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THE USE OF MENTORING TO EFFECT CULTURAL CHANGE: IRISH FARM DEATHS AND INJURIES

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ABSTRACT

Agriculture is the most dangerous occupation in Ireland. For every fatality in the sector, more than 125 farm workers are injured, many of them so seriously that the viability of the farm is undermined. These terrible and largely hidden figures have remained constant for the past decade, despite legal requirements, awareness-raising events and inspections by the Health and Safety Authority (HSA). The agricultural sector accounts for just 6% of the working population of Ireland, yet it consistently has the highest proportion of fatal incidents of any sector. This was again evident in 2017 where 51% (24 of the 47) of all fatal workplace incidents in Ireland were in the agricultural sector. Of those 24 deaths, 14 were of men aged over 65. A further 2,500 people were injured, many of them seriously. Interviews were conducted with farmers and farm safety advisory bodies. The findings from this research show that a systems social marketing approach should be adopted to eliminate farm deaths and injuries and that interventions should be co-created with the farming community. A grass-roots mentoring system needs to be established to advise farmers on best practice. The issue of farm safety needs to be addressed at a macro marketing level and needs to involve a broadening of the traditional 4Ps to include People, Policy and Partnership.

KEY WORDS

Farm safety, Attitude, Behaviour, Social norms.

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Agriculture is the most dangerous occupation in Ireland. For every fatality in the sector, more than 125 farm workers are injured, many of them so seriously that the viability of the farm is undermined. These terrible and largely hidden figures have remained constant for the past decade, despite legal requirements, awareness-raising events and inspections by the Health and Safety Authority (HSA). The agricultural sector accounts for just 6% of the working population of Ireland, yet it consistently has the highest proportion of fatal incidents of any sector. This was again evident in 2017 where 51% (24 of the 47) of all fatal workplace incidents in Ireland were in the agricultural sector. Of those 24 deaths, 14 were of men aged over 65. A further 2,500 people were injured, many of them seriously. Interviews were conducted with farmers and farm safety advisory bodies. The findings from this research show that a systems social marketing approach should be adopted to eliminate farm deaths and injuries and that interventions should be co-created with the farming community. A grass-roots mentoring system needs to be established to advise farmers on best practice. The issue of farm safety needs to be addressed at a macro marketing level and needs to involve a broadening of the traditional 4Ps to include People, Policy and Partnership.

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1. Introduction to Irish Farms, Farm Types and the Agricultural Sector

The agri-food sector in Ireland contributes €24 billion to the national economy, accounting for 6.3% of gross value added, nearly 10% of Ireland's exports and provides 7.7% of the country's employment (GL Noble Denton 2014). More specifically, 58% of the agri-food sector's workforce comes from agriculture, forestry and fishing (GL Noble Denton 2014). The Irish Census of Agriculture 2010 estimated that there were 139,829 active farms in Ireland in 2010 employing 165,370 annualised work units (AWUs) and that in total, when family labour

is included, it is estimated that approximately 400,000 persons are exposed to health and safety risks on Irish farms (Health and Safety Authority 2015).

Agriculture has an ageing workforce with the average age of an Irish farmer now standing at fifty-seven and farmers are *eight times* more likely to be fatally injured in a farm accident than the general working population. Approximately 88% of farm holdings are male-owned (GL Noble Denton 2014) with 50% of the male farm owners being 55 years or older, and perhaps more significantly in terms of health and safety, 25% of all male farmers are aged 65 or older (GL Noble Denton 2014).

2. Background Statistics on Farm Deaths in Ireland

While the Irish agricultural sector accounts for just 6% of the working population of Ireland, it consistently has the highest proportion of fatal incidents of any sector generally ranging from between 35% and 45% of all workplace fatalities in any given year (Health and Safety Authority 2015). This was again evident in 2017 where 51% (24 of the 47) of the fatal workplace incidents were in the agricultural sector (Health and Safety Authority 2015).

An analysis of fatalities by the Irish HSA (Health and Safety Authority) covering 2003 to 2012, showed that dairy farming and mixed farming accounted for the largest proportion of deaths (35% and 29% respectively) (GL Noble Denton 2014). Older workers were also significantly over-represented in fatalities with 41% aged between 65 to 99 years old, and 20% aged 55 to 64 years old (GL Noble Denton 2014). Perhaps reflecting the gender profile of farming as an industry, 95% of the fatalities were male (GL Noble Denton 2014). Childhood deaths accounted for about 10% of fatalities with over half of these caused by tractors/machinery or other vehicles. Some regional effects were also apparent with a high number of fatalities occurring in Cork (29 deaths between 2003 and 2012), double the next highest county - Tipperary (14 deaths in the same period). It is noted that these counties have high levels of intensive dairy farming (GL Noble Denton 2014).

Table 1 shows the amount of farm fatalities in Ireland within a seven year period (Health and Safety Authority 2018) and shows the number of farm fatalities declining every year from 2011 to 2013 but then a sharp increase in 2014, where the number of farm fatalities almost doubled in comparison with 2013. This spike in fatal incidents to 30 in 2014 is alarming, as there had been a general downward trend from 1997. However, the

significant increase in farm deaths in Ireland since 2009 is of grave concern and has interrupted and reversed this general downward trend to an alarming extent (Health and Safety Authority 2015).

Table 1: Fatal Incidents in Agriculture and Forestry (2011 – 2017)

Year	Fatalities
2011	22
2012	21
2013	16
2014	30
2015	18
2016	21
2017	24

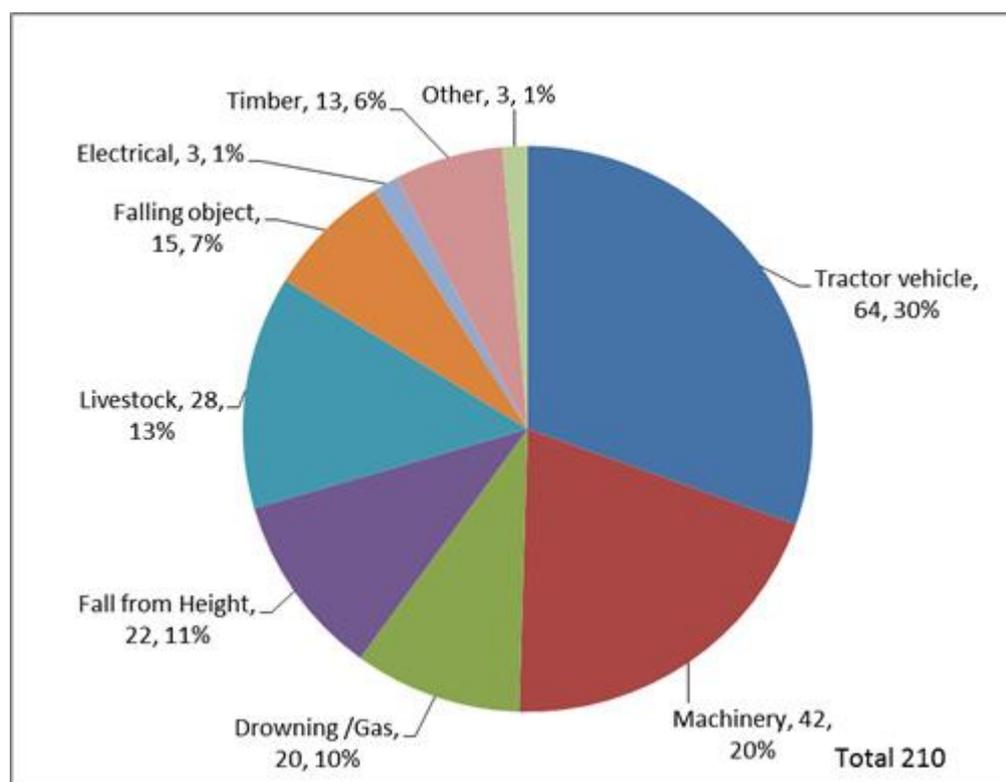
(Health and Safety Authority, 2018)

In the ten year period from 2005 to 2014, there were 193 farm fatalities, averaging over 19 deaths per year or 16 fatalities per 100,000 workers in the farming sector (Health and Safety Authority 2015). The fatality incident rate for 2013 in the agricultural sector was 15.9 fatalities per 100,000 workers in comparison with 2.1 fatalities per 100,000 across the general working population (Health and Safety Authority 2015). Put simply, there has been no significant reduction in the number of farm deaths, and farmers were *8 times* more likely to die working on a farm than in the general working population (Health and Safety Authority 2015).

The vast majority of these farm fatalities were potentially preventable (Health and Safety Authority 2015). As with any workplace, the primary responsibility for farm safety resides with the business owner, in this case the farmer.

Figure 1 shows the major causes of farm deaths in Ireland in the years 2008 - 2017 (n = 210). It identifies that tractors, farm vehicles and machinery make up 50% of the causes of death. Livestock contribute 13% to the cause of death, with drowning and gas accounting for 10%. The remainder of fatality causes were due to falling from a height (11%); timber related (6%); falling objects and collapses (1%); and electrocution (1%) (Health and Safety Authority 2018).

Figure 1: Main causes of deaths in Agriculture and Forestry over the last 10 years 2008-2017



(HSA, 2018)

In relation to farm injuries, it is important to bear in mind that the statistics are more difficult to compile than those for deaths. This is due to the gross under-reporting of non-fatal incidents and injuries by farmers, with the average reported to the Irish Health and Safety Authority of just 100 per year, despite their legal obligation to do so (Health and Safety Authority 2015). The Irish Health and Safety Authority relies to a great extent on the findings of the National Farm Survey conducted by Teagasc (Irish farming advisory body) for trends in non-fatal incidents. The 2011 Irish National Farm Survey results estimated that Irish farm injuries increased by 35% to 2,459 injuries per 100,000 farms reported for the year 2010, compared to the previous survey estimate of 1,815 injuries per 100,000 farms in 2006. This is still a reduction in the numbers recorded in 2001 (3,000 injuries per 100,000 farms) and 1991 (5,000 injuries per 100,000 farms) (Health and Safety Authority 2015).

3. Methodology

Eleven interviews were conducted for the purposes of this research between October 2016 and May 2017. The researchers interviewed farmers who were victims of farm accidents and specialists within the area of farm

safety. These interviewees were sourced from detailed discussions with the Irish Health and Safety Authority (HSA) in relation to who would be good to talk about farm safety. They advised that a number of farmers who had been involved in farm accidents had made an Irish HSA produced DVD on farm safety and were very interested in the area of farm safety. It was believed that these farmers would be good to interview as their knowledge and experience of how easily accidents can happen and how they can be prevented would be useful. This ensured the researchers gathered information regarding the farmers' personal beliefs and feelings surrounding the research topic.

It was also believed necessary to interview farm safety experts and individuals active in preventing farm accidents in Ireland to gain an insight into current best practice in farm safety education. These experts then pointed the researchers in the direction of a Swedish farm safety initiative that had yielded very positive results, so contact was made with the coordinator of this programme as well. The research objectives were as follows:

- What can be done to improve farm safety attitudes and behaviour among farmers?
- How important is a good social norm of safe farming practice among farmers?
- Are farmers involved in farm accidents more aware of safety?

4. Findings and Discussion

In many of the farming accidents that have occurred in recent years, complacency played a significant part, where the farmer became over-confident carrying out the same farm work every day. When farmers become complacent while carrying out farm work, concentration levels will drop and the potential for farm accidents occurring will significantly increase. Most farmers think that farm accidents will never happen to them but this is not the case. One farm safety campaigner stated:

A lot of this farm work is common sense to farmers but they become very complacent. Farmers know the difference between right and wrong and it is like when you are driving a car, you know you should not be driving over a certain speed but you still take the chance. The more times you get away with it, the greater the chance you will do it again.

It is vital to educate farmers on farm safety before an accident occurs to them on the farm. The aim is to eliminate complacency and show that accidents can happen to anyone when performing farm work and try to establish strong social norms on farm safety to make safe farming practices the norm for all on the farm.

Parents must act as role models on farm safety to their children to ensure that no unsafe farming practices get passed on to their children. It is vital that parents are willing to adopt farm safety measures around the farm to ensure that their sons and daughters do not pick up any unsafe farming practices in the future. Children will very easily imitate the unsafe farming practices of their parents, if they witness unsafe farming practices from a young age at home. One farmer stated:

The problem with farming is we learn from our fathers on how to do certain jobs. They have the power to act as good role models and thus reinforce good behaviour or act as bad role models and reinforce bad behaviour.

There needs to be discussion among all members of the family to ensure strong social norms on farm safety are established within the farm. Having strong social norms on farm safety will lead to improved attitudes on farm safety among farmers and further lead to improved farming practices on the farm.

Primary, secondary and third level schools and colleges have a significant role to play in educating children and young adults on the importance of farm safety. When farm safety is brought into the curriculum in schools, this ensures that young people learn good farm safety practices and will then have the opportunity to use this knowledge in a positive manner when farming at home. One farm safety campaigner stated:

The school is key because a young child will go home and say, "Dad that is dangerous" or they would say to their parents "you cannot be on the mobile phone when you are driving the tractor". This will encourage the parents to adopt safe farming practices.

The incorporation of health and safety into the Agricultural Science subject for the Irish Leaving Certificate exam (at the end of secondary school) in 2019 will be of great benefit to raise student awareness of the importance of farm safety. Farm safety education needs to become a primary concern for schools and agricultural colleges.

An integral part of what students learn in schools and agricultural colleges needs to be about farm safety. This should be accompanied by guest speakers who are victims of farm accidents - students can then see the real-life consequences of not implementing farm safety measures around the farm. More practical demonstrations surrounding the importance of farm safety need to also occur in agricultural colleges. One farmer stated:

I think practical demonstrations will stick in the head longer than reading about something or listening to a speaker. The aim is to make sure that the farmer that does not farm safely leaves with a change of attitude and will change his behaviour when on his own farm.

Many older farmers also work beyond the retirement age and still perform dangerous farming practices on a daily basis. It is important that older farmers are advised of their vulnerability to farm accidents due to their age, through informal visits from farm advisory bodies or fellow farmers, as they can point out the dangers on the farm. Older farmers are more prone to a farming accident as they become less alert of their surroundings on the farm while carrying out farm work. One farm safety expert stated:

The older farmer is a man who has done his farm work in the same way for years. He does not see the need to change his ways of farming. He represents a hard segment to reach with a farm safety message.

Older farmers also tend to use older and less maintained machinery which do not possess the latest up-to-date safety features compared to the more modern machinery available on the market.

It is important that farmers have good facilities on the farm to carry out farm work e.g. when handling dangerous farm animals. Every farmer needs to be vigilant of the hazards that are on the farm especially the risks associated with livestock that can be extremely unpredictable. Schemes like the European funded TAMS II (Targeted Agricultural Modernisation Scheme) and KT Scheme (Knowledge Transfer Scheme) are of huge benefit to farmers as they receive European grant aid to make farm safety improvements around the farm. For farmers to qualify for the schemes they must do a farm safety course. One farm safety expert stated:

If a farmer is applying under TAMS II, they must attend a half day training course solely highlighting the dangers associated with farming and go through the risk assessment procedures for the investment they are undertaking as well as the code of best practice.

This is of huge benefit to farmers as it makes them aware of the importance of farm safety. Live farm safety victim testimonials should be incorporated into these talks/courses. One farmer stated:

Victim testimonials come head and shoulders above everything else as a means of communication when dealing with farm safety. They have the most impact as they involve real farmers telling real stories. Each farmer then thinks that the accident could happen to them.

Mentoring programmes would be of huge benefit to farmers (both young and old) to teach them the importance of farm safety. Farmers will learn and improve their knowledge on farm safety in a social setting with other farmers. Practical training or demonstrations on farm safety appeal to farmers far more than classroom based learning, as it is action-learning. The social interaction among farmers where they can talk and learn about how important it is to implement farm safety features should be very worthwhile. One farmer stated:

More training courses for the older farmer showing them the consequences of what can happen through farm accidents are definitely needed. New farmers should be put on a mentoring programme where support and advice is got from experienced farmers. The mentoring programme would target certain areas and bring ten to fifteen new farmers together where they would hear about best practice from an experienced farmer.

It is hugely important that victims of farm accidents attend and speak at the mentor programme, so farmers have the opportunity to see the physical, emotional and financial consequences a farm accident can have on the farmer and listen to how easy a farm accident can occur. Culturally, farmers need to change their way of thinking towards farm safety and ensure farm safety is an integral part of every aspect of farming life. One farm safety campaigner stated:

If 5 or 6 farmers who are neighbours and friends work together in a group with a coordinator or mentor to bring them together and visit each other's farms and constructively criticise each other in terms of getting the farm yard right, the machinery right, the handling facilities right, the safety of the younger and the older people on the farm right, well then that should be a recipe for success.

Mentoring programmes should be modelled on the hugely successful Swedish *Safe Farmers Common Sense* programme. The results of the Swedish *Safe Farmers Common Sense Programme* are impressive with 48,000 farmers participating (out of an estimated 71,000) and a reduction in farm deaths in 2013 to zero. Something similar to Sweden's *Safe Farmers Common Sense Programme* should be implemented in Ireland. There are three key issues to the success of this programme.

Firstly, the *Safe Farmers Common Sense Programme* involved the trained farm safety advisor (often farmers themselves) walking around the farm and together with participants looking at the various risks that existed on

a farm. They would then visit six stations dedicated to a special concept. These farm walks were also designed as a family event where there were contests with prizes, and refreshments. Participation was free.

Secondly, the *Safe Farmers Common Sense Programme* involved individual farm visits with the trained farm safety advisor and the farmer walking around the farm and identifying the most important safety risks. They used a special education method that helps the farmer generate solutions for their own problems. The aim was to develop specific action plans to change the attitude and behaviour of that individual farmer towards farm safety. The Swedish farmers had to pay 250 SEK (€25) to get the farm visit. Paying something was felt to be important to communicate that the programme was of value to farmers.

Thirdly, the *Safe Farmers Common Sense Programme* involved courses on farm safety. Three meetings were arranged to achieve “Safe Farmers Common Sense”. The aim again was to change attitudes and behaviour towards accidents with the goal that farmers would improve their own regular work environment. There were group discussions on safety; films about the risks towards safety; how to make the farmer’s own action plan; and how to make their own emergency plan. Materials and a free first aid course were provided to farmers and participation again cost €25.

The Swedish farm safety expert stated:

Farmers themselves were engaged in the process and some of the mentors were farmers with an interest in safety. There was a process put in place where one of these mentors visited the farm and advised on risks that existed. They then both developed a meaningful plan to make the farm considerably safer by fixing any issues.

The social interaction (between mentor and farmer, and between the farmers in the group) is key, where they discuss the risks that are involved in carrying out farm work. The local farmers are neighbours and friends who work together in a group with a coordinator or mentor to bring them together and visit each other’s farms and constructively criticise each other in terms of getting the farm yard right, the machinery right, the handling facilities right, the safety of the younger and the older people on the farm right. This impacts positively on changing attitudes and behaviour towards farm safety. The Swedish farm safety expert stated:

The Safe Farmers Common Sense programme was successful due to the fact that all agricultural organisations supported the initiative. We also got great help from the media (newspapers, radio and

television). The concept was simple - through education and information, the accidents would decrease. We incorporated the farmers' voices into the design of the programme. They had to decide how the counselling should be designed. We offered courses, farm visits and advice.

The farm visits (that are part of any mentoring programme) should have a farm accident victim speaking about how his accident happened, what the physical, mental and financial consequences of the accident are, and what can be done to avoid this accident in the future. The key importance of farm accident victims being used in educating farmers was stressed by all interviewees. Farm accident victim testimonials play a significant role in improving farmer attitudes and behaviour surrounding farm safety. They illustrate graphically to other farmers the consequences a farm accident and a farm injury can have on the family and the fundamental changes that must occur on the farm for the farmer to stay safe and keep farming. One farm safety expert stated:

The farmer always thinks economically and the financial cost of the injury should be stressed in any farm safety message. Reinforcing the financial benefits of working safely e.g. remaining injury-free, and thus being able to continue to be active, productive and able to provide for oneself and one's family, should be stressed in any victim testimonial.

Farm accident victim testimonials show other farmers how easily a farming accident can happen on the farm and if they had the chance again how they would ensure farm safety was implemented on the farm. Farmers are not just telling their personal story about the farm accident they encountered, they are also educating farmers on the importance of implementing farm safety measures around the farm, before a fatality or a serious accident occurs on the farm. Farm accident victim testimonials whether in person or on DVD need to be accessible to all farmers not just at various official IFA (Irish Farmer Association) meetings but at locations like local cattle marts, local farmer co-ops, the Irish Ploughing Championship, etc., as some farmers may not be able to attend IFA meetings due to pressure of farm work. One farmer stated:

I think the "Survivor Stories" DVD that the Health and Safety Authority (HSA) produced is good. They are real farmers telling real stories about real farm accidents. They show how easy farm accidents can happen and the life-long consequences of farm accidents.

Practical skills-based training would give farmers the opportunity to socially engage with other farmers and learn the importance of implementing farm safety around the farm. It is important that farm safety training is developed for all farmers of different ages, so that the training is made relevant to the farmer's age and his

needs. Farm safety training needs to be either free or at a subsidised cost for farmers to attend as the importance of farm safety needs to be stressed to all farmers, especially those under financial pressure. Training should have an effect on attitude and behaviour towards farm safety. One farmer stated:

More training courses for the older farmer showing them the consequences of what can happen through farm accidents are definitely needed. New farmers should be put on a mentoring programme where support and advice is got from experienced farmers. The mentoring programme would target certain areas and bring ten to fifteen new farmers together where they would hear about best practice from an experienced farmer.

Practical workshops throughout Ireland are important to teach farmers the value of farm safety. Farmers work in small groups and the social interaction in the workshop will appeal to farmers far better than larger lecture type meetings. Farm workshops facilitate discussion among farmers about farm safety and show them the logic behind implementing farm safety measures on the farm. The workshops should involve training on all the most dangerous jobs on the farm that have resulted in farmers being killed or seriously injured. One farmer stated:

If we got farmers aged between 15 and 40 into a farm safety workshop in small groups of 7 or 8 discussing farm safety, that would have really positive effects on changing attitudes and behaviour among farmers. Sometimes, these big meetings where someone is talking at the top of a room are not as effective as the smaller hands-on workshop where skills are more easily transferred.

This training should include tractor driving skills, working from a height, working with livestock, agitating slurry and being in the presence of slurry gases, and the importance of maintaining machinery like making sure handbrakes and brakes are in good working order. Farmers should then leave the workshops with the required knowledge on simple and practical tips to implement farm safety on their own farm.

Workshops on the importance of farm safety can also be an effective tool to establish a social norm of good farm safety practices. When positive social norms around the importance of farm safety get established on every farm, this will result in improved attitudes and behaviour on how important farm safety is and how to implement it while conducting farm work. One farm safety expert advised:

I think it is key to have that kind of learning involving applied workshops, where the farmer learns while doing the job. This will go down well with farmers and will ensure that the farmer takes home some valuable skills.

It is important that farmers are encouraged to participate in workshops on farm safety as this can influence best practice on farms. Even simple advice to farmers to always carry a mobile phone with them when out farming is important, so the farmer can ring someone if he is in trouble.

A retirement scheme would be a valuable programme to many older farmers as they might not have a successor to take over the farm. Older farmers are often reluctant to invest in more modern machinery that has more safety features. Many older farmers will continue farming the way they have done for years - this can often pose a challenge when educating older farmers on the importance of farm safety. One farm safety expert stated:

Some farmers work ten to fifteen years longer than the average person and they are the cohort of people that are in real danger. I see them in real danger as they are doing the same unsafe things as they did years ago because they have become comfortable and complacent.

This shows the challenges faced by various farm safety organisations in attempting to improve an older farmer's attitude to farm work. The retirement scheme will give the older farmer the opportunity to transfer the land to a younger farmer knowing that they will have an income.

Farm safety campaigns at local cattle marts throughout the country would be very beneficial in getting the farm safety message out to all farmers on the importance of farm safety. Some farmers might not be attending official farm advisory meetings on the importance of farm safety, but may be attending the local cattle mart. There could be stands on farm safety as well as promotional material handed out at the mart. One farm safety expert stated:

Farmers learn informally when they go to the mart. They talk about cattle breeding, machinery and silage quality but the one thing that is often not in their vocabulary is farm safety. This can change and should be changed and the cattle mart represents an ideal forum to start this discussion.

High profile figures who are very involved in the area of farm safety like sports rugby player Sean O' Brien can play a major role in raising awareness on the importance of farm safety among farmers. More emphasis needs to be put on getting high profile figures from farming backgrounds to become ambassadors to promote farm safety. These ambassadors for farm safety need to be picked carefully so they appeal to the farming community. One farm safety expert advised:

The public love national figures. If you wanted to do a farm safety campaign and told farmers that Sean O' Brien (Irish rugby player) was going to be at the farm safety stand, the amount of farmers (young and old)

that would turn up just to see Sean O' Brien would be huge, and they would also get the farm safety message as well.

These national figures need to have credibility within the farming community, otherwise the farm safety message will be lost. Linking the GAA (Gaelic Athletic Association - an amateur sporting organisation in Ireland) with farm safety messages is a good way to target farmers with the farm safety message. Many farmers (both young and old) follow the GAA and will be exposed to a farm safety message if it is linked to the GAA. One farm safety expert stated:

When we launched the Champions for Change campaign in 2015, Donegal played Tyrone in the first round of the GAA Ulster football championship. Donegal Creameries, owned by Aurivo were the sponsors of the Donegal GAA team. They did a one off special jersey with "Stay Safe on the Farm" written on the front of it.

These networks are very powerful ways of getting the message out to farmers on how important farm safety is for all people on the farm. The continuous repetition of the importance of farming safely through various networks is vital for farmers to improve their attitude and behaviour towards farm safety. This should ensure a strong social norm is created, among all farmers, to farm more safely.

5. Implications for Practice

Changing farmer attitudes and behaviour represents a huge challenge. A cultural shift in attitude is required to ensure that farmers engage in safe farming practices. This cultural shift in attitude should lead to safer behaviour by farmers but this could take a generation to achieve. It will only be achieved through multiple stakeholders delivering the farm safety message. There is an urgent need for a national farm safety mentoring programme to be set up in Ireland. This will require funding and commitment at both national and EU levels.

This should be modelled on the Swedish *Safe Farmers Common Sense* programme which had 3 main pillars – individual farm visits, courses in safe farming and group farm walks. This was so successful that it managed to reduce the number of farm fatalities in Sweden to zero in 2013. This educational farm safety mentoring programme will nurture a social norm of safe farming practices. This has enormous implications for the Health and Safety Authority and farm organisations in terms of lobbying the government, politicians and EU institutions to initiate and fund such a scheme, in view of the number of farm deaths and injuries, not just in Ireland but across the EU.

This national farm safety mentoring programme should involve talks from farm safety specialists, practical demonstrations, as well as live testimonials from farmers who have been involved in farm accidents. This programme has to be established with a view to incorporating the whole family and making it an enjoyable as

well as an educational experience. The Swedish model should be used as a template for this national mentoring programme.

This process of farm safety mentoring can also take place at a local voluntary level, where neighbouring farmers would visit each other's farms and "advise" on farm safety hazards. This is especially relevant in the case of older farmers and farms where there is no successor identified to take over the farm. This should be set up by the various farm advisory bodies and done on an informal basis, where older farmers are advised on how to take precautions in view of their failing eye-sight, hearing and movement, when operating on the farm.

This farm safety mentoring programme should be set up in every village in Ireland. The aim should be risk awareness, risk assessment and risk avoidance. Behaviour change requires commitment and that change has to start at grass-roots level. Cultural change will only take place if all farmers take ownership of the farm safety debate. This will involve a bottom-up approach as much as a top-down approach. This should ensure a change in attitude as well as behaviour. This has implications for Government and the EU, in terms of who conducts this mentoring system and more crucially, how they conduct it.

References

- Colémont, A., and Van den Broucke, S. (2006), "Psychological determinants of behaviors leading to occupational injuries and diseases in agriculture: A literature overview", *Journal of Agricultural Safety and Health*, 12(3), 227-238.
- Collins McLaughlin, A. and Mayhorn, C. (2011), "Avoiding harm on the farm: Human factors", *Gerontechnology*, 10(1), 26-37.
- Elkind, P. D. (1993), "Correspondence between knowledge, attitudes, and behavior in farm health and safety practices", *Journal of Safety Research*, 24(3), 171-179.
- Finnegan, A. (2007), *An Examination of the Status of Health and Safety on Irish Farms*, Unpublished doctoral dissertation, University College Dublin, Dublin, Ireland.
- Finnegan, A., and Phelan, J. (2003), *A Survey of Health and Safety on Irish farms – Implications for Extension and Education*. Paper presented at Association for International Agricultural and Extension Education (AIAEE), Raleigh, North Carolina, USA, 8-12 April (pp. 271-281).

- Gil Coury, H., Kumar, S. and Jones, E. (1999), "Farm related injuries and fatalities in Alberta", *International Journal of Industrial Ergonomics*, 23 (1999), 539-547.
- GL Noble Denton (2014), *Determining Underlying Psycho-social Factors Influencing Farmers' Risk Related Behaviours (Both Positively and Negatively) in the Republic of Ireland*. Final report prepared for HSA (Ireland). Report Number 4002015-0010/04/002R.
- Glasscock, D. J., Rasmussen, K., Carstensen, O., and Hansen, O. N. (2006), "Psychosocial factors and safety behaviour as predictors of accidental work injuries in farming", *Work & Stress: An International Journal of Work, Health & Organisations*, 20(2), 173-189.
- Hope, A., Kelleher, C., Holmes, L., and Hennessy, T. (1999), "Health and safety practices among farmers and other workers: A needs assessment", *Occupational Medicine*, 49(4), 231-235.
- HSA – Health and Safety Authority (2018), www.hsa.ie Accessed 12th June 2018.
- HSA - Health and Safety Authority (2015), *A Presentation by the Health and Safety Authority to The Oireachtas Joint Committee on Agriculture, Food and Marine*. Thursday 29th January, 2015. Dublin, Ireland.
- HSE - Health and Safety Executive (2009), *Influences on Safe/Unsafe Practices; Farmers' Perspectives*. HSE Research Report 709. Sudbury, UK: HSE Books.
- HSE - Health and Safety Executive (2005), *Farmers, Farm Workers and Work-related Stress*. HSE Research Report 362. Sudbury, UK: HSE Books.
- McNamara, J., Moran, B., and Cushion, M. (2007, March), *National Survey of Farm Accidents in Ireland*. Poster session presented at the Agricultural Research Forum, Tullamore, Offaly, Ireland.
- Mullen, J. (2004), "Investigating factors that influence individual safety behavior at work", *Journal of Safety Research*, 35(3), 275-285.
- Murphy, D.J. (1981), "Farm safety attitudes and accident involvement", *Accident Analysis and Prevention*, 13(4), 331-337.

- Phelan, J., Ruane, D. J., and Finnegan, A. (2007), *A Farm Safety Model for Irish Farms*, Paper presented at Association for International Agricultural and Extension Education (AIAEE), Polson, Montana, USA 20-24 May (pp. 292-303).
- Seiz, R. C., and Downey, E. P. (2001), "What farm families tell us that can be useful in educating for health and safety", *Journal of Extension*, 39(6), 6FEA5.
- Stave, C. (2005), *Safety as a Process; From Risk Perception to Safety Activity*. Unpublished doctoral dissertation, Chalmers University of Technology, Göteborg, Sweden.
- Van den Broucke, S., and Colémont, A. (2011), "Behavioral and non-behavioral risk factors for occupational injuries and health problems among Belgian farmers", *Journal of Agromedicine*, 16(4), 299-310.
- Walker, L. and Walker, J. (1987), "Stressors and symptoms predictive of distress in farmers", *Family Relations*, 36(4), 374-378.