

COVID-19 Outbreaks in Meat Processing Factories in Ireland

Briefing Paper for NPHE

Prepared by the National Outbreak Control Team

21 May 2020

Introduction

Scale of the problem

Evolution

Driving Factors

Mitigating actions

Local OCT Actions

Detail on contacts

Impact on the wider communities

Appendix 1: Plant worker complement details

Appendix 2: Membership of the Outbreak Control Team COVID-19 Outbreaks in Meat Factories in Ireland

Introduction

1. Meat processing facilities have become foci for COVID-19 outbreaks around the world including USA and Germany. In the USA, CDC have reported almost 5,000 cases in 115 meat plants to date. <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6918-H.pdf>

Scale of the problem in Ireland

2. As per CIDR extract on 19/05/2020, there were 865 cases associated with 16 facilities. 839 of these have associated CIDR records. There were 7 facilities affected in HSE North East, 3 in HSE Midwest, 3 in HSE Midlands, 1 in HSE South East, 1 in HSE West, and 1 in HSE South. (Table 1)

Table 1: Facilities with Outbreaks of CoVid 19

Facility	No. of Cases
Facility 1	143
Facility 2	135
Facility 3	127
Facility 4	111
Facility 5	102
Facility 6	86
Facility 7	40
Facility 8	26
Facility 9	23
Facility 10	16
Facility 11	15
Facility 12	14
Facility 13	14
Facility 14	7
Facility 15	4
Facility 16	2

3. Further investigations are underway in these and other settings. The majority were able to remain in the community during the course of their illness. However, 17 cases have required hospital admission, 5 of them to ICU (Table 2).

Table 2: Settings where COVID19 cases occurring in meat plant workers were managed

Setting	N	%
Community	822	98.0%
Hospital	12	1.4%
ICU	5	0.6%

Background on Meat industry

4. The meat sector in Ireland employs approximately 15,000 workers. There are 56 slaughter plants as follows:
 - There are currently 33 DAFM approved beef slaughter plants in Ireland and 161 local authority approved plants authorised to slaughter bovines
 - There are currently 9 DAFM approved pig slaughter plants in Ireland.
 - There are currently 10 DAFM approved sheep slaughter plants in Ireland and 159 local authority approved plants authorised to slaughter ovines.
 - Almost 100 million birds processed annually in 4 DAFM approved plants.

5. Approximately 250 Veterinary and Technical staff within DAFM are involved in supervising and regulating the operations of 56 slaughter plants (beef, sheep, pig and poultry) and a large number of meat processing plants. (These workers are supplemented with a group of approximately 700 Temporary Veterinary Inspectors, who are Private Veterinary Practitioners contracted by the Department of Agriculture, Food and the Marine to deliver ante-mortem and post-mortem inspection of animals and poultry in meat plants.)

6. There are 185 other slaughterhouses not controlled by DAFM and around 400 other meat plants, which although mainly small and medium sized. Some smaller scale plants are supervised by the Local Authority Veterinary services.

Evolution of outbreaks in multiple meat processing plants

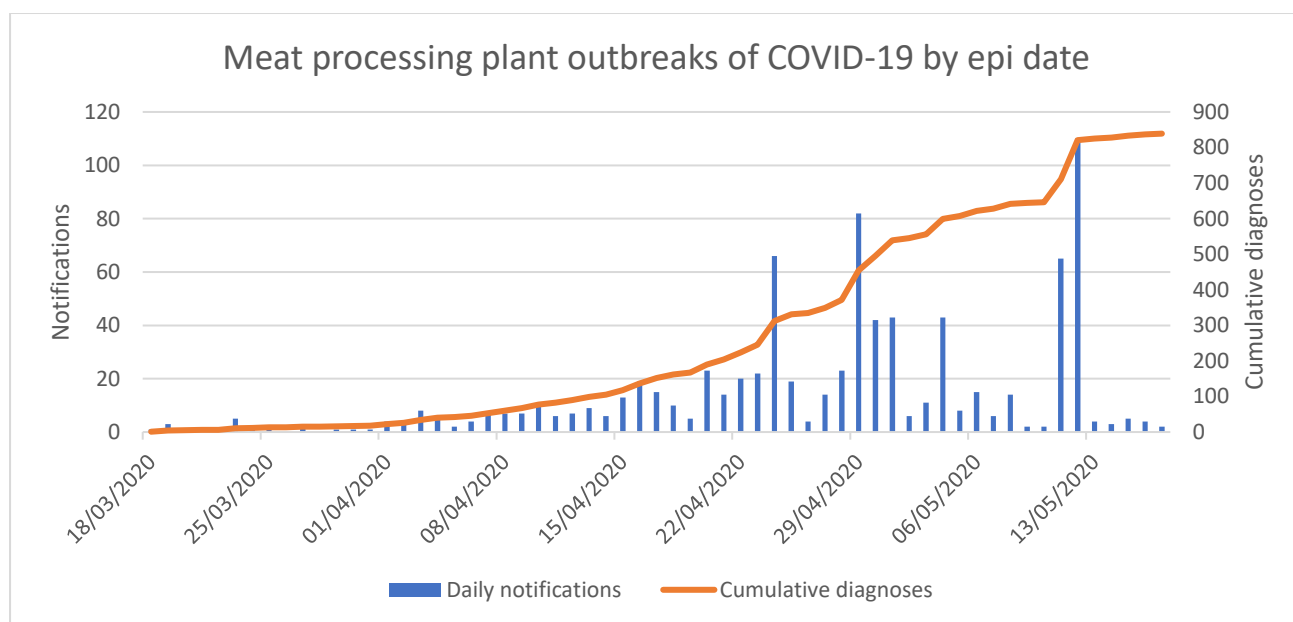
7. The outbreak declaration dates are summarised in Table 3 below.

Table 3: Outbreak declaration dates

Factory	Outbreak date
Facility 14	17/04/2020
Facility 5	20/04/2020
Facility 3	20/04/2020
Facility 7	20/04/2020
Facility 2	21/04/2020
Facility 4	24/04/2020
Facility 8	27/04/2020
Facility 12	27/04/2020
Facility 9	28/04/2020
Facility 6	29/04/2020
Facility 15	30/04/2020
Facility 1	05/05/2020
Facility 10	13/05/2020
Facility 11	13/05/2020
Facility 13	13/05/2020
Facility 16	15/05/2020

An epidemiological curve of all cases associated with all facilities is shown at Figure 1

Figure 1



It should be noted that all-plant screenings will have had an impact on the number of cases detected – as seen by the spikes in notifications.

8. Many of those diagnosed were asymptomatic. 38% (n=319) of cases were recorded as being symptomatic on CIDR (though the data on this are largely incomplete with 54.2% (n=455) not having information recorded for this).

Driving Factors

9. Working, living, travel, and social arrangements may be important drivers in the spread of infection and represent significant challenges in addressing the spread of COVID-19 among these workers.
10. Aspects pertaining to the physical layout of workspaces, the physical logistics of work practices, and accommodation that facilitates the easy spread of infection are felt to be the main drivers of infection acquisition.
11. Important driving factors include difficulty with social distancing in the plants, a culture of working through minor symptoms, a shortfall in payment if not working, language barriers, other communication issues such as not answering mobile phones, hanging up, not having one or sharing one, dense living arrangements, travel to work together, not having a GP, not have dedicated occupational health.

Mitigating actions

12. Regional outbreak control teams manage outbreaks in each individual facility. These teams have Multi-Agency membership and usually includes some or all of the following: public health, representation from Department of Agriculture, Occupational Health, GP, environmental health and industry representation.
13. The local Outbreak Control Team (OCT) is responsible for the management, investigation and control of the outbreak ['the boots on the ground']. The OCT describes the outbreak in terms of time, place and person. It completes a public health risk assessment specific to each site, including approach to testing.
14. Control measures implemented by OCTs include:
 - Working with occupational health to ensure temperature and screening questionnaire checks at entry, prompt testing and exclusion of workers who are unwell.
 - Increased use of Personal Protective Equipment – use of facemasks and visors
 - Social distancing – staggering work breaks, start times, Perspex screens between work areas, minimising the number of employees in work or in particular areas, increasing area of dining area, supervision of workers in communal areas, working in pods (pods or groups work together, have their breaks together etc) and environmental cleaning
 - Advising re Increasing Hand hygiene facilities

- Widespread use of interpreters and translated materials to communicate to staff about COVID-19 when they are identified as cases or contacts
 - For those who cannot isolate effectively in their own home, arranging isolation in the self-isolation facility in City West.
 - Ensuring food delivery for workers who were self-isolating in some instances by the factory and advising of County Council Community Support Scheme
 - Other factors need to be considered including travelling to work, ensuring adequate social distancing and the employee needs to understand financial support available if they are off work due to illness
15. A national outbreak control team (see Appendix 2 for membership) was convened, met for the first time on the 7th of May 2020 and has several objectives:
- Support frontline Outbreak Control Teams to investigate and manage outbreaks of COVID-19 in meat factories in Ireland.
 - Summarise current epidemiology of COVID-19 outbreaks in meat factories in Ireland.
 - Review any available evidence, advice, and guidance in relation to prevention and control of COVID-19 outbreaks in meat factories.
 - Ensure consistency of approach across the country.
 - Development of guidelines for the prevention and management of outbreaks of COVID in meat factories in Ireland.
16. The national outbreak control team for meat processing plants has input from professionals in public health, environmental health, occupational health, animal health, health & safety. It is supported by regional outbreak control teams that have local knowledge of each individual outbreak.
17. On Friday 15/05/2020 the national outbreak control team sent interim guidance on the prevention and management of COVID-19 in meat processing facilities to all managers of approved registered meat establishments in Ireland. This guidance was based on Interim CDC guidance for meat and poultry workers and employers <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/meat-poultry-processing-workers-employers.html> The guidance covers infection prevention and control measures, steps to be taken when an individual case is suspected or confirmed, additional steps to be taken when an outbreak has occurred, and factors external to the working environment including living conditions, travelling to work and financial support for workers. This was also uploaded to the HPSC website : <https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/guidance/outbreakmanagementguidance/outbreakcontrolinmeatfactories/>
18. The contact details of departments of Public Health were sent to each meat processing facility also. Each Department of Public Health has identified a departmental lead for liaison with meat processing facilities in their region.
19. The Health and Safety Authority informed the Outbreak Control Team on 19.5.2020 that they were commencing inspections of meat processing facilities on 20.5.2020.

20. Further research and international collaboration for those involved in other similar outbreaks is planned to help control these outbreaks. Contact has been made with an author of a CDC document about meat processing factories.

Local Outbreak Control Team (OCT) Actions

Numerous local OCT meetings have taken place.

21. **HSE West:** HSE West was notified on the 17th of April by occupational health of a meat processing plant, but the cases had been happening since the beginning of April. An OCT was convened made up of plant management, Public Health, Environmental health, Occupational Health doctor and veterinary inspectors and it met very regularly to monitor the progress of the control of outbreak.
- Initially testing contact of cases, and subsequently screening all staff due to high positivity rate.
 - Plant claimed to have had a lot of control measures in place since February, including Perspex screens, staggered breaks, canteen distancing, temperature checks on entry, contact tracing for work/household/travel partners. Environmental health helped to engage further around cleaning in canteen.
 - Vets have provided information to the department of public health, and were able to identify further controls for the meat processing areas such as workers not wearing visors, or not wearing goggles and masks, people working opposite one another on production belts.
 - The facility greatly reduced number of workers present and scaled back production.
 - Workplace contact tracing has been performed by management and as of 20th March all of their staff have been required to fill out a questionnaire. This questionnaire details the personnel that individual lives with, travels to work with and works within 2M and 15mins contact with in line with HSE guidelines.
22. **HSE North East:** The department was notified of its first case associated with an outbreak on April 20th.
- The department of public health has been raising awareness among staff members in terms of processes within the workplace but also outside the workplace.
 - Factories are being urged to increase awareness among their employees, put up signage that is appropriate based on nationalities and languages spoken.
 - Recommending physical distancing, prompt recognition of cases on site, importance of notifying to public health, infection prevention and control advice, environmental decontamination advice.
 - This advice is given to all facilities that they are aware of.
23. **HSE South East:** From early April the company was asked to let Public Health department know of absences from work (to enable contacting of absentees by PH, to detect cases and refer for testing). Line listing sent to PH from management twice per week of staff absences. Measures to increase social distancing and increase awareness and other measures put in place by the management. These included all workers wearing surgical masks which they change 3 times daily, having someone in place to supervise the locker area to ensure 2m distancing and same in canteen area, and that breaks were staggered, cessation of car-

pooling, installation of Perspex screens in place to separate individuals from each other in the packing and boning areas, throughout the plant.

In addition, when interim national guidelines produced by national OCT, measures were amended including temperature check now at 37.5C limit.

24. **HSE Midlands:** The department had several OCTs relating to outbreaks in meat processing plants, including management, occupational health , veterinary inspectors and general practice, with each facility and issued recommendations to help curb the spread of infection. These included infection prevention and control measures at the entry site, throughout the facility, in the canteen, on the factory floor, and office spaces. Specific guidance was issued to facilities on what to do when a case was diagnosed or an outbreak was declared. Communication advice in relation to all these measures was given to the facilities. Additionally, there was attempts made to mitigate for factors which may increase the risk of infection from factors external to the work site. These included the offering of accommodation in the isolation facilities of the State, community supports, and information sessions with workers.
25. **HSE Midwest:** The department has held several OCTs with each of the affected facilities. The first outbreak was reported on April 14th. The OCT monitored each facility carefully and did perform mass swabbing due to concerns over infection spread in one facility. The department has issued infection control advice and arranged for contact tracing and testing as required. The facilities engaged in social/physical distancing, entry checks, installed Perspex screens. The department has also engaged with occupational health supports/services, the department of agriculture, and highlighted community and state supports which may be of assistance to employees.
26. **HSE South:** The department has held several OCTs with plant management. The department has issued infection control advice and arranged for mass swabbing due to concerns over the number of positive cases that were associated with the facility. Control measures were deployed by the facility, including temperature checking on entry. As with other outbreaks, the issue of accommodation sharing was of particular concern here. It was felt that living, travel and social arrangements may be important drivers in the spread of infection.

Detail on numbers of contacts

27. Information on contacts for most facilities was recorded by the central contact management Programme (CMP). No information on numbers of contacts per facility is presently available on this as it is not currently possible to retrieve this detailed level report on CRM. However, it may be possible to develop this capability.
28. In HSE Midlands: approximately 20 contacts were associated with cases in one facility, and some issues relating to more than one case in a house not being able to self-isolate properly were identified.

29. In HSE West: Approximately, 30 household contacts of cases in one factory are positive; one is linked to a nursing home where there is an outbreak.
30. In HSE North East 35 close contacts were identified as a result of mass swabbing in one meat factory processing plant. The number of close contacts associated with work in three other facilities are as follows 47, 28 and 19.
31. In HSE Midwest: It was estimated that there were over 300 close contacts associated with one facility there. There were 4 associated with another facility.

Impact on the wider communities

32. Spread to the wider community is a continuing risk particularly as restricted movements are lifted. In the Midlands, there previously was concern of spread to the local community among other minimum wage workers working in other settings. Testing has indicated that this has not developed further.
33. For one town, there were reports of unrest regarding non-compliance with social distancing and some of the factory workers were having difficulty doing their shopping etc. A subgroup of the Interagency Regional Steering Group representing the three Principal Response Agencies (Gardai, the Local Authority, and the HSE) visited the plant with translators and met with key lead workers and management. Key COVID response requirements and their importance were explained – isolation, restricted movements and distancing. The resources of the local community were explained and made available providing shopping and food delivery and other services. The Community Call Helpline of the County Council was opened to this group of meat factory workers to assist and advise in whatever way needed. This model, having proved successful, has been replicated in the other two areas of the Midlands.

Approach to testing in these settings

34. In most meat processing plants, the testing method chosen is to test symptomatic workers as these cases arise. In seven out of sixteen plants, mass testing of workers in meat processing plants was organised when the risk assessment (which is a continuous process for the duration of an outbreak) indicated that it would be a prudent course of action. This involved testing of over 2,300 employees across seven plants.
35. Criteria in the risk assessment process would include matters such as the number of infections, the proportion of infections to the entire workforce, concerns over the internal geographic spread of disease within the facility, how quickly the infection appeared to be spreading within a plant, an assessment of what control measures were able to be implemented, etc.
36. Summary of testing by facilities
 - Three approaches were taken in HSE Midwest

- Testing for those who were symptomatic only.
- Testing was initially symptomatic but due to concerns re implementation of PH advice and evidence of ongoing transmission, mass testing exercise done.
- Testing was for those who were Symptomatic, and also contacts of cases since protocol change on 18/5/2020.
- All factories in the midlands underwent mass testing due to high numbers of cases in their facilities.
- The factory in HSE West was also mass tested due to high numbers of cases.

Appendix 1

Membership of the Outbreak Control Team COVID-19 Outbreaks in Meat Factories in Ireland

Governance: Dr. Lorraine Doherty, National Clinical Director Health Protection

Chair:

- Dr. Mai Mannix - Director of Public Health, HSE MidWest

Health and Safety Authority:

- Darren Arkins – Senior Inspector & Occupational Hygiene Unit Manager, Health and Safety Authority

Department of Agriculture, Food and the Marine:

- Martin Blake – Chief Veterinary Officer – Department of Agriculture, Food and the Marine
- Michael Sheahan – Deputy Chief Veterinary Officer – Department of Agriculture, Food and the Marine

Occupational Health:

- Dr. Deirdre Gleeson – Specialist in Occupational Health – Medwise

Food safety:

- Raymond Ellard – Director – Risk Management & Regulatory Affairs, Food Safety Authority of Ireland
 - John Matthews – Chief Specialist Veterinary Public Health, Food Safety Authority of Ireland

Environmental Health, HSE:

- Catherine Cosgrove – Regional Chief Environmental Health Officer, National Lead Food Control – HSE

Public Health HSE:

- Dr. Kevin Kelleher – Assistant National Director – Public Health and Child Health – HSE
- Dr. Ann Marie Connolly – Consultant in Public Health Medicine - HSE West
- Michelle Connolly – Health Protection Nurse Manager, Public Health - HSE
- Dr. Una Fallon – Director of Public Health, HSE Midlands
- Dr. Ina Kelly – Consultant in Public Health Medicine – HSE Midlands
- Dr. Carmel Mullaney – Director of Public Health, HSE South East
- Dr. Margaret O'Sullivan – Consultant in Public Health Medicine – HSE South
- Dr. Keith Ian Quintyne – Consultant in Public Health Medicine – HSE North East
- Dr. Aidan Ryan – Consultant in Public Health Medicine – HSE North West

Dr. Marie Casey – Consultant in Public Health Medicine – HSE Mid-West

Health Protection Surveillance Centre, HSE:

- Dr. Paul Mc Keown – Consultant in Public Health Medicine – HSE HPSC
- Dr. Mark O'Loughlin – SpR Public Health Medicine – HPSC
- Annamaria Ferenczi – Surveillance Scientist / EPIET Fellow – HPSC

Communications:

- Maurice Kelly, Client Director – Quality Improvement, Health Protection, Emergency Management, Communications Division, HSE

Advisory:

- Ronan O'Neill – Head of Virology, Backweston Campus, Department of Agriculture, Food and the Marine
- Prof. Patrick Wall – Professor of Public Health - UCD

