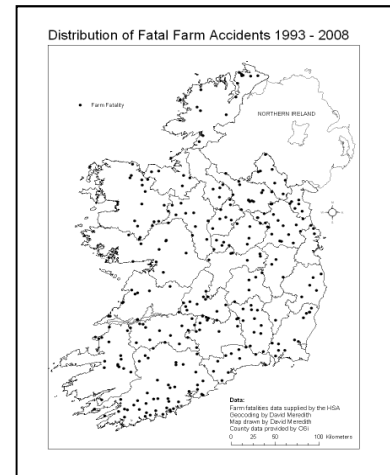


Project number: 5734
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Date: May 2012
Project dates: Jan 2008 – Dec 2011

Farm fatalities in Ireland



Key external stakeholders:

Health and Safety Authority of Ireland, Teagasc, Farmers

Practical implications for stakeholders:

The outcome of this research includes:

- The need to target the farm safety message at particular groups within the farm population at specific times of the year.
- Demonstrating that the farm accident fatality rate has increased.

Main results:

- The age profile of those involved in a fatal farm accident changed substantially from the early 1990s.
- During this period fatalities became increasingly characterised by an increasingly elderly age profile of those involved in fatal accidents.
- The fatality rate increased from 15 to 22 per 100,000 workers.
- The primary causes of farm fatalities are vehicle related followed by animal related.
- Fatalities are most prevalent during the winter and summer months.

Opportunity / Benefit:

- The increasing number of fatalities amongst older farmers suggests that Ireland's Farm Safety Partnership needs to place greater emphasis of raising awareness amongst older farmers of fatality risks.
- There is a concern that the farm safety message may become overly focused on elderly farmers. Specific programmes need to be developed to change the behavior of younger farmers to ensure that their approach to farming does not result in fatal accidents as they get older.

Collaborating Institutions:

Health and Safety Authority

Teagasc project team: Dr. David Meredith (PI)
Dr. Jim Grant
Mr. John G. McNamara

1. Project background:

It is widely recognised that farming constitutes a dangerous occupation resulting in high levels of work-related injuries and fatalities. A review of literature concerned with occupational health of farm workers and farm fatalities finds that there is a growing body of research covering the incidence and cause of injury and death amongst farm populations. Relatively little direct consideration has, however, been given to the demography of fatalities. It was also established during the literature review that little empirical research has been published concerning farm fatalities in Ireland. This is particularly surprising given that farm fatalities are an ongoing issue of serious concern to policy makers, industry representatives and farm households.

The primary aim of this research was to address this knowledge gap and, in doing so, develop a better understanding of farm fatalities in terms of the age profile of victims, the spatial distribution of incidents, causes and timing.

2. Questions addressed by the project:

- What is the age profile of farm fatalities in Ireland and how has this changed over time?
- What is the geographic distribution of farm fatalities in Ireland?
- Are there geographic concentrations in farm fatalities?
- What are the primary causes of farm fatalities?
- Are the primary causes similar for all cohorts of farmers?
- When do most fatalities occur?

3. The experimental studies:

Main components of this methodology are:

- (a) A spatial dataset containing the details of every fatal farm accident during the 1992 – 2010 period, including location, victim characteristics and information concerning the incident, was developed.
- (b) A comparative assessment of changes in farm fatalities was undertaken using descriptive statistics.
- (c) Statistical analysis was undertaken to establish if the age profile of farm fatalities changed during the period 1993 - 2010.
- (d) Spatial analysis was undertaken to establish whether there are spatio-temporal clusters of farm fatalities in Ireland.

4. Main results:

- The results of the research point to the impact changes in farming and farm households are having on farm safety. Declining numbers of children in farm households, reduced numbers of farmers and the increasingly elderly profile of the farm population underpin changes in the profile of farm fatalities in Ireland.
- The average number of annual farm fatalities in Ireland declined from roughly 18 to 16 per year between 1993–1997 and 2003–2007 respectively. The age profile of farm fatalities in Ireland changed over the period 1993–2010. Fewer deaths amongst those under 55 years of age were recorded. Unfortunately, greater numbers of fatalities were recorded amongst farmers over 55 years of age.
- The fatality rate has, however, increased from 15 to 22 per 100,000 workers. This is an important finding; it indicates that whilst the number of fatalities is declining they are not falling as fast as the number of people working in agriculture.
- The primary causes of farm fatalities are, in descending order, tractor and other vehicles, machinery, animals, trips and falls, drowning, collapse of working platforms, wood/forestry related, electrocution and other.
- Whilst tractor and machinery related incidents are the most common form of fatality to farmers, animal related fatalities are largely concentrated amongst those over 45 years of age.
- Whilst fatalities can occur at any time of the year, they are most prevalent during the winter and summer months. Fatalities amongst younger people (less than 29 years of age) are concentrated in the summer period.
- Geographically, farm fatalities became increasingly concentrated in the South-West and West

between 1999 and 2004. This spatial pattern has since changed with a greater dispersion throughout the country.

5. Benefit:

1. The study established the profile of farm fatalities in Ireland and developed a better understanding of the changing age distribution, timing, causes and spatial distribution of fatal incidents.
2. The results informed the activities of the Farm Safety Partnership and the Health and Safety Authority in terms of the dynamics of farm fatalities in Ireland. The results were used to target publicity campaigns regarding farm safety towards elderly farmers and the timing of these campaigns, i.e. during winter and autumn.

6. Dissemination:

A series of seminars that drew on the research findings were held in locations throughout the country in 2009. These seminars targeted Teagasc clients and farm households. The seminars were well attended by roughly 800 persons.

The results of the research were presented at a number of national and international (Canada and Denmark) conferences concerned with health and safety of farmers and farm workers.

Main publications:

Meredith, D. (2010) Farm Fatalities in Ireland. *TResearch*, 5, 42.

Meredith, D. & J. McNamara (2008) Farm Fatalities in the Republic of Ireland *TResearch*, 3, 44 - 45.

Osborne, A., C. Blake, **D. Meredith**, J. Phelan, J. McNamara & C. Cunningham (2012) Work-related musculoskeletal disorders among Irish farm operators. *American Journal of Industrial Medicine*.

Osborne, A., C. Blake, B. Fullen, **D. Meredith**, J. Phelan, J. McNamara & C. Cunningham (2012) Risk factors for musculoskeletal disorders among farm owners and farm workers: A systematic review. *American Journal of Industrial Medicine*. DOI: 10.1002/ajim.22001

Osborne, A., C. Blake, B. Fullen, **D. Meredith**, J. Phelan, J. McNamara & C. Cunningham (2011) Prevalence of musculoskeletal disorders among farmers: A systematic review. *American Journal of Industrial Medicine*, 55, 143-158.

Osborne, A., C. Blake, J. McNamara, **D. Meredith**, J. Phelan & C. Cunningham (2010) Musculoskeletal disorders among Irish farmers. *Occupational Medicine*, 60, 598-603.

Popular publications:

The issue of farm safety and farm fatalities in particular has received significant media attention in both the farming and mainstream media. This led to the research results being used in a large number of newspaper articles and presented on national, regional and local radio.

7. Compiled by: David Meredith