STANDARD 3: Preventing and Controlling Healthcare-Associated Infection

CRITERION: Clinical governance and quality improvement to prevent and control healthcare-associated infections, and support antimicrobial stewardship (Actions 3.1 – 3.4)

Systems are in place to support and promote prevention and control of healthcare-associated infections and improve antimicrobial stewardship.

Provide a summary of the processes that are in place to meet this criterion.

The Western Health (WH) Infection Prevention plan is developed by the Infection Prevention Committee (IPC) and includes the organisational approach to Infection Prevention and Control at WH. The IPC is co-chaired by a Director of Nursing and the Head of Infectious Diseases.

The purpose of this committee is to prevent healthcare associated infections (HAIs) and prevent the spread of resistant organisms, and communicate its work to the whole workforce to achieve appropriate outcomes. IPC members represent various disciplines and roles throughout the organisation as well as a consumer representative. The IPC reports through the Safe Care Committee to the Best Care Committee.

The IPC oversees the development of procedures, training resources, clinical compliance, surveillance performance data and Department of Health and Human Service (DHHS) priorities including infection related risks and process issues and provides advice on all matters related to Infection Prevention and Control at WH.

The WH Antimicrobial Stewardship working group (WHAMSWG) convenes quarterly to review antimicrobial prescribing and key strategies. Within the scope of the working group is assessment of the performance of the program against the AMS procedure informed by the AMS clinical care standard. The WHAMSWG report to the IPC.

The Infection Prevention team are experienced and qualified staff who are dedicated to applying and supporting WH Infection Prevention and Control practices. They are supported by the Infection Prevention Link group program that aims to link clinical areas and the Infection Prevention team to increase awareness of infection prevention issues, practice and support clinical practice.

WH has an infection prevention (IP) policy, and evidence based guidelines and procedures that recognise and reference its responsibility to infection prevention and control practices.

How does the health service monitor the requirements of this criterion are being met and where is the information reported?

Compliance with WH policy and procedures is measured on an ongoing basis through operational performance reporting mechanisms such as scheduled ad hoc audits (e.g. IV cannula audits), Morbidity and Mortality meetings and the report and follow up of Infection Prevention related incidents i.e. Incident Severity Rating 1-2 Staphylococcus Aureus Bacteraemia (SAB) infections.

Local audits are undertaken to support antimicrobial stewardship

A suite of Key Performance Indicators report surveillance to committees, executives and the Board. Specific surveillance data is reported to jurisdictional and national bodies. WH's surveillance program monitors key surgical and bloodstream infections, detects emergence of multi-resistant organisms and evaluates the success of infection prevention strategies.

Infection risks and data results are presented at the IPC. Action plans related to non-compliance are reviewed and discussed at the IPC and reported to the Safe Care Committee and referred to Divisional Directors. Actions arising from non-compliance are implemented and evaluated for safety improvements.

Have improvements been implemented?

Improvement strategies are implemented to address issues identified during surveillance and auditing. One issue identified has been the reduced compliance in documenting the care and removal of IV cannulas in the WH Electronic Medical Record (EMR). A bundle of actions have been initiated including the development of an IV cannula dashboard that provides real time data on the number of IV cannulas documented in EMR and the time the cannulas remain in situ. The dashboard has provided closer oversight of care by the Infection Prevention team and Unit Managers and promotes timely removal of unnecessary cannulas.

Another improvement strategy is an improved reporting requirement for infections recorded in the WH Incident Management System (RiskMan). The RiskMan system has been updated and requires any incident recorded against Standard 3 to provide additional information around department compliance of infection prevention strategies such as hand hygiene compliance rates.

Standard precautions have also been enhanced for all direct patient contact with a dress code of "bare below the elbows" and the use of plastic aprons when contact with blood and body fluids is envisaged and high contact procedures are being performed.

Provide examples of outcomes since the previous onsite assessment:

WH continues to achieve DHHS Statement of Priorities SAB target rates. In 2018-19 the WH SAB rate was 0.4/10,000 overall bed days (13 cases), one more than in 2017-18 (0.3/10,000 overall bed days), however still below the DHHS target rate.

The IPC consumer representative actively reviews and advises the IPC on issues related to providing information to consumers and carers. Recently the IPC consumer provided advice on the Peripherally Inserted Central Catheter (PICC) information brochure provided to family and carers, which resulted in updating the information brochure to include PICC dressing maintenance.

Surveillance activity continues to support infection prevention and management. Following a one off increase in VRE colonisation in the ICU at Footscray Hospital, Vancomycin-RE and ESBL/CPE surveillance was increased from monthly point of prevalence surveillance to all patients who are in ICU, at both the Footscray and Sunshine sites, with a length of stay of greater than seven days. This action provides WH improved accuracy of Vancomycin-resistant Enterococcus (VRE), Extended Spectrum Beta-Lactamases (ESBL) and Carbapenem-resistant Enterobacteriaceae (CPE) surveillance rates for ICUs.

CRITERION: Infection prevention and control systems (Actions 3.5 – 3.13)

Evidence-based systems are used to prevent and control healthcare-associated infections. Patients presenting with, or with risk factors for, infection or colonisation with an organism of local, national or global significance are identified promptly, and receive the necessary management and treatment. The health service organisation is clean and hygienic.

Provide a summary of the processes that are in place to meet this criterion.

WH has processes to identify and communicate infection risks. The WH Standard and Transmission Based Precautions (TBP) procedure details guidelines and work practices for the prevention of transmission of infection or communicable diseases. This is in line with the Australian Guidelines for the Prevention and Control of Infection in Healthcare and jurisdictional guidelines.

Patients with multi-resistant organisms are identified within the EMR infectious alert system or through an admission infectious diseases questionnaire. Once identified, they are added to the system.

WH has a well-established Hand Hygiene program and procedure which is consistent with the Australian National Hand Hygiene Initiative. WH contributes to at least 3 audits per year and reports via VICNISS to Hand Hygiene Australia.

Aseptic non-touch technique online training is in place for key clinical staff groups.

An Aseptic Technique Risk Matrix and a Risk Management approach is taken when implementing policies, procedures and/or protocols for aseptic technique utilising current national guidelines and ongoing review of results of audits. There are processes in place for the appropriate use and management of invasive devices, including training, management and asepsis. Auditing is undertaken to verify aseptic processes.

Staff training, appropriate equipment and cleaning activities and infrastructure all support a safe environment for patients with infections and others in their environment.

WH has a risk based healthcare worker immunisation program in line with the Australian immunisation handbook and state requirements including pre-employment screening.

How does the health service monitor the requirements of this criterion are being met and where is the information reported?

The IP team review all patients under TBP at least once during their admission on their daily ward round. The IP nurse will discuss the reasons why TBP was instigated and provide reading materials to the patient and or carers as appropriate.

The WH IP team and Link group undertake observational audits to monitor and report on serious non-compliance of TBP.

WH conducts hand hygiene compliance audits against the National Hand Hygiene Initiative audit tool in 46 clinical departments across all four campuses. The clinical areas known to have greater potential for high infection rates are targeted as high risk.

Aseptic technique compliance audits are conducted by Link nurses and the Infection Prevention team, e.g. peer review in real-time during working hours when undertaking any procedure that includes aseptic technique (i.e. wound dressing, IV medication or fluid administration, intravascular device insertion and urinary catheter Insertion).

UV markers are used to audit cleaning requiring a 100% pass mark. Compliance rates are reported, reviewed and discussed at the monthly IPC meetings, Divisional Quality and Safety meetings, Operational Performance meetings, and unit and ward meetings. Hand hygiene compliance is also reported at Executive and Board levels and is also included in DHHS Performance Monitor reports generated quarterly. The overall annual compliance result for WH was 90% for 2018/19, above the DHHS target.

IP is represented on new building committees, Capital Redevelopment and Refurbishment Committees, and IPC consultation for identified facility risks. The Infection Prevention Manager also sits on the Product Evaluation and New Technology committee to assess the safety of products to be used or introduced into WH.

WH has adopted a 'no jab, no job' attitude with new employees, who are required to provide a comprehensive history of vaccine preventable diseases before commencement of employment which includes blood borne virus status for staff performing Exposure Prone Procedures (EPPs). Immunisation status records are also maintained by staff clinic.

WH through the Executive Director of Nursing and Midwifery sits on the DHHS working group looking to make inoculations mandatory for all health related workers.

Have improvements been implemented?

The WH IPC addresses and escalates the organisational response to the management of non-compliance to IP practices. This occurred when hand hygiene compliance rates in the Emergency Departments at Sunshine and Footscray were consistently low. Strategies to improve compliance included an increased hand hygiene awareness campaign, training of additional Link nurses, and increased auditing and feedback of results to staff. This matter was escalated to the Divisional leadership team through regular feedback of audit results. As a result, hand hygiene compliance at the Footscray Emergency Department has increased from 80% in 2016 to 91% in 2019. Similarly, the Sunshine Emergency Department hand hygiene compliance was 76% in 2016 and 91% in 2019.

Disinfecting and sporicidal wipes are available to facilitate the cleaning of shared equipment to nurse and other healthcare workers at the point of care. WH has recently introduced Clinell red wipes for use of cleaning of patient equipment for patients with Clostridium Difficile.

Improved alternative methods of evaluating and auditing environmental cleanliness in addition to visual inspection such as fluorescent gel markers and microbial methods have enhanced the monitoring of environmental cleaning.

Provide examples of outcomes since the previous onsite assessment:

Posters were developed as a quality initiative to improve staff understanding of the pressure maintenance requirements in the negative pressure isolation rooms, which are now displayed outside every room.

In July 2017, the Intensive Care Units at Footscray and Sunshine (i.e. high risk areas) incorporated an Aseptic Non-Touch Technique checklist for al insertion of central lines. Since this improvement activity, ICU has reported zero CLABSIs.

The influenza vaccine uptake for 2017 was 78%, in 2018 81% and in 2019 86%.

Healthcare worker hand hygiene compliance annual rate for 2018-19 was 90% with 30,893 correct of 34,393 observed moments. WH continues to report some of the highest rates in Australia.

CRITERION: Reprocessing of reusable medical devices (Action 3.14)

Reprocessing of reusable equipment, instruments and devices is consistent with relevant current national standards and meets current best practice.

Provide a summary of the processes that are in place to meet this criterion.

WH supports the use of a range of reusable critical and semi-critical equipment, instruments and devices to meet the needs of services provided by a large metropolitan health service, and supplying areas performing invasive procedures e.g. Operating Suites, Day Procedure Unit, Medical Imaging, Cath Lab and the Emergency Departments.

Requests for new reusable medical equipment, instruments and devices are approved by the Product Evaluation and New Technology committee. The Central Sterile Supply Department (CSSD) manager is a member of this committee to ensure that the selection of Reusable Medical Devices can be processed in accordance to AS/NZS4187:2014.

Manufacturers are required to provide a TGA certificate and reprocessing instructions prior to approval for purchase.

WH has stand-alone sterilising departments at all sites, with a dedicated CSSD. WH also uses the ScanCare tracking system to support service delivery.

WH is the only Victorian health service which is a Registered Training Organisation (RTO) thus provides training for a Certificate 3 and 4 in Sterilisation which is offered to all CSSD staff.

CSSD education packages, hospital competence packages and Healthcare Infection Prevention and Control competency packages are available via WeLearn and the CSSD desktop. Weekly CSSD in-services are held on all campuses. Staff are encouraged to attend external education days and become members of their professional body.

WH has a suite of procedures which are compliant with national and international standards and manufacturer's instructions for reprocessing reusable medical devices (RMDs). The procedures cover for example processing reusable equipment, tracking and recall.

The CSSD Management of Used Reusable Medical Devices provides a guideline for the presentation and initial treatment of used RMDs to the CSSD. Other procedures are in place for the decontamination of specific reusable devices in patient care areas e.g. radiology, women's clinic.

How does the health service monitor the requirements of this criterion are being met and where is the information reported?

WH is able to trace RMDs using the ScanCare computerised tracking system. This system allows WH to track processed RMDs to each patient encounter both in Theatre and other areas as the Day Procedure Units, Radiology, Catheterisation Lab and Outpatient Clinics. ScanCare records from each area are audited monthly for any incomplete records. Incomplete records are then referred to the appropriate areas for rectification.

Other audits undertaken cover sterilisation throughput, linen quality, testing procedures, Personal Protective Equipment use by CSSD staff, and sterile stock.

Results of audits are discussed at CSSD management meetings, with any areas of concern raised at the IPC meetings by the CSSD manager.

The IPC also monitors compliance with gap analysis and action implementation against the AS4187:2014.

Have improvements been implemented?

A comprehensive, CSSD focused gap analysis has been completed for AS4187:2014. A priorities action plan was developed and is monitored by the IPC on a quarterly basis to review progress reports and strategies that have been implemented or being implemented to achieve full compliance.

A broader scoped gap analysis is currently being developed against AS4187:2014.

Monitoring activity has triggered a review of the cleaning, disinfecting and tracking of ultrasound probes across WH, with guidance provided to the relevant clinical areas in the appropriate precautions to be undertaken to prevent cross-infection.

Provide examples of outcomes since the previous onsite assessment:

WH has maintained strong audit performance and low infection rates since the previous onsite assessment.

This has been supported by the ongoing review of procedures and processes prompted by gap analysis against AS4187:2014 and related initiatives such as the introduction of a clinical educator to support orientation for new staff and ongoing support and learning for all staff across the health service.

CRITERION: Antimicrobial stewardship (Actions 3.15 – 3.16)

The health service organisation implements systems for the safe and appropriate prescribing and use of antimicrobials as part of an antimicrobial stewardship program.

Provide a summary of the processes that are in place to meet this criterion.

The WHAMSWG oversees all AMS activities across the network. Key activities include: implementing clinical guidelines, monitoring antimicrobial utilisation and feedback to prescribers, identifying areas for in-depth evaluation, developing intervention and education strategies, overseeing AMS ward rounds, monitoring outcomes of intervention and education strategies, establishing formulary and prescribing restrictions, monitoring local trends of antimicrobial resistance rates and reporting key performance indicators to the AMS reporting line.

The organisational AMS procedure directly informs how stewardship is undertaken within the health service. This procedure aims to provide a consistent approach to the use of antimicrobials that is reflective of both the AMS NSQHS Standard and the AMS Clinical Care Standard. Furthermore, it endorses the Therapeutic Guidelines (TG) as the preferred antimicrobial prescribing reference or locally adapted guidelines, where available.

The TGs are available service-wide, via Clinicians Health Channel (CHC) and the WH Library intranet, as well as linked within the EMR for access at the point-of-care. This application can be installed on personal electronic devices using WH tokens which allows for remote and offline access. AMS ward rounds offer an avenue for promoting the TGs and clinical staff are shown how to use relevant guidelines as well as informed about contemporary evidence.

Point-of-care tools have been developed to provide decision support including locally adapted guidelines and EMR Order Sets. The AMS service has also developed gentamicin and vancomycin dosing calculators available via the EMR and the WH intranet.

Antimicrobial formulary restrictions are in place to promote the use of narrow spectrum antimicrobials, where appropriate. A pre-access approval system is recorded within the EMR which reflects existing WH formulary restrictions.

Educational information is delivered to wide audiences (medical, nursing, pharmacy) and email and other media are also utilised to reinforce AMS messages (including posters and online modules). The Infectious Diseases Unit provides education at unit meetings and Medical Grand Rounds, in particular ongoing education to junior medical staff. The National Prescribing Service (NPS) antimicrobial modules must be completed by new prescribers each year and completed certificates are recorded by the Medical Workforce Unit. WeLearn modules have been developed for pharmacists on a range of topics (e.g. antimicrobial dosing and monitoring and management of Staphylococcus aureus bacteraemia). The AMS Infectious Diseases physician also delivers presentations to different groups when a gap in practice or knowledge is identified (e.g. upskilling staff on recent changes to the antimicrobial TGs).

Targeted educational strategies may also be initiated in response to monitoring and auditing activity. AMS ward rounds allow for individual academic detailing of prescribers whereas unit meetings allow for tailored feedback to a larger audience.

How does the health service monitor the requirements of this criterion are being met and where is the information reported?

The WHAMSWG sends regular reports, including meeting minutes and audits, to the WH Drugs and Therapeutics Committee, IPC, and as required to clinical divisions on issues impacting their units. The WHAMSWG also receives relevant reports, surveys and audits including: antibiograms from the WH Microbiology service, the National Antibiotic Utilisation Surveillance Program (NAUSP) reports, updates from Spleen Australia regarding recommendations for vaccination of splenectomy patients, National Antimicrobial Prescribing Survey (NAPS), Infection Prevention reports on hospital-acquired infections and resistance rates and Adverse Drug Reactions (ADR) Committee reports for antimicrobials.

Several metrics are monitored to identify key priorities including areas for in-depth evaluation. The AMS service routinely reviews data on antimicrobial use, including volume and appropriateness of prescribing.

Key audits for the preceding 12 months include, but are not limited to: Annual NAPS point-prevalence audit, bimonthly antimicrobial consumption reports (NAUSP), antimicrobial allergy documentation, surgical antimicrobial prophylaxis for priority areas, Better Care Victoria Sepsis Pathway audits, microbiology collection, and regular prospective audits of antimicrobial prescribing. Reports are subsequently fed back to relevant areas as well as used to inform ongoing AMS strategies or interventions.

Have improvements been implemented?

In April 2019, the AMS ID Physician and Pharmacist leads commenced weekly prospective antibiotic reviews at Sunshine and Footscray (two sessions at each site). The AMS pharmacist and ID physician select target wards/units/areas, antimicrobials or other key parameters to provide real time optimisation of prescribing, feedback and education to prescribers, facilitate narrowing or rationalisation of antimicrobial therapy and switching to oral therapy. Since the commencement of AMS ward rounds, 24-hour post-round uptake of AMS recommendations is recorded to monitor the impact of the service. Results between September to December 2019 show 90% uptake of AMS recommendations at 24-hours post review at Footscray Hospital and 92% uptake at Sunshine Hospital.

The ID unit also participates in regular stewardship rounds in the ICU and Diabetic Foot Service which facilitate appropriate antibiotic prescribing in a multidisciplinary setting.

Guidelines have been developed in response to audit results. For example, in 2019, a vancomycin dosing and monitoring guideline was developed following an audit of vancomycin prescribing. Urology peri-operative guidelines have also been developed collaboratively with the ID and Urology units in response to an identified gap in practice.

Provide examples of outcomes since the previous onsite assessment:

An additional 0.6 full time equivalent (FTE) senior AMS Pharmacist (totalling 1 FTE) and 0.3 FTE AMS Infectious Diseases Consultant were approved before the end of 2018 and early 2019, respectively. This has facilitated a positive structural alignment and the ability to establish AMS ward rounds.

By December 2018, Cerner EMR was introduced to all inpatient wards. This change enabled transparency of antimicrobial prescribing as well as the ability to generate real-time and retrospective antibiotic reports.