conclusion**

Recent studies on ageing and transport have highlighted pedestrian safety as the main safety concern for older people. These studies have indicated that if good quality door-to-door public transport is not available for older people, then the use of private cars remains their safest option for getting around.

Improvements in pedestrian infrastructure, and interventions to support safe driving as long as possible for older people, are generally regarded as better investments for the safety and mobility of older people than attempts to stop them from driving. From a public health point of view, the most serious problem facing older people is the fact that their mobility out of doors may be restricted because the transport system has failed to meet their needs.

## Discussion: challenges and strategies

Much of the discussion that followed the workshop presentations centred on concerns about older pedestrians. Many contributors restated the need for the following:

- to encourage older people to use designated crossings rather than choosing to cross where drivers are not obliged to stop (thereby placing themselves in greater danger)
- to increase crossing times to facilitate older people
- to encourage pedestrians to wear high visibility clothing in all poor visibility conditions but particularly in rural areas where street and/or road lighting is poor
- to educate road users (pedestrians and drivers) about road etiquette (walking facing the oncoming traffic, being aware of pedestrians and their rights as road users etc.)
- to review, in the wider context of ageism, the reasons for subjecting older drivers to re-tests and medical examinations on the basis of age alone, given the evidence that exists about their safety record.

## **Workshop 2**

### **Fire and Burns Prevention Awareness**

*Chair: Dr Michael Loftus*

# **Fire Safety for Older People in Community and Care Settings**

***Pat Hunt, Assistant Chief Fire Officer, Westmeath County Council***

## **Introduction**

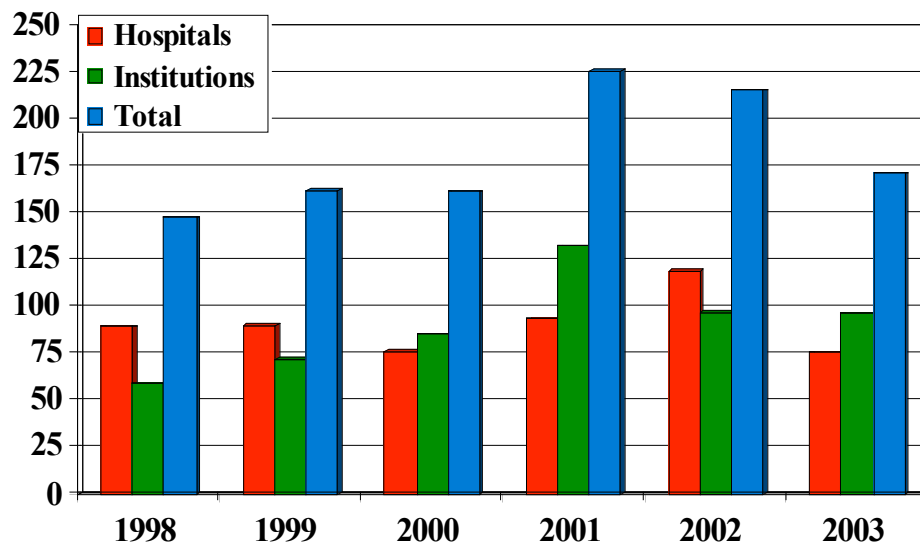
Every year in Ireland around fifty people die as a result of fire. Of these, about a third are aged 65 or over. As with all fire deaths, these are preventable. The aim of this short paper is to show how at risk older people are from fire, and to look at the ways in which we can prevent or reduce the number of fire deaths in both residential care settings and in the community.

## **Fire safety in residential accommodation**

With an ageing population, more and more older Irish people will be living in some form of residential care. This raises the issue of fire safety within residential care settings in Ireland.

There are many different types of residential care accommodation in Ireland including health board geriatric homes and hospitals, welfare homes and district and community hospitals, as well as private nursing homes and psychiatric hospital units. Data from the Department of the Environment, Heritage and Local Government (DoEHLG) (Figure 19 below) shows the number of fires in hospitals and institutions attended by the Fire Service in Ireland for the years 1998 to 2003. In 2003, for example, the Fire Service attended 171 fires, down from a peak of 226 in 2001.

**Figure 19: Fires in Hospitals & Institutions attended by the Fire Service in Ireland 1998-2003**



With the increase in the number of older people in our population in the coming years and a likely increase in the number of residential care establishments (we have already seen an increase in the number of private nursing homes in recent years), the number of fires in residential care units will increase. Fire prevention and fire safety are, therefore, key issues for the management of these residential care establishments.

The main issues in relation to fire prevention in residential care settings include:

- the number of staff to the number of residents
- training of staff
- ease of evacuation and the mobility of residents
- the age of the building and how well it has been maintained
- whether or not passive fire protection measures such as fire alarm/detection systems, sprinklers and extinguishers are in place.

### ***Preventive measures***

The time of highest risk to residents is night-time. Staff must be trained in night-time evacuation procedures and these must be practised regularly. It is important to evacuate mobile residents first, then those in wheelchairs, followed by those confined to bed. It is vital to consider horizontal and vertical evacuation as well as phased

evacuation. It is also important to ensure that staff are trained to deal with and move whatever medical equipment is in use – for example intravenous (IV) stands and assisted breathing apparatus. All staff should know the location of fire assembly points. These should be sheltered locations at some distance from the residence.

Some simple preventative steps that may be taken to reduce the risk of fire deaths and injury in a residential care setting include:

- ensuring that there are always sufficient numbers of trained staff to care for the residents, especially during sleeping hours
- ensure that a fire register is maintained and updated regularly
- train all staff and residents on evacuation procedures in the event of fire
- maintain all fire safety equipment annually and inspect regularly
- be vigilant to the threat of fire during repairs and refurbishment
- have all electrical systems inspected every five years by a trained electrician, Registered Electrical Contractors of Ireland (R.E.C.I.) Approved
- install a monitored fire alarm/detection system and check it regularly
- consult with the local fire officer or fire service in your area.

### ***Rosepark Nursing Home fire, Scotland***

Failure to address these issues could lead to a serious loss of life, as was the case in the fire at Rosepark Nursing Home in Uddingston, North Lanarkshire, on 31 January 2004. The investigation into the fire stated that a simple fuse and a short section of bare electric wire were the main causes. The fire started when two laundry machines were automatically switched on together, overloading an electric cable. A short section of bare electric wire within the fuse box was arcing electricity on to the metal case, eventually building up a temperature high enough to ignite the surrounding linen. The resulting flames ignited two foam-filled chairs near the cupboard. The intense fire that resulted built up enormous pressure in the hall, forcing thick black smoke under those bedroom doors that were shut. This caused the deaths of 14 people. While nothing has emerged to suggest there was anything wrong with the alarm, staff reported initially that the fire was in the lower rather than upper floor of the two-storey building.



## **Community fire safety**

Community fire safety initiatives have been shown worldwide to reduce fire deaths. These initiatives involve the Fire Service working directly with high-risk groups such as older people to increase awareness of fire safety, and working in partnership with all stakeholders involved in caring for older people.

The DoEHLG recommended in its 2002 review of the Irish Fire Service that this approach be adopted. As yet, however, no work has taken place to develop a national community fire safety initiative or framework and no funding has been set aside to do so. Each of the 37 local fire authorities currently offer advice in so far as their budgets and staffing will allow.

It is hoped that, should funding be made available, some of the following could be put in place:

- fire alarms/smoke detectors to be installed in the private houses of older people, especially in rural communities and high-risk areas
- the Fire Service to work with public health professionals, day care groups and voluntary agencies in high-risk areas to minimise fire in the community
- the Fire Service to work with public health staff to promote health and safety in the homes of older people.

## **Summary**

Fire deaths are preventable. A structured approach to fire safety is needed in all places in which older people live, whether in their own homes or in residential care settings. There is currently a lack of resources and direction in community fire safety nationally as well as a lack of personnel to liaise directly with the service providers. This must change in order to secure the safety of the growing number of older people in our communities.

# Fire Safety in the Home of the Older Person

*Mary Ryan, Fire and Safety Officer, Southern Health Board*

## Introduction

You are most at risk of dying or being injured as a result of a fire if you are aged over sixty; you have a disability; you are a man; it is winter; or you have a faulty or no fire alarm. Common causes of fires in the home include smoking, cooking and using candles. You are also at greater risk if you have been drinking alcohol.

The 'Ageing with Confidence' initiative is about keeping older people well and supporting older people at home. As part of the initiative, we give training to multi-disciplinary teams including Public Health Nurses, Home Helps and carers about fire safety. The aim of this short paper is to summarise the key elements of this.

## Fire safety: what you need to know

There are five key elements to fire safety:

- prevention
- communication
- evacuation
- containment
- extinguishment.

The basics of fire chemistry are heat, fuel and oxygen. Potential sources of ignition include the following:

- smoking
- arson
- household tasks
- equipment
- lightning
- candles
- open fires.

## **Fire precautions**

General fire precautions include: making sure you have a means of escape; regularly disposing of any combustible materials; making sure that any textiles you have (curtains, furniture coverings etc.) are flame retardant; having a smoke alarm fitted; and installing fire fighting equipment (including, for example, a fire extinguisher and fire blanket).

If you are a smoker or you live with a smoker, designate a room for smoking. Use metal ashtrays and bins and check them regularly.

Precautions against arson include removing rubbish and waste and making sure stores and outhouses are secure.

## **Discovering a fire**

On discovering a fire, raise the alarm – call the Fire Service on 999, or 112 if you are using a mobile phone. Leave the room immediately. Warn others in the building. Close all doors. Move quickly. Assemble at a distance from the building – do not re-enter.

## ***Using fire extinguishers***

Use a fire extinguisher after raising the alarm and only when it is safe to do so, i.e. when the fire is small and when your exit route is safe. Remember to always keep your back to the door.

There are four main types of fire extinguisher, each suitable for certain types of fires:

- water
- foam
- carbon dioxide
- powder.

On fires involving paper, wood, textile and fabric, it is safe to use a water, foam or powder fire extinguisher. For fires involving flammable liquids, it is safe to use foam, carbon dioxide or powder extinguishers. For fires involving flammable gases, a powder extinguisher is best. For electrical hazards, a carbon dioxide or powder

extinguisher is recommended; and for vehicle protection a foam or powder extinguisher is best.

## **Summary**

The golden rules of fire safety are as follows:

- prevent fires before they happen
- install smoke alarms
- ensure every resident knows what to do in the event of fire
- call the Fire Service as quickly as possible
- encourage practice drills and discussion
- know the location of the nearest telephone.

# **Accident Prevention: Northern Ireland Strategy and Good Practice**

*Janice Bisp, Manager, Royal Society for the Prevention of Accidents*

## **Introduction**

The Royal Society for the Prevention of Accidents (RoSPA) is a registered charity established over eighty years ago. We provide information, advice, resources and training, and are actively involved in the promotion of safety in all areas of life – at work, in the home, on the roads, in schools, at leisure and on (or near) water.

RoSPA's mission is to enhance the quality of life of all by exercising a powerful influence on accident prevention. We aim to:

- campaign for change
- influence opinion
- contribute to debate
- educate and inform.

RoSPA Northern Ireland has long been established in Belfast where we provide information, training and support services for home safety, road safety, playground safety and occupational safety and health.

Based on attendances at Northern Ireland hospital emergency departments in 2000, we know that 41 per cent of all injuries happen at home; one in five or 20 per cent are road traffic injuries; 17 per cent happen during leisure activities; 15 per cent take place at work and 5 per cent at school; the rest (2 per cent) happen elsewhere.

## **Home accident prevention strategy**

In Northern Ireland every year more than seventy people die in home accidents and at least 70,000 visit their local hospital emergency departments seeking help. (It is estimated that of every seven people who attend because of a home accident, one person is admitted to hospital overnight.) Many of these deaths and injuries are preventable and the benefits of prevention are clear and quantifiable in terms of health (the potential to save lives and to improve quality of life) and in terms of

economic costs (the cost of acute care and continued community support required after hospital discharge).

To address the issue of home safety, RoSPA developed the NI HAP Strategy alongside the Department of Health, targeting all age groups but particularly children and older people. The aim of this strategy is to reduce the number of accidental deaths and serious injuries in the home. It has three main goals:

- to promote awareness of key areas
- to map responsibility
- to stimulate effective intervention.

There are local HAP groups throughout Northern Ireland, affiliated to RoSPA. These are made up of representatives from Environmental Health, Health Promotion, the Fire Service, the Housing Executive and individuals with an interest in accident prevention in the home.

### ***Specific targets***

In implementing the strategy we aim to reduce the following:

- home accident deaths by 15 per cent (all ages)
- home accident admissions by 30 per cent (all ages)
- child injuries at home by 20 per cent;
- accidental poisoning admissions by 20 per cent;
- falls in older people by 25 per cent
- injuries from accidental house fires by 10 per cent.

## **Fire**

### ***2004 Fire Safety Campaign***

Smoking in bed or in a chair and falling asleep is the number one cause of fire deaths affecting older people (the second most common cause is electrical and the third most common is chip pans). RoSPA ran its 2004 Fire Safety Campaign on the theme of 'No Smoke Without Fire'. The poster portrayed smoking in bed with the strap line, 'Just another way to smoke yourself to death'.

## **80, Not Out**

We run Save Our Seniors (SOS) events and one of the sessions is often a drama including safety messages delivered in a fun way. It is tailored to include fire safety, bogus callers, falls prevention and other issues specific to older people.

### ***Electric blanket safety check scheme***

Electric blankets cause between 800 and 1,000 fires in the UK each year, with nearly twenty deaths and two hundred injuries; most people affected are aged over sixty. Recent checks on electric blankets in Northern Ireland showed that almost 70 per cent of them fail safety standards and could lead to fires. A recent survey revealed that more than one third of electric blankets are over 15 years old.

RoSPA has been running a campaign in Northern Ireland to root out these dangerous electric blankets. We suspect that some blankets are never taken off the bed and so people are unaware that they have become worn or damaged. Electric blankets need to be checked at least every three years.

RoSPA coordinated a project with funding from the Department of Trade and Industry (DTI) and the Department of Health, Social Services and Public Safety (DHSSPS), to train a specialist electrical engineer to run blanket safety clinics. Sessions are held at local authorities, community groups and other organisations. People bring their blankets to these sessions for free testing and for advice on the correct use of electric blankets. The testing service was made available to organisations throughout Northern Ireland from July 2004 for a daily charge of £290.

### ***Training, advice and workshops***

RoSPA would welcome the opportunity to extend access to their services throughout Ireland if the interest and support is there. For further information about our accident prevention work, consult our website, [www.rospace.com/ni](http://www.rospace.com/ni) or contact Janice Bisp, [jbisp@rospace.com](mailto:jbisp@rospace.com).

## **Discussion and challenges**

The discussion that followed, chaired by Dr Michael Loftus, identified the following:

- the need for funding for a national fire prevention strategy
- the benefits of a partnership approach in addressing the issue of fire safety and prevention
- the need to increase awareness and knowledge of fire safety and prevention issues, and strategies both in the community and in the residential care setting.



## **Workshop 3**

### **Falls Prevention Projects and Services**

*Chair: Dr Catherine Blake*

# **Falls Prevention Project at Baltinglass District Hospital, Co. Wicklow**

***Evelyn Barry, Director of Nursing***

## **Introduction**

Falls, as we know, are a main cause of injury in older people and at least 10 per cent of older people who fall sustain a serious injury. Repeat falls are common in older adults. The consequences of a fall for an older person are psychological as well as physical. Prevention of falls is not only possible, it is essential.

In 1998 staff at Baltinglass District Hospital, Co. Wicklow began a falls prevention project. The aim was to develop and implement a falls prevention programme in the hospital in order to reduce the number of falls and resultant injuries experienced by patients and to improve safety awareness and safety behaviour.

The specific goals of the project were to:

- complete and document accident data for older people (those aged 65 years of age and over) for a period of one year (1 June 1997 to 31 May 1998) in order to have baseline data to monitor trends
- train all staff in the awareness of falls risks and prevention methods
- assess and rectify environmental risk factors
- compile and compare figures from 1997-1998 (pre-falls prevention programme) with documented falls among older people from October 1998 to October 1999
- take measures where possible to reduce the risk factors.

## **Findings**

### ***Examination of documents***

We found that in the one-year period from 1 June 1997 to 31 May 1998 there were 89 documented incidents:

- 66 incidents required no further action
- 14 incidents resulted in minor injuries

- eight incidents resulted in the patients sustaining fractured femurs
- one older person sustained a fractured humerus.

The records show that seven out of the eight patients who had fractured femurs had fallen before.

### ***Staff Survey and Internal Safety Audit***

To assess the environmental risks in the hospital we did two things: we conducted a survey among staff seeking their views on environmental risk factors; and we conducted an internal safety audit.

The staff survey identified many risk factors including the following:

- highly polished/slippy floor surfaces
- inadequate lighting on corridors
- furniture on wards and corridors (including wheelchairs and hoists) causing an obstruction
- lack of handrails (on corridors and in bathrooms)
- loose mats on bathroom floors
- chairs too low or too high, or lacking armrests
- beds too low or too high
- bed tables with wheels (unstable when patients use them to prop themselves up)
- ill-fitting shoes and unsuitable soles
- unsuitable clothing (men's trousers too long).

Staff also noted 'at risk' times. These included bath times, times when nurses were scarce on the wards (coffee breaks, lunch time) and when patients sat outside in the garden unsupervised.

Staff suggestions for improvements included stripping and revarnishing those floor surfaces which had been identified as a 'slip hazard' (due to over-polishing); installing handrails in toilet and bathroom facilities; and making sure patients had shoes that fit well and had suitable soles. It was suggested that patients' families be informed about suitable footwear before the older person was admitted and that on admission the patient would be assessed to ensure that they have appropriate footwear.

The safety audit also made recommendations for changes on corridors, in the day room, and in toilets including the recommendation that handrails be installed on both sides of the corridors and that these rails should be easy to grip; that sink taps should have lever handles to allow ease of use; that each toilet should have its own alarm pull cord for emergencies; and that doors should be colour coded.

### ***Examples of actions taken***

Due to the diversity of hazards and risks identified it was decided to implement the recommendations in three stages. Actions taken included removing tables from the centre of wards – these were felt to be a hazard to patients using walking frames as they caused an obstruction; and repairing and replacing the nurse call system.

### ***Falls risk assessment***

Existing and newly admitted patients were assessed in terms of their falls risk and in terms of what measures could be taken to reduce this risk, for example, a vision and hearing assessment.

To assess patients we adapted a fall risk assessment scale to suit our needs. This scale allowed us to assess all patients as being low, medium or high risk of falling. If a patient was assessed as low risk staff would:

- explain to patient the importance of asking for help when walking
- ensure a call bell is to hand
- use a variable height bed and leave the bed in low position when the patient is unattended
- maintain frequent checks on patients
- use a chair of appropriate design for the patient.

If the patient were assessed as medium risk staff would do all of the above and put a fall hazard card on the patient's care plan. If the patient were identified as high risk, staff would do all of these plus provide the older adult with hip protectors.

## **Conclusion**

We have found that fall prevention works. The risk of falling can be reduced in a hospital setting and simple changes can have a big effect. Before the prevention strategy was put in place, 39 out of 156 patients in the hospital had fallen, and 59 per cent of those who fell sustained an injury, 21 per cent of them a serious injury. After the prevention strategy was implemented, 36 out of 172 patients fell and 39 per cent of them sustained an injury, only 3 per cent a serious injury.

We would recommend that all establishments in which older people live adopt a fall prevention strategy. Key to a successful strategy is identifying the risks and informing and training staff.

# **Development of Hospital-Based In-Patient Falls Prevention Service**

*Dr C.W. Fan, St James's Hospital*

## **Introduction**

During my formative years as an intern in geriatrics, I was told that there are four geriatric giants:

- instability
- immobility
- incontinence
- cognitive impairment.

One of these giants, instability, causes falls. A fall seriously affects the quality of life, and the mortality, of the older person. Up to half of older people can become fearful and anxious following a fall. The anxiety can cause them to limit their activities, for example, where previously they would have gone out to shop, they become housebound. This inactivity leads to weakened muscles, which in turn increases the risk of falling. In other words, this vicious circle leads to further falls unless the circle is broken. This is what we set out to tackle when we set up the Falls and Injury Prevention Service in the Medicine of the Elderly Department at St James Hospital, Dublin.

## **Tackling the problem**

We knew from experience that various disciplines within the hospital environment can tackle the problem of falls from their specialty viewpoint including the medic, the occupational therapist, the physiotherapist, the attendant who looked after the older person, the family, and the management of the hospital from a health and safety point of view.

With so many different stakeholders we felt that a coordinated falls injury prevention service located within the existing hospital service would have a significant role to play in preventing falls and in changing the culture of falls for hospital patients for the

better. Thus, we set up the Falls and Injury Prevention Service with existing hospital staff who were committed to this cause.

### ***Multi-disciplinary forum***

The multi-disciplinary team forum was set up in October 2002. The forum meets once every two months for one hour. The purpose of the meetings is to discuss the issues arising from the falls prevention programme from all perspectives. We also highlight new issues, discuss new initiatives, get and give feedback on initiatives, and pass on relevant information and updates on topics of relevance. One of the main benefits of the multi-disciplinary forum is the ability to speak with one cohesive voice within the hospital about issues relating to falls.

### ***Unpacking the black box***

Our first task in approaching the problem of falls was to open the black box and examine the steps that lead to the older person falling. We needed to look at falls risks, keep records of all falls in the Medicine of the Elderly wards, conduct proper assessments following each fall, and, if possible, target those at risk to prevent the first fall. Our aim was to dispel the air of inevitability about falling.

### ***The fracture prevention triangle***

We introduced the concept of injury prevention by using the fracture prevention triangle which consists of falls risk; bone fragility; and force of fall. We made it clear that we need to target all three areas in order to provide a balanced approach to injury prevention.

### ***Risk assessment pyramid***

We have also introduced the idea of the risk assessment pyramid which shows the journey of care that the patient makes. For example, those patients judged to be at risk of a fall are encouraged to wear hip protectors, are included in the falls education programme and enrolled in balance classes. Our aim is reduce the number of people in every ward at the hospital who appear in the 'injured' category at the top of the pyramid.

### *Education*

On the basis that information is power and that we can affect change through knowledge, we set up an education programme for nursing staff. The programme was run by senior medical staff and covered falls risk and osteoporosis.

### *Records and monitoring*

We keep records of falls in each ward in order to monitor trends. We found, for example, that the number of falls was greatest in acute wards and lowest in long-term care wards.

### *Post-fall assessments*

From January 2004 we set up a post-fall assessment programme. After each fall, the patient is assessed by the falls clinical nurse specialist who completes a detailed assessment looking at various areas including postural blood pressure, eyesight, shoes, environment and medications. Following the assessment, the nurse specialist makes the appropriate recommendations and referrals.

### *Fallers' identification cards*

Those patients at risk of falls are identified with a faller identification card placed at the head of the bed. This is to alert nursing and attendant staff that the patient will require more assistance when walking or transferring from bed to chair. We have found, however, that placing these cards on patients' beds means that when patients are not in bed attendants do not know their fall risk. We are, therefore, currently piloting wristband identifiers.

### *Hip protectors*

Our policy is to encourage the use of hip protectors. Although there was initial acceptance, take-up has been limited but is continuing to grow (it is currently around 80 per cent). Those wearing hip protectors are identified by a card attached to the bedside lockers. This is to remind patients as well as attendants to put the protectors on when they are dressing. There are ongoing educational programmes for staff and patients. With more education of staff, attendants and patients, enabling them to



make an informed choice, we expect that use will continue to grow. We plan to monitor use on a six monthly basis and evaluate the level of acceptance.

## **The future: areas for expansion**

We aim to roll out the falls education programme and balance classes expanding from in-patients to day hospital patients. We would also like to expand the model of care we have developed to other wards.

## ***Osteoporosis and syncope services***

The Falls and Injury Prevention Programme works closely with the Falls and Syncope Service as well as the Osteoporosis Service. The Falls and Syncope clinic provides an investigative and advisory service for cardiovascular causes of falls. The Osteoporosis Service targets those patients who are at risk of or have osteoporosis. Those who had previous fractures are at highest risk of further fractures. After full assessment, the patients will be prescribed the most appropriate osteoporosis therapy.

## **Conclusion**

In setting up and running the Falls and Injury Prevention Service we have learned that it is vital to bring together a multi-disciplinary team to provide a forum for discussions and to enable the use of a coordinated, patient-centred approach. We have found that to move towards a falls and injuries prevention culture within the hospital, all stakeholders (patients, staff and management) must be involved. To ensure that any measures taken are effective, it is important to monitor progress and evaluate the outcomes of interventions.

# **Falls in the Older Adult Population of the Midland Health Board: An Exploration of Circumstances and Beliefs**

*Anna de Siún, Researcher for Older Persons, Midland Health Board*

## **Introduction**

In Ireland in 2003, according to data from the CSO, 259 people over the age of 65 died due to a fall. Falls account for around one in ten visits to hospital emergency departments and around 6 per cent of urgent hospitalisations among older people (Tinetti, 2003). A survey of older women's attitudes to life after a hip fracture found that 80 per cent said they would rather be dead than live with the consequences of a bad fracture (Legge, 2003).

Much has been written on the identification of modifiable risk factors, on the development of risk assessment scales and on the evaluation of various falls prevention programmes and interventions. However, there is a gap when it comes to information on patient's views. 'Compliance with and acceptability of falls prevention programmes is lacking within trials and systematic reviews', according to the NICE clinical practice guidelines, 2004, in the UK.

## **The research**

This research was carried out in order to attempt to fill this gap in knowledge. We took a qualitative approach, allowing us to gain insight into how some of the older adults in the Midland Health Board who have experienced a fall perceive the event. We looked at three specific areas:

- the circumstances of the fall
- beliefs about falls
- the acceptability of interventions.

Sixteen semi-structured interviews were carried out (13 women and 3 men) with people aged 65 years and over resident in the Midland Health Board area who had had a fall in the past six months. However, due to cognitive impairments it was decided that three of the interviews were inadmissible. Therefore, the findings are based on results from 13 interviews only.

## The findings

### *Circumstances and beliefs*

The findings show a relationship between the circumstances of a fall and beliefs about falling. Overall, the combination of circumstances and beliefs seems to have led to a general belief in the inevitability of falling. Figure 1 shows events experienced by the majority in bold and beliefs expressed by the majority in italics.

**Figure 1: Beliefs about the fall**

**Have no explanation for  
why recent fall occurred**



**Have had series of  
unexplained falls**

*Previous falls often dismissed,  
not recognised as events  
worthy of mention*

*Do not believe it is possible  
to prevent future falls*

*Are either worried and resigned,  
or have decided not to be worried  
as there is no point*

### *Explanation for fall*

While most people could explain how their fall occurred, very few could explain why it occurred as indicated by the following statements:

I don't know how it happened or why it happened.

It's just something that happened. I don't think there's anything I could do differently.

However, previous research suggests that a number of risk factors work together to create a fall. This would indicate a lack of awareness of the possible risk factors contributing to the fall, which places the older person in a vulnerable position. There is, therefore, a need for information about risk factors so that a person can build an explanation for why the fall may have occurred.

### *Previous falls*

The quotation below highlights one of the most typical responses given by participants when asked whether they had fallen previously:

No, not really. Except now that I'd slip on something, and I'd just come down on my knees, and be able to get back up again, it was nothing.

A distinct lack of importance is attached to previous falls – often these falls were not mentioned unless time was taken to explore this issue. There is very strong evidence from previous research that a history of falls is a predictive risk factor for future falls; put simply, if you have had a fall or falls, then you are likely to have another one. If a history of falls is to be used as a useful predictor of future falls, then we need to raise awareness among older people that a previous fall means that they may be at a higher risk of another fall and may need to take preventive action. We also need to ensure that healthcare practitioners ask the right questions when exploring the person's history of falls.

### *Concern about future falls*

Anxiety about future falls was also explored simply by asking people whether they were worried about falling again. Two themes were identified, as highlighted by the quotations below:

Ah, I'm not no, what would be the use, I've got used to it now like, what would be the point in worrying.

I am, I wouldn't like to fall again, but then, keep going, what do you do?

In both the replies above, whether or not concern about falling again was expressed, people were expressing a belief that falling was inevitable. This may deter people actively seeking help or advice on how to prevent future falls.

### *Preventing future falls*

When asked whether they believed they could prevent future falls, very few people believed that they could as is evident from the following statements:

I don't think there is, unless I'm very careful with myself.

I wouldn't say so, old age of course would be a lot of it.

This is most likely linked to the finding that few could explain why the fall occurred. If a fall is perceived as a chance event with no explanation, is it unlikely that future falls can be prevented. It may also explain why some people have decided not to worry about falling.

This, in turn, could help to explain the problems of poor compliance and participation reported in many intervention studies. If people do not believe it is possible to prevent future falls from occurring, it is unlikely that they will be highly motivated to comply with or participate in any falls prevention interventions.

### ***Acceptability of interventions***

We suggested four things that might help to prevent falls in the future:

- exercise
- home modification

- personal alarms
- hip protectors.

We got a wide range of responses to each of these, showing the need for any falls prevention strategies to be adapted for the individual in question.

### ***Exercise***

There was no awareness among our sample of the role exercise plays in preventing falls. Despite this, many said that they would be interested in doing more exercise. Group exercise classes, however, were rejected by most. A home-based exercise programme was most favourably received.

### ***Home modification***

Those who had previously had occupational therapy services were happy with suggestions for modification; those who had not rejected the idea of change. We believe that if the role of external risk factors are not understood, then it is unlikely that people will see the need for change.

### ***Autonomy: personal alarms and hip protectors***

Most of our sample already had a personal alarm but only half of them kept it with them at all times. Only one person used hip protectors; most of the others rejected the idea.

We found that, for many, maintaining independence is linked to not accepting the need for 'special' equipment.

## **Conclusion**

There is an underlying belief in the inevitability of falling. Such beliefs must be challenged if any intervention strategy is to be successful. Intervention strategies need to be flexible so that they can be adapted to suit the individual.

## References

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National Collaborating Centre for Nursing and Supportive Care, 2004. *Clinical Practice Guidelines for the Assessment and Prevention of Falls in Older People*. London: National Institute for Clinical Excellence (NICE).

## Discussion and recommendations

In the discussion that followed, chaired by Dr Catherine Blake, a number of questions were raised that centred around five interrelated issues:

- the urgent need for a well-funded national strategy to address injury prevention in general and falls prevention in particular, backed by commitment at the highest level
- the need to take a multi-disciplinary, multi-agency, coordinated approach
- the need to involve older people and their carers at both the decision-making stage and at the implementation stage and, to provide them with the information they need to help them make informed decisions
- the need to take a holistic, 'ecological' view of the individual and how he or she interacts with the environment – in other words, to address (and engage) the person as a whole rather than addressing 'the problem' in isolation
- the need to acknowledge that older people are a diverse group and that any intervention must be tailored to the needs of the individual – in other words, it must be person-centred, feasible, flexible and adaptable.

## **Final Session**

### **The Way Forward**

*Chair: Chris Fitzgerald*



# **The Way Forward: Recommendations for Action – Goals to 2020**

*Dr Marie Laffoy, Director of Public Health, Eastern Regional Health Authority*

## **Introduction**

The aim of this paper is to sum up the key points from the scientific papers presented during the conference and from this to highlight recommendations for action in injury prevention.

All of the papers presented at the conference highlighted the importance of injury prevention for everyone but particularly for older people. Older people are more at risk of injury and death from falls, road traffic crashes and fires. With an increase in the population of older people in Ireland, more people will be at risk.

## **Why invest in injury prevention?**

Older people experiencing injury face a long road to recovery. The economic cost of injury and death from accidents, to society in general and to the health and social care sector in particular, is huge. It is, however, clear that the 'accidents' that cause injury and death are predictable and preventable. Prevention is better than treatment and rehabilitation for all involved; investing in injury prevention not only saves lives, it saves money. Therefore, it is worthwhile from financial, health and social perspectives to invest in injury prevention among older people

## **The need for a national prevention strategy**

Two other things are clear. Firstly, as lifestyle influences our risk of injury, prevention must be a lifelong process, not something that starts at age 65. This is particularly relevant in relation to fall and osteoporosis prevention. Education and awareness building are, therefore, essential at an early age. Secondly, local action is not enough – we need a national coordinated strategy which is resourced.

## **Challenges in developing and implementing a national strategy**

Injury is a complex, multifactoral, multisectoral issue (not always clearly understood by policy-makers) with many stakeholders, including those in the health and social care sectors, those responsible for the environment and those responsible for transport.

The complexity of injury presents several challenges to developing and implementing a successful, multisectoral injury prevention strategy. The first challenge is to resolve the issue of 'ownership'. The second challenge is to ensure that all involved are clear about roles and responsibilities (including financial and performance responsibilities). The third challenge is to ensure that there is commitment to a coordinated multisectoral approach at all levels but particularly at senior level, from central government down, across all sectors.

## **Specific issues**

We saw that falls, road traffic crashes and fires are a major cause of death and injury among older people. We also saw several examples of good practice in prevention in each of these areas.

### ***Falls***

There is much to learn from SMARTRISK's Smart Move approach in Canada and from work done across Europe via ProFaNE. Both show that an approach that covers bone health, exercise, medication management and home modifications can be effective in preventing falls. ProFaNE's work also highlights the importance of a multi-disciplinary approach, the value of the role of a falls coordinator and the importance of falls risk assessment. The dangers of sedentary behaviour and of taking to bed, in reducing muscle bulk and mobility and, thus, increasing the risk of falls, are very clear; this is particularly problematic for nursing home residents.

Two of the main factors in a fall are the force of the fall and the strength of the bone. Osteoporosis, or thinning of the bones, often referred to as the silent disease, is one of the most common diseases worldwide. It is a risk factor or a predictor of falls. One third of women and one fifth of men will have an osteoporotic fracture. It is clear that one of the ways in which we can tackle falls prevention is to do something about

osteoporosis. We need to introduce primary prevention programmes (exercise, strength building, and nutrition guidance). We need to identify those at risk and introduce secondary prevention programmes (exercise, balance and gait).

There is also much to learn from local initiatives – for example that a multi-disciplinary approach to falls prevention can be highly effective and that simple changes to a hospital environment can reduce the risk of falls. What these initiatives show is that collaboration, coordination and communication are essential components in effective prevention programmes.

### ***Road traffic crashes***

There is much to learn too from the *World Report on Road Traffic Injury Prevention* and from work done by Dublin City Council and the NSC. It is possible to change people's behaviour through awareness building, education and enforcement of speed limits, for example. Changes to the physical environment have also been proven to have a substantial impact on pedestrian injuries (to which older people are particularly vulnerable). Examples include increasing 'green man' time at crossing and introducing countdown displays and tactile pavements. It is also important that we change people's attitudes to older drivers (and older pedestrians), who, compared to younger drivers, adopt safer road use strategies. Behavioural change from all road users is the key to reducing the unacceptably high rate of injury on our roads.

### ***Fire***

Injuries and death from fire are also preventable. Again, education and awareness building have significant roles to play in helping people understand and identify the risks so that they can take action to minimise them. There is much to be learned from current initiatives undertaken by the fire authorities and local authorities in Ireland. No national strategy, nor the resources to develop one, currently exists although it is clear that there is a need for one. There is also much to be learned from current practice in Northern Ireland, in particular from the success of campaigns targeting older smokers and from a campaign to encourage older people to check the safety of electric blankets.

## **Priorities for action**

Substantial evidence was presented at this conference that injuries are preventable and that it behoves us all to prioritise prevention, especially in older people. The most urgent requirement is that a national injury prevention strategy be developed. This has already been proposed in our National Health Strategy in 2001. There is evidence that an injury prevention strategy that is well resourced and has measurable targets will help save lives and reduce the incidence of injuries, particularly amongst high-risk groups such as older people.

To develop and implement an effective strategy we need to define roles and responsibilities; we need to establish priorities and devise action plans. We need to set targets with clear performance indicators and measures. We need to identify and then involve all stakeholders, at local, regional and national level, including older people themselves. We need to capture and build on the enthusiasm that already exists. We need to implement awareness and education programmes for all, and training programmes for those involved with older people.

To do this requires resources but as we have seen there is overwhelming evidence to show that investment in injury prevention saves money as well as lives.

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## Terms of Reference

The National Council on Ageing and Older People was established on 19 March 1997, in succession to the National Council for the Elderly (January 1990 to March 1997) and the National Council for the Aged (June 1981 to January 1990).

The functions of the Council are as follows:

1. To advise the Minister for Health and Children on all aspects of ageing and the welfare of older people, either at its own initiative or at the request of the Minister and in particular on:
  - a) measures to promote the health of older people;
  - b) measures to promote the social inclusion of older people;
  - c) the implementation of the recommendations contained in policy reports commissioned by the Minister for Health;
  - d) methods of ensuring coordination between public bodies at national and local level in the planning and provision of services for older people;
  - e) methods of encouraging greater partnership between statutory and voluntary bodies in providing services for older people;
  - f) meeting the needs of the most vulnerable older people;
  - g) means of encouraging positive attitudes to life after 65 years and the process of ageing;
  - h) means of encouraging greater participation by older people;
  - i) whatever action, based on research, is required to plan and develop services for older people.

2. To assist the development of national and regional policies and strategies designed to produce health gain and social gain for older people by:
  - a) undertaking research on the lifestyle and the needs of older people in Ireland;
  - b) identifying and promoting models of good practice in the care of older people and service delivery to them;
  - c) providing information and advice based on research findings to those involved in the development and/or implementation of policies and services pertaining to the health, well-being and autonomy of older people;
  - d) liaising with statutory, voluntary and professional bodies involved in the development and/or implementation of national and regional policies which have as their object health gain or social gain for older people.
3. To promote the health, welfare and autonomy of older people.
4. To promote a better understanding of ageing and older people in Ireland.
5. To liaise with international bodies which have functions similar to the functions of the Council.

The Council may also advise other Ministers, at their request, on aspects of ageing and the welfare of older people which are within the functions of the Council.

## **Membership**

Chairperson: Cllr Éibhlin Byrne

Mr Bernard Thompson

Mr Eddie Wade

Mr Michael Dineen

Fr Peter Finnerty

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Mr Michael Murphy

Mr Pat O'Toole

Ms Pauline Clancy-Seymour

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