

Prevention and Control of Healthcare Associated Infection (HAI)

Protocol for Surveillance of Healthcare Associated Infection (HAI)

Custodian/Review Officer: Centre for Healthcare Related Infection Surveillance and Prevention (CHRISP)

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1. Purpose

To inform Queensland Health staff of the mandatory and minimum requirements for the surveillance of healthcare associated infections (HAI), and related data.

2. Scope

This Protocol applies to all Queensland Health facilities undertaking surveillance of healthcare associated infection (HAI).

3. Supporting documents

Authorising Policy and Standard/s:

- Queensland Health Prevention and Control of Healthcare Associated Infection Policy
- Queensland Health Prevention and Control of Healthcare Associated Infection Implementation Standard
- Queensland Health Implementation Standard for Healthcare Associated Infection Surveillance and Research
- Implementation Standard for Vaccination of Healthcare Workers (under development)

Procedures, Guidelines, Protocols

- Queensland Health Outbreak Management Guidelines

Forms and Templates

- Hospital Surveillance Plan Template

4. Related documents

- Queensland Health Research Management Policy
- CHRISP Surveillance Manual

http://www.health.qld.gov.au/chrisp/surveillance/surveillance_manual.asp

- Signal Infection Surveillance Manual

http://www.health.qld.gov.au/chrisp/signal_infection/manual.asp

- Hand Hygiene Australia 5 Moments for Hand Hygiene Manual

[http://www.hha.org.au/UserFiles/file/Manual/ManualJuly2009v2\(Nov09\).pdf](http://www.hha.org.au/UserFiles/file/Manual/ManualJuly2009v2(Nov09).pdf)

5. Process for Surveillance of Healthcare Associated Infection

Healthcare associated infections can result in significant costs to patients and the healthcare system. Surveillance provides information on the occurrence of unusually high rates of infection and trends over time. In turn, this is used to help implement prevention and control strategies within the organisation and to evaluate the impact of interventions on rates of infection.

5.1 Surveillance activities for CHRISP participating hospitals

Medium to large facilities participate in the CHRISP HAI Surveillance Program. For these hospitals, it is mandatory to undertake continuous surveillance for the following key HAI indicators:

5.1.1 Surgical Site Infections

It is estimated that between 2% to 13% of patients experience a surgical site infection (SSI)¹. The development of an SSI is associated with longer hospital stays, long term antibiotic treatment, revision surgery, higher morbidity and mortality and increased costs to the healthcare system.

Surveillance of the following surgical procedures is mandatory:

Specialty	ICD-10-AM Code	Procedure description
Orthopaedic	49318-00	Total hip replacement (unilateral)
	49324-00	Revision total hip replacement (unilateral)
	49518-00	Total knee replacement (unilateral)
	49527-00	Revision total knee replacement (unilateral)
Cardiac	672	Coronary artery bypass graft (CABG) with graft site - sternal wound
	673	CABG with graft site - graft wound
	674	CABG with no separate graft site (i.e. internal mammary artery)

5.1.2 Significant Organisms

Certain organisms require surveillance because they are regarded as having a significant impact in the healthcare setting. These include multi-resistant organisms and *Clostridium difficile*. Measuring the incidence of these organisms and detecting emerging resistance and outbreaks is a key part of the surveillance of healthcare associated infections.

Surveillance of the following significant organisms is mandatory:

- *Clostridium difficile*
- methicillin resistant *Staphylococcus aureus* (mMRSA)
- vancomycin resistant enterococci (VRE) bloodstream infection
- extended-spectrum beta-lactamase (ESBL) producing *Klebsiella pneumoniae*
- extended-spectrum beta-lactamase (ESBL) producing *Escherichia coli*
- carbapenem-resistant *Acinetobacter* species bloodstream infection

5.1.3 Bloodstream Infections

Bloodstream infections (BSI) are a major contributor to the morbidity and mortality caused by HAIs, and associated economic costs. Many BSI are associated with healthcare procedures and are potentially preventable. Quality improvement programs involving surveillance have been associated with decreases in the incidence of healthcare associated BSI¹.

Surveillance of all bloodstream infections is mandatory.

5.1.4 Percutaneous and Non-percutaneous Occupational Exposures

Occupational exposures include all contact with potentially infectious materials made by healthcare workers in the course of their duties¹.

Surveillance of all percutaneous and non-percutaneous exposures is mandatory and provides information that can be used to direct prevention programs and risk management.

5.1.5 Data entry

Surveillance data shall be entered into the CHRISP surveillance application in a timely manner to allow for national data requirements (such as supply of data for the national Health Care Agreement) and for regular statewide and local risk-adjusted reports to be generated.

5.2 Signal Infection Surveillance

- 5.2.1 Signal infection surveillance shall be used in all facilities where healthcare associated infections occur infrequently and therefore are unable to collect large enough data sets to achieve meaningful statistical analysis. These hospitals are typically smaller in size and do not offer a range of high risk services such as oncology or complex surgical procedures.
- 5.2.2 Investigation of the following signals shall be completed as part of signal infection surveillance:
- bloodstream infection
 - surgical site infection
 - multi – resistant organism
 - urinary tract infection
 - occupational exposure.
- 5.2.3 Data collected through signal surveillance shall be forwarded to CHRISP on a monthly basis or on request.

5.3 Hand Hygiene

Improving the hand hygiene of healthcare workers is a key strategy in reducing the number of healthcare associated infections. Queensland Health facilities follow the 'Five Moments for Hand Hygiene' National Hand Hygiene Initiative. All facilities should have a hand hygiene audit strategy that includes auditing of hand hygiene compliance. Audits should be collected according to the requirements outlined in the Hand Hygiene Australia Manual, with data entered into the Queensland Health Clean Hands Application.

5.4 Staff Immunisation

Queensland Health has adopted a screening, education and immunisation policy that aims to minimise the risk to healthcare workers against vaccine-preventable diseases. Compliance with the Implementation Standard for Vaccination of Healthcare Workers (under development) is mandatory. All staff immunisations shall be recorded using the Staff Protect Application.

5.5 Outbreak Investigation

Outbreaks of healthcare associated infections are the responsibility of a facility's Infection Control Committee. However, outbreaks of notifiable diseases may require the involvement of the Population Health Unit. An outbreak plan (including collection of data) shall be established to recognise and investigate an outbreak of communicable disease(s),

identify and where possible, eliminate the source, stop or limit further spread, prevent recurrence, ensure satisfactory communication between all concerned, and disseminate lessons learnt.

5.6 Antimicrobial Utilisation

Inappropriate use of antimicrobials increases the risk to patients of colonisation and infection with *Clostridium difficile* or resistant organisms and subsequent transmission to other patients. It also leads to the emergence of resistant bacteria.

Monitoring of antimicrobial usage and resistance as part of an antimicrobial stewardship program is essential.

5.7 Research

All research using healthcare associated infection data shall comply with the Queensland Health Research Management Policy.

6. Audit Criteria

- Continuous surveillance data is submitted for all infections related to mandatory surgical procedures, bloodstream infections, occupational exposures and significant organisms. The dataset includes the minimum information defined for each indicator, as described in the CHRISP Surveillance Manual.
- Signal Surveillance programs follow up all signals added to the signal AUSLAB list and submit all log sheets and event sheets to CHRISP on a monthly basis.
- Hand hygiene audits are collected according to the Hand Hygiene Australia Manual, with data entered into the Queensland Health Clean Hands Application.

7. Definition of Terms

Term	Definition / Explanation / Details	Source
Healthcare Associated Infection (HAI)	Healthcare associated infections (HAIs) are those infections that are not present or incubating at the time of admission to a healthcare program or facility, develop within a healthcare organisation or are produced by micro-organisms acquired during admission.	ACSQHC

8. References

1. Cruickshank M, Ferguson J, editors. *Reducing Harm to Patients From Health Care Associated Infection: The Role of Surveillance*: Australian Commission on Safety and Quality in Health Care, 2008.

9. Approval and Implementation

Policy Custodian

Centre for Healthcare Related Infection Surveillance and Prevention (CHRISP)

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