

TRUST POLICY AND PROCEDURES FOR SURVEILLANCE

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TRUST POLICY AND PROCEDURES FOR SURVEILLANCE

1. Introduction

Surveillance is an essential component of the prevention and control of infection in hospitals. It helps to identify risks of infection and reinforces the need for good practices. Preventing outbreaks depends on prompt recognition of one or more infections and instituting control measures to reduce the risk of the spread of infection.

Surveillance consists of the routine collection of data on infections among patients or staff, analysis of such data, and the dissemination of the resulting information. Studies have shown that well organised surveillance and infection control programmes, which include feedback of infection rates to surgeons, were associated with significant reductions in surgical site infections.

Surveillance will be undertaken as part of a national surveillance scheme or may involve the use of a locally defined protocol. Some national surveillance schemes are mandatory, others are voluntary.

Objectives of Surveillance

- The prevention and early detection of outbreaks
- Timely investigation and institution of control measures
- Assessment of infection levels over a period of time.

The Process of Surveillance

The key components of surveillance are:

- Data collection using standard definitions
- Collation of data
- Analysis and interpretation of data
- Dissemination of information for action by appropriate persons.

2. Purpose and Outcomes

The purpose of this policy is to outline the arrangements within the trust to:

- Monitor the incidence of infections/diseases.
- Provide early warning, investigation, learning and interventions.
- Detect, monitor and review outbreaks of infection.
- Implement and evaluate control measures.
- To influence change and improvement in practice.
- Ensure compliance with mandatory surveillance systems

Adherence to this policy will ensure the Trust meets its statutory obligation to report alert organisms, and other HCAI, to the regulatory bodies. It will also provide evidence of local surveillance and the use of comparative data in the monitoring of infection rates. Timely reporting of this data to clinical areas should assist in the reduction of any healthcare associated infection.

It will also ensure compliance with the Health and Social Care Act 2008: Code of Practice for the NHS for the Prevention and Control of Healthcare Associated Infections.

3. Definitions Used

Surveillance	The systematic collection of data, its analysis and dissemination to facilitate appropriate action' (DOH 2003).
Alert Organisms or Conditions	Organisms or conditions which have the potential to give rise to hospital outbreaks.
Notifiable Disease	A legal term denoting diseases that must by law, be reported to the "proper officer" who is the Consultant in Communicable Disease Control (CCDC)
Targeted Surveillance	Refers to the collection of data on healthcare associated infections occurring in a defined sub-group, such as those on a particular ward, those undergoing a particular procedure or those acquiring a particular infection
MRSA Bacteraemia	The presence of Meticillin resistance Staphylococcus aureus bacteria in the blood stream
MSSA Bacteraemia	The presence of Meticillin sensitive Staphylococcus aureus bacteria in the blood stream
E.coli Bacteraemia	The presence of E.coli bacteria in the blood stream
TB	Tuberculosis (TB) is an infectious disease caused by bacteria belonging to the <i>Mycobacterium tuberculosis</i> complex. Only the pulmonary form of TB disease is infectious, following prolonged close contact with an infectious case.
CJD	Creutzfeldt-Jakob disease (CJD) is a rare and ultimately fatal degenerative brain disease
Blood Borne Virus	Viruses that some people carry in their blood and which may cause severe disease in certain people and few or no symptoms in others. The virus can spread to another person, whether the carrier of the virus is ill or not.

	These viruses can also be found in body fluids other than blood, for example, semen, vaginal secretions and breast milk
CCDC	Consultant in Communicable Disease Control

4. Managing the Policy and Procedures for Surveillance

4.1 Serious Incidents Requiring Investigation

Serious incidents requiring investigation associated with infection must be reported via the DATIX reporting system. In addition the Infection Prevention and Control Team will inform Public Health England (PHE).

The DH (2003b) define serious incident associated with infection as those that “produce, or have the potential to produce, unwanted effects involving the safety of patients, staff, or others”. Reportable incidents are those that:

- result in significant morbidity or mortality
- involve highly virulent organisms
- are readily transmissible
- require control measures that have an impact on the care of other patients, including limitation of access to healthcare services.

In addition, a serious incident in relation to infection prevention and control are:

- MRSA Bacteraemia
- Clostridium difficile infections if reported on part 1 of the death certificate or if the patient requires surgery as a consequence of the infection
- Any ward closure related to infection

Trusts have a requirement to monitor and feedback levels of Healthcare Associated Infections including Mandatory Surveillance of:

4.2 Mandatory Surveillance

4.2.1 Meticillin Resistant Staphylococcus Aureus (MRSA) Bacteraemia

MRSA is an antibiotic resistant bacteria which can cause severe and potentially life threatening infections. All MRSA bacteraemia identified and reported by the Trust laboratory will be reported to Public Health England via the data capture system, by the Infection Prevention and Control Team

All MRSA bacteraemia cases are reported as a serious incident via the Datix system and onto the lead Clinical Commissioning Group (CCG) through a dedicated reporting system (STEIS). Derby Teaching Hospitals will only report those MRSA bacteraemia cases that are attributed to DTHFT onto the STEIS system. The Infection Prevention and Control Team will refer all MRSA

bacteraemia cases not attributed to the Acute Trust to the relevant CCG infection prevention and control team for investigation and reporting onto STEIS.

All MRSA bacteraemia cases will have a Root Cause Analysis (RCA) undertaken, following the Department of Health's post infection review (PIR) process. This will be undertaken by the Division involved and be shared with the meeting attendees prior to the meeting.

The PIR will be conducted by a multi-disciplinary clinical team and will review the bloodstream infection event and identify the factors that contributed to it. This includes, but is not limited to:

- The staff who have cared for the patient
- Divisional Nurse Director / Divisional Medical Director
- Divisional Clinical Governance Facilitator
- Any other organisation recently involved in the care of the patient in the 2 weeks preceding the positive result e.g. District Nursing.
- Local Infection Prevention and Control team
- The CCG responsible for the patient
- Public Health England (Health Protection Nurse Specialist / Consultant in Communicable Disease Control)

Summary information for the outcome of the PIR is required to be submitted to Public Health England via their data capture system within 14 days of the MRSA bacteraemia notification. The IPCT and Division will jointly complete the PIR document after the review meeting and will submit the outcome to the Public Health England.

Learning points will be identified during the PIR meeting; these learning points will be used by the Divisions to enhance clinical practice. Action plans will be developed by the Business unit / Division following the PIR meeting. Progress against the action plan will be reported by the Division to and monitored by the Trust Infection Control Committee.

The Business Unit / Division is responsible for writing the investigation report and for presenting this at the relevant Trust forum prior to its submission to the commissioning CCG, in line with the Trust Incident Reporting, Analysis and Learning Policy.

An RCA summary report will be presented to the Trust Infection Control Committee by the Infection Prevention and Control team.

4.2.2 Clostridium difficile Infection

Clostridium difficile is a cause of antibiotic associated diarrhoea and can cause severe and potentially life threatening complications such as toxic mega colon. Clostridium difficile is included in the national mandatory surveillance for healthcare associated infections. The Infection Prevention and Control team are responsible for reporting all cases of Clostridium difficile toxin positive results (age 2 years and older) to Public Health England. A

second positive toxin positive result more than 28 days after the first positive is recorded as a new episode.

All *Clostridium difficile* deaths recorded on part 1 of the death certificate, or those patients who have surgery as a result of their *C.diff* infection are identified as a serious incident (SI) and will have a Root Cause Analysis (RCA) undertaken, involving, but not limited to, representative from the medical and nursing teams caring for the patient, Division Nurse Director, Infection Prevention and Control.

If a *Clostridium difficile* (*C.diff*) infection is identified as a SI the Trust will report to the CCG via the dedicated reporting system as a serious incident.

Derby Teaching Hospitals will only report the *C.diff* SI cases that are attributed to DTHFT onto the STEIS system. The Infection Prevention and Control Team will refer all *C.diff* SI cases not attributed to the Acute Trust to the relevant CCG infection prevention and control team for investigation and reporting onto STEIS.

Action plans will be developed at the RCA meeting to determine any learning points. These learning points will be used by the Divisions to enhance clinical practice

An RCA summary report will be presented to Infection Control Committee by the Infection Prevention and Control team.

Progress against the action plan will be reported to Infection Control Committee by the Divisional Nurse Director.

Root cause analysis will be performed on all Trust acquired *C.diff* cases and pre-48 hours cases and GP positive cases if there was an in-patient episode at DTHFT in the 12 weeks prior to the positive result. The RCA will be completed by the clinical teams. The RCAs are reviewed by the Healthcare Associated Infections Review Group to determine whether there has been a lapse in care and to identify any learning. Relevant action plans are presented by the Divisions and monitored at the Infection Control Operational Group and Infection Control Committee.

The Infection Prevention and Control team will co-ordinate the RCA requests and attendance at the Healthcare Associated Infection meeting.

4.2.3 Meticillin Sensitive Staphylococcal Aureus (MSSA) Bacteraemia

MSSA is a strain of *Staphylococcus aureus* that is sensitive to meticillin and other antibiotics. It can cause disease, especially if there is opportunity for the bacteria to enter the body. Bacteraemia due to MSSA are important as the fall in MRSA bloodstream infections has not been accompanied by a decline in bloodstream infections due to MSSA.

Mandatory surveillance for healthcare associated infections was extended to include MSSA bacteraemia as of January 2011. The Infection Prevention and

Control team has the responsibility to report all cases to Public Health England, via the data capture system.

RCA will be performed on all Trust acquired MSSA bacteraemia cases and the non-Trust apportioned cases where there has been recent in-patient stay or significant intervention e.g. dialysis, in the Trust. The RCA will be completed by the clinical teams. The RCAs are reviewed by the Healthcare Associated Infections Review Group to determine whether there has been a lapse in care and to identify any learning. Relevant action plans are presented by the Divisions at the Infection Control Operational Group and Infection Control Committee.

The Infection Prevention and Control team will co-ordinate the RCA requests and attendance at the Healthcare Associated Infection meeting.

4.2.4 Escherichia coli (E.coli) Bacteraemia

E.coli is a rod shaped gram-negative bacterium that normally resides in the human gut. Most strains are harmless but some are capable of causing disease.

Mandatory surveillance for healthcare associated infections was extended to include E.coli bacteraemia as of June 2011. The Infection Prevention and Control team has the responsibility to report all cases to Public Health England, via the data capture system.

4.2.5 Glycopeptide Resistant Enterococci (GRE) Bacteraemia

Glycopeptide resistant Enterococcus is a bacterium which is strongly associated with prior use of broad spectrum antibiotics. GRE usually does not cause severe infections, but in vulnerable patients, particularly those in the intensive care unit, it can cause serious infections including bacteraemia. GRE bacteraemia is reported to Public Health England on a quarterly basis. The Infection Prevention and Control team has the responsibility to report all cases to Public Health England.

4.2.6 Surgical Site Infections Surveillance Service (SSISS) for Elective Orthopaedic Surgery

Surgical site infection following elective Orthopaedic surgery is included in national mandatory surveillance for healthcare associated infections. Mandatory surveillance collects data over a three month period, on an annual basis, using active prospective surveillance methods.

The Infection Prevention and Control Team will lead, with the support of the Division of Surgical Services on the mandatory orthopaedic surgical site surveillance and report surveillance data and findings to the Division and to Infection Control Committee. If required action plans will be developed by the Division, in conjunction with Infection Prevention and Control. These will be monitored at Infection Control Committee.

The Chief Executive, or nominated person is required by the Department of Health (DH) to validate the data submitted.

4.3 Voluntary Targeted Surveillance

The need for intermittent targeted surveillance of infection or sub groups of patients will be determined by the Infection Prevention and Control team (IP&CT), in conjunction with Divisional leads and clinical teams, in response to local need and will be detailed in the annual infection prevention and control programme.

4.4 Alert Organisms/Conditions

Alert organisms are those that may cause outbreaks. The Infection Prevention and Control Team will provide advice on the control measures and management of cases and will investigate clusters of cases.

The Microbiology Laboratory monitors and notifies the Infection Prevention and Control Team of the following Alert Organisms:

Meticillin Resistant Staphylococcus aureus	Meticillin Sensitive Staphylococcus aureus (Spinal surgery, Renal dialysis and Neonatal Intensive Care Units only)
Group A Streptococcus	Norovirus
Clostridium difficile Toxin positive	Clostridium difficile GDH antigen positive
E. coli 0157	Salmonella, Shigella or Campylobacter
Rotavirus	ESBL / Amp C / multi resistant acinetobacter
Tuberculosis	Vancomycin Resistant Enterococci / Glycopeptide Resistant Enterococci
Multi drug resistant Pseudomonas aeruginosa	Influenza
Meningococcal Septicaemia	Paratyphoid fever / Salmonella Parathypi
Carbapenam Resistant Enterobacteriaceae	Carbapenam Resistant Organism

The Consultant Microbiologist / Infection Prevention and Control Team will ensure results are promptly reported to relevant clinicians responsible for the care of the patient.

The Infection Prevention and Control Team will monitor positive results in individual clinical areas, using the ICNet Infection Control Software system, to identify any possible cross-contamination. Any possible cross-contamination will be investigated and relevant actions taken e.g. samples sent for ribotyping, enhanced environmental cleaning, and increased ward based education regarding infection prevention and control.

5 Notifiable Diseases

In some instances alert conditions are classed as notifiable diseases. This is a legal term denoting diseases that must, by law, be reported to the proper officer e.g. Consultant in Communicable Disease Control (CCDC). The notification should be made by the physician caring for the patient on suspicion of infection.

Diseases that are Notifiable include:

Acute encephalitis	Acute infectious hepatitis
Acute meningitis	Acute poliomyelitis
Anthrax	Botulism
Brucellosis	Cholera
Diphtheria	Enteric fever (typhoid or paratyphoid fever)
Food poisoning	Haemolytic uraemic syndrome (HUS)
Infectious bloody diarrhoea	Invasive group A streptococcal disease
Legionnaires' disease	Leprosy
Malaria	Measles
Meningococcal septicaemia	Mumps
Plague	Rabies
Rubella	SARS
Scarlet fever	Smallpox
Tetanus	Tuberculosis
Typhus	Viral haemorrhagic fever (VHF)
Whooping cough	Yellow fever

To notify the CCDC of a notifiable disease:

- Telephone Public Health England (0344) 2254524, stating the patient's name, date of birth, home address, present location, name of General Practitioner and the disease under notification.

6 Key Responsibilities/Duties

Infection Control Committee

- Endorse the Surveillance Policy
- Receive summary reports of the monthly alert organism data and any identified trends
- Receive summary reports of the root cause analysis and determine agreed actions, where necessary.
- Provide the Board with assurances that effective surveillance policies are in place throughout the Trust to minimise the risk of infection transmission.

Infection Control Operational Group

- Cascade the surveillance policy
- Use surveillance data to identify areas of improvement
- Communicate issues, concerns and actions

Clinical Governance Facilitators

- Ensure that all staff are aware of and comply with this policy.
- Attend and participate in all serious incident and root cause analysis meetings relating to infection control.
- Present all root cause analysis findings and action plans to the Infection Control Committee.

Divisional Directors, Assistant Medical Directors and Assistant Directors of Nursing

- Use outcome data from surveillance activities to inform action plans for improvement
- Ensure that investigations are undertaken using principles of root cause analysis, action plans formulated and learning shared
- Monitoring any action plans through the Divisional Governance Group and Infection Control Operation Group / Infection Control Committee

Managers/Clinical Leads/Matrons

- Ensure that all staff are aware of and comply with this policy.
- Responsible for ensuring their own practice complies with this policy and for encouraging others to do so.
- Ensure the Surveillance Policy is implemented and complied with in their areas of responsibility.

Medical Team

- Responsible for notifying the Consultant in Communicable Disease Control (CCDC) via the Public Health England (PHE) of any suspected or identified notifiable disease.
- Ensuring their own practice complies with this policy and for encouraging others to do so.

Infection Prevention and Control Team

- Determining which alert organisms will be included in the surveillance programme
- Coordinating surveillance activities
- Produce timely feedback of surveillance data to wards/units and divisions
- Producing surveillance reports to relevant committees and groups
- Determine what infection control procedures are necessary when a patient is identified with one of the alert organisms or conditions.
- Produce a monthly alert organism report for the Infection Control Committee.
- Responsible for reporting all cases of MRSA, MSSA, E.coli bacteraemia and Clostridium difficile infections to Public Health England as part of the mandatory surveillance of healthcare associated infection scheme.
- Report to PHE an unusual or exceptional event, any omissions involving an actual infection or an infection risk to patients or staff using the Serious Incident form. This will include:
 - **Outbreaks of Infection** which involve presumed transmission within hospital and

1. Cause significant morbidity/mortality e.g. salmonella outbreak in a hospital ward
 2. Impact significantly on hospital activity e.g. an outbreak of viral gastroenteritis necessitating ward closures and resulting in restrictions of hospital activity.
- **Infected Healthcare Worker/Patients**
Incidents that necessitate consideration of a look back exercise. This will involve diseases such as TB, CJD and blood-borne virus infections e.g. HIV, HBV, HCV.
 - **Breakdown of Infection Control Procedures**
Actual or potential for cross infection e.g. failure of sterilisation cycle, hospital acquired Legionella disease.

C.diff Review Group

- Review all CDI and GDH positive patients weekly to advise and assist in the appropriate management to ensure the infection is optimally treated and the patient is receiving all necessary supportive care.
- Review all cases of CDI to determine whether or not there is a PII
- Receive and review the weekly audit reports during a PII.
- Will liaise with the laboratory to organise stool samples to send to the reference laboratory for ribotyping
- Will record and report number of cases to all Divisions and to the Infection Control Committee
- Will co-ordinate the root cause analysis process and participate in the review meeting.
- Will analyse data and report the strategic overview of CDI cases to the Infection Control Committee.
- Will ensure the DIPaC, Division Nursing Directors, Divisional Medical Director, Division Matron and Patients Consultant and Ward Sister are aware of each Trust acquired toxin positive C.diff case.

MSSA Review Group

- Will review all MSSA bacteraemia's and define Trust acquired (Post 48 hours) and non-Trust acquired (pre 48 hours)
- Will request and review root cause analysis (RCA) on all Trust acquired cases of MSSA bacteraemia, and pre 48 hour cases where appropriate.
- Will review completed RCA's. Arrange for the discussion of the RCA's at the Trust Health Care Associated Infection (HCAI) meeting. Identify any gaps in infection control practice, audits, the follow up of microbiology results and the patient's antibiotic management.
- Will issue a final report following each HCAI meeting with a conclusion of the causal factors to the areas and Divisions involved.
- Will liaise with the microbiology laboratory over issues relating to MSSA screening, typing and reporting
- Undertake continuous local surveillance of MSSA bacteraemia

- Will request typing and/or patient and staff screening in cases of suspected outbreak / increased incidence to and inform Occupational Health where appropriate. Escalate to the Director of Infection Prevention and Control for a formal outbreak control meeting if appropriate
- Will provide summary reports to the Trust Infection Control Operational group and Infection Control Committee, - these reports to be discussed at divisional level.
- Will provide regular reports with key issues to Infection control link professional group, Clinical Educators, and ensure actions are highlighted in mandatory training.

Individual Employees

- Ensuring their own practice complies with this policy and for encouraging others to do so.
- Report any areas of concern using the appropriate reporting / escalation methods.

7 Monitoring Compliance and Effectiveness

Monitoring Requirement :	<ul style="list-style-type: none"> • All MRSA, MSSA, E.coli and C.diff cases are will be reported to Public Health England as part of the mandatory surveillance programme by the PHE prescribed monthly cut off date • Mandatory Surgical site infection surveillance data will be reported to Public Health England at the end of the surveillance period.
Monitoring Method:	<ul style="list-style-type: none"> • Quarterly reports are provided by Public Health England monitoring reporting compliance against the mandatory reporting programme. • Compliance with alert organisms / conditions will be monitored by the IPCT as part of the ongoing patient management. Non-compliance will be escalated to the ward sister and Matron immediately and reported via the Trust Datix reporting system.
Report Prepared by:	Lead Nurse – Infection Prevention and Control
Monitoring Report presented to:	<ul style="list-style-type: none"> • Non-compliance will be reviewed through Infection Control Committee • The Infection Control Committee will receive summary reports of all root cause analysis findings and determine agreed actions, where necessary.

	<ul style="list-style-type: none"> Assurance audit are reported to ICOG and ICC. Divisional action plans are monitored via ICOG
Frequency of Report	As required

8 References

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