

# Reigning in the Cowboys, Racing Against Resistance, Winning on Orthopaedic Prophylaxis in a Rural Facility

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## Introduction

Clinical variation in prophylactic antimicrobial and indwelling catheter use in orthopaedic patients at Orange Health Service (OHS) raised alarm bells. Audits conducted in 2014 showed 10% compliance with antibiotic guidelines and only 30% of indwelling urinary catheters were removed within 24 hours. This variation was embedded within practice at Orange Health Service and would be difficult to improve.

## Aim

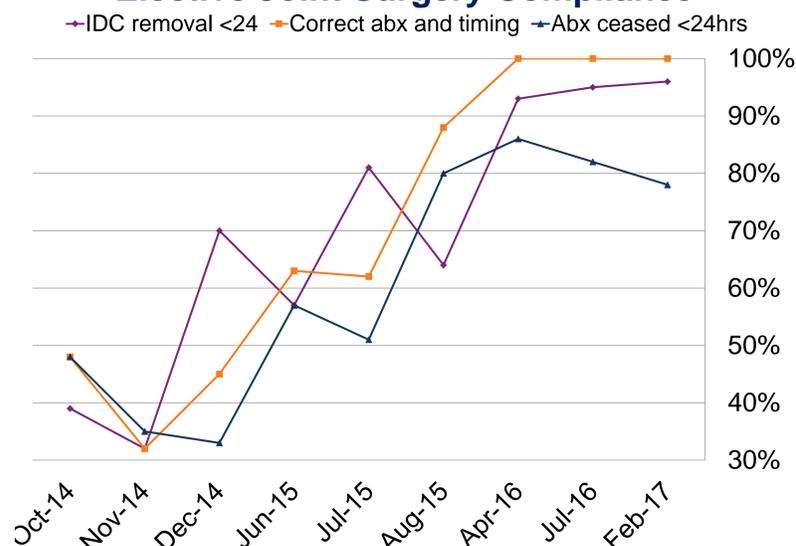
To increase compliance with surgical antimicrobial prophylaxis guidelines and indwelling urinary catheter guidelines to 90% from November 2014 to June 2016.

## Methods

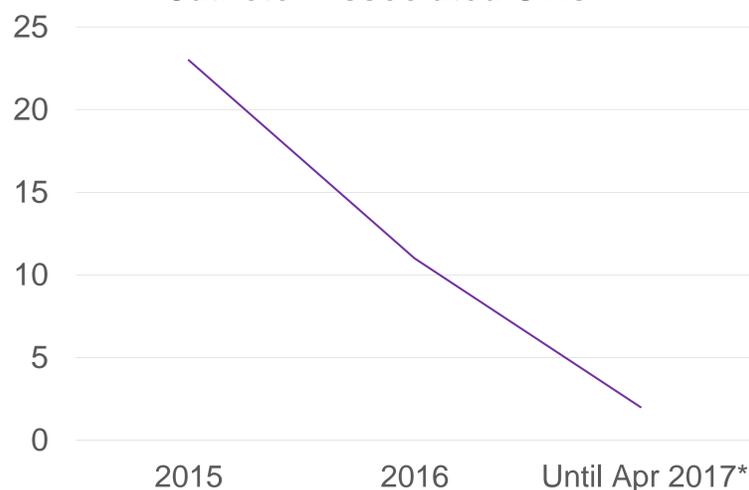
This study used an impact evaluation to measure pre and post intervention changes in antimicrobial prophylaxis prescribing and use of indwelling urinary catheters. A baseline audit was conducted in November 2014 using the Australian Council on Healthcare Standards and the Australian Commission on Safety and Quality in Healthcare Quality Use of Medication audit tools. A project group was created to monitor and guide the continuous quality improvement (CQI) cycles of repeat audits, feedback and education to teams and prescribers.



### **Elective Joint Surgery Compliance**



### **Catheter Associated UTIs**



## Acknowledgements

Orthopaedic Surgeons  
Surgical Nursing Team  
Dr Peter Thomas, Dr Mike Stone, Dr Thomas Solano

## Results

This project resulted in significant improvements:

- Correct choice of antimicrobial and timing of administration improved from 30% to 100%.
- Cessation of prophylaxis within 24hrs improved from 35% to 80%.
- Use of inappropriate gentamicin went from 65% of all cases to 0%.
- Indwelling catheter removal within 24-hours improved from 30% to 100%.
- Catheter-associated UTIs reduced from 23 in 2014 to 11 in 2016, and are estimated to be 5 in 2017.
- Estimated economic benefits as a result of decreased length of stay, drug usage and hospital-acquired infections were projected to be \$539,000 per year.
- A reduction of 3 clostridium difficile cases per year
- A reduction in length of stay for orthopaedic patients.

## Conclusions

This study highlights that adopting a CQI framework can drive significant improvements in antimicrobial prophylaxis and indwelling urinary catheter use. CQI utilising a motivated team is a valuable tool to improve health and economic outcomes in any hospital setting, especially with limited access to resources, such as Anti-Microbial Stewardship programs.