

## Outbreak Management

### Key Points

#### BE SUSPICIOUS AND CALL FOR ADVICE EARLY

On first suspicion of an outbreak, staff should:

- Isolate / cohort symptomatic cases & apply appropriate transmission based precautions
- Inform the line manager
- In the acute / hospital setting inform the Infection Prevention Control Team
- In the community setting consider early discussion with the Consultant in Communicable Disease Control or the Public Health Department
- Collect appropriate microbiology specimens
- Record all the cases, noting the time of onset of symptoms in each suspected case, and dates of admission to the hospital or unit

### Definition

An outbreak of infection is defined as two or more cases (or carriers) associated in time and/ or place.

These may be recognised either clinically or microbiologically.

In many outbreaks particularly in the early stages the causative organism is unknown therefore an outbreak must be suspected and managed in response to the presenting symptoms.

Commonly detected outbreaks involve:

- Gastro-enteritis usually viral caused by Norovirus
- *Clostridium difficile*
- Meticillin resistant *Staphylococcus aureus* (MRSA)
- Diarrhoeal or respiratory pathogens
- Multi-resistant gram negative bacilli (e.g. coliforms or pseudomonads)

## Immediate Outbreak Control Measures

Take advice if you are declaring that there is an outbreak and deciding what to do next.

Depending on the setting you will need to consult with:

- Senior managers in your unit
- The Infection Prevention Control Team
- The GP/ The relevant clinical Consultant
- The Consultant in Communicable Disease Control (CCDC) or the Public Health department

## Action to be Taken by the Ward / Unit Manager

- Immediately initiate relevant infection prevention control measures (see website for more information)
- Notify the doctor on duty or G.P. immediately, who will review the affected patients
- Inform the Infection Prevention Control Team/ CCDC as relevant
- Inform the senior manager
- Obtain relevant specimens for laboratory investigation providing relevant clinical information
- Record all the cases, noting the time of onset of symptoms in each suspected case, and dates of admission to the hospital or unit
- Where appropriate refer staff to Occupational Health

## General Outbreak Control Measures

**Some general guiding principles can be applied in all outbreak settings.**

**The Infection Prevention Control Team (IPCT) or the Consultant in Communicable Disease Control (CCDC) will provide specific advice.**

- Staff and patient movement may need to be restricted during an outbreak. If an outbreak has been declared the rotation of staff or the discharge/ transfer of patients should be discussed with the IPCT/ CCDC. This will be determined by the causative organism and the route of transmission.
- In significant outbreaks it may be necessary to close a ward/unit. This will be determined by the IPCT/ CCDC or the Outbreak Control Committee
- Extra cleaning and domestic staff may be needed. Guidance on the decontamination of the affected area/s will be determined by the IPCT/ CCDC or the Outbreak Committee
- Consider if you have adequate supplies of medical and personal protective equipment; and appropriate means of decontaminating equipment. Order supplies as required
- Visiting may need to be restricted
- If it is considered appropriate by the IPCT/ CCDC contacts of cases should be recorded
- For more specific details on infection control precautions see policies on Norovirus, *Clostridium difficile*, MRSA, Tuberculosis.

## Major Outbreak Control Management

In the case of a significant outbreak an outbreak control committee will be established and will meet regularly to monitor the outbreak and direct management. Depending on the setting this may be convened by the Director of Infection Prevention & Control or the Unit manager in consultation with the Consultants in Communicable Disease Control.

### Functions of the Outbreak Control Committee

- To ensure the HPA-Communicable Disease Surveillance Centre (CDSC) has been notified if necessary.
- To ensure outbreak is reported as serious adverse incident.
- To co-ordinate arrangements for investigating the cause of the outbreak.
- To co-ordinate all control measures.
- To take all steps to ensure adequate care of affected patients.
- To ensure adequate channels of communication are established. The Service Director is responsible for informing the Chief Executive of the Trust and for liaising with the Press Officer.
- To assess the requirement for external assistance and experience
- To ensure arrangements have been made to notify patients' relatives.
- CCDC or Infection Control Doctor to make approved statements to the Press and Media.
- To meet regularly and review progress.
- Evaluation of the outbreak and recommendations for the prevention of future outbreaks.
- The Service Director is responsible for identifying and making available adequate resources required to manage the situation.
- To ensure effective communication with other services such as;-Sterile Services, Central Stores, Laundry, Pharmacy and Estates etc.

### **Members of the Outbreak Control Committee may consist of the following:**

- Infection Control Doctor/ Microbiologist
- Infection Prevention Control Nurse
- Consultant in Communicable Disease Control (CCDC)
- Consultant in charge of patients or representative of medical staff
- Ward / Unit Manager
- Domestic/Hotel Services Managers
- The Chief executive (or their representative) OR the relevant Service Director.
- Director of Nursing or their representative
- Medical Director or their representative
- Infection Prevention Control Director
- Public Health Director
- Occupational Health Service Physician or Representative
- Press Officer
- Others to be invited dependent on outbreak circumstances:
  - Chief Environmental Health Officer
  - Catering Manager
  - Pharmaceutical Manager
  - Laundry Manager

#### ***Infection Control Doctor / Microbiologist***

- Determines relevant specimens.
- Advises on pathogenicity and transmission of organisms detected.
- Assists in the development of a case definition
- Determines in collaboration with other team members the method of control.
- Assists Medical staff as necessary with treatment of cases.

#### ***Infection Prevention Control Nurse***

- Assists in defining appropriate outbreak control measures.
- Obtains list of cases and where relevant, contacts; with the co-operation of ward/facility staff and Occupational Health.
- Ensures necessary samples are obtained from symptomatic patients or contacts.
- Assists in the development of a case definition
- Co-ordinates, with Occupational Health Department on the collection of samples necessary from hospital staff and possible exclusion from work.
- Co-ordinates with Ward and Senior Nurse Managers /Officer-in-charge to identify the appropriate nursing care of patients and surveillance of staff.

***Consultant in Communicable Disease Control (CCDC)***

- Oversees the epidemiological investigation and gives assistance as required.
- In consultation with the ICT, oversees the control measures including limitation of visiting and admission.
- Ensures that any Public Health implications are identified and managed.
- Liaises with the Environmental Health Department if necessary.

***Consultant in charge of patients or representative of medical staff***

- Ensures appropriate medical care of patients affected.
- Organises discharge/transfer to Infectious Diseases, Royal Hospitals Trust as necessary.
- Communicates with patients / relatives.
- Initiates request for extra medical staff if necessary.
- Implements OCT decisions on ward closures / visiting restrictions etc.

***Ward / Unit Manager***

- Informs and advises nursing staff/ nursing assistants (Hospital or Community as appropriate) about the outbreak situation as required.
- Ensures that appropriate nursing procedures are implemented.
- Organises extra nursing /care staff, if required.
- In collaboration with the Support Services ensures an adequate supply of clothing linen, supplies, etc.
- Communicates to Professions Allied to Medicine e.g. Speech & Language Therapy staff of affected areas the necessary control measures to be taken.
- Co-ordinates with IPCN & OHD in the collection of samples necessary from Health Care Workers and possible exclusion from work.
- Reports on implementation of control measures locally and any difficulties in managing the outbreak.

***Domestic/Hotel Services Managers***

- Liaises with Manager / Supervisors regarding the introduction of control measures.
- Communicates with the Infection Prevention Control Team (IPCT) regarding cleaning and disinfection and other control measures and their effectiveness.
- Co-ordinates with IPCT & OHD in the collection of samples necessary from Support Service staff and possible exclusion from work.
- Ensure all cleaning staff are up to date on cleaning procedures and monitor that these are carried out effectively and report to the OCT.

***The Chief executive (or their representative) OR the relevant Service Director***

- Ensures adequate resources.
- Provides secretarial back-up for OCT.
- Leads any communication with the media, Public Relations Officer, in consultation with the Infection Prevention Control Doctor and Nurses.
- Ensures full and appropriate communication throughout clinical and non-clinical staff.

***Director of Nursing or their representative***

- Informs and advises nursing staff/ nursing assistants (Hospital or Community as appropriate) about the outbreak situation as required.
- Ensures that appropriate nursing procedures are implemented.
- Organises extra nursing staff, if required.
- In collaboration with the Support Services ensures an adequate supply of clothing linen, supplies, cleaning materials etc.
- Communicates to Professions Allied to Medicine and Speech & Language Therapy staff etc of affected areas the necessary control measures to be taken.
- Co-ordinates with IPCN & OHD in the collection of samples necessary from Health Care Workers and possible exclusion from work.

***Medical Director or their representative***

- Channels communication, as necessary, to the DHSSPS through the
- Consultant Communicable Disease Control (CCDC).
- Ensures that external help, if required, is obtained.
- Informs the DHSSPS of control measures affecting the admission or discharge of patients.
- Informs and advises other Consultant and Junior Medical staff as appropriate **of actions to be taken or control measures to be implemented.**

***Chairperson of Infection Control Committee (IPCD or Director for Infection Prevention and Control)***

- Convenes and chairs OCT meetings and ensure all members are clear on their roles and responsibilities.
- Co-ordinates work of team members.
- Ensures that all aspects of control have been discussed and carried out, including ward closure.
- Ensures an appropriate case definition has been developed.
- Ensures that accurate and comprehensive records of the outbreak are kept.
- Ensures comprehensive communication as required across the Trust and with relevant outside agencies and assists (Chief Executive /Programme Director) with decisions regarding communication with the Media and others as required.

- Ensures communication with Public Health Laboratory, Environmental Health Officer (EHO) and Communicable Disease Surveillance Centre-NI on initial identification of Outbreak.

#### ***Public Health Director***

- Oversees the epidemiological investigation and gives assistance as required.
- In consultation with the ICT, oversees the control measures including limitation of visiting and admission.
- Ensures that any Public Health implications are identified and managed.
- Liaises with the Environmental Health Department if necessary.

#### ***Environmental Health Officer***

- Inspects the kitchen and food storage facilities for a possible source of infection.
- Examines the menu, inspects food processes and practices, monitors temperatures and checks the accuracy of temperature monitoring records of both food and equipment.
- Obtains food and environmental samples for laboratory examination.
- Educates food handlers in the principles and practices of good food and personal hygiene. This may be necessary even during the course of an outbreak investigation.
- Works with the CCDC in obtaining clinical and epidemiological data of community contacts.

#### ***Catering Manager***

- Provides as requested Environmental Health Officer (EHO) with food samples as available/required for analysis.
- Provides EHO information on menus, food temperatures, food processing and handling as required.
- Checks on related illness amongst catering staff and reports same to IPCT.
- In association with the Consultant Communicable Disease Control and in liaison with OHD excludes from work any catering workers thought to be suffering from or carrying the infection.
- If necessary organises closure of the kitchens and provision of alternative catering arrangements.



## References

1. Ayliffe GAJ, Fraise AP, Geddes AM, Mitchell K. Control of hospital infection. A Practical Handbook. 4<sup>th</sup> Edition 2000 Oxford: Butterworth and Heineman
2. Communicable disease surveillance centre (CDSC-N) provides a number of outbreak forms [Available at <http://www.cdscni.org.uk/forms/default.asp>]
3. The Cooke report: The management and control of Hospital acquired infections in Acute NHS trusts in England, 2000. [Available at [http://www.nao.org.uk/publications/nao\\_reports/9900230.pdf](http://www.nao.org.uk/publications/nao_reports/9900230.pdf)]