

# Investigation into a Series of Outbreaks of COVID-19 in Meat Processing Plants in Ireland, 2020



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## Glossary

<b>Acronym/Term</b>	<b>Full Title/Meaning</b>
<b>CDC</b>	Centers for Disease Control and Prevention in the US
<b>CIDR</b>	Ireland’s Computerised Infectious Disease Reporting system
<b>COVID-19</b>	Coronavirus disease 2019
<b>DAFM</b>	Department of Agriculture, Food and the Marine
<b>ECDC</b>	European Centre for Disease Prevention and Control
<b>EHO</b>	Environmental Health Officer
<b>EHS</b>	Environmental Health Service
<b>FSAI</b>	Food Safety Authority of Ireland
<b>GP</b>	General Practitioner
<b>HPSC</b>	Health Protection Surveillance Centre
<b>HSA</b>	Health and Safety Authority
<b>HSE</b>	Health Service Executive
<b>ID Regulations</b>	Infectious Diseases Regulations 1981 (S.I. No. 390/1981 and amending Regulations)
<b>IPC</b>	Infection Prevention and Control
<b>MOH</b>	Medical Officer of Health
<b>MPP</b>	Meat Processing Plant
<b>OCT</b>	Outbreak Control Team
<b>NASC</b>	The Migrant and Refugee Rights Centre
<b>NOCT</b>	National Outbreak Control Team
<b>NPHE</b>	National Public Health Emergency Team
<b>SARS-CoV-2</b>	SARS Coronavirus-2

# 1. Summary

## Outline of Problem

Early in the development of the COVID-19 pandemic, a series of outbreaks of COVID-19 were identified in Meat Processing Plants (MPPs), in a number of countries.

Many of these MPP outbreaks appeared to share potential outbreak risk factors. By the end of April 2020, several clusters of COVID-19 had been identified in a number of widely geographically-spaced MPPs in Ireland. On 27/03/2020, MPPs - as food producers - were included in the Government's indicative list of what were considered essential services, and whose employees were to be considered essential employees.<sup>1</sup> By May 2020, the numbers of COVID-19 cases associated with MPPs had become a significant proportion of Ireland's daily national COVID-19 caseload.

In Ireland, investigation and control of outbreaks of infectious diseases is managed by the Medical Officer of Health (MOH) in accordance with the Infectious Disease Regulations (and amendments) 1981 (ID Regulations) in the HSE-Areas in which the outbreak occurs, with the assistance of an Outbreak Control Team (OCT). In view of the scale of MPP outbreaks across the country and the associated burden of disease in workers, a multi-disciplinary, multi-agency National Outbreak Control Team (NOCT) was established to summarise the situation nationally, review the evidence on investigation and control measures, ensure consistency of approach and develop national guidance. Representation included national stakeholder representatives and regional OCT leads.

## Purpose of the Report

This report summarises the work and findings of the NOCT which was convened to provide coordination and guidance to Public Health in investigating the circumstances underlying, and the management of outbreaks of COVID-19 in MPPs. It includes a review of the investigative approaches adopted that could be applied to future outbreaks of COVID-19 in MPPs. The findings are supported by international evidence, local epidemiology and local best practice.

## Key findings

By 24/07/2020, all 23 outbreaks of COVID-19 in MPPs in Ireland had been successfully controlled and all the outbreaks declared over, except two. As of 21/07/2020, there had been 1,047 cases of COVID-19 among workers associated with outbreaks in MPPs in Ireland. The date of onset of the last MPP-associated case of COVID-19 was on 30/06/2020.

### *National prevention and control advice*

Local MOHs and outbreak teams had been managing COVID-19 outbreaks across the country, working closely with the MPPs and issuing bespoke and tailored advice regarding prevention and control. A significant proportion of these outbreaks had been effectively controlled locally by the time the NOCT had been formed. However, regional Departments of Public Health had identified the need for a national coordination group as it became apparent that agreed standardised preventive advice and guidance was required. It was also important to combine the learning from the

investigations of all previous outbreaks to optimise future COVID-19 outbreak management. Production of national standardised guidance was the immediate priority of the NOCT. This guidance drew significantly upon the experiences gained in managing previous MPP outbreaks, provided a single source of COVID-19 prevention and control guidance for the MPPs and brought a consistency of approach across the sector. The NOCT brought together all existing advice for workers, identified gaps and produced a suite of standardised communication materials.

Circulation of the guidance to all MPPs on 15/05/2020, and its subsequent publication as *Interim Guidance on COVID-19 Outbreaks in Meat Factories in Ireland*<sup>2</sup> on 18/05/2020 coincided with a sustained reduction in the number of COVID-19 cases associated with MPPs. This reduction in MPP-associated cases was due to the effective management of local outbreaks, with other likely factors including the publication of the Interim Guidance on COVID-19 in Meat Factories and falling national COVID-19 rates. A high level of compliance with the Interim Guidance was reported during subsequent inspections of MPPs, and during outbreaks that occurred following the publication of the Interim Guidance document.

#### *Preparation of enhanced investigation protocols for future outbreaks and of future research protocols*

As a result of its investigation, the NOCT considered the most fundamental research question of these incidents to be: Was the source of these outbreaks internal to the MPPs (i.e. were these outbreaks arising primarily within the plant), or external (for example, in communal accommodation/transport arrangements shared by workers at the MPP)? Some international evidence suggested that there may be unique features to the conditions in MPPs such as metal worktops, low temperature and moist/humid air, that made them uniquely susceptible to COVID-19 outbreaks. Consequently, the NOCT designed a protocol and questionnaire to enable investigation of any future outbreaks that might occur in MPPs in Ireland, to determine which risk factors, in which locations might be the most significant.

Whereas it is hard to differentiate between settings, as many meat factory workers work, live and travel together, the conclusions of the NOCT were that the main locus of most of these outbreaks was likely to lie, primarily, within the MPPs. This did not mean to say that the point amplification of the disease was exclusively within the MPPs, as there were many complex congregate settings outbreaks involving nursing homes, direct provision centres, and supermarkets, as well as in MPPs, that had been occurring locally at the same time. Outbreak control therefore required a comprehensive, simultaneously multisectoral approach.

Given the essential nature of MPPs, the NOCT felt it important to reiterate the fact that there is no evidence to support transmission of COVID-19 associated with meat or poultry products or other foods. The main mode of transmission is from person to person.

#### *Communication and engagement strategy with the workers*

A number of communication issues had been identified, in particular the fact that there were so many workers for who English was not their first language. Focussed, tailored communication support material was produced by NOCT as a priority.

## Actions Taken

The actions taken included:

### *Local Level*

- Investigation and control of COVID-19 outbreaks in MPPs with or without an OCT as deemed appropriate.
- In some MPPs, local inspections were undertaken by some or all of the following: DAFM, Local Authority Veterinary Services, local Public Health, EHS and other agencies, following outbreak declaration. In some instances Regional Inter-Agency Committees were deployed effectively in relation to controlling COVID-19. Within these, Inter-Agency Teams were formed where senior officials from An Garda Síochana and the Local Authorities undertook interactive support visits to the factories. These were led by Public Health and shown to be effective by the agencies involved.
- Mass swab testing took place within individual MPPs when required, based on Public Health risk assessment.
- Some HSE-Areas offered preventive advice to MPPs that had not been affected by outbreaks of COVID-19.

### *National Level*

- The urgent development and production of the *Interim Guidance on COVID-19 Outbreaks in Meat Factories in Ireland*, learning from local outbreak management experience and based on CDC guidance.
- Ireland was the first country in Europe to publish National Guidance in relation to COVID-19 in MPPs.
- The urging by DAFM of swift application of the Interim Guidance by MPP management and the monitoring of its implementation.
- The Health and Safety Authority (HSA) completed a programme of inspections of all MPPs with outbreaks.
- Identification of the need and recommending the provision of Occupational Health services for all staff in MPPs.
- Preparation of enhanced investigation protocols for future outbreaks, and an environmental research protocol.
- The production of interim reports and a Final Report into the MPP Outbreaks to the National Public Health Emergency Team (NPHEM).

## Conclusions

The NOCT was a rapidly assembled, interagency and interdisciplinary investigation team with the following objectives:

1. Investigate and manage outbreaks of COVID-19 outbreaks in meat factories in Ireland

2. Summarising the current epidemiology of COVID-19 outbreaks in meat factories in Ireland
3. Reviewing all available evidence, advice, and guidance and in relation to prevention and control of COVID-19 outbreaks in meat factories
4. Ensuring consistency of COVID-19 prevention and control across the Regions
5. Development of guidelines for the prevention and management of COVID-19 infection in MPPs in Ireland.

This advice fell under the following broad headings:

1. IPC measures within the MPP which should always be in place,
2. Steps to be taken when an individual case of COVID-19 is suspected or confirmed,
3. Additional steps to be taken as soon as an outbreak is declared,
4. Engagement and communication with staff, and
5. Addressing factors external to the MPP.

The advice concentrated on controlling spread of COVID-19 within the plant, and ensuring MPP management involvement in helping to successfully control outbreaks.

Following review of the evidence gathered by the NOCT, there was a moderately high degree of confidence that the primary point of amplification of most of the outbreaks was most likely to be within the MPPs, while acknowledging the complexity of potential exchange of infection between MPPs and local external locations. Future planned enhanced investigations were designed to explore this further.

## **Recommendations**

The NOCT made the following recommendations as a result of its review of the outbreaks of COVID-19 in MPPs:

### *Horizon Scanning and Preplanning*

1. There is a need for a National Standing Oversight Committee on COVID-19 in MPPs to keep a watching brief on the circumstances in MPPs, to be available to update guidelines and to oversee the establishment of a follow-up NOCT, in the event of any resurgence of outbreaks in MPPs. In the event of a second wave of COVID-19 infection, the potential exists for outbreaks to reappear in MPPs (or in other similar, essential sectors such as dry food processing plants, such as occurred in the UK), and a rapid response at a national level may be required.

### *Legislation*

2. NOCT recommends that the Minister for Health enacts regulations to allow for the closure of premises as per Section 31A of the Health Act of 1947 (inserted under the Health (Preservation and Protection and other Emergency Measures in the Public Interest) Act of 2020) as per legal advice obtained by NOCT.



### *Data Collection*

3. Information on place of work information from all positive cases will be required for outbreak investigation in MPPS in future. Options as to how this can be captured should be explored.

### *Messaging*

4. Targeted channelling of pandemic messaging and awareness-raising for all those workplaces deemed as essential services once a pandemic has been declared, in order to protect workers is crucial.
5. There was a need to provide tailored, multilingual resources for MPP staff.

### *MPPs*

6. MPPs should continue to follow the *Interim Guidance on COVID-19 Outbreaks in Meat Factories in Ireland*
7. MPPs should ensure that they alert Public Health if they are informed of, or suspect case(s) of COVID-19 among their workforce.
8. Contracting of Occupational Health services by MPPs should be considered an absolute priority (supported by appropriate translation services) to ensure that the health and communication needs of employees can be readily met.
9. MPPs should maintain records on the principal languages of their staff members.
10. Independent interpreters should be used in MPPs.
11. MPP management should establish a COVID-19 committee/COVID-19 Officer in the workplace to implement infection, prevention and control measures and provide training and adequate resources for this role.

### *Meat Plant Workers*

12. It should be ensured that worker representatives are involved in outbreak investigations to enable their experience and issues to inform the work of the OCT
13. MPP management and Occupational Health should encourage and facilitate workers in MPPs to register with a GP.

### *Guidance*

14. The *Interim Guidance on COVID-19 Outbreaks in Meat Factories in Ireland* should be updated as required.

### *Inspections*

15. The HSA, DAFM (including local authority Veterinary Inspectors) and HSE will continue with inspections of meat processing facilities.

*Future Enhanced Investigation and Research*

16. If future outbreaks occur, enhanced investigation into possible facility-related factors and worker-related social factors which might be linked with disease spread will be necessary
17. Future outbreaks in MPPs should be supported by targeted environmental sampling, to describe the outbreak as completely as possible, and to provide evidence necessary to support epidemiological investigations.
18. There is a need for a Retrospective Environmental Investigation to further explore the potential underlying reasons for outbreaks associated with these facilities.

## 2. Background

Early in the development of the COVID-19 pandemic, a series of outbreaks of COVID-19 were identified in MPPs in a number of countries. By May 2020, such outbreaks had been identified on most continents, including in the US and Canada in North America, in Brazil in South America, in Australia, and in Europe, in the UK, Germany, Spain, the Netherlands, France, and in Ireland. Many of these MPPs appeared to share potential outbreak risk factors. These included difficulty in creating social distancing in the workplace, the nature of physical structures and production processes within the factories, low pay and issues relating to migrant workers travelling, and living together, sometimes in overcrowded conditions.

By the end of April 2020, several clusters<sup>a</sup> of COVID-19 had been identified in a number of widely geographically-spaced MPPs in Ireland. Following the entry of Ireland into its Stay-at-Home phase of lockdown, the national total of daily confirmed COVID-19 cases reached a peak on 15/04/2020, and began to decline gradually thereafter. As a result, during April and May 2020, the rising numbers of COVID-19 cases associated with MPPs had become a significant proportion of Ireland's daily national COVID-19 caseload.

In view of the level of infection in this group, with the potential for extensive and severe disease among the MPP workforce, its onward spread into the community, the confirmation of outbreaks associated with MPPs and given that MPPs had been designated as essential services - as their work involves the production of food - investigation, control and prevention of these outbreaks became a national priority. The NOCT was established to provide coordination and guidance in investigating the circumstances underlying, and the management of these outbreaks. The NOCT held its initial meeting on 07/05/2020. Its 17<sup>th</sup> and final meeting was held on 24/07/2020.

### COVID-19

Coronaviruses are a large family of viruses that circulate among animals, including humans, camels, cats and bats. Coronaviruses are occasionally zoonotic, capable of being transmitted from animals to humans.<sup>3</sup> Coronaviruses cause illness in humans ranging from the common cold to more severe respiratory diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS).<sup>4</sup> The SARS Coronavirus (SARS-CoV) was first identified in China in 2003 and investigators suspect that the virus spread to humans from civets (small tree-dwelling carnivores). The MERS Coronavirus (MERS-CoV) was identified in Saudi Arabia in 2012, the reservoir of that virus being dromedary camels.

A novel strain of coronavirus that had not previously been detected in humans was identified in Wuhan, China in December 2019.<sup>5</sup> The International Committee on Taxonomy of Viruses (ICTV) named the responsible virus as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2).

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<sup>a</sup> The terms cluster and outbreak have precise epidemiological definitions. A cluster of cases of an infectious disease refers to an "aggregation of cases grouped in place and time that are suspected to be greater than the number expected, even though the expected number may not be known" (CDC definition). An outbreak implies that a cluster has been investigated, to some extent, and a common cause, or source is suspected.

The WHO named the disease that it causes, Coronavirus Disease 2019 (COVID-19). The first cases of COVID-19 were identified in people working in a seafood and live animal market in Wuhan. It is thought that humans contracted the SARS-CoV-2 virus from animals at that market.<sup>5</sup>

SARS-CoV-2 is spread from person to person, primarily through exchange of respiratory droplets.<sup>6,7</sup> These droplets are produced when a person coughs, sneezes, exhales, or during speech. The virus can be spread either:

- Directly, by breathing in the droplets produced when an infected person exhales, coughs or sneezes, or absorbing via the membranes of the eyes, nose or mouth or,
- Indirectly, by touching surfaces (e.g. particularly hand-touch surfaces such as door handles, light switches, remote control units, grab rails, handrails etc.) that an infected person has coughed or sneezed on, with subsequent touching of eyes, nose or mouth.

In addition, the virus can be transmitted through the production of bioaerosols, during aerosol generating procedures (see Chapter 3: Literature Review for a fuller exploration of this).

Asymptomatic transmission of SARS-CoV-2 has been identified. WHO notes that while “Current evidence suggests that most transmission occurs from symptomatic people through close contact with others” and “available evidence from contact tracing reported by countries suggests that asymptotically infected individuals are much less likely to transmit the virus than those who develop symptoms.”<sup>8</sup>

It is currently not known how long SARS-CoV-2 survives on surfaces. SARS coronavirus, MERS coronavirus or endemic human coronaviruses (HCoV) can persist on inanimate surfaces like metal, glass or plastic for up to 9 days,<sup>9</sup> although current information suggests the SARS-CoV-2 may viably persist for 48-72 hours.<sup>10</sup> Simple household disinfectants such as 62-71% ethanol, 0.5% hydrogen peroxide or 0.1% sodium hypochlorite will efficiently inactivate these viruses - and SARS-CoV-2 - within one minute, following application.<sup>10</sup>

While an infected person is most likely to pass on the infection when they have symptoms, there is evidence that infected people can spread the virus to others, even if they do not have any symptoms of the disease.<sup>11</sup>

The symptoms of COVID-19 can include:

- A recent-onset cough
- Shortness of breath
- Breathing difficulties
- High temperature (a temperature of 38°C or over)
- Runny nose
- Sore throat
- Loss of taste
- Loss of smell

The most effective measures to prevent person to person spread of respiratory infectious disease, including COVID-19, are through the practice of social distancing, effective hand hygiene, respiratory etiquette and use of facemasks.

Below are important clinical and epidemiological facts about COVID-19<sup>12</sup>:

- The Clinical Onset Interval is the time between onset of symptoms in successive cases in a chain of transmission. In most studies, the average time is between four and five days.
- The Case Fatality Ratio (CFR) is the proportion of cases of illness that are fatal. The global Crude CFR is 7% (Dec 2019-May 2020).
- About 20% of confirmed cases require a healthcare intervention, and a proportion of those will require high dependency or intensive care
- The Reproduction Rate ( $R_0$ ) of COVID-19 without the application of control measures is estimated to be between 2 and 4. This means that every case of COVID-19 (in the absence of any public health interventions such as handwashing, social distancing, quarantining/isolation and mask-wearing) will generate - on average - between 2 and 4 additional cases of the disease. Such a Reproduction Rate will be sufficient to readily generate, and propagate a pandemic of the disease. However, as a result of the extended lockdown, in Ireland, the  $R_0$  (actually the  $R_e$  or the Effective Reproduction Rate, calculated with regard to the effects of public health interventions) fell to about 1, but has recently increased to between 1.2 and 1.8.

This pandemic has already placed a huge burden upon the country's resources. The need for stringent controls continues, and will do so for some time to come.

### **The Meat Industry in Ireland**

The meat production industry in Ireland has been designated as an essential service, as it is involved in the production of food. The workers in MPPs are consequently viewed as essential workers and have continued to attend their workplaces throughout the pandemic.

The meat industry in Ireland employs approximately 15,000 workers.<sup>b</sup>

There are 56 Department of Agriculture, Food and the Marine (DAFM) approved slaughter plants<sup>c</sup> in Ireland ; these are the larger plants that account for more than 95% of all livestock slaughtered in Ireland.

- There are currently 33 DAFM approved beef slaughter plants, slaughtering approximately 1.8 million cattle per annum
- There are nine DAFM approved pig slaughter plants in Ireland slaughtering approximately 3.4 million pigs per annum
- There are 10 DAFM approved sheep slaughter plants in Ireland, slaughtering approximately 2.8 million sheep per annum.

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<sup>b</sup> The majority- 12 000 or 80%- of the workforce are Irish, EU nationals or those with established work status. Approximately 3000 or 20% of the workforce are non-EEA workers who have been granted work permits by the Department of Business, Enterprise and Innovation to fill vacancies in meat plants.

<sup>c</sup> These 56 approvals relate to 49 sites – some plants have more than one approval – e.g. sheep and cattle in one premises

- There are four DAFM approved poultry slaughter plants slaughtering approximately 100 million birds per annum.

Approximately 250 Veterinary and Technical staff within DAFM are involved in supervising and regulating the operations of the 56 slaughter plants (beef, sheep, pig and poultry) in addition to approximately 100 other MPPs.<sup>d</sup>

These 250 DAFM staff are supplemented with a group of approximately 700 Temporary Veterinary Inspectors, who are private Veterinary Practitioners contracted by the DAFM to deliver ante-mortem and post-mortem inspection of animals in meat plants.

In addition, there are approximately 180 - generally smaller - Local Authority approved plants authorised to slaughter bovine, ovine, porcine, caprine and poultry. The Local Authorities' Veterinary Services also supervise around 400 smaller scale non-slaughter MPPs.

### **Current MPP Epidemiological Situation**

As of 21/07/2020, there had been 1,047 cases of COVID-19 among workers associated with outbreaks in MPPs in Ireland.

Twenty-three outbreaks in 22 facilities have been investigated, with one outbreak de-notified after no onward transmission was detected. Ten of the notified outbreaks are in HSE North East, three each in HSE Midlands, HSE Midwest, and HSE West, and one each in HSE South, HSE East and HSE South East.

Twenty outbreaks are closed<sup>e</sup>, one is open, one is de-notified, and one is pending further status assessment. If there are no further new cases, the remaining outbreak will close on 28/07/2020.

Onset dates range from the 11/03/2020 until 30/06/2020. Ninety-nine point one percent (99.1% - n=1,115) of cases are confirmed, 0.7% (n=8) are probable cases, and 0.2% (n=2) are possible cases.

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<sup>d</sup> Various terms are used to describe these other plants- these include “boning halls” (premises where carcass meat is deboned), cutting plants (premises where larger joints of meat are cut or sliced into smaller portions/retail packs), cooking plants (where meat e.g. pork/ham is as the name suggest cooked prior to distribution to retail or catering outlets), and meat packing plants (premises where meat is packed or prepared for retail/catering use). In many cases the above terms are used interchangeably, and larger operators may have all of the above on one site, or they may be located on stand-alone sites. The term “meat packer” or “meat packing plant” is sometimes used internationally (especially in the US) as a generic term that covers any operation involving slaughter or processing.

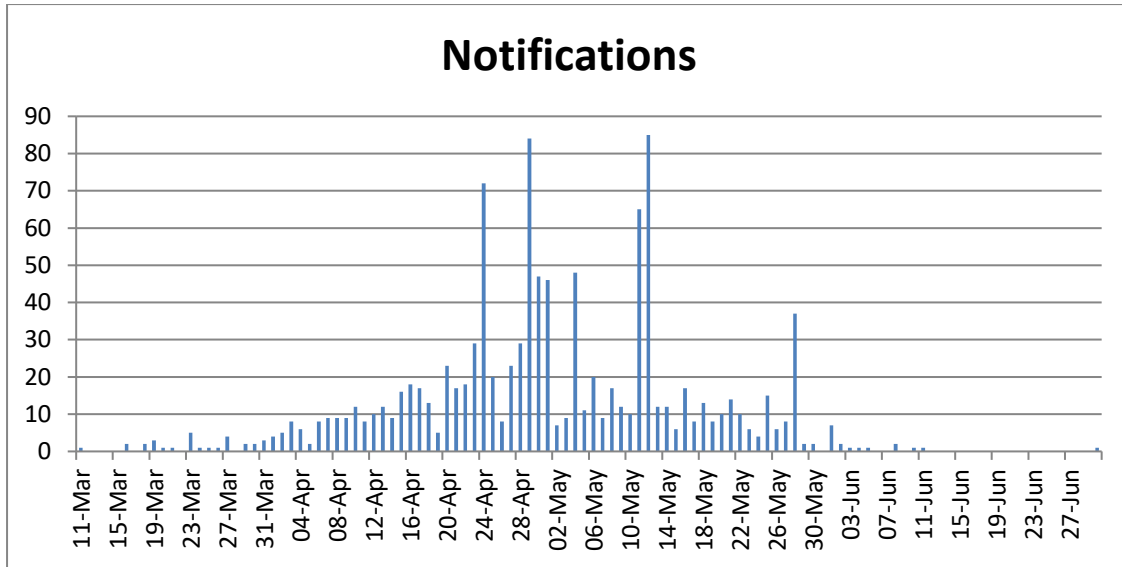
<sup>e</sup> 28 or more days since last case's onset date.

**Table 1: CIDR Events (Worker Cases of COVID-19) Associated with Irish MPP Outbreaks include DATE Period**

<b>Meat Plant Outbreak</b>	<b>No. of workers associated with Outbreak</b>
01	226
02	142
03	146
04	114
05	114
06	100
07	37
08	37
09	25
10	24
11	0 <sup>f</sup>
12	14
13	21
14	7
15	4
16	3
17	De-notified
18	4
19	15
20	6
21	2
22	4
23	2
<b>Total</b>	<b>1047</b>

**Graph 2: Cases of COVID-19 associated with Irish Meat Processing Plants (March-June 2020)**

<sup>f</sup> In this outbreak, a number of MPP workers presented with clinical symptoms, consistent with COVID-19. However, on microbiological analysis none were confirmed as having COVID-19, accounting for no cases having been detected during the outbreak investigation.



*Site of care/Outcome*

The vast majority of patients have been able to remain in the community during the course of their illness, with 3.1% (n=35) requiring admission to hospital. Of these 35, eleven patients required admission to ICU (1% of the total numbers of cases).

*Demographics*

The population affected are primarily young, with 57.6% of cases aged between 25 and 44. The majority of cases are male (77.4%). Nationality information is unavailable for the majority of cases at present (not specified on CRM/CIDR for 87.6% of cases).

*Infectious period*

It is estimated that 100% of cases are out of their infectious period.



## 3. Literature Review

SARS-CoV-2 has, since its first identification as a highly pathogenic respiratory virus, in Wuhan, China in December 2019, produced acute infectious population-level health effects unmatched by any pathogen since those produced by the pandemic of the influenza A/H1N1 virus in 1918.

SARS-CoV-2 is transmitted by both droplet and airborne routes, with the latter occurring as a result of generation of bioaerosols associated with aerosol-generating procedures and processes.<sup>13</sup> There is evidence, however, that airborne infection through aerosol generation, as a result of breathing, sneezing, coughing or speaking, may be an underappreciated and potentially important mode of transmission of COVID-19.<sup>14</sup> WHO has investigated this possibility, and concluded that while the great majority of transmission of COVID-19 occurs through droplet spread, airborne transmission, not involving the use of artificial aerosol-generating procedures, may make some small contribution to transmission, highlighting the continual need for effective hand hygiene, respiratory etiquette, physical distancing and the use of masks.<sup>15</sup>

Congregate industrial and residential settings are recognised as being locations that have an increased likelihood for facilitating transmission of infectious respiratory disease.<sup>16</sup> Despite the fact that there exists an extensive body of consistent, long-established, and reliable evidence supporting the interventions required to minimise the transmission of enteric pathogens in meat plants,<sup>17,18</sup> knowledge as to how respiratory pathogens might be spread - and their transmission prevented - within such plants and slaughterhouses, is incomplete.

In healthcare facilities, policies for the management of influenza outbreaks have been in place for many years, highlighting the need for heightened vigilance among staff, effective mechanisms for surveillance and swift identification of transmission chains, rapid laboratory testing, the effective implementation of standard and transmission based precautions (with the added control and prevention interventions of antiviral medications and an effective vaccine, resources that are not currently available to combat COVID-19).<sup>19,20</sup>

Interventions and controls in the aftermath of respiratory outbreaks in MPPs (particularly those more common pathogens resulting in poultry plant outbreaks, such as *Chlamydia psittaci*) have generally been based upon empirical principles of decontamination and general hygiene.<sup>21,22</sup> There is evidence that transmission of respiratory viruses, such as influenza A/H5N1 is significantly more likely in large-scale commercial poultry operations, than in less complex, and less intensive operations.<sup>23</sup> However, in the case of *Chlamydia psittaci* and A/H5N1, these episodes result from the transmission of pathogens from infected product, rather than person to person transmission within such facilities.

In one investigation of an outbreak of ornithosis at a duck processing plant in the UK, investigators identified exposure to the killing/defeathering and automated evisceration areas, in addition to contact with avian viscera or blood, as constituting the main risk factors for infection.<sup>24</sup> Investigators tentatively established - for the first time in the case of such outbreaks - that personal protective equipment (goggles and FFP3 masks) diminished the likelihood of clinical disease following exposure

to risk areas, and to self-contamination with potentially infectious material. The authors concluded that, “using eye protection to reduce the risk of infection through direct contact with blood or viscera, and respiratory protection to reduce the risk from aerosols [were] plausible explanations” for their conclusions.<sup>24</sup>

The World Health Organization (WHO) emphasises that the “risk of work-related exposure to COVID-19 depends on the probability of coming into close (less than 1 metre), or frequent contact with people who may be infected with COVID-19 and through contact with contaminated surfaces and objects.”<sup>25</sup> This is relevant, as MPP working conditions traditionally require workers to be in close physical proximity, while working in environments that utilise large, shared, metal worktops, and other surfaces that can function as effective fomites.<sup>8</sup>

In respect of COVID-19 outbreaks in MPPs, and the internal and external factors that might influence the likelihood of disease acquisition and outbreak propagation, literature at this early stage of the pandemic is sparse. A recent *MMWR* report detailed a number of outbreaks of COVID-19 among workers in meat and poultry processing facilities in the United States. The authors noted that specific challenges to effective prevention and control of transmission of COVID-19 included: maintenance of physical distancing during breaks and on the production line, adherence to the recommended use of face coverings, continued attendance at work despite being unwell with respiratory symptoms, adherence to heightened cleaning and disinfection policies, enhanced communication to overcome language and cultural barriers, reviewing accommodation arrangements of workers to investigate overcrowding, and reviewing the sharing of transport to and from work, by staff.<sup>16</sup>

A more recent *MMWR* report identified targeted workplace interventions and prevention efforts that had been appropriately tailored to the groups most affected by COVID-19 as being critical to reducing both COVID-19–associated occupational risk and health disparities among vulnerable populations.<sup>26</sup> The study identified a disproportionate burden of COVID-19 among non-Caucasians. Where ethnicity had been recorded, non-whites comprised about 60% of MPP staff, but fully 85% of the cases. Moreover, this report recorded that there had been 16,233 cases in 239 MPPs, resulting in 86 COVID-19–related deaths, a case fatality rate of 0.5%.

A recent review by the Nuffield Centre for Evidence-Based Medicine in Oxford,<sup>27</sup> found that the three features of MPPs most likely to explain their high levels COVID-19 outbreaks were:

1. Certain, distinctive features, such as ubiquity of metallic surfaces, low ambient temperatures and high relative humidity – characteristic of the operational environment found in these facilities - are favourable to SARS-CoV-2 persistence.
2. The crowding of staff, sharing of transportation, generation of aerosols and droplets, and the extensive presence of potential fomites in the operational environments, may promote SARS-CoV-2 transmission and
3. A vulnerable and poorly-remunerated workforce, who may feel constrained to continue working even in the presence of symptoms, potentially due to COVID-19.

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<sup>8</sup> Fomites are objects, surfaces or materials (such as clothes, work surfaces, hand touch items, equipment, utensils, and furniture) which have the potential to carry or harbour infection, if they become contaminated.

The review concluded that Personal Protective Equipment (PPE), properly worn and removed is likely to reduce transmission of SARS-CoV-2 in the environmental conditions found in MPPs. The review cautioned that PPE use might not be particularly effective, as a significant proportion of workers may neither be suitably trained in PPE use, nor adequately supervised. Additionally, the report suggested that the “need for raised voices to overcome noise may increase transmission of SARS-CoV-2 through aerosolisation”.

The authors also observed that while some evidence exists that food handlers may be the primary sources of indoor bioaerosols in the food industry, there was “no direct evidence that SARS-CoV-2 is transmitted from human to human [sic] by airborne spread in this environment”.<sup>27</sup>

Any other more informal literature (such as media reports) on outbreaks of COVID-19 in MPPs does not extensively detail such outbreaks beyond stating their geographical location, numbers of positive cases and whether MPPs remained open or closed for a period.

HPSC has published national guidance for COVID-19 outbreak management which is available on the HPSC website.<sup>28</sup> This is general advice and not specific to any industry. The authors note that as a result of the variation in settings of outbreaks, the vulnerability of those involved or the potential for increased transmission, a more sensitive definition of an outbreak may be considered necessary in certain instances for public health action. They suggest, for example, that in Residential Care Facilities (RCFs), a single suspected case of COVID-19 should prompt immediate public health action.

#### **Further Search for International Experience**

MPPs had become foci for COVID-19 outbreaks around the world including the United States of America, Germany, the Netherlands and the UK, as well as Ireland. In late April 2020 in the US had recorded 5,000 COVID-19 cases, with 20 deaths, in 115 MPPs. By mid-July 2020, this figure has risen to 16,233 cases, including 86 deaths.<sup>26</sup>

HPSC requested information on outbreaks in the USA and Europe from CDC and via EWRS (the EU’s Early Warning and Response System), from other EU Member States (MS) on 20/05/2020, on behalf of the NOCT. Members of the NOCT participated in a teleconference held on 08/06/2020, organised by the European Centre for Disease Prevention and Control (ECDC), the World Health Organization/Europe (WHO – EURO), and attended by the US’s Centers for Disease Control and Prevention (CDC) and representatives from EU/EEA MSs regarding COVID-19 outbreaks in MPPs.

Similar issues were found in those countries reporting outbreaks:

- Countries reported that their workforces in this industry seemed to be particularly susceptible to outbreaks of COVID-19.
- Some of the workers in this industry may live in over-crowded communal accommodation.

Investigators in the Netherlands and Germany attributed their outbreaks to the overcrowded communal residential accommodation provided for many of their MPP workers, most of who were from a range of Balkan states. Updates from the Netherlands and Germany in relation to their outbreak investigations have been requested.

## 4. Outbreaks in Irish Meat Processing Plants

In addition to ensuring the health and safety of the Irish population, the safeguarding of employees who work for essential service providers – those whose work is considered core to the continued functioning of the country - has been a priority for the Irish Government, during this pandemic. Along with staff and patients/residents in acute hospitals and residential facilities, MPP workers appear to be at increased risk of acquisition of this virus. As 1,047 notifications of COVID-19 had been identified as being associated with MPPs in Ireland, and since the MPP workforce in Ireland totals 15,000 employees, this level of infection constitutes a crude attack rate of 7% in this group.<sup>29</sup>

Local MOHs and OCTs had been investigating and managing COVID-19 outbreaks across the country, working closely with the MPPs and issuing advice regarding prevention and control. These outbreaks occurred, and were effectively controlled locally, using available advice from WHO<sup>25</sup> and CDC.<sup>16</sup> However, it became apparent that a single national source of advice and guidance was required.

Using the guidance and advice developed by Departments of Public Health who had already managed local MPPs COVID-19 outbreaks and supported by recommendations adapted from the initial MMWR report into COVID-19 Among Workers in Meat and Poultry Processing Facilities from May 2020,<sup>16</sup> the following factors were identified as being likely drive, or mitigate the transmission of COVID-19 within MPPs:

### Driving Factors

- Aspects pertaining to the physical layout of workspaces and difficulty with social distancing, the physical logistics of work practices, specific locations (Locker rooms/corridors/toilet areas/canteens) were thought to be the important determinants of infection acquisition.
- Dense living arrangements, travelling to work together, and social arrangements were also considered to be important drivers in the spread of infection and represent significant challenges in addressing the spread of COVID-19 among these workers.
- Other driving factors included a culture of working through minor symptoms, and considerable reductions in income, if not working. In addition, significant language barriers, difficulty making phone contact with staff, staff members not having a GP, or having access to Occupational Health service in the workplace, were identified as being other elements potentially increasing the likelihood of transmission.

### Actions taken in Departments of Public Health/OCTs

- **OCTs:** Management, investigation and control of outbreaks of infectious diseases is the responsibility by the local MOH under the ID Regulations, with the assistance of an OCT. Timely protection of those at risk of infection is the primary objective. While it may be best practice, it

is not always possible to convene an OCT for each individual outbreak during a pandemic. This is due to intensity and high numbers of outbreaks occurring together during a pandemic. For a COVID-19 outbreak, the OCT ideally, would have a multi-agency membership and including some or all of the following: the Medical Officer of Health from the Department of Public Health HSE in the area in which the outbreak is occurring and who acts as chair; Occupational Health; Microbiology; local GPs; representation from the HSA; representation from the DAFM, representation from the Local Authority Veterinary Services and representation from Environmental Health Services (EHS). Close communication with MPPs management and employees is essential.

- Public health risk assessments specific to each site are performed. Appropriate actions are determined. The outbreak is described in terms of time, place and person.
- Control measures recommended by OCTs include advice on:
  - Ensuring temperature and screening questionnaire checks at entry, prompt testing and exclusion of workers who are unwell, working with local Occupational Health, where this is available.
  - Comprehensive Infection Prevention and Control (IPC) advice for all areas in Factory (on entry; in the canteen and common areas; in locker rooms and toilets; in the production areas and in administrative areas).
  - Communication with workers on IPC in their homes, instructions on transport including car-pooling and social distancing in the community
  - Appropriate use of PPE – use of facemasks and visors
  - Social distancing – staggering work breaks, start times, acrylic glass screens between work areas, minimising the number of employees in work or in particular areas, increasing the size of the dining area, supervision of workers in communal areas, working in pods (pods or groups work together, have their breaks together etc.) and environmental cleaning
  - Increasing the numbers and amount of hand hygiene facilities and promoting cough etiquette
  - Appropriate communication with the workers including widespread use of interpreters and translated materials to advise to staff on COVID-19 when they are identified as cases or contacts
  - Key improvements to factory protocols were implemented, such as comprehensive tools for the identification of cases and contact tracing, and characterising the nature of the outbreak
  - For those who cannot isolate effectively in their own home, arranging isolation in the self-isolation facility in City West (this can prove challenging for those outside the Greater Dublin Area).
  - Support for workers who are self-isolating in some instances by the factory and by liaising with the County Council Community Support Scheme
  - Other factors which might be considered including:
    - Steps to take regarding travelling to work,
    - reiterating advice on maintaining adequate social distancing and
    - ensuring employees are aware of financial supports available if they are off work due to illness.

A high level summary of local outbreaks is included in Appendix F.

### **Likelihood of COVID-19 Outbreaks in Irish MPPs**

In investigating the outbreaks of COVID-19 in MPPs, a total of 23 outbreaks in 22 facilities were identified. Of these, 21 of the facilities affected were among the 150 large slaughterhouses and other large MPPs controlled by DAFM. The other outbreak was identified in one large Local Authority controlled MPP (however, the great majority of Local Authority-controlled MPPs are smaller in size). This meant that 15.3% of the DAFM-controlled larger MPPs were affected by COVID-19 outbreaks, as compared with 0.5% of Local Authority-controlled MPPs. This is in keeping with the international evidence that larger MPPs tend to be more affected by COVID-19 (and other respiratory viruses, such as influenza) to a greater degree than smaller ones. Further determination of the reasons whereby larger plants appear to be more at risk of COVID-19 outbreaks than smaller ones, will require evidence from future enhanced investigations and research.

### **Legislation and Roles and Responsibilities**

The legislative basis under which each professional group/agency on this NOCT operate are outlined in Appendix D. Their roles and responsibilities as they applied to working the NOCT are outlined in Appendix E.

This process was undertaken to ensure that that all members of each agency understood the legislative basis that colleagues from other agencies were operating under. There are two pieces of legislation that are relevant when considering the closure of an MPP – ID Regulations and HSA Legislation. NOCT also obtained legal advice on the legislation which recommended that the Minister for Health enacts regulations to allow for the closure of premises as per Section 31A of the Health Act of 1947 (inserted under the Health (Preservation and Protection and other Emergency Measures in the Public Interest) Act of 2020).

## 5. Actions and Findings

The actions taken by the NOCT were guided by the:

- Terms of Reference of the NOCT (See Appendix C),
- National COVID-19 Outbreak Guidance (which was published shortly after the NOCT first met),
- Findings in each of the MPPs subsequent to local outbreak investigations and following inspection, and
- Emerging body of published evidence on likely best practice in MPPs for the control and prevention of COVID-19 outbreaks.

The objectives of the Terms of reference were to:

1. Investigate and manage outbreaks of COVID-19 outbreaks in meat factories in Ireland.
2. Summarise current epidemiology of COVID-19 outbreaks in meat factories in Ireland
3. Review any available evidence, advice, and guidance and in relation to prevention and control of COVID-19 outbreaks in meat factories
4. Ensure consistency of approach across the Regions
5. Development of guidelines for the prevention and management of outbreaks of COVID-19 in MPPs in Ireland.

These objectives guided the NOCT in its investigation and review of the MPP outbreaks. Control of individual outbreaks was the responsibility of each local OCT, and all outbreaks were successfully investigated and managed at a local level.

The following definition and principles guided the NOCT's enquiry:

- Outbreak definition: an outbreak of COVID-19 in a MPP was defined as the presence of two or more epidemiologically linked cases of disease, occurring within the MPP.
- The objective of these outbreak investigations was to understand the source of COVID-19 infection and to implement controls to prevent the spread of infection thereby protecting the health of MPP staff, their families and social circle, and in the wider community.
- It must be noted, that control of individual outbreaks was the responsibility of each local MOH, and all outbreaks were successfully investigated and managed at a local level.
- In addition, given the serious nature of COVID-19, protecting of the health of the population was the primary objective of such investigations.

The Health Protection Surveillance Centre (HPSC) had developed generic (non-location specific) outbreak guidance - COVID-19: Interim Public Health guidance for the management of COVID-19 outbreaks<sup>28</sup> – and, when published, this was available to support outbreak management actions. By the time this had been published on 17/05/2020, the majority of the outbreaks of COVID-19 in the MPPs had been satisfactorily dealt with. This generic guidance acknowledges that there are five crucial elements in developing an effective, standardised approach to the investigation and management of outbreaks of COVID-19.

These crucial elements are:

1. Effective pre-planning and preparation;
2. A very high degree of clarity regarding governance structures and the roles and responsibilities of all stakeholders involved in outbreak management;
3. Robust collaborative arrangements between partner organisations;
4. Clear, simple and unambiguous communications policies and pathways within and between partner organisations;
5. A well-developed outbreak plan which clearly describes the above components.

The NGR mapped its progress against these elements in undertaking its work in the following ways:

1. In terms of effective pre-planning, this step was not possible given that the situation was a novel one, but the outputs of the NOCT are available to provide guidance and support for managing future outbreaks, if required
2. The roles of the various agencies represented on the NOCT and the legislative basis upon which each could act were explored and clarified for future reference.
3. This allowed for effective collaborative working relationships between the various agencies
4. Interagency communication pathways were strengthened, permitting a clear and rapid strategic approach. The principles of the national COVID-19 outbreak guidance were used as a support to the NOCT.

### **Initial Public Health-led Actions**

#### *Surveillance of MPP Cases/Outbreaks.*

All medical practitioners in Ireland, including clinical directors of diagnostic laboratories, are required to notify the MOH/Director of Public Health in each Department of Public Health of any cases of certain diseases that they identify or detect (including COVID-19). This information is used by Departments of Public Health and other allied health professionals to investigate cases in order to prevent spread of infection and the generation of further cases.

In investigating cases of COVID-19, a national case definition is used to ensure that there can be confidence in the diagnosis (Appendix B). Contact is made with each case and a questionnaire is used to capture necessary information on the case and her/his contacts.

The information is gathered on cases in a process known as surveillance. Surveillance provides information for action; the identification of cases, so that control and prevention measures may be applied rapidly. This data is stored nationally on the Computerised Infectious Disease Reporting (CIDR) in HPSC. The data collected locally can identify and assist in the investigation of outbreaks. During the outbreaks in MPPs, it became necessary to gather this information using department developed data collection tools that were specific to each Department of Public Health.



### *Approach to MPP Outbreak Investigation*

Once a COVID-19 outbreak in a MPP had been identified and declared by the MOH, an OCT was usually convened, depending on the local circumstances. The OCT is led by Public Health and includes membership of some or all of the following (to varying degrees): DAFM (or Local Authority) Veterinary Inspectors, HSA officials, Occupational Health, General Practice, Microbiology and EHOs. Effective and continuing communication with MPP Management and Worker representatives is a critical part of managing an outbreak.

Once a cluster has been identified and an outbreak is suspected, an extensive search for new cases is undertaken. In practice, a very low threshold of suspicion for testing is required and adopted in order to ensure cases are not missed, as many workers with COVID-19 have mild symptoms (and many, on subsequent mass screening, are found to be asymptomatic).

Inspection of MPP by DAFM revealed a series of challenges that were considered to have the potential to facilitate SARV-CoV-2 transmission, and these were to be addressed in any guidance to MPPs, including:

- *Infection Prevention and Control Measures*
  - Physical distancing
  - PPE deployment
  - Locker room and canteen space in several facilities necessitating marquee erection to provide extra space, and the provision of additional toilet space using portable toilets
  - More hand sanitisers where appropriate
  
- *Engagement and Communication with Staff*
  - Many non-English speaking workers
  - Worker mobile phone issues
  - Many workers had no GPs initially
  
- *Factors External to Working Environment*
  - Supports
  - Communal living arrangements
  - Travel to work - workers travelling in same cars - buses provided by some MPPs

### **NOCT Actions**

#### *Publication by NOCT of Interim Guidance on COVID-19 Outbreaks in MPPs in Ireland*

The development of guidance relating to COVID-19 outbreaks in meat factories was identified as being the initial, most important priority of the NOCT. The guidance was rapidly developed, based on the experience gained from investigation by local OCTs and MMWR recommendations, and in part on the interim CDC guidance; *Meat and Poultry Processing Workers and Employers Interim Guidance from CDC and the Occupational Safety and Health Administration (OSHA)*.<sup>30</sup>

On Friday 15/05/2020 the NOCT sent the Interim Guidance to managers of all DAFM approved registered meat establishments in Ireland. The guidance covered IPC 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 arrangements to work and financial support for workers. This was posted to the [HPSC website](#) on 18/05/2020.

In the investigation and management of outbreaks of infectious disease, Public Health and the protecting of human life take absolute priority. In light of this, the overall objectives of the advice were to:

- Prevent primary cases entering MPPs,
- Prevent spread within MPPs,
- Prevent spread into the wider community (including spread to vulnerable people), and
- Reduce impacts on the output and production of MPPs, as an important food industry.

The advice was laid out under four broad headings:

- IPC measures which should always be in place in order to prevent cases and control outbreaks – at the entry site, throughout the facility, in the canteen, in the production areas, in the locker room and toilets, and in the administrative areas.
- Steps to be taken when an individual case is suspected or confirmed
- Additional steps to be taken when an outbreak has occurred
- Factors external to the working environment including living conditions, travelling to work and financial support for workers.

The contact details of Departments of Public Health were sent to each MPP. Each Department of Public Health identified a departmental lead for liaison with MPPs in their region.

#### *PROVISION OF MULTILINGUAL MATERIALS*

During the investigation of local outbreaks, the issue of language barriers was repeatedly highlighted. For a significant number of MPP staff, English was not their first language, and the communication materials provided were often poorly understood, although there were already a significant number of translated materials on the HPSC and HSE websites.

A subcommittee was formed to develop specific material for non-English speaking MPP staff. The subcommittee produced and organised translation of a tailored two page document providing basic, crucial preventive information and advice on COVID-19 (particularly information for cases and contacts of the disease) for MPP staff, into each of the following languages: Polish, Russian, Portuguese, Lithuanian, Hungarian, Bulgarian, Latvian, Romanian, Chinese and Croatian. These had been identified by Meat Industry Ireland (the association representing MPPs) as being the 10 most commonly spoken languages among staff working in MPPs in Ireland. The material was produced to enable those with poorly developed reading skills or a low reading age to be able to understand the content. The final translated documents have been placed on the [HPSC website](#), and they link to further HSE and Migrant and Refugee Rights Centre (NASC) resources in about 30 or so of the most frequently spoken languages in Ireland. It was noted that the use of translators was essential for communication and clarification of public health advice in some of the outbreaks.

## DAFM Interventions

From early March onwards, DAFM liaised with MPP management (at local level via the Veterinary Inspector in charge in each MPP, and at central level via Meat Industry Ireland), with the 250 DAFM staff in MPP, and with approximately 700 hundred contractors (Temporary Veterinary Inspectors) engaged in meat inspection duties in relation to COVID-19 risk mitigation measures.

Following the issuing of the Interim Guidance by the NOCT, DAFM wrote to all MPPs on 19/05/2020, requesting each MPP to outline in writing to DAFM the actions that the MPP has taken to comply with the guidelines. As of 14/07/2020, responses had been received from 147 of the 150 MPPs under DAFM supervision, including all medium and large plants.

Based on feedback from DAFM staff, submissions received from each MPP, and feedback received from the HSA, there now appears to be a generally high level of compliance with the Interim Guidance issued by the NOCT on 15th May. The HSA inspections that have taken place in MPPs since 20/05/2020 have provided feedback to DAFM Veterinary Inspectors on each occasion.

On foot of HSA feedback and ongoing discussions, DAFM on 28/05/2020 significantly updated its own guidance to staff in MPPs in respect of PPE, risk assessment and other related issues.

MPP management in each facility had been very responsive and had implemented control measures to reduce the risk of transmission, often before the issuing of the Interim Guidance. The employees of affected MPPs have co-operated with the advice of the OCTs.

DAFM undertook additional work in ensuring MPPs were aware of the contents of the guidelines and would implement its recommendations. This varied depending upon the size of the MPP. For the larger MPPs, a full policy document on how guidelines were complied with was submitted by each MPP to DAFM within one week with full details of what had been implemented. These measures included:

- Physical distancing
- Cleaning
- Building and Environment Management systems
- Managing Third Parties – Contractors, Visitors, Customers
- Emergency Response
- Remote Working
- COVID-19 Case Management
- Managing Mental Health and Wellbeing
- Training
- PPE provision
- Engagement and Communications with Staff
- Return to work policy

The smaller and medium sized MPPs measures taken included:

- Posters being put up

- Hand sanitising stations being erected
- Restricted access to premises
- Social distancing measures implemented within canteens and staff amenities.
- Protective screening erected in areas where social distancing measures are difficult to implement e.g. driver's reception areas, admin offices.
- Adequate supplies of PPE being made available.

### **Local Authority Interventions**

Local Authority Veterinary Inspectors and Temporary Veterinary Inspectors liaised with management of affected MPPs under Local Authority supervision, to ensure that management was aware of, and were implementing the Interim Guidance.

### **HSA Actions**

The HSA, as a member of NOCT commenced reviewing matters relating to MPPs from 07/05/2020.

As COVID-19 preventative measures were put in place by affected MPPs following engagement by local OCTs and the issuing of the Interim Guidance to all MPPs on 15/05/2020, the HSA was in a position to check for the implementation of these specific infection control recommendations within the working environment along with other occupational health and safety requirements unrelated to COVID-19.

Identification and prioritisation of the MPPs inspected was based on consultations with Public Health and DAFM officials on the NOCT. Inspections were undertaken of all areas of the MPPs. Inspection visits to MPPs with known outbreaks were pre-advised at short notice to ensure that relevant management and other key personnel were available to facilitate a thorough inspection of the plants.

Inspections involved engagement with on-site personnel including management, health and safety advisors, COVID-19 Lead Worker Representatives, safety representatives and DAFM officials. Inspectors also liaised pre- and post-inspection with the Chair of the relevant local OCT to ensure effective planning and feedback regarding verification of the implemented public health measures for a number of MPPs. Feedback from the inspections was also provided to the NOCT, as appropriate.

Three of the inspections involved joint attendance with other agencies including the HSE Department of Public Health, EHS officials and officials of the Department of Agriculture, Food and Marine. Two of these three inspections involved a single facility.

The HSA received a high level of co-operation from management, staff and contractors in plants inspected and noted an overall responsiveness to guidance and advice issued both on-site and subsequently.

Based on the inspections and investigations carried out (both directly and in conjunction with other agencies and inspectorates), the HSA identified a generally high level of compliance with the recommended measures to limit the spread of COVID-19 in a workplace context, in line with the Interim Guidance issued by the NOCT. Inspectors issued written Reports of Inspections (ROIs) for all

MPPs inspected. Some of the items addressed in those reports included ensuring risk assessments/protocols were reviewed and aligned with the Interim Guidance and the Return to Work Safely Protocol and other matters as relevant. As the level of compliance within all MPPs was deemed acceptable, no enforcement notices were issued.

### **Occupational Health Service**

It was quickly identified that a major deficiency across a significant number of MPPs, was provision of/access to adequate Occupational Health services. The following were identified as being important needs to meet in relation to Occupational Health services.

1. **Employee engagement:** Engagement with employees and their representatives at all stages of an outbreak is vital to build trust and ensure cooperation with infection, prevention and control measures.
2. **Communication:** Communication with employees collectively and individually to ensure understanding of the implications of infection and outbreak for each of them, their colleagues, families and the local community. This will encourage compliance with public health advice.
3. **Protect privacy and medical confidentiality:** Reassurance to employees that their privacy and medical confidentiality will be protected.
4. **Individual occupational health consultation.** Availability of an Occupational Health nurse advisor/physician for confidential medical consultations to discuss individual concerns about COVID-19 and the risk to health, to ensure understanding of quarantine and self-isolation, to give personal medical advice and to liaise with treating doctors as required. The Occupational Health service should also be involved in contact tracing within the MPP.
5. **Fitness for work:** Review employees who are returning to work following a period of self-isolation/quarantine to ensure that each employee is fit for work and is not a risk to the health of their co-workers.

### **Future Enhanced Investigation and Research**

#### *1. Prospective Outbreak Investigations*

A research subcommittee of the NOCT was established that met initially on 15/06/2020, tasked with recommending a way in which the outbreaks occurring in MPPs could be effectively investigated. A key research question identified was to determine the locus of these outbreaks; internal or external to the MPPs. While there were strong indications the MPPs appeared to be the primary locations of the outbreaks, other EU countries (including the Netherlands and Germany) were of the opinion that the communal accommodation of their workers was likely to provide the sources of their outbreaks, which were then imported into the MPP. In Ireland, the NOCT suspected that the primary location of most outbreaks was likely to be within the MPPs, particularly since there were significant numbers of process/structural factors that could readily serve to facilitate internal spread of SARS-CoV-2. In addition, although the number of new cases in most MPP outbreaks had declined significantly by the time the Interim Guidance was published, it will have played a role in maintaining low numbers.

The MPPs initially seemed to be the single most likely explanation for the majority of these outbreaks, and appeared, when compared to investigated external factors (such a common accommodation/ transport for meat plant workers), to explain the majority of the MPP -associated cases. As the NOCT could not be certain that this was the entirely the case, it was felt important to exclude an external locus (or to at least attempt to quantify the relative contribution of the risk factors within the plants, and the associated external locations/factors, to these outbreaks).

The NOCT made the decision to develop a system of enhanced outbreak investigation and analysis. This would include (i) a process of swabbing of all plant workers/staff, to establish their COVID-19 infection status, in upcoming declared outbreaks, and (ii) to then determine how cases and non-cases differ in their exposure to various risk factors internal, and external to the plant, in order to calculate the relative contributions of the plant, and external locations, to the outbreak, and also to determine which areas of the plant might pose the greatest risk of disease acquisition. Consideration will be given for undertaking enhanced investigations of subsequent outbreak where appropriate.

A protocol and questionnaire to investigate future outbreaks and to determine the likely locus of these outbreaks has been developed.

## *2. Retrospective Environmental Study*

A study into the operational and environmental factors contributing to within-plant transmission is being developed. The aim of this study (initially a pilot study to assess feasibility) is to describe and measure specific operational and environmental conditions in MPPs that may contribute to the risk of within-plant transmission of SARS-CoV-19, following the introduction of the virus from outside. For the pilot study it is intended to conduct an in-depth evaluation of a range of parameters in a single facility in which a large cluster of cases occurred (the entire workforce of this plant was subject to PCR testing and approximately one third tested positive). This retrospective approach, involving specific observations and measurements, a review of documentation and interviews with senior staff, should help to elucidate what if any contribution structures and processes within the plant may have made to transmission of COVID 19. In addition the investigative team is currently preparing a grant application for funding to support a longer-term and more comprehensive study of within-plant risk factors and of measures to provide enhanced risk mitigation.

A fuller description of these is available in Appendix G.

## 6. Conclusions

The NOCT was a rapidly assembled, interagency and interdisciplinary investigation team tasked with examining and describing the MPP outbreaks and developing a series of recommendations to prevent and manage outbreaks of COVID-19 in MPPs in Ireland. While control of existing outbreaks will always take precedence, any conclusions and recommendations must also provide a firm basis for effective preventive measures, to minimise disease transmission in the future.

Due to pandemic and logistical restrictions, the NOCT met virtually, by teleconference and worked electronically.

There was an urgent need to provide national standardised advice and guidance for MPPs to enable them to put in place measures to prevent the development of outbreaks in their facilities. The initial development of *Interim Guidance on COVID-19 Outbreaks in Meat Factories in Ireland* was intended to provide MPP operators with a series of advisory steps that they could readily implement to ensure a standardised and effective approach to the cases, clusters and outbreaks, and their prevention in MPPs.

The advice fell under the following broad headings:

### **1. Infection prevention and control measures within the factory which should always be in place**

There was a necessity for very frequent systematic cleaning of all hand touch surfaces on an hourly basis, in conjunction with the scrupulous application of hand hygiene and use of PPE.

### **2. Steps to be taken when an individual case of COVID-19 is suspected or confirmed**

The suspected case must be moved off-site, isolated, interviewed and have possible contacts identified, and referred for testing.

### **3. Additional steps to be taken as soon as an outbreak is declared**

This will involve further escalation, requiring prompt follow-up of contacts and contact details of every worker employed by the MPP.

### **4. Engagement and communication with staff**

This is perhaps the most important factor in controlling and preventing future outbreaks, and can be greatly facilitated with the use of language-specific and visual material that informs the workforce as to what is happening. Poor comprehension by MPP workers for whom English is not their first language has been identified in the US and Europe as contributing to transmission of COVID-19. The multilingual material produced by NOCT for staff was designed to ensure that all necessary knowledge was made available to staff, and in a format that was easily understood.

## **5. Factors external to the working environment**

The use of communal accommodation/travel that might provide other routes/locations of disease transmission is an important consideration. And while certain indirect evidence from this investigation strongly suggested that the MPPs were the site of origin of most these outbreaks, one of the key research aims of the planned prospective outbreak investigations was to attempt to calculate the relative contributions of the plant, and external locations, to the outbreak.

The following findings constituted the conclusions of the NOCT, regarding the Control of COVID-19 Outbreaks in MPPs.

### **1. Controlling spread, maintaining production**

Controlling an outbreak in a meat factory requires action across multiple domains. These are set out in the *Interim Guidance on COVID-19 Outbreaks in Meat Factories in Ireland*, mentioned above, but in summary are:

#### *Protection systems*

Structural changes in the factory to ensure physical distancing; including: the use of acrylic glass screens where necessary, protection of workers through appropriate PPE; hand hygiene; enhanced cleaning of the MPP; and staggered shifts and breaks to reduce interpersonal contact.

#### *Screening, testing, tracing*

It was identified that there was a necessity to screen workers through temperatures and symptom checks each day before entry to the MPP; with rapid testing for those with symptoms; exclusion of ill staff and their work, travel and household contacts, in accordance with guidance.

#### *Monitoring*

Monitoring the data on positive cases and numbers of contacts was identified as being crucial. Worker illness and absenteeism should also be monitored.

#### *Mass Testing, based on Public Health Risk Assessment*

This might involve testing of all workers in specific sections of the MPP or of all staff in the MPP.

#### *Communication*

Early communication with employees about the disease and measures to control it, using multiple means and in languages and methods that will be understood by those whose first language is not English and from other cultures is essential. Communication was also necessary for wider the community to inform, and to allay concerns.

#### *Coordination*

Outbreaks require to be managed by a local OCT led by Public Health. The OCT may include membership from local EHS officers, local DAFM representatives, local Occupational Health, local GPs and Microbiology. In larger outbreaks involvement of other agencies including local authority



representatives, An Garda Síochana and the local community has significantly aided successful management and control of the outbreak. It is important to ensure involvement of, and maintain open lines of communication with MPP management and employee representatives during the outbreak investigation.

## 2. Successful control of outbreak

The following were identified as being key in controlling outbreaks in MPPs successfully:

- a. Full cooperation by MPP management with all control measures and acting on all advice from the Public Health-led OCT or specific professionals such as HSA, IPC staff, DAFM staff or Occupational Health.
- b. Independent verification of implementation of advice and control measures is available to OCT.
- c. Full engagement of employees with all control measures, as evidenced through employees' representatives or independent observation
- d. Redesigning of work processes to reduce the number of workplace contacts in line with *Interim Guidance on COVID-19 Outbreaks in Meat Factories in Ireland*.
- e. Good communication actions with employees through GPs, community networks, social media or channels of other agency bodies involved e.g. Local Authority and with local community where deemed necessary.
- f. Use of interpreters to ensure that public health guidance is understood and undertaken by cases and contacts.
- g. As a result of the actions undertaken by the local MOH/OCT and NOCT, the following came about:
  - A marked slowing in the rate of appearance in the number of new cases appearing in MPPs
  - Limited spread of infection in wider local community (including local residential care settings).

## 3. Closing an MPP

In other countries some MPPs have been closed by authorities in response to an outbreak of COVID-19. The conditions that led to decision to close are unclear from the available information. A closure in Australian meat factory was reportedly to allow for deep cleaning of the MPP. In the US, a number of MPPs closed because of very high numbers of infected staff. In the Netherlands, health and safety officials withdrew because of a COVID-19 outbreak.

In Ireland, meat factories operate as essential services as defined by the Government. MPP workers appear to be especially prone to outbreaks of COVID-19, as had been identified in many different countries. The causes driving these outbreaks would seem to be multiple and not yet fully understood. There are many measures that can be taken to reduce the risk of the disease being introduced into the factory and to control its spread if some workers become infected. While preventive measures can make working practices or conditions a little more complex, they allow the factory to continue to operate. In circumstances as a result of an outbreak of COVID-19, following careful examination of the operation of the MPP, the distribution and numbers of outbreak cases,

the feasibility of the immediate imposition of control measures, a decision to close the plant may be considered necessary.

### **Core Conclusions of the NOCT**

Following review of the evidence gathered by the NOCT, there was a moderately high degree of confidence that the primary point at which cases became amplified into outbreaks was likely to be within the majority of MPPs, since significant numbers of process/structural factors that could readily serve to facilitate internal spread of SARS-CoV-2 were present. However, a number of external locations could also play a part in facilitating transmission, to and from MPPs, including local supermarkets and nursing homes, illustrating the complexity of these incidents.

### **Meeting the NOCT's Objectives**

The objectives for the NOCT were met, as laid out below:

**1. *Investigate and manage outbreaks of COVID-19 outbreaks in meat factories in Ireland***

Each MPP outbreak was effectively managed and controlled by local Public Health with the assistance of an OCT, if deemed appropriate. The NOCT reviewed the investigative approaches to, management of and underlying potential risk factors resulting in these outbreaks.

**2. *Summarise current epidemiology of COVID-19 outbreaks in meat factories in Ireland***

This has been done and is covered in the Epidemiological Situation section in Chapter 4. NPHEAT were provided with interim updates over the course of the work of the NOCT.

**3. *Review any available evidence, advice, and guidance and in relation to prevention and control of COVID-19 outbreaks in meat factories***

This has been successfully completed and all learning has been included in the *Interim Guidance on COVID-19 Outbreaks in Meat Factories in Ireland* (an updated Version 1.1 was published on the HPSC website on 30/06/2020). This document is reproduced in Appendix I of this Report. This best available evidence and learning has also been incorporated into multilingual material and into the prospective outbreak investigation material (see Appendix G).

**4. *Ensure consistency of approach across the Regions.***

The provision of the *Interim Guidance on COVID-19 Outbreaks in Meat Factories in Ireland*, built as it was on best international evidence and Irish expert knowledge, and its ready take up by MPP operators, will ensure that the future approach to preventing COVID-19 transmission in MPPs, and in managing outbreaks will be consistent. In addition, each local OCT had representation on the NOCT, which provided vital local knowledge and perspective at a national level. Another significant success of the NOCT was that it brought together a number of key stakeholders, especially the DAFM and the HSA, to agree on respective responsibilities and coordinated approaches at both local and national levels to prevent and control COVID-19 outbreaks in MPPs.

**5. *Development of guidelines for the prevention and management of outbreaks of COVID in meat factories in Ireland.***

The initial guidance to MPPs was issued to MPP Operators on 15/05/2020. The *Interim Guidance on COVID-19 Outbreaks in Meat Factories in Ireland* was published on the HPSC website on 18/05/2020. The most recently updated version (V1.1) of the Interim Guidance was posted online on 30/06/2020.

**COVID-19 and Food Safety**

An important international finding re-affirmed by this investigation, was that there was no evidence to support transmission of COVID-19 through meat or poultry products or other foods. The main mode of transmission is from person to person, directly and indirectly. The European Food Safety Authority (EFSA) has stated that “Experiences from previous outbreaks of related coronaviruses, such as severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome coronavirus (MERS-CoV), show that transmission through food consumption did not occur. At the moment, there is no evidence to suggest that coronavirus [SARS-CoV-2] is any different in this respect.”<sup>31</sup>

## 7. Recommendations

The following recommendations were agreed by members of the NOCT:

### Horizon Scanning and Preplanning

1. There is a need for a Standing Committee on COVID-19 in MPPs to keep a watching brief on the circumstances in MPPs, to be available to update guidelines and to oversee the establishment of a follow-up NOCT, in the event of any resurgence of outbreaks in MPPs. In the event of a second wave of COVID-19 infection, the potential exists for outbreaks to reappear in MPPs (or in other similar, essential sectors such as dry food processing plants, such as occurred in the UK), and a rapid response at a national level may be required.

### Legislation

2. NOCT recommends that the Minister for Health enacts regulations to allow for the closure of premises as per Section 31A of the Health Act of 1947 (inserted under the Health (Preservation and Protection and other Emergency Measures in the Public Interest) Act of 2020) as per legal advice obtained by NOCT.

### Data Collection

3. Information on place of work information from all positive cases will be required for effective outbreak investigation in MPPs in future. Options as to how this should be captured should be explored.

### Messaging

4. Targeted channelling of pandemic messaging and awareness-raising for all of those workplaces deemed as essential services once a pandemic has been declared, in order to protect workers is crucial.
5. There was a need to provide tailored, multilingual resources for MPP staff.

### MPPs

6. MPPs should continue to follow the *Interim Guidance on COVID-19 Outbreaks in Meat Factories in Ireland*
7. MPPs should ensure that they alert Public Health if they are informed of, or suspect case(s) of COVID-19 among their workforce.
8. Contracting of Occupational Health services by MPPs should be considered an absolute priority (supported by appropriate translation services) to ensure that the health and communication needs of employees can be readily met. Employee confidentiality should be protected as far as is practical.
9. MPPs should maintain records on the principal language of their staff members.
10. Independent interpreters should be used in MPPs.

11. MPP management should establish a COVID-19 committee/ COVID-19 Officer in the workplace to implement infection, prevention and control measures and provide training and adequate resources for this role.

#### **Meat Plant Workers**

12. It should be ensured that worker representatives are involved in outbreak investigations to enable their experience and issues to inform the work of the OCT.
13. Encourage workers in MPPs to register with a GP - this should be facilitated by MPP management.

#### **Guidance**

14. The *Interim Guidance on COVID-19 Outbreaks in Meat Factories in Ireland* should be updated as required.

#### **Inspections**

15. The HSA, DAFM, HSE-EHS and Local Authority Veterinary Inspectors will continue with usual MPP inspections

#### **Future Enhanced Investigation and Research**

16. If future outbreaks occur, enhanced investigation into facility-related factors of disease and social factors related to MPP staff will be necessary
17. Future outbreaks in MPPs should be supported by targeted environmental sampling, to describe the outbreak as completely as possible, and to provide evidence necessary to support epidemiological investigations
18. There is a need for a Retrospective Environmental Investigation to further explore the underlying reasons for outbreaks occurring in these facilities.

# 8. Appendices

## 1 Appendix A: Timeline of Implementation of Recommendations

Recommendation	Responsible Agency	Timeline
<b>Horizon Scanning and Preplanning</b>		
1. There is a need for a Standing Committee on COVID-19 in MPPs to keep a watching brief on the circumstances in MPPs, to be available to update guidelines and to oversee the establishment of a follow-up NOCT, in the event of any resurgence of outbreaks in MPPs. In the event of a second wave of COVID-19 infection, the potential exists for outbreaks to reappear in MPPs (or in other similar, essential sectors such as dry food processing plants, such as occurred in the UK), and a rapid response at a national level may be required.	Members of MPP Standing Committee	Ongoing
<b>Legislation</b>		
2. NOCT recommends that the Minister for Health enacts regulations to allow for the closure of premises as per Section 31A of the Health Act of 1947 (inserted under the Health (Preservation and Protection and other Emergency Measures in the Public Interest) Act of 2020) as per legal advice obtained by NOCT.	Department of Health	Immediate
<b>Data Collection</b>		
3. Information on place of work information from all positive cases will be required for outbreak investigation in MPPS in future. Options as to how this should be captured should be explored.	HPSC/HSE-Areas	Ongoing

1

Recommendation	Responsible Party	Timeline
<b>Messaging</b>		
4. Targeted channelling of pandemic messaging and awareness-raising for all those workplaces deemed as essential services once a pandemic has been declared, in order to protect workers.	Members of MPP Standing Committee/HSE-Areas/HSE-Comms	Ongoing
5. There was a need to provide tailored, multilingual resources for MPP staff.	NOCT	Completed date 10/07/20 – available on the <a href="#">HPSC website</a>
<b>Meat Processing Plants</b>		
6. MPPs should continue to follow the <i>Interim Guidance on COVID-19 Outbreaks in Meat Factories in Ireland</i>	MPP Management	Ongoing
7. MPPs should ensure that they alert public health if they are informed of, or suspect case(s) of COVID-19 among their workforce	MPP Management	Ongoing
8. Contracting of Occupational Health services by MPPs should be considered an absolute priority (supported by appropriate translation services) to ensure that the health and communication needs of employees can be readily met.	MPP Management/Occupational Health	Immediate and ongoing
9. MPPs should maintain records on the principal languages of their staff members	MPP Management	Immediate and ongoing
10. Independent interpreters should be used in MPPs	MPP Management	Immediate and ongoing

2



Recommendation	Responsible Party	Timeline
11. MPP management should establish a COVID-19 committee/COVID-19 Officer in the workplace to implement infection, prevention and control measures and provide training and adequate resources for this role.	MPP Management	Immediate and ongoing
<b>Meat Plant Workers</b>		
12. It should be ensured that worker representatives are involved in outbreak investigations to enable their experience and issues to inform the work of the OCT	Local OCTs	Immediate and ongoing
13. MPP management and Occupational Health should encourage and facilitate workers in MPPs to register with a GP.	MPP/Local GPs/Local PH/HSE/Members of MPP Standing Committee	Immediate and ongoing

1

2

Recommendation	Responsible Party	Timeline
<b>Guidance</b>		
14. The <i>Interim Guidance on COVID-19 Outbreaks in Meat Factories in Ireland</i> should be updated as required	Members of MPP Standing Committee	Current version (30/06/20) available on the <a href="#">HPSC website</a>
<b>Inspections</b>		
15. The HSA, DAFM (including local authority Veterinary Inspectors) and HSE will continue with inspections of meat processing facilities	HSA/HSE/DAFM (incl local Authority Veterinary Inspectors)	Immediate and ongoing
<b>Future Enhanced Investigation and Research</b>		
16. If future outbreaks occur, enhanced investigation into facility-related factors of disease and social factors among meat factory workers will be necessary	Local OCT led by the MOH. Members of MPP Standing Committee/HSE/HPSC/DAFM/HSA/MPPs	Immediate and ongoing
17. Future outbreaks in MPPs should be supported by targeted environmental sampling, to describe the outbreak as completely as possible, and to provide evidence necessary to support epidemiological investigations.	Local OCT led by the MOH. Members of MPP Standing Committee/HSE/HPSC/DAFM/CVRL.	Immediate and ongoing
18. There is a need for a Retrospective Environmental Investigation to further explore the underlying reasons for outbreaks occurring in these facilities.	CVRL/DFAM/HSE/HPSC/UCD	Completion Q4 2020

## Appendix B: Epidemiological Definitions

### A. COVID-19 Interim Case Definition for Ireland

*Version 5.8 (19/06/2020)*

#### **Clinical criteria**

A patient with acute respiratory infection (sudden onset of at least one of the following; cough, fever (1), shortness of breath)

**OR**

Sudden onset of anosmia (2), ageusia (3) and dysgeusia (4)

*AND* with no other aetiology that fully explains the clinical presentation

**OR**

A patient with any acute respiratory tract infection who has been in close contact with a confirmed or probable COVID-19 case in the 14 days prior to onset of symptoms.

**OR**

A patient with acute respiratory infection (e.g. cough, fever, shortness of breath) OR sudden onset of anosmia, ageusia and dysgeusia) AND having been a resident or a staff member, in the 14 days prior to onset of symptoms, in a residential institution for vulnerable people where ongoing COVID-19 transmission has been confirmed.

**OR**

A patient with severe acute respiratory infection (fever and at least one sign/symptom of respiratory disease (e.g. cough, fever, shortness of breath)) AND requiring hospitalisation (SARI) AND with no other aetiology that fully explains the clinical presentation.

*Clinical judgement should be applied in application of these criteria to determine who requires testing.*

#### **Diagnostic imaging criteria**

Radiological evidence showing lesions compatible with COVID-19

#### **Laboratory criteria**

Detection of SARS-CoV-2 nucleic acid in a clinical specimen

### ***Case classification***

#### *Possible case*

Any person meeting the clinical criteria

#### *Probable case*

Any person meeting the clinical criteria with an epidemiological link

#### **OR**

Any person meeting the diagnostic imaging criteria

#### *Confirmed case*

Any person meeting the laboratory criteria

### **Notes**

1. Fever may be subjective or confirmed by healthcare worker ( $\geq 38.0^{\circ}\text{C}$ ).
2. Loss of sense of smell
3. Loss of sense of taste
4. Distortion of sense of taste
5. Close contact:  $< 2$  metres face-to-face contact for greater than 15 minutes.

## **B. COVID-19 Outbreak Case Definition**

*Version 2.0 (15/05/2020)*

### **Confirmed**

A cluster/outbreak, with two or more cases of laboratory confirmed COVID-19 infection regardless of symptom status. This includes cases with symptoms and cases that are asymptomatic.

### **OR**

A cluster/outbreak, with two or more cases of illness with symptoms consistent with COVID-19 infection (as per the COVID-19 case definition), and at least one person is a confirmed case of COVID-19.

### **Suspected**

A cluster/outbreak, with two or more cases of illness with symptoms consistent with COVID-19 infection (as per the COVID-19 case definition)

## Appendix C: Terms of Reference of National Outbreak Control Team

### Objectives

1. To review investigative approaches adopted that could be applied to, future outbreaks of COVID-19 in MPPs.
2. Summarise current epidemiology of COVID-19 outbreaks in meat factories in Ireland
3. Review any available evidence, advice, and guidance and in relation to prevention and control of COVID-19 outbreaks in meat factories
4. Ensure consistency of approach across the Regions
5. Development of guidelines for the prevention and management of outbreaks of COVID-19 in meat factories in Ireland.

Meetings will be held on a twice weekly basis initially

<b>Step One</b>	<ul style="list-style-type: none"> <li>• Agree TOR and project scope of group</li> <li>• Agree roles within group and groupings to deliver key deliverables</li> <li>• Overview of epidemiology, current issues in relation to meat factory outbreaks and any available existing guidance (present the guidance)</li> <li>• Identify stakeholders to whom the outputs of the group should be sent.</li> <li>• Immediate control measures for implementation.</li> </ul>
<b>Step Two</b>	<ul style="list-style-type: none"> <li>• Epidemiology</li> <li>• Review of control measures</li> <li>• Current issues at meat factories</li> <li>• First draft of prevention and management of outbreaks in meat factories in Ireland for discussion and comment</li> </ul>
<b>Step Three</b>	<ul style="list-style-type: none"> <li>• Finalisation and agreement of the above</li> </ul>

## Appendix D: Legislative framework

### A.1. Public Health Legislation

A [summary](#) of Public Health legislation is available on the HSE website.<sup>32</sup> The Departments of Public Health implement the MOH legislation. The MOH has the responsibility and authority to investigate and control notifiable infectious diseases and outbreaks, under the Health Acts 1947 and 1953; Infectious Disease Regulations 1981 and subsequent amendments to these Regulations. Infectious Diseases Regulations, 1981-Regulation 11) SI No. 707 of 2003 - Infectious Diseases (Amendment)(No. 3) Regulations 2003 added disease clusters and changing patterns of illness that may be of public health concern to the conditions that must be notified to the MOH.

The MOH function can be summarised as: The investigation, prevention and control of notifiable infections and outbreaks and *'shall make such enquiries and take such steps as are necessary or desirable for investigating the nature and source of such infection, for preventing the spread of such infection and for removing conditions favourable to such infection'*.

Regulations 11 of the Infectious Diseases Regulation 1991 (S.I. No 381 of 1981) states:-

*'11. On becoming aware, whether from a notification or intimation under these Regulations or otherwise, of a case or a suspected case of an infectious disease or of a probable source of infection with such disease, a medical officer of health, or a health officer on the advice of a medical officer of health, shall make such enquiries and take such steps as are necessary or desirable for investigating the nature and source of such infection, for preventing the spread of such infection and for removing conditions favourable to such infection'*.

This power may be enforceable by the risk of criminal liability under Article 19:

*"19. A person who refuses to comply with a requirement or direction given or a request for information made in pursuance of any of the provisions of these Regulations shall be guilty of a contravention of these Regulations."*

The Health Act 1947 was amended with the insertion of Section 31A. This section was inserted by the Health (Preservation and Protection and other Emergency Measures in the Public Interest) Act 2020. It allows for the Minister to make regulations in the context of the response to the pandemic *"for the purpose of preventing, limiting, minimising or slowing the spread of Covid-19 (including the spread outside the State) or where otherwise necessary, to deal with public health risks arising from the spread of Covid-19 and, without prejudice to the generality of the foregoing, such regulations may, in particular, provide for all or any of the following: the safeguards required to be put in place by owners or occupiers of a premises or a class of premises (including the temporary closure of such premises) in order to prevent, limit, minimise or slow the risk of persons attending such premises of being infected with Covid-19 [emphasis added] (Section 31A(f)).* However, these particular Regulations, although allowed for, have not (yet) been enacted.

If these Infectious Disease regulations and powers are to be used to compulsorily close a business legal advice is necessary. Issues to be considered are the risks to the staff, the general population, the conditions which give rise to the risk, the service of notice, the remedial actions required, and the conditions for re-opening and actions to be followed in the event of non-co-operation.

## A.2. Occupational Health and Safety Legislation

Authorised officers of the HSA carry out inspections to monitor compliance with the Safety, Health and Welfare at Work Act 2005 (the 2005 Act), the Chemicals Act 2008 and other relevant legislation which may apply at the time of the inspection.

- Safety, Health and Welfare at Work (General Application) Regulations 2007 (S.I. No. 299 of 2007 – as amended) – e.g. deals with ventilation, room temperature, welfare facilities, rest / changing rooms, workplace equipment, PPE etc.
- Safety, Health And Welfare At Work (Chemical Agents) Regulations 2015 (S.I. No. 623 of 2015)
- Safety Health and Welfare at Work (Biological Agents) Regulations 2013 (S.I. No. 572 Of 2013) (legionella control, zoonotic diseases etc)

However in practice the most relevant legislation is Safety, Health and Welfare at Work (General Application) Regulations 2007 (S.I. No. 299 of 2007 – as amended)

Normally a HSA workplace inspection follows a sampling approach where the Inspector needs to establish the adequacy of the control measures in place for specific risks and the extent of management compliance with their duties under the 2005 Act and other relevant legislation. In normal circumstances there are a number of steps that a HSA inspector would take prior to seeking a High Court Order for closure. These may include written advice, Inspection Notice, or a Prohibition Notice.

Section 67 of the Safety Health and Welfare at Work Act 2005 provides for a prohibition of workplace activity if there is a risk to a person at the work place of a serious “personal injury” occurring. A “personal injury” includes : *“Where an inspector is of the opinion that at any place of work there is occurring or is likely to occur any activity (whether by reference to any article or substance or otherwise) which involves or is likely to involve a risk of serious **personal injury** to any person, the inspector may serve a written notice (in this Act referred to as a “prohibition notice”) on the person who has or who may reasonably be presumed to have control over the activity concerned.*

It is unlikely that the H&S legislation would lead to an immediate closure if that was what is needed for an outbreak, as it might take a few weeks for notices to be implemented.

## A.3. Environmental Health Legislation

The main food hygiene legislation that the EHS are authorised under includes EU legislation (in black text) and corresponding SI (in blue text). This list is not exhaustive but includes the main relevant food hygiene legislation applicable to the Canteens in Meat Factories and does not include the specific non-food hygiene legislation that needs to be applied in these businesses:

### European Legislation

- Regulation (EC) No 178/2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety
- Regulation (EU) 2017/625 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health and plant protection products
- Regulation (EC) No 852/2004 on the hygiene of foodstuffs
- Regulation (EC) No 853/2004 laying down specific hygiene rules for food of animal origin



### National Legislation

- European Communities (General Food law) Regulations 2007 ( S.I. No. 747 of 2007)
- European Union (Official Controls in relation to Food Legislation) Regulations 2020 (S.I. No. 79 of 2020)
- European Communities (Hygiene of Foodstuffs) Regulations 2006 (S.I. No. 369 of 2006)
- European Union (Food and Feed Hygiene) Regulations 2020 (S.I. No. 22 of 2020)
- Food Safety Authority of Ireland Act, 1998 (No 29 of 1998)

Environmental Health Officers (EHOs) remit in MPPs relates only to the canteens in such establishments. When inspecting meat factory canteens, EHOs verify compliance with the above legislation specifically with regards to the canteen where food is produced for staff. The inspection focuses on four main areas:

1. Operational Hygiene,
2. Structural Hygiene,
3. Food Safety Management/HACCP Systems (as well as Good Hygiene Practices and any Prerequisite Programmes, as appropriate) and
4. Management Procedures (i.e. policies and procedures for staff illness, staff training, pest control, waste management, etc.).

It is an offence to obstruct an authorised officer or to fail to comply with a request from an authorised officer under the legislation listed. Under the various legislation listed above, there are a number of Enforcement Powers available to the EH Service, namely: Prosecution, Closure Orders, Prohibition Notices/Orders, Improvement Notices/Orders, Compliance Notices, Fixed Payment Notices, seize/remove/detain and destroy foodstuffs that do not comply with the law.

However, the powers under food safety legislation are not appropriate for the purposes of seeking to enforce the closure of a food processing facility due to COVID-19. The regulations relate to potential risks to consumers from food and the food production process rather than direct risks to employees due to the respiratory spread from COVID-19.

#### **A.4. Food Safety Legislation (Department of Agriculture, Food and Marine & Local Authorities)**

The nature of the legislation under which DAFM operates relates to animal welfare, animal health and food safety, and is less relevant to the context of human health and safety concern such as COVID-19.

The principal EU legislation on ensuring food safety in meat establishments are:

- Regulation (EC) No 178/2002,
- Regulation (EC) No 852/2002
- Regulation (EC) 853/2004,
- Regulation (EU) 2017/625 on official controls
- Regulation (EU) 2019/624,
- Regulation (EU) 2019/627.

These regulations are part of the EU's Hygiene Package, the European Community's framework of food and feed hygiene legislation. The Hygiene Package is currently given effect in Irish law by the European Union (Food and

Feed Hygiene) Regulations 2020 (S.I. No 22 of 2020). Since January 2006, the Department has been carrying out inspections of all existing and new meat establishments for approval under the Hygiene Package (as now provided for in S.I. 22 of 2020).

The primary national legislation relating to animal health and welfare is the Animal Health & Welfare Act, 2013. There is also a variety of EU legislation in relation to both animal health and animal welfare; two of particular relevance as regards slaughter plants and animal welfare are (i) Regulation 1/2005/EC, which deals with welfare during transport and (ii) Regulation 1099/2009 -protection of animals at the time of killing.

## Appendix E: Roles and Responsibilities of each Agency/ Organisation/ Group in Managing COVID-19 Outbreaks in MPPs

### **The Role of the Employer:**

- To provide adequate resources for the prevention and control of COVID-19 in the workplace.
- To cooperate with MOH in the prevention and control of COVID-19 in the workplace and in the management of an outbreak.
- To assist the MOH in communicating and engaging with employees.
- To facilitate employees in taking leave for self-isolation and quarantine.
- To facilitate employees in following public health advice.
- To make available occupational health services to ensure employees receive appropriate medical care and advice, to ensure that employees returning to work are fit and well and not a risk to their colleagues.
- To take all necessary steps to protect the employees right to privacy.
- To make available employee assistance serves to assist employees cope with the stress of the impact of COVID -19 on mental health and wellbeing.
- To provide adequate resources for information and training on the importance of compliance with IPC.
- To make available a COVID-19 Officer to liaise with employees, occupational health and public health on a case by case basis. To provide adequate training and resources to the COVID-19 officer.

### **The role of the employee**

- To follow the guidance provided by Occupational Health /Public Health on testing, self-isolation and quarantine.
- To comply with medical advice from their treating doctors.
- To cooperate with COVID-19 infection, prevention and control measures in the workplace.
- Symptomatic employees should not attend work or should leave work/self-isolate if become symptomatic at work.
- Symptomatic employees should inform their manager/the occupational health service/ COVID-19 Officer to ensure appropriate measures to protect their own health and that of their colleagues.

### **The role of Public Health:**

The Directors of Public Health and the Consultants in Public Health Medicine in each Department of Public Health implement the MOH legislation.

The MOH has the responsibility and authority to investigate and control notifiable infectious diseases and outbreaks, under the Health Acts [1947](#) and [1953](#); [Infectious Disease Regulations 1981](#) and subsequent amendments to these regulations.

The MOH undertakes the following actions:

- Investigates the spread of notifiable infectious diseases.
- Issues advice and directives for preventing infection and controlling outbreaks utilising current guidelines and best practice.
- Ensures cases and contacts are managed and advised appropriately.
- Analyses and interprets data relating to the outbreak to inform advice and decisions.
- Convenes and chairs multidisciplinary OCTs.
- Liaises with relevant parties, e.g. employers, employees, occupational health, EHS, infection control, microbiology, GPs, veterinary health etc., during an outbreak to ensure appropriate infection control measures are followed.
- Compiles and disseminates guidance to address and reduce the risk of infection.
- Collects surveillance data on the cases of notifiable disease which are collated by HPSC at a national level.

### **The Role of the Health Protection Surveillance Centre**

The Health Protection Surveillance Centre (HPSC) is Ireland's specialist agency for the surveillance of communicable diseases.

HPSC is part of the Health Service Executive and works in partnership with health service providers and sister organisations in Ireland and around the world, to provide the best possible information for the control and prevention of infectious diseases. HPSC strives to protect and improve the health of the Irish population by providing timely information and independent advice, and by carrying out disease surveillance, epidemiological investigation and related research and training.

HPSC may be invited to participate on a local OCT, to provide support and advice, at the request of the local MOH. When outbreaks involve three or more HSE-Areas (or at the invitation of local MOHs, in the case of less extensive outbreaks), or when an outbreak is national or international in extent, the lead outbreak management role will fall to HPSC.

### **The role of Occupational Health:**

- To assist the MOH in the control and management of a workplace outbreak of COVID-19
- To provide advice to the employer on the development and implementation of IPC of COVID-19 in the workplace.
- To assist with communication of public health information to the workforce.
- To liaise with employee representatives to facilitate employee engagement with public health guidance.
- To assist the local public health team with mass testing of the workforce.
- To assess symptomatic employees (by telephone) to ensure appropriate medical advice, medical care and referral for testing.
- To liaise with symptomatic employees' treating doctors to ensure appropriate medical care.
- To determine an employee's fitness to return to work following self-isolation / quarantine. To ensure the employee is capable of work and is no longer a risk to the health of others at work.
- To provide advice to the employer (with appropriate consent) on employee fitness for work
- To provide confidential Occupational Medical services for employees

- To give advice to the employees and employer on identification and follow up of workplace close contacts of known or suspected cases of COVID-19.

#### **The Role of the Department of Agriculture, Food and the Marine**

- To help and support HSE/Public health at local level in managing outbreaks
- To help and support the NOCT at national level
- To monitor compliance on an ongoing basis with the NOCT Guidelines
- To support the HSA as required

#### **The Role of the Health and Safety Authority**

- To provide co-ordinated independent inspection support. Health and Safety Authority (HSA) inspectors carried out inspections of all affected MPPs to monitor compliance with the Interim Guidance, National Return to Work Protocol, the Safety, Health and Welfare at Work Act 2005 (the 2005 Act) and other relevant occupational health and Safety legislation that would have applied at the time of the inspection.

#### **The Role of the Environmental Health Service**

- To enforce Food Control Legislation in the Canteen and Restaurant of MPP and to advise the OCT in relation to these requirements.
- To provide advice to the Food Business Operator about application of Food Control Legislation in the above areas only in MPP.
- To assist and advise the Local and National OCTs as required.

## Appendix F: Outbreak Data from Local OCTs

	Date of first case	Total number of positives (staff)	Number of suspect cases	Mass testing undertaken	Mass testing undertaken more than	Is the outbreak closed
Facility 01	19/04/2020	224 confirmed + 2 presumptive (Total=226)	2	Yes	Yes	Closeout due 28/07/2020
Facility 02	20/04/2020	142	0 (All tested)	Yes	No	Yes, as of 30/06/2020
Facility 03	21/03/2020	146	Unknown	Yes	Yes	Yes, as of 26/06/2020
Facility 04	17/04/2020	114	0	Yes	No	Yes, as of 17/06/2020
Facility 05	04/04/2020	114	15	Yes	No	Yes, as of 18/06/2020
Facility 06	23/04/2020	100	31	Yes	No	Yes, as of 01/06/2020
Facility 07	03/04/2020	37	0	No	No	Yes, as of 22/05/2020
Facility 08	16/04/2020	37	0	Yes	No	Yes, as of 03/06/2020
Facility 09	23/03/2020	25	Unknown	No	No	Yes, as of 30/05/2020
Facility 10	26/04/2020	24	0	No	No	Yes, as of 18/06/2020
Facility 11 <sup>h</sup>	-	0	27 (0 Detected)	No	No	Yes
Facility 12	19/04/2020	14	7	Yes	No	Yes, as of 05/06/2020
Facility 13	27/04/2020	21	0	No	No	Yes, as of 23/06/2020
Facility 14	02/04/2020	7	67	No	No	Yes, as of 29/05/2020
Facility 15	16/04/2020	4	9	No	No	Yes, as of 20/05/2020
Facility 16	24/04/2020	3	0	No	No	Yes, as of 02/06/2020
Facility 17 <sup>i</sup>	-	-	-	-	-	N/A
Facility 18	29/03/2020	4	0	No	No	Yes, as of 05/06/2020
Facility 19	15/03/2020	15	0	No	No	Yes, as of 01/07/2020

<sup>h</sup> Facility 11 had 27 suspect cases investigated but no cases were diagnosed.

<sup>i</sup> Facility 17 had one case without transmission within the facility. It was declassified as an outbreak on 12/06/2020.

Facility 20	11/03/2020	6	Not available	No	No	Yes, as of 24/05/2020
Facility 21	29/05/2020	2	Not available	No	No	Yes, as of 29/06/2020
Facility 22	18/05/2020	4	3	No	No	Yes, as of 24/06/2020
Facility 23	27/05/2020	2	0	Yes	Yes	Yes, as of 02/07/2020

## Appendix G: Future Research Actions

### 1. Prospective Outbreak Investigations

A research subcommittee of the NOCT met initially on 15/06/2020 and was tasked with recommending a way in which the outbreaks occurring in MPPs could be effectively investigated. A modified outbreak protocol and questionnaire were developed to determine the primary source for these outbreaks. While there were strong indications the MPPs appeared to be the primary locations for most of the MPP outbreaks (including evidence from the US and significant numbers of process/structural factors that could readily serve to explain internal spread of SARS-CoV-2), there were indications from other countries (the Netherlands and Germany) that communal accommodation of their workers was likely to provide the sources of their outbreaks. Undertaking a quantitative investigation would be important, to try to provide a firm evidence base for any investigations and actions, in the event of subsequent outbreaks.

The stages of this retrospective cohort study outbreak investigation for all upcoming meat plant outbreaks detected and declared are to be:

- Swabbing all plant workers/staff, to establish their COVID-19 infection status,
- A determination as to how cases and non-cases differ in their exposure to various risk factors in the plant, and external to the plant and
- Calculating the relative contributions of the plant, and external locations, to the outbreak.

A protocol and questionnaire have been developed and will be applied locally in the event of subsequent outbreaks. In the event of a number of outbreaks, as a standardised instrument is being applied to all outbreaks, this will allow for the possibility of combining all the data from such outbreaks to enable a higher level investigation that might provide the study with greater statistical power. Consideration will be given for undertaking enhanced investigations of subsequent outbreak where appropriate.

However, since the decision to undertake and develop this study was taken, cumulative meat plant cases/outbreaks have slowed markedly, so the opportunity to undertake meaningful prospective outbreaks investigations may not arise. However, it is considered essential by the NOCT that these investigation tools be available to be used at very short notice should any subsequent MPP outbreaks be declared, whether in this part of the pandemic, or in a second wave of infections.

### 2. Retrospective Environmental Investigation

A study into the operational and environmental factors contributing to within-plant transmission of SARS-CoV-2 is planned. The aim of this study (initially a pilot study to assess feasibility) is to describe and measure specific operational and environmental conditions in MPPs that may contribute to the risk of within-plant transmission of SARS-CoV-19, following the introduction of the virus from outside.



## Appendix H: Membership of the National Outbreak Control Team

### **Governance:**

- Dr Lorraine Doherty, National Clinical Director Health Protection

### **Chair:**

- Dr Mai Mannix - Director of Public Health, HSE Mid-West

### **Public Health HSE:**

- Dr Kevin Kelleher – Assistant National Director – Public Health and Child Health – HSE
- Dr Marie Casey – Consultant in Public Health Medicine – HSE Mid-West
- Dr Ann Marie Connolly – Consultant in Public Health Medicine - HSE West
- Dr Emer O’Connell – Consultant in Public Health Medicine - HSE West
- Ms Michelle Connolly – Health Protection Nurse Manager, Public Health - HSE
- Dr Una Fallon – Director of Public Health, HSE Midlands
- Dr Desmond Hickey – Acting Specialist in Public Health Medicine, HSE East
- 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

### **Health and Safety Authority:**

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

### **Department of Agriculture, Food and the Marine:**

- Mr Martin Blake – Chief Veterinary Officer – Department of Agriculture, Food and the Marine
- Mr 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 Authority of Ireland:**

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

### **Environmental Health Service, HSE:**

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

### **Health Protection Surveillance Centre, HSE:**

- Dr Paul Mc Keown – Consultant in Public Health Medicine – HSE HPSC

- Dr Mark O'Loughlin – Specialist Registrar Public Health Medicine – HSE HPSC
- Ms Annamaria Ferenczi – EPIET Fellow – HSE HPSC

**HSE Communications:**

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

**Advisory Experts:**

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

## Appendix I: Interim Guidance on COVID-19 Outbreaks in Meat Factories in Ireland

### COVID-19 Outbreaks in Meat Factories in Ireland Outbreak Control Team

#### Interim Guidance on COVID-19

##### V1.1 29.06.2020

The following advice is based on best evidence available currently. As COVID-19 is a new illness with an evolving scientific evidence base, it is likely that some of the advice in this letter will be superseded in the coming weeks and months. Therefore, this is interim guidance.

The overall objective of the advice is to:

1. prevent cases entering plants,
2. prevent spread within plants,
3. prevent spread in the wider community (including spread to vulnerable people),
4. reduce impacts on production and output of plants in an essential industry

The advice comes under four broad headings:

- 1. Infection prevention and control measures which should always be in place in order to prevent cases and control outbreaks – at the entry site, throughout the facility, in the canteen, in the production areas, in the locker room and toilets, and in the office.**
- 2. Steps to be taken when an individual case is suspected or confirmed**
- 3. Additional steps to be taken as soon as an outbreak has been detected**
- 4. Factors external to the working environment**

It is now critical for all plants to review all systems, review all Standard Operating Procedures and to undertake joint tours of the plant with DAFM staff and environmental health professionals to check that all advice is being properly implemented.

Contracting of occupational health services should be considered an absolute priority (supported by appropriate translation services) to ensure that the health and communication needs of employees can be easily met.

Movement of staff between establishments including factory workers, canteen staff (if contract caterers), cleaning staff or veterinary staff should be minimised.

## **Infection prevention and control measures within the factory which should always be in place in order to prevent cases and control outbreaks**

### *Entry Site*

1. A permanent screening station at the point of entry into the workplace must be in place to screen every employee. This should include a screening questionnaire for symptoms, completed by a manager, and a staff temperature check. Staff should be sent home if they fail either the screening questionnaire or screening temperature check i.e. if they have symptoms or a temperature higher than 37.5C. You may need professional occupational health assistance with this.
2. Hand washing facilities<sup>1</sup> or alcohol-based hand gel must be available at the entry site.
3. Ensure social distancing of 2 metres while awaiting entry screening.
4. Starting times should be staggered, for example at 15-minute intervals, to ensure social distancing while waiting for screening. In some facilities with multiple operations (e.g. slaughtering / cutting / cooking) different business units can be started at different times.
5. Screening, hand hygiene and social distancing also applies to all hauliers and contractors.
6. Ensure hauliers and contractors do not mix with staff on site. Preferably they should have separate entrances and gates.
7. All unnecessary visits to site should be cancelled.
8. Screening at entry site should be supervised by Occupational Health or by a suitable dedicated trained individual.

### *Throughout the facility*

1. Hand washing facilities with hot and cold running water, soap and hand drying facilities must be provided. Disposable paper towels should be used for hand drying. Hand Hygiene should take place on entry to the facility, on breaks and before moving through the plant. Supervision may be required and audits performed to ensure compliance. Queues should be avoided. Additional units may need to be installed.
2. Alcohol-based hand gel (minimum 60% ethanol) must be available throughout factory. They should be placed at frequent intervals throughout the plant and be sufficient in number to avoid queues. These should be checked regularly to ensure that they do not become empty.
3. Social distancing of 2 metres between workers must be facilitated, both alongside each other and face-to-face. If belts are narrower than 2 meters, face-to-face working should be avoided. Avoid shoulder to shoulder working. This includes:
  - a. in smoking areas and corridors.
  - b. on the production line – including Food Business operator staff, DAFM employees and contractors.
  - c. in the canteen (or during other breaks)

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<sup>1</sup> Hand washing instructions can be found on the [HSE website](#) and handwashing facilities should be of a standard to permit handwashing to this level.

- d. in the locker room and toilets
  - e. on entering and exiting the factory
  - f. in offices
4. A health and safety risk assessment should be carried out to determine appropriate PPE by appropriately qualified personnel, e.g. health and safety manager or equivalent. Ensure that all staff (including DAFM staff and contractors) wear both a mask and a visor (or a mask and goggles where goggles are available) in scenarios where there is a particular problem with physical distancing, provided both can be worn without compromising the ability of the individual to carry out their work in a competent and safe manner. If both cannot be worn, surgical masks are recommended above other types of masks on their own, which are preferable to visors on their own. If a visor is worn, it should be a full-face visor. Additional PPE requirements may be required depending on situation / risk assessment. Ensure that staff/contractors know and use the correct technique for putting them on and taking them off and that they know how to clean and / or dispose of them. Each plant should develop a training module so that staff are trained how to correctly put on and take off this personal protective equipment (PPE), as this is the time when contamination is most likely. There must be appropriate cleaning and disposal of this equipment.
  5. A policy of respiratory etiquette must apply at all times – coughing into a tissue and binning it immediately or coughing into the elbow. Infographics or posters in appropriate languages should be displayed throughout the factory. Anyone coughing or with other possible COVID-19 symptoms should be immediately excluded from work.
  6. Notice boards and television units should display information on COVID-19, particularly on hand-hygiene, physical distancing and respiratory etiquette. Infographics should be used where possible. If infographics are not used, communication material should be made widely available in all of the languages of the workforce.
  7. TV screen guidance on the following should be developed (HSE can help):
    - a. People positive with COVID-19 must isolate for 14 days. If isolation is insufficient, contacts of that case may have to isolate for significantly longer
    - b. Contacts of case will be excluded from work for 14 days\*
    - c. Information on City West Hotel as an isolation facility
    - d. Avoiding car-pooling outside of household members.

\*Please note exclusion from work can be theoretically up to 28 days for family and housemates e.g. if a case does not fully isolate in the home for 14 days as advised.

### *Canteen*

1. Hand washing facilities should be available at the entrance to the canteen and should be supervised. Failing that, alcohol gel dispensers must be available, and used before entry into the canteen area.
2. Break times should be staggered to ensure no overcrowding so that social distancing can be implemented.
3. Social distancing must be enforced by management. If a corridor is too narrow to permit adequate physical distancing, consideration must be given to setting up a one-way system to minimise unnecessary close contact.

4. Queue points on the floor should be clearly marked to ensure physical distancing.
5. Consider erecting a marquee as extra canteen space to ensure physical distancing.
6. Consider small standing only tables to reduce time spent and the numbers of people at any one table and to avoid chairs becoming vehicles of transmission. Alternatively, provide tables with just one chair or tables with a perspex screen (which would allow two people per table - one at each side of the screen).
7. There should be no sharing of food and drink such as drink bottles or bags of crisps.
8. The frequency of cleaning and sanitising in all common areas, most especially hand touch surfaces (such as tables tops, drinks levers, keypads, grab-rails, elevator buttons, light switches, door handles, chair backs, delph and cutlery), and any surface or item which is designed to be, or has a high likelihood of being touched by hands, should be increased. The chemicals used must be verified as being effective against viruses and the correct contact times must be adhered to. Cleaning should take place using a detergent followed by a disinfectant solution with anti-viral properties, such as a chlorine-based disinfectant to a concentration of 1:1000 free chlorine, or equivalent.
9. A system to reduce the use of cash for food or the exclusive use of credit/debit cards should be considered.
10. In so far as possible food should be individually wrapped to further avoid any contamination
11. Where possible, pods of workers should be matched to zoned canteen areas (see below for description of pod working).
12. Canteen Food workers should have separate changing rooms and toilets.
13. All doors and windows (subject to appropriate fly screening) in the canteen should remain open to allow greater air exchange and prevent touching of window handles.
14. The Environmental Health Service of the HSE is available to review canteen and food operations.

*Production:*

1. Production levels should be set at a level that allows physical distancing to be put in place.
2. If 2 metres of space between work stations cannot be attained, Perspex screens should be installed between each person. They should be cleaned at the end of every shift. Staff in the production area should wear PPE as outlined above.
3. Start times should be staggered to allow for social distancing.
4. The number of workers per shift should be reduced as much as possible.
5. There should be a break in the time between the end of one shift and the start of another to ensure physical distancing and effecting cleaning of working area and hand-touch surfaces (i.e. Perspex screens etc).
6. The frequency of sanitising and fogging should be reviewed and increased where possible.

*Office:*

1. Office staff should work from home where possible.

2. Meetings should take place by teleconference or online.
3. COVID-19- specific management meetings should be put in place and occur regularly.
4. All PC screens, keyboards, mouse etc throughout the plant should be cleaned regularly.

*A pod approach:*

1. Workers should be organised into pods or groups, where possible. Pod members work together, take their breaks together, change together and as far as possible even travel to work together, etc. If one person then becomes a suspected or confirmed case only members of their pod are contacts and the pod can be excluded together. This will allow the appropriate skill mix to always be available and facilitate the smoother running of the facility preventing key workers being excluded together.
2. Workers travelling in pods should wear face masks and wash their hands before and after travelling together. Where possible, the canteen should be split into zones and specific zones then assigned to specific pods in the production area. Break times and subsequent cleaning should be staggered along zone / pod lines.

*Locker room and toilets:*

1. Systematic, frequent and effective cleaning of locker rooms and toilets should be documented, implemented and verified. Again, most emphasis should be on hand touch surfaces. Transmission is as likely to occur here as anywhere else in the factory with a higher risk at the start and end of each shift.
2. If physical distancing is not possible in the locker room, consider more space e.g. erecting temporary or marquee or prefabricated additional space.
3. Consider providing a portable WC outside so that staff do not need to go through a locker room, queue for toilets or stand side by side at a urinal. Such a portable WC should be included in a cleaning programme with frequent cleaning.
4. Set a maximum number of people in locker rooms and toilets at any time to facilitate physical distancing
5. Assign staff to ensure employees stay no longer than 15 minutes in locker room or toilets and to monitor locker rooms to ensure physical distancing.
6. Standard Operating Procedures for cleaning locker rooms and toilets should be in place.

*Further cleaning:*

1. The frequency and effectiveness of standard fogging in the production rooms, toilets, locker rooms, and PPE stores should be reviewed and increased if necessary.
2. All touch points should be cleaned **at least once per hour**.
3. All employed or contracted cleaning staff should be trained in the correct use of the cleaning materials, and abide by rules of where protective clothing is worn and where it is not worn. Additional staff or replacement staff should also be properly trained in cleaning techniques and know the cleaning SOPs thoroughly.

**Steps to be taken when an individual case of COVID-19 is suspected or confirmed**

1. Any staff member who fails the screening questionnaire or temperature check on entry to the

facility should be sent home and told to contact their GP or occupational health doctor for medical assessment before returning to work.

2. Any staff member who develops symptoms while at work should be immediately isolated, sent home and told to contact their GP or occupational health doctor for medical assessment.
3. There should be a designated isolation room onsite for symptomatic staff. This should be cleaned after a suspected or confirmed case leaves. Masks should be provided for every person using this room.
4. Confirmed and suspected cases and their household and travel contacts should be actively excluded from work for the appropriate time:
  - a. *Confirmed cases*: 14 days from onset of symptoms, the last 5 of which should be fever free or 14 days from the date of swab for a person who has experienced no symptoms
  - b. *Suspected case*: 14 days from onset of symptoms, for review when the swab result is available
  - c. *Close contact*: 14 days from the last day of contact with a confirmed case, occurring during the infectious period of the confirmed case.
5. The distinction between self-isolation for cases and all that it involves, and restricting movements for close contacts should be explained to employees and their understanding should be confirmed. Leaflets to explain these differences are available on the [HPSC website](https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/factsheetsandresources/covid-19translatedresources/) in different languages Portuguese, Polish and Russian (<https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/factsheetsandresources/covid-19translatedresources/>).
6. It is important to note that for a family who is self-isolating together, the 14 days exclusion for a close contact starts on the day of their last contact with a case, while the case is infectious. For a working person, who is a close contact of a confirmed family case or housemate or travel companion, this can mean up to 28 days restricted movement and not working for this entire period. This is why it is very important for cases to self-isolate immediately and effectively.
7. Exclusion of cases, suspected cases and close contacts is complicated and should be overseen by an Occupational Health clinical service. This can be contracted out if such a service is not already available to you.
8. Self-isolation at home is not recommended if vulnerable people such as those with chronic medical conditions, those who are elderly or immunocompromised also reside in the same house or apartment.
9. In such instances, cases who are able to self-care should be offered a place in the State's isolation facilities, currently the City West Hotel, so that they can self-isolate away from family and unaffected housemates. Cases should be directed to their GP / occupational health doctor to arrange this (the local department of public health can advise on this). More information is available at <https://www2.hse.ie/services/coronavirus-self-isolation-facilities/>



- 1 10. A mechanism to identify high risk and vulnerable people e.g. those who are  
2 immunocompromised or pregnant or have a chronic underlying condition, should  
3 be put in place and a risk assessment by a suitably qualified professional should  
4 be performed with alternative working arrangements implemented where  
5 deemed necessary.  
6
- 7 11. It is crucial that staff understand their illness entitlements. Assistance should be  
8 provided to staff, by HR, to make sure they know and understand how to access  
9 payments.  
10
- 11 12. A fitness to work certificate is required from Occupational Health or the  
12 employee's GP prior to them returning to work after self-isolation and after  
13 exclusion for any reason.  
14
- 15 13. There should be an on-the-spot return to work interview following any absences,  
16 whether the reasons for the absence are known or not.  
17
- 18 14. A single point of contact from senior management should be arranged for  
19 liaising with relevant agencies during the investigation of the case.  
20

#### 21 **Additional steps to be taken as soon as an outbreak is detected**

- 22
- 23 1. An outbreak of COVID-19 is when two or more cases of the disease are linked by  
24 time, place or person. There must be a high index of suspicion of an outbreak  
25 even if there is only one case in a plant. Contact your local Public Health  
26 Department (see enclosed) if you think there is a problem.  
27
- 28 2. Infection Prevention and Control measures and the steps taken in response to  
29 an individual case of COVID-19 should continue to be strictly followed during an  
30 outbreak.  
31
- 32 3. There should be a designated manager / HR staff member to liaise with staff  
33 on COVID-19 issues and liaise directly with the local Public Health Department  
34 for advice and support during an outbreak.  
35
- 36 4. The employer should keep an up-to-date log of all employees in the workplace  
37 with contact numbers and addresses. A record should also be kept of the DAFM  
38 staff and contractors that have visited the plant. These lists will enable mass  
39 testing if it is required.  
40
- 41 5. The employer should give some consideration, in advance, as to how mass  
42 testing of the entire staff could be achieved if indicated. This can ultimately be  
43 planned in collaboration with HSE testing staff and Public Health.  
44
- 45 6. Where possible, the employer should also know who are every employee's  
46 close contacts: (i) while at work, (ii) during travel to/from work and (iii) at home,  
47 so that they can be identified and excluded as close contacts and tested if  
48 indicated. The pod system, previously described, may be useful here.  
49
- 50 7. Where possible, they should also know which employees live together, so that  
51 close contacts can be identified and excluded and tested if indicated.  
52
- 53 8. Ensure staff are made aware of the outbreak, including Dept of  
54 Agriculture staff and contractors that go on site.

- 1
- 2
- 3 9. The occupational health service should assist in the response to an outbreak.
- 4
- 5 10. In the event of a sufficiently extensive outbreak, consideration should be given
- 6 by the local outbreak control team to temporary closure of the plant or part of
- 7 the plant. However, prior to this decision there should be clear agreed criteria
- 8 for re-opening.
- 9
- 10 11. Management should ensure that all workers are aware of the necessity to have a
- 11 General Practitioner.

## 12 **Engagement and communication with staff**

- 13
- 14 1. Continuous, effective communication to all staff is vital.
- 15
- 16 2. Initiating communication before there is a case or an outbreak will help with
- 17 control of an outbreak if it occurs.
- 18
- 19 3. English may not be the first language of many workers and some may not fully
- 20 understand preventive messages and the national, personal and population
- 21 imperatives to control COVID-19.
- 22
- 23 4. Ensure all messages are communicated in the employee's primary language (see
- 24 Multilingual COVID-19 Online Resources section at the end of this document) .
- 25
- 26 5. Use infographics and communication in the range of languages spoken by
- 27 the workers.
- 28
- 29 6. Use translators as necessary.
- 30
- 31 7. Identify key leaders / staff representatives in the various worker
- 32 communities that can reinforce messaging.
- 33
- 34 8. Put up posters and display TV screens with HSE COVID-19 information in all
- 35 the relevant languages, throughout the factory.
- 36
- 37 9. Strong emphasis should be put on;
- 38
  - 39 – reporting any symptoms, even minor ones
  - 40
  - 41 – not working while ill
  - 42
  - 43 – if symptoms develop, going home, isolating and getting tested
  - 44
  - 45 – if confirmed as a case, self-isolation must be effective
  - 46
  - 47 – the potentially long restricted movement time for close contacts if
  - 48 the case does not effectively isolate
  - 49
  - 50 – the mechanism for receiving illness benefits or the
  - 51 Government COVID-19 payment
  - 52
- 53 10. Cases who are unable to self-isolate in their own home should be offered a
- 54 place in the State's isolation facilities, currently City West, so that they can
- 55 self-isolate away from other household members. This may not be perceived
- 56 well by workers. It should be understood that this facility is available to
- 57 everyone in Ireland who is a case who cannot self-isolate successfully in their
- 58 home. People avail of it for a variety of reasons including worry about specific

1 household members who may be vulnerable or where the case realises that  
2 their household members' 14 days restricted movement starts on the last day  
3 of contact with them while they are infectious – which can be up to one  
4 month for other household members. A vast range of people from all walks  
5 of life and all socio-economic backgrounds have availed of this facility. It is  
6 comfortable 4\*  
7 accommodation, meals are provided, there is medical supervision on site,  
8 transport will be arranged and there is no cost.

10 11. Good communication is essential to effective workplace infection, prevention and  
11 control. A collaborative approach based on good working relations between employers  
12 and employees facilitates good communication while at the same time respecting the  
13 employee's right to privacy and confidentiality. The occupational health service will  
14 advise further.

### 15 **Factors external to the working environment**

#### 16 *Living conditions*

- 17
- 18
- 19
- 20 1. Every effort should be made to ensure workers can maintain social  
21 distancing in every setting and can self-isolate, if required. For more advice  
22 see: [https://www2.hse.ie/conditions/coronavirus/protect-yourself-and-](https://www2.hse.ie/conditions/coronavirus/protect-yourself-and-others.html)  
23 [others.html](https://www2.hse.ie/conditions/coronavirus/protect-yourself-and-others.html)  
24
- 25 2. Some Isolation facilities are available for cases who can self-care e.g. City  
26 West. For more information see: [https://www2.hse.ie/services/coronavirus-self-](https://www2.hse.ie/services/coronavirus-self-isolation-facilities/)  
27 [isolation-facilities/](https://www2.hse.ie/services/coronavirus-self-isolation-facilities/)  
28  
29

#### 30 *Travelling to work*

- 31
- 32 1. Management should consider providing transport for workers.  
33
- 34 2. Physical distancing should be maintained on transport while travelling to work,  
35 and workers should wear a face covering/mask and wash their hands before and  
36 after travelling.  
37
- 38 3. Those who walk to work should be strongly encouraged to social distance  
39 at 2 metres while doing so.
- 40 4. Ideally, car-pooling would only be for workers within the same household.  
41  
42

#### 43 *Financial Support for workers*

44  
45 Further information available from the Department of Employment Affairs and Social  
46 Protection:

47 <https://services.mywelfare.ie/en/topics/covid-19-payments/>  
48  
49  
50

1 **Multilingual COVID-19 Online Resources**

2

3 **NASC - the Migrant and Refugee Rights Centre**

- 4 • [COVID-19 World Service](#) (information videos in many languages)  
5 • [COVID-19 World Service Twitter](#)

6 **Health Service Executive (HSE)**

- 7 • [COVID-19 Translated Resources](#) (in many languages)

8 **Health Protection Surveillance Centre (HPSC)**

- 9 • [COVID-19 Translated Factsheets and Resources](#)

10

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