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1. BACKGROUND

1.1. About this document

This document provides guidance to support NSW organisations to respond, manage and escalate to minimise state and local-level health impacts of outbreaks or clusters of communicable diseases, healthcare associated infections (HAIs), multidrug-resistant organisms (MROs) and/or non-MROs. During situations of increased infection prevention and control (IPAC) risk, it is important to be able to escalate and provide a proportionate response with specific IPAC precautions.

From time-to-time NSW health organisations may experience cases or clusters of infection that are suspected to be person-to-person spread, and due to their nature may threaten the health of patients, visitors, and health workers.

A trigger is a point at which the incidence of a particular infectious organism is higher than would be normally expected. A trigger is not necessarily an outbreak however, some triggers may be outbreaks, but some will be natural variation in the incidence of an organism. Triggers are signals to alert the IPAC team and the hospital executive that additional infection prevention strategies and resources may be necessary to ensure patient safety.

The main goal of managing an increased or unexpected incidence of transmission or an outbreak or a cluster is to prevent further transmission and to identify factors that may have contributed to the increased incidence. This allows for the development and implementation of measures to contain the current increased incidence and prevent future outbreaks or clusters.

For example an increase in incidence of:

- Multidrug-resistant organisms (MROs), such as Carbapenemase-producing *Enterobacterales* (CPE) or a single case of *Candida auris* or unexpected number of non-MROs such as *Serratia marcescens*, *Pseudomonas aeruginosa* or *Clostridioides difficile.*
- Outbreaks of notifiable communicable diseases, such as influenza or acute gastroenteritis.

Smaller facilities with a lower incidence of infections should consider one case significant and should review their IPAC strategies and escalate as appropriate.

If a facility detects an unusual increase in MRO or non-MRO incidence and enters a trigger phase, effective management of this incidence requires timely escalation of information to the appropriate management level (1, 2). This will facilitate:

- Formation of an Incident or Outbreak Management Team, which should include a senior facility manager.
- Initiation of an interdisciplinary approach for the creation of comprehensive and evidence-based strategies.
- Adequate resourcing of an operational IPAC response.
- Management, redirection and allocation of additional resources where required.

- Briefing of senior managers and executives of the healthcare facility, Local Health District/ Specialty Health Networks (LHD/SHN), local Public Health Unit (PHU), Clinical Excellence Commission (CEC), Health Protection NSW and NSW Ministry of Health (MOH).
- Development of appropriate and consistent internal and external communications.

The purpose of this guideline is to enable timely escalation of information to the appropriate level. These procedures should include a documented process with triggers, response required for escalation, responsibility, and timeframes and aligned with the NSW Incident Management Policy Directive (3).

The procedures should include a process for an after-hours response – e.g. ability to call back an on-call IPAC Professional or on-call Infectious Diseases/Clinical Microbiology specialist.

The procedures should enable NSW health organisations to understand the number, type, and impact of increased incidence of infection, outbreaks or clusters and communicate this information to relevant stakeholders. If an outbreak or cluster has potentially state-wide or service delivery implications this should be escalated to the CEC IPAC and HAI program for support, the Office of the Chief Health Officer (OCHO) NSW Ministry of Health for notification[1].

1.2. Key definitions

Cluster	A disease cluster is an unanticipated high incidence of a particular microorganism occurring in close proximity in terms of both time and geography. A closely grouped series of events or cases of diseases that fulfils the definition of a case – for example, two or more surgical site infections from the same surveillance period or theatre session of the same type of surgery.
Outbreak	The occurrence of disease exceeding the expected level for a given population within a specific timeframe. This includes single cases of some diseases not previously seen or those that have previously been eliminated. Typically, in healthcare this has been defined as two or more cases, which should trigger an outbreak management process.
Trigger point	At which the incidence of a particular infectious organism is higher than would be normally expected for a healthcare facility, and the facility detects an increase in cases from surveillance data or transmission has occurred between cases.

2. IMPACT OF AN OUTBREAK OR CLUSTER

2.1. Impact of an outbreak on healthcare facilities in NSW

An infectious diseases outbreak or cluster that requires escalation poses potential or realised impacts on a healthcare facility's service capacity. Examples of how services may be impacted by an outbreak or cluster include:

- Increased patient morbidity and/or mortality.
- Disruption to planned service provision.
- Increased surgery wait lists.
- Disruption to patient flow within the healthcare facility, or ambulance bypass.
- Disruption to specialised clinical services with potentially state-wide implications.
- Demand for additional resources for:
    - environmental cleaning frequency and staffing.
    - consumables – e.g. personal protective equipment (PPE), chemicals, disposable equipment.
    - pathology testing.
- Increased sick leave if health workers affected (and potential effects on their family).
- Increased length of stay (including additional costs for treatment, diagnostics, and care).
- Public confidence (i.e. media).
- Patient's family, caregiver or loved ones.

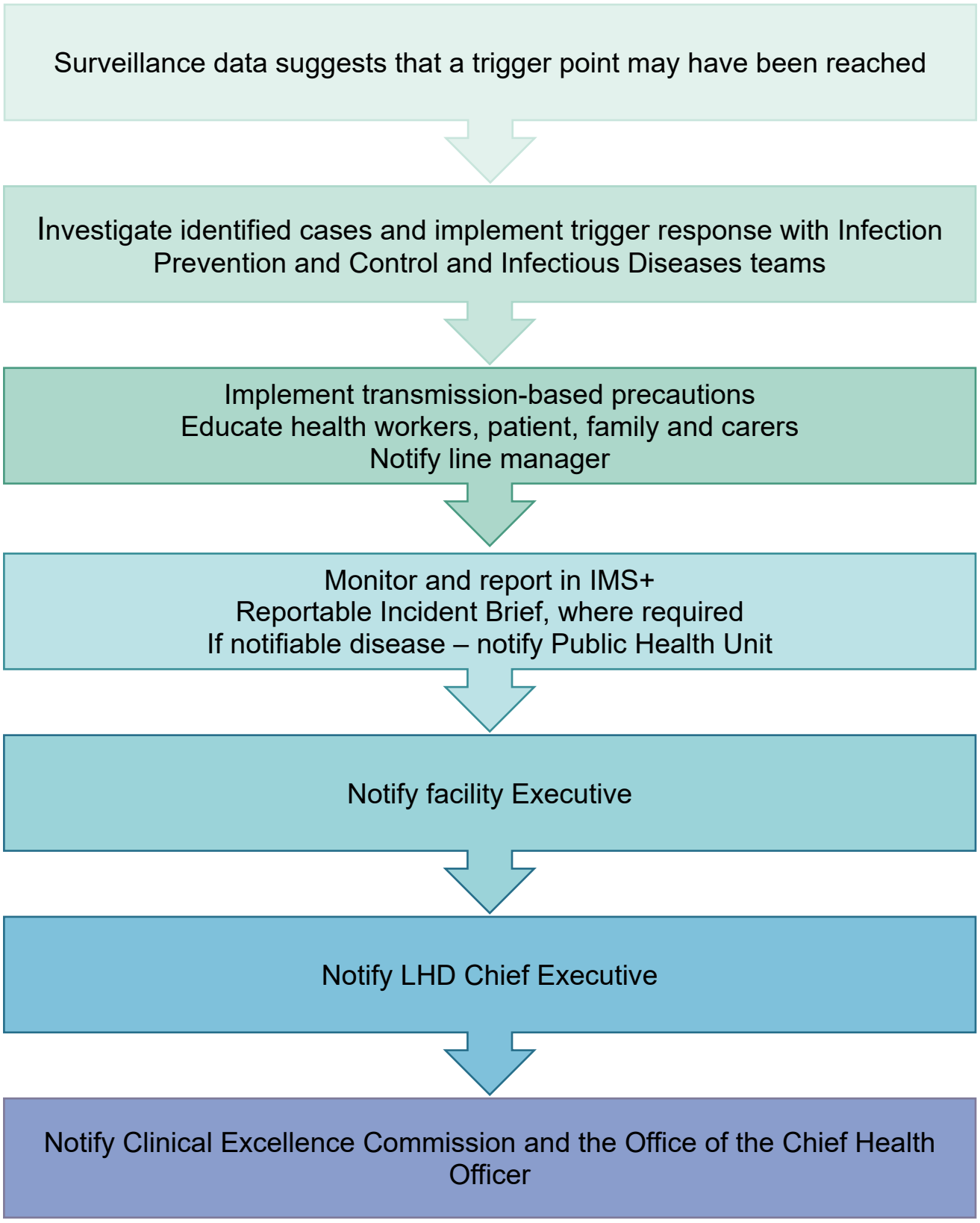
An incident rating or Harm Score determines the level of escalation and review.

Score	Details
Harm score 1	Unexpected death or Australian Sentinel Event (ASE)
Harm Score 2	Major harm
Harm Score 3	Minor harm
Harm Score 4	No harm or near miss

Source: NSW Health Incident Management Policy Directive

For more information refer to NSW Health Incident Management Policy Directive.

Figure 1: Trigger Response Flow chart



3. TRIGGERS FRAMEWORK

Table 1: Guide to escalation

Escalation Steps	Triggers to escalate an outbreak or cluster	Position to escalate to	Possible communication methods	Timeframe
Affected clinical areas by IPAC to notify nominated healthcare facility executive	• Patient to patient transmission of significant MRO or non-MRO. • Patient and/or staff acquisition of a notifiable disease – e.g. measles, pertussis, tuberculosis, etc. • Notifiable disease outbreak declared • Any potential to impact on patient flow or services at facility level • Significant patient deterioration related to this outbreak or cluster – e.g. transfer to Intensive Care Unit (ICU) • MRO incidence above background rates/numbers in a specific clinical area • Increase in invasive infections from MROs or other significant organisms – e.g. bacteraemia (cluster) • Resource implications – e.g. additional cleaning, screening, staffing, hours for education	Healthcare facility executive (nominate executive responsible) - include both business and after hours Notification to Public Health Unit of notifiable disease including outbreaks	Phone or face-to-face followed by a succinct report / internal brief, IMS+ submission Communication to other key services may include Staff Health, Public Health Units, Pharmacy, Environmental Services, NSW Ambulance, Clinical Products and Pathology	Immediate or as soon as practical

Nominated healthcare facility executive to notify LHD/SHN nominated executive	• Significant changes in morbidity or mortality of patients related to the suspected or known outbreak or cluster • Multiple clinical departments/units/wards staff affected and impacting local service provision at facility and/or district level	Facility executive to LHD/SHN Chief Executive (nominate executive responsible to notify Chief Executive) include both business and after hours	Phone call Brief or other succinct report, IMS+ submission	Depending on the severity of the incident within 24 hours of notification
LHD/SHN nominated executive to notify OCHO Ministry of Health, Clinical Excellence Commission and	• Impacts on patient flow and state-wide services – e.g. Level 1 NICU • Potential for media interest • Patient death(s) related to suspected or known outbreak or cluster • Increasing number of cases despite control measures – unable to be controlled • New or emerging pathogen – e.g. Candida auris, Ebola • An outbreak warranting a Reportable Incident Brief (RIB)	Director, Patient Safety (CEC) Chief Health Officer via Brief	Brief to OCHO Ministry of Health Phone Email RIB	Depending on the severity of the incident within 24 hours of notification

4. REFERENCES

1. NSW Health. Infection prevention and control in healthcare settings policy directive. NSW, Australia: NSW Government; 2023.
2. Clinical Excellence Commission. Infection prevention and control practice handbook. Sydney, Australia: Clinical Excellence Commission; 2020.
3. NSW Health. Incident Management Policy. Sydney, Australia: NSW Government; 2020.

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