

CARDIOVASCULAR DISEASE PREVENTION FOR FARMERS THROUGH WORKPLACE HEALTH CHECKS

Introduction

The case study focuses on the Farmers Have Hearts (FHH) programme, a nationwide workplace health intervention in Ireland targeting cardiovascular health among farmers, a group with significantly higher cardiovascular disease (CVD) risk than other occupational groups. Building on a local pilot in 2007, the initiative was expanded in 2013 to deliver tailored health checks and lifestyle advice directly at farmers' workplaces, such as livestock marts and agricultural shows, using mobile health units staffed by trained nurses. In addition to the general health check programme, a more in-depth cardiovascular health programme (CHP) was implemented between 2018 and 2020, providing tailored support for lifestyle and health behaviour change and follow-ups. This case study discusses the impact of both initiatives. Over the course of its implementation, the FHH programme has supported farmers in identifying and reducing cardiovascular risk factors, encouraged engagement with general practitioners (GPs) and promoted lifestyle changes. Success factors include the accessibility of health checks in familiar community settings, the use of personalised advice adapted to farmers' daily realities, and strong collaboration between the Irish Heart Foundation, the Agriculture and Food Development Authority (Teagasc), and other health and agricultural stakeholders.

The case study is part of a research project that aims to provide an overview of regulations, policies, strategies, initiatives and programmes for the prevention of work-related cardiovascular diseases (CVDs).¹

Description of the case

The Farmers Have Hearts programme was established in response to evidence from the late 2000s and early 2010s indicating that Irish farmers experienced disproportionately high risks for cardiovascular disease (van Doorn et al., 2021). Estimates have suggested that premature mortality from cardiovascular conditions among Irish farmers could be up to seven times higher than among salaried employees (Smith et al., 2013). Farmers tend to be less likely to engage with routine healthcare services, often seeing GPs only in cases of acute illness. In addition, research has showed that one in four Irish farmers face the risk of burnout (O'Connor et al., 2024) and more than one in two farmers report experiencing stress (Brennan et al., 2022). Uncertainty of weather, high workload and finances have been mentioned as likely key stressors for farmers (EU-OSHA, 2024). These factors corroborate the need for proactive, community-based programmes focused on prevention and early detection.

The FHH programme was first piloted as a local project in 2007 and subsequently expanded to a national programme in 2013 (Teagasc, 2020). The programme delivers cardiovascular health checks to farmers directly within farming communities, operating primarily at livestock marts, agri-branches and agricultural shows, locations that farmers routinely attend. The settings serve both occupational and social functions, providing culturally appropriate and accessible venues for preventive health services (van Doorn et al., 2026). The programme offers a 30-minute, one-on-one check-up with a local nurse that includes the measurement of blood pressure, cholesterol (full lipid profile), blood glucose and body mass index (BMI). After the measurement, the nurse provides personalised advice on actions to take to reduce any identified risk factors and/or encourages farmers to seek further examination with their GP. The service is designed to be practical and non-intrusive, allowing farmers to receive personalised health information without the need for prior appointments or additional travel. The single health check programme is effective in reaching at-risk farmers, identifying cardiovascular risk factors and providing brief interventions for behaviour change. However, it does not include systematic follow-up to assess longer-term outcomes. The programme partly is funded by the Health Service Executive (HSE) and is

¹ The full report — *Work-related cardiovascular disease prevention: regulations, policies, strategies and initiatives* — is available at: <https://osha.europa.eu/en/publications/work-related-cardiovascular-disease-prevention-regulations-policies-strategies-and-initiatives>

led by the Irish Heart Foundation (IHF), a national cardiovascular health charity. They work in partnership with agricultural stakeholders like Teagasc, which provides sector expertise and access to farming networks, while Agri Aware, an agricultural trust, also contributes by facilitating connections with farming communities. The FHH initiative is a public health intervention in workplace settings that can benefit both workers and employers.

Aims

The overarching aim of the Farmers Have Hearts (FHH) programme is to reduce cardiovascular risk in the Irish farming population. To achieve this, three primary objectives guide the programme's design and delivery.

- The first objective is to reduce the prevalence of cardiovascular risk factors among farmers. This is pursued through early detection of high blood pressure, high cholesterol, obesity, smoking and other modifiable risks. Identifying the risks at an early stage creates opportunities for intervention before serious health outcomes occur.
- The second objective is to promote and sustain health behaviour change. Farmers Have Hearts is designed to encourage individuals to adopt healthier dietary habits, increase physical activity and reduce smoking and alcohol consumption. A central feature of the programme is the provision of tailored, practical advice that considers the specific work-related constraints of farming life.
- The third objective is to improve the use of healthcare services by farmers, particularly follow-up with GPs. By raising awareness and providing personalised feedback, the initiative aims to prompt farmers to engage more regularly with healthcare providers, thereby improving continuity of care.

What was done and how

The FHH programme is delivered through free, comprehensive health checks conducted in mobile units at livestock marts and agricultural shows. Each assessment takes approximately 30 minutes and includes measurement of blood pressure and pulse, height, weight, BMI, waist circumference, cholesterol (full lipid profile) and blood glucose. A lifestyle evaluation is also conducted, covering smoking, alcohol consumption, dietary habits and other behaviours relevant to cardiovascular health but not work-related. Following the check, participants receive personalised advice, educational materials and a results card for future reference. When necessary, they are advised to follow up with their GP and are provided with a letter to share with their GP. The guidance is practical and tailored to the context of farming life, recognising that occupational demands may limit opportunities for structured exercise or routine medical visits.

Funding for the programme comes in part from the HSE, which covers approximately 30 % of costs, with the remainder sourced from donations and fundraising by the Irish Heart Foundation. The Farmers Have Hearts initiative specifically receives funding for approximately 32 days of activity per year, during which between 700 and 1,000 comprehensive health checks are conducted.

Participation is anonymous to protect privacy, with only the month and year of birth recorded. Participants receive a printed card that contains their results and reference ranges, enabling them to monitor changes over time and seek follow-up care from their GP if required. By combining accessible, community-based assessments with tailored advice and follow-up support, the programme aims to improve early detection of cardiovascular risk factors and encourage sustained engagement with health-promoting behaviours among farmers.

The programme's implementation has evolved over time. Since 2018, it has expanded to cover additional markets across Ireland. In 2020, mobile health coaching and digital engagement tools were introduced on a pilot basis to facilitate structured follow-up and reinforce advice provided during the initial assessment. Evaluation of the pilot indicated that ongoing contact significantly enhanced adherence to recommended lifestyle changes and improved participant motivation. The programme is delivered by experienced nurses, many with backgrounds in cardiovascular or public health, with an emphasis on assigning local nurses to local markets where possible.

As part of FHH, the programme was extended with a specially designed cardiovascular health programme. This large-scale workplace health intervention, which is called Farmers Have Hearts–Cardiovascular Health Programme (FHH-CHP) was run over two years (2018-2020). It was an in-depth programme, on top of the usual health checks, and included tailored follow-up support to farmers. After

the health check, participants were invited to take part in the FHH-CHP, which offered lifestyle change support relating to diet, exercise and work-related stress reduction. Farmers who wanted support with smoking cessation were referred to a specific free programme called 'Quit'. Based on their preferences, farmers were directed to targeted support through a health coach by phone and/or mobile phone text messages. The intervention used gender-specific approaches to engage with male farmers. More specifically, all informative material (e.g. leaflets) and communications (e.g. engagement with nurses) were framed through a gender-sensitive approach, using strategies known to be more effective in males: focus on factual information, take a solution-based approach and stress autonomous decision-making in relation to change (Carroll et al., 2018). The programme was run as a quasi-experimental study and its evaluation was published in the study by van Doorn et al. (2022b).

The FHH-CHP initiative received funding from a Teagasc Walsh Doctorate Scholarship. The National Centre for Men's Health (NCMH) at South East Technological University (SETU) Carlow Campus appointed and managed the health coach, developed and implemented the mobile-health intervention, and evaluated the programme. The IHF organised, supervised and conducted health checks and recruited farmers for baseline checks. The HSE funded the health coach intervention and contributed to health check costs. Tirlán Ireland (a major Irish agri-food and nutrition company) provided extra research funding and helped recruit their farmers at agri-branches. NCMH at SETU, Teagasc and University College Dublin collaborated on quantitative analysis and the dissemination of scientific findings (Teagasc, 2022).

In addition to the health checks, the FHH-CHP programme also included a behavioural change intervention element. This was informed by research specifically into men's health and farmers' health (van Doorn et al., 2019). An essential part of the intervention was the non-judgmental approach used to engage with farmers, who were incentivised to make their own choices about the type of support received, respecting their autonomy and control over their well-being. Farmers were allowed to choose whether they would like to receive this more tailored support or simply opt for the 'usual care' (which was used as a control group). If they opted for the intervention group, they were asked to choose among three delivery methods: health coaching by phone (six sessions), health text messages including nudges (3-4 per week over 3 months), or both combined. All three methods were designed to be flexible and time-efficient, recognising the unpredictable nature of farm working conditions and lives. The areas covered within the interventions included diet, physical activity, work-related stress management and responsible alcohol consumption.

What was achieved

Evidence from the FHH single health check evaluation showed that while 3 in 4 participating farmers reported contemplating lifestyle or health behaviour change one week after screening, less than half reported having made at least one behaviour change by 12 weeks, with the most common changes being physical activity and dietary improvements (van Doorn et al., 2019). This discrepancy spurred the decision to develop a targeted health programme to support farmers with concretely implementing health behaviour change. In addition, although farmers are recognised as a hard-to-reach group, 32 % of those referred to their GP as part of the FHH programme reported attending a GP within 12 weeks, indicating improved engagement with primary care services (van Doorn et al., 2019).

The FHH-CHP initiative has demonstrated measurable impacts on cardiovascular risk behaviours among farmers. At baseline (n=868), 74 % of farmers had four or more risk factors for CVD. The impact report (n=451) showed that 82 % of participants made health behavioural changes and 84 % reported having incorporated lifestyle changes into their daily life after a year. However, changes in biomedical outcomes such as BMI and cholesterol were less pronounced. The report also showed that the proportion of farmers with four or more cardiovascular disease risk factors declined from 45.1 % to 39.0 % over a year (Teagasc, 2022). Qualitative findings from the FHH-CHP initiative indicate that farmers valued the personal engagement and accessibility of the health checks, with many reporting that the programme provided their first cardiovascular check and motivated them to make tangible lifestyle changes (Irish Heart Foundation, 2022). For some, the health check served as a 'wake-up call', prompting immediate adjustments to diet and activity or engagement with their GP. Interviews with FHH-CHP health screening beneficiaries highlighted how even getting a simple health check was instrumental in making them take the first step and reach out to the health services.

Success factors and challenges

Generally, interview feedback highlighted FHH-CHP's value as an entry point into preventive healthcare for farmers. Farmers were generally positive about the accessibility of the checks and the

professionalism of the staff, though stakeholders also recognised that sustained impact would require additional investment in follow-up mechanisms and integration with chronic disease management.

Several common success factors of both implementations were identified:

- With respect to the accessibility of the service and its strong alignment with the occupational and cultural context of farmers, the programme situates health checks at livestock marts, agri-branches and agricultural shows in order to overcome key barriers to healthcare access, such as distance, stigma and lack of time, and it adapts to the specific needs, language and socio-cultural background of male Irish farmers.
- The tailored support for a high-risk occupational group (male farmers living in rural areas) addresses their specific needs and removes barriers that contribute to their higher risk.
- The involvement of experienced cardiovascular nurses, many of them local, further builds trust and credibility with farmers.
- The emphasis on keeping farmers' autonomy and control over the support they receive is regarded as key to maintaining high engagement and increasing empowerment, values that were recognised as cardinal to the target group. The programme's anonymity also proved to be a crucial factor in encouraging participation, as it reassured farmers about confidentiality.
- Strong institutional collaboration between the Irish Heart Foundation, Teagasc, HSE and other agricultural stakeholders ensures both credibility and reach. In particular, the presence of an independent charity helped to build trust among farmers by providing a neutral image.
- As for changing attitudes in farming communities, one of the beneficiaries of the programme highlighted how Farmers Have Hearts is slowly changing social norms across the Irish farming community. As word spreads about the effectiveness of getting a health check, more farmers are incentivised by their peers to access frequent health checks.

Regarding common limitations and challenges, both elements of the Farmers Have Hearts initiative clearly focused on an occupational group, but they should be regarded as a public health intervention in workplace settings. This is because the initiative did not consider how occupational risk factors specific to farmers (e.g. heavy workload, exposure to noise and chemicals, long working hours and job insecurity) could exacerbate the risk of CVDs nor did it consider ways to reduce their exposure. This has limited the extent to which occupational health dimensions, such as work-related stressors or physical workload, are integrated into the intervention.

Stress, frequently reported during health checks, is another challenge that has not yet been systematically addressed within the programme, despite being a recognised occupational risk factor for farmers.

However, the success factors and limitations differ between the simple application, which only includes a health check, and the more comprehensive FHH-CHP, which was evaluated by Van Doorn et al. (2022b). Currently, the programme is restricted to a single health check, which limits opportunities for systematic follow-up and makes it difficult to assess sustained behaviour change or long-term biomedical outcomes. As a result, it remains unclear whether the simplified and cost-effective version can generate the same positive effects observed in the more intensive intervention. At present, the extended FHH-CHP is undergoing a scale-up assessment using the ISAT framework to evaluate its feasibility, implementation fidelity, effectiveness and potential for sustainable, wider adoption within HSE.

Transferability to other EU Member States

The FHH-CHP initiative offers a well-documented, cost-effective, evidence-informed model for delivering primary CVD prevention to a hard-to-reach occupational group. Its key features – targeted outreach to a defined occupational population, mobile screening units and temporary clinics in occupational gathering places, brief tailored health checks by trained nurses, and a pathway encouraging GP follow-up – are practical and replicable, supporting transferability to other EU Member States.

A peer-reviewed evaluation protocol from the more comprehensive part of the programme provides transparent descriptions of methods and outcomes, enabling potential adopters to study and adapt the model. Interest in similar programmes is likely high in contexts where rural occupational populations exhibit elevated cardiovascular risk and face barriers to primary care, as evidenced by the high

prevalence of multiple CVD risk factors among Irish farmers. The programme's visibility and documented impact enhance credibility for policy-makers and civil society partners who are considering adoption. It should be noted, however, that significant positive results are documented only when resources have enabled tailored support through a health coach to participants. Although the positive impact of single health checks in farmers' workplaces is likely not to be as significant, it is probably still effective in reaching a population of workers who would otherwise not access regular health screenings.

Successful transfer depends on local adaptation and resource availability. Essential inputs include trained nursing staff with cardiovascular or preventive experience, portable diagnostic equipment, mobile units or suitable community venues, local stakeholder partnerships, and a data capture and follow-up protocol. Key enablers include the programme's simplicity, trusted community delivery and engagement with agricultural organisations.

Constraints include ensuring financial sustainability, workforce availability and the adaptation of specific cultural elements, such as mart-based delivery, to other national contexts. While Irish evidence shows substantial short-term improvements in risk factors, longer-term outcomes require additional follow-up and support, underscoring the need for robust local evaluation of cost-effectiveness, feasibility and alignment with national health and occupational frameworks before wider implementation.

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In this case study, interviews were carried out with the following stakeholders:

- Health check manager, Irish Heart Foundation.
- Principal investigator and author of the evaluation of the Farmer Have Hearts programme and Research Officer at Teagasc.
- Farmer and beneficiary of the Farmer Have Hearts Programme.

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