

PROJECT SWITCH

Promoting IV to oral antibiotic switch to improve patient care

PROJECT CHARTER

What are we trying to accomplish?

The goal of the project is to encourage and improve timely intravenous (IV) to oral conversion of antimicrobial therapy where safe and appropriate to improve patient care at Sydney Children's Hospital, Randwick (SCH).

Aim statement: Within 6 months, at least 95% of SCH inpatients under the care of general paediatric and surgical teams prescribed IV antibiotic therapy are switched to oral therapy within 24 hours where safe and appropriate.

Reason for the effort:

- Antimicrobial stewardship is a key strategy for the prevention and management of healthcare associated infections, and for preventing the development and spread of antimicrobial resistance
- 25% of all antibiotic prescriptions for NSW hospital inpatients are inappropriate, increasing the risk of harm and antimicrobial resistance
- Interventions to facilitate more timely parenteral-to-oral conversion of antibiotics are strongly supported by evidence
- Baseline data indicates that 65% of paediatric patients in our sample were switched to oral antibiotic therapy within 24 hours of eligibility, illustrating capacity for improvement.

This initiative supports the *National Safety and Quality Health Service Standards* (Actions 3.14.3, 3.14.4) and aligns closely with the Sydney Children's Hospitals Network (SCHN) Strategic Quality, Safety and Consumer Engagement Plan (2015-2019).

Acknowledgement

The Clinical Excellence Commission acknowledges the staff of Sydney Children's Hospitals Network, particularly staff within Sydney Children's Hospital, Randwick who have partnered with us on this improvement project.

Expected benefits and outcomes associated with successful IV to oral conversion initiatives:

- ✓ Reduced duration of IV antimicrobial therapy, reducing acquisition costs of IV antimicrobials
- ✓ Reduced workload and nursing time associated with administration of IV antimicrobials
- ✓ Reduced length of stay (early discharge)
- ✓ Decreased side effects associated with IV lines, including infection and thrombophlebitis.



How do we know that a change is improvement?

A family of measures (outcome, process and balancing) will be used throughout the project. A small sample of health records for patients admitted under the general paediatric and surgical teams will be audited each week.

Process measures:

- Percentage of eligible patients* in IV antibiotics that are stopped or switched to oral therapy within 24 hours (*target* $\geq 95\%$)
- Median time taken to switch eligible patients* to oral antibiotics

Outcome measures:

- Length of stay in eligible patients*
- Line-associated infections in eligible patients*
- Duration of IV antibiotic therapy in eligible patients*

Balancing measures:

- Number of readmissions due to infection within 7 days of discharge in eligible patients*
- Number of eligible patients* recommenced on IV antibiotics within 48 hours after oral switch

*Eligible patients = patients on IV antibiotic therapy that meet criteria for a safe and appropriate to switch to oral antibiotic therapy according to ANZPID-ASAP Guidelines

What changes can we make that will result in improvement?

Evidence supports the following interventions:

- Guidelines for oral antimicrobial prescribing for common infections
- Clinical criteria outlining when IV-to-oral switch is safe and appropriate
- Education about the benefits and risks associated with different routes of antimicrobial therapy
- Prompts by nursing staff and pharmacy staff
- Shared decision making with patients and carers about IV to oral switch.



Promotion of evidence-based guidelines

In June 2016, a systematic review of antibiotic duration and timing of IV to oral switch for 36 paediatric infectious diseases was published in *The Lancet Infectious Diseases* by the Australian and New Zealand Paediatric Infectious Diseases–Australasian Stewardship of Antimicrobials in Paediatrics (ANZPID-ASAP) group.

Evidence-based recommendations were published by the ANZPID-ASAP group outlining for each infectious disease:

- the minimum duration of intravenous therapy
- the criteria for switch from intravenous to oral antibiotic therapy
- the minimum total duration of antibiotic therapy.

The ANZPID-ASAP guideline was adopted and endorsed by the SCHN in early 2017. An education campaign for staff highlighting key recommendations of relevance to their practice is underway.

Supporting shared decision making

A publication to support improved communication and shared decision making with parents and families about switching to oral antibiotics is in development. This includes an explanation of the risks and benefits to the patient of switching, and provides a checklist that can be used before leaving the hospital.

Addressing gaps in knowledge

A lanyard card and decision support algorithm is in development to assist junior medical staff in making decisions about when it is safe and appropriate to switch to oral antibiotics, and which antibiotics and doses should be prescribed. These resources can also be used by pharmacists and nurses to prompt the switch.

Using data for improvement

A prospective audit tool has been developed to capture data on IV antibiotic prescribing practices in a small sample of patients so this can be readily fed back to prescribers each month and used to target improvement efforts.

Please email CEC-AMS@health.nsw.gov.au for further information

References can be provided on request.

About the Quality Use of Antimicrobials in Healthcare Program

The CEC's Quality Use of Antimicrobials in Healthcare program aims to support NSW local health districts and specialty health networks in implementing and sustaining effective locally-owned antimicrobial stewardship programs.

For further information on the program, please visit <http://www.cec.health.nsw.gov.au/patient-safety-programs/medication-safety/antimicrobial-stewardship/quah>

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