

Project number: 6812

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Evaluating the influence of dairy discussion groups on farmer behaviour: An assessment of group engagement with occupational safety and health issues



Advisor safety training: Tractor safety demonstration focusing on visibility and blind spots

Key external stakeholders:

Health and Safety Authority of Ireland, Farmers, Discussion group facilitators, Policy makers, the HSA Farm Safety Partnership

Practical implications for stakeholders:

- The research highlights regular engagement by discussion groups with key farm safety issues, guided by a facilitator, results in improvements in safety behaviours. This contrasts with farmers in discussion groups that engage with farm safety discussions on an infrequent basis.

Main results:

- There is widespread voluntary engagement with occupational health and safety issues amongst farmer discussion groups, particularly relating to experience-sharing.
- Whilst most farmers considered that they to operate safely, there was no significant association between this view and behaving safely.
- Irregular or 'one-off' engagement with occupational health and safety issues do influence farmer's intentions to behave safely.
- Shorter, more regular, discussions focused around key safety issues are effective in influencing farmers to change their behaviour.

Opportunity / Benefit:

1. There is an opportunity to operationalise the research through on-going engagement with farm advisors to support them engage farmers in brief but focused farm safety discussions.

2. The key beneficiaries of the research are in close and ongoing contact with the project team including the Health and Safety Authority, the Department of Agriculture Food and the Marine and Teagasc' Knowledge Transfer Directorate.

Collaborating Institutions:

University College Dublin
Health and Safety Authority of Ireland
NUI Galway

Teagasc project team: Dr. Tracey O'Connor (Walsh Scholar)
Dr. David Meredith
Dr. John McNamara

External collaborators: Prof. Jim Kinsella, UCD. Primary academic supervisor
Dr. Denis O'Hora, NUIG.

1. Project background:

Farming, particularly dairy enterprises, has a record of high illness, injury, and fatality rates, in Ireland and internationally, although the hazards inherent in agriculture are not significantly more dangerous than in other occupations. While many efforts have been made to address the poor track record of agriculture, there is still debate about what works, if anything, to improve health and safety in the agricultural sector. There is mounting evidence of a need to expand the toolkit applied to agricultural safety and health promotion beyond the traditional regulatory and educational approaches which have been applied. This traditional toolkit has been found to be inconsistently effective or where effective, insufficiently effective to reduce farm accidents and injuries to levels more reflective of the hazards involved. Knowledge on which other tools could be effective for agricultural safety and health promotion is limited. However, research suggests that farmer discussion groups with input from farm occupational safety and health experts or facilitated by agricultural advisors, could be an effective tool for promoting health and safe farming practices. The absence of a stronger evidence base regarding discussion groups as a farm safety and health promotion tool represents a critical national and international knowledge-gap.

The research was framed by the following objectives:

- 1) Assess engagement with occupational safety and health in dairy discussion groups
- 2) Assess the occupational safety and health behaviours of dairy discussion group members.
- 3) Devise two protocols for occupational safety and health engagement in dairy discussion groups, differing in characteristics of engagement.
- 4) Evaluate the effect of dairy discussion group engagement with occupational safety and health on the safety and health-related behaviours of group members.
- 5) Describe group member and facilitator experience of engaging with occupational safety and health in dairy discussion groups, and synthesise lessons for promoting and enabling safety and health-related behaviours based on the experience of research participants.

• Questions addressed by the project:

1. What is the relationship between occupational safety and health (OSH) engagement in dairy discussion groups (DGGs) and farmers' safety-related behaviours?
2. What discussion group based approach(es) are effective in shaping farmer safety behaviours and what effect do they have on safety intentions or behaviours?
3. What lessons can be learned for promoting and enabling OSH-related behaviours based on the experience of DDG facilitators and farmers that participated in this research?

3. The experimental studies:

- This research involved:
 - surveys to collect information about DG engagement with farm safety,
 - development of a discussion group based farm safety initiative using a multi-actor collaborative approach
 - a seven-month pilot study of different farm safety initiatives.
- Pre-trial and post-trial surveys were administered to evaluate the outcomes of the farm safety initiatives, and during the intervention semi-structured telephone interviews with facilitators of participating groups were utilised to collect information about intervention progress.

4. Main results:

The first phase of the study occurred in 2017 and examined voluntary OSH engagement in DDGs during 2016. This study found that most DDGs discussed OSH issues at least once (96%). This study contributed to the design of standardised protocols for effective group-based OSH engagement.

The second phase of the research concerned the design of the farm safety initiative (June 2016 – March 2018), including assessing the acceptability and feasibility of proposed initiatives. This involved input from farmers, discussion group facilitators, farm safety specialists and farm safety inspectors., and resulted in the development of two acceptable OSH engagement protocols: “TA”, involving a single two-hour OSH-focused meeting, and “TB”, involving short OSH-focused discussions in four meetings. The DDG facilitators (farm advisors) implemented the protocols in a three-arm (TA, TB, and control), quasi-experimental, pilot study (April 2018 – May 2019). Whilst advisors had input to the design of the farm safety initiatives and these were considered the designs feasible, they, and farmers, experienced challenges during their implementation associated with particularly challenging weather and market conditions. This resulted in delays and disruption to the scheduling of discussions indicating that flexibility is a key requirement in the roll-out of this type of initiative.

The third phase examined farmers' safety behaviours before and after the farm safety initiative. Before the initiative, most farmers considered themselves to be safe (96%), but 82% intended to increase their safety practices, indicating self-awareness about safety shortcomings. For all three “arms”, safety practice behaviour remained consistent or increased during the intervention. In TB, a statistically significant increase ($p < 0.05$) occurred in the average implementation of two practices, indicating that OSH engagement frequency influences safe practice implementation.

5. Opportunity/Benefit:

The findings of this study have implications for future OSH promotion research, and the design of effective OSH promotion initiatives.

6. Dissemination:

Main publications:

O'CONNOR, T., MEREDITH, D., MCNAMARA, J., O'HORA, D. & KINSELLA, J. 2020. Farmer Discussion Groups Create Space for Peer Learning about Safety and Health. *Journal of Agromedicine*, 1-12.

O'CONNOR, T., KINSELLA, J., MCNAMARA, J., O'HORA, D. & MEREDITH, D. 2020. Learning through design using collaborative Intervention Mapping with acceptability evaluation: the case of a group-based farm safety intervention. *The Journal of Agricultural Education and Extension*, 1-18.

7. Compiled by: Dr. David Meredith