UTILISING NATIONAL AUDIT DATA TO REDUCE LOCAL BLOOD CULTURE RATES

BACCN
British Association of Critical Care Nurses

MAIN AUTHORS

In reality a whole team effort!

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HAREFIELD HOSPITAL ITU

Specialist cardiothoracic unit

- 24 Bedded ITU
- 7 Bedded Recovery Unit
- 10 Bedded Surgical HDU

OVERVIEW

Understanding the problem

Raising blood culture rates

Comparing our practice with best practice

Important to understand our context and the needs of our service

Call to action

Gather a team, plan and implement .

Overcoming challen ges/barriers

What worked well and what didnt

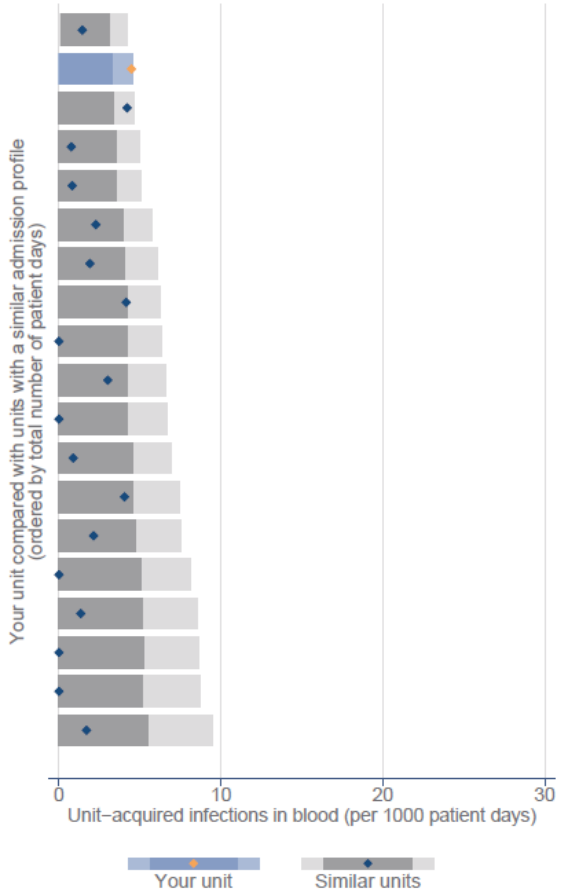
We'd like to share our QI experience

RAISING RATES OF POSTIVE BLOOD CULTURES

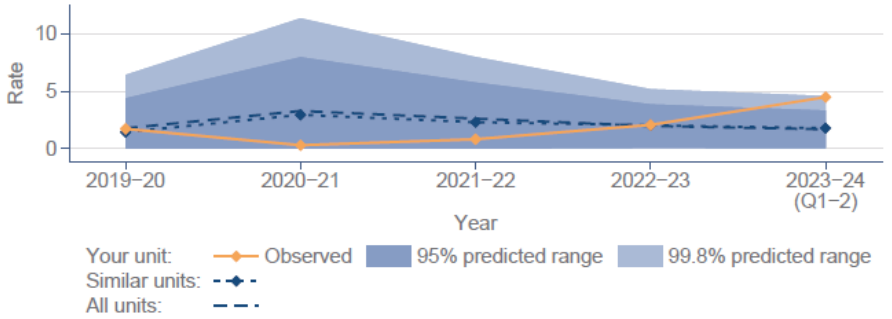
Harefield Hospital, Intensive Care Unit
Quarterly Quality Report: 1 April 2023 to 30 September 2023

case mix programme

Unit-acquired infections in blood



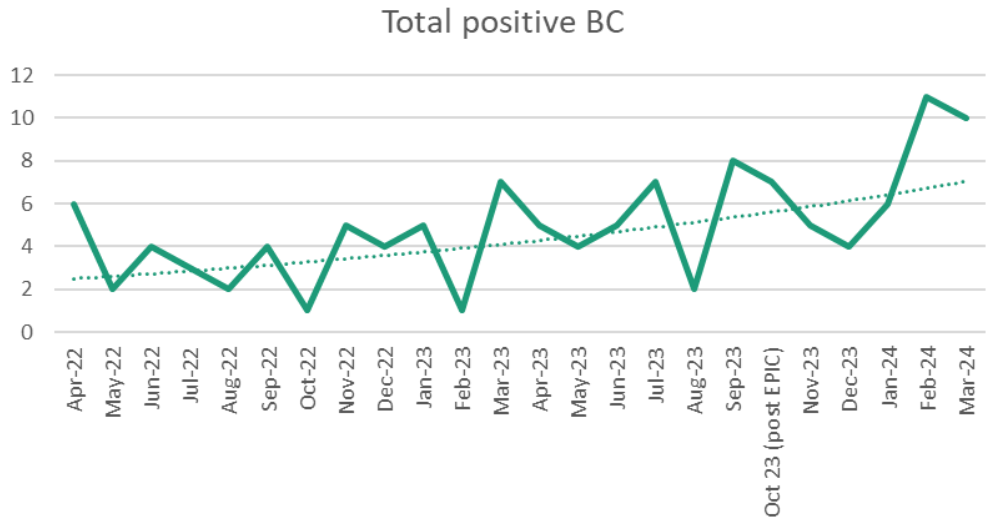
	Eligible n	Complete n (rate)		Observed n (rate)	Expected rate	95% predicted range	99.8% predicted range	
Quarter 1	137	137 (100.0)	●	9 (4.8)	1.6	(0.0, 3.4)	(0.0, 4.8)	▲
Quarter 2	140	140 (100.0)	●	6 (4.1)	1.9	(0.0, 4.0)	(0.0, 5.9)	▲
Quarter 3								
Quarter 4								
Year to date	277	277 (100.0)	●	15 (4.5)	1.7	(0.0, 3.3)	(0.0, 4.6)	▲



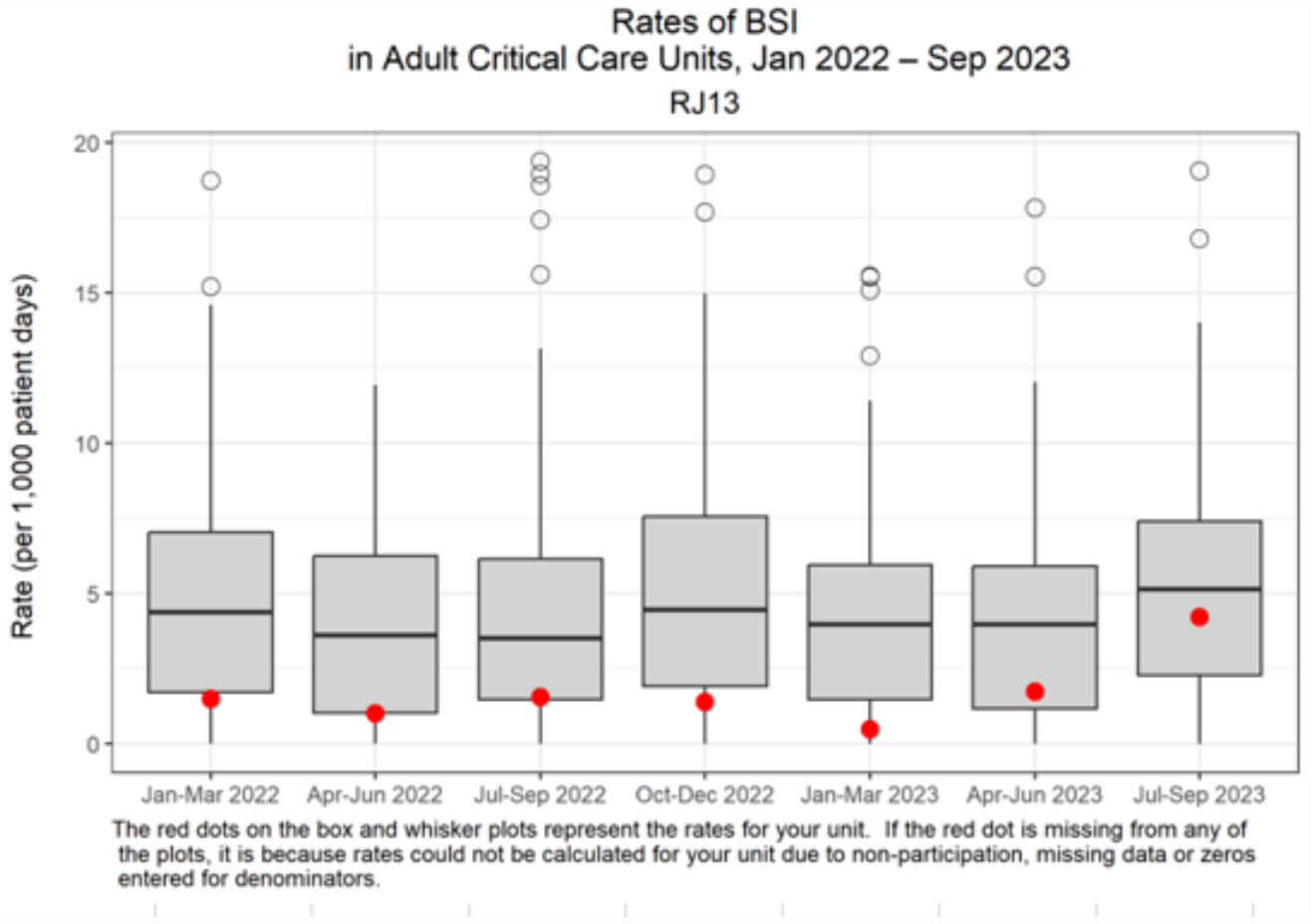
Definition

- Eligible: Critical care unit admissions staying more than 48 hours
- Complete: The number and percentage of eligible admissions with complete data for unit-acquired infection
- Observed rate: The number of admissions with presence of infection in any blood sample taken for microbiological culture after 48 hours following admission and rate per 1000 patient days (number of admissions divided by the total number of patient days that eligible admissions stayed in the critical care unit, multiplied by 1000)
- Expected rate: The overall rate of unit-acquired infections in blood per 1000 patient days across all critical care units participating in the CMP
- Predicted range: We expect a unit's observed rate to lie within the 95% predicted range 19 times out of 20 and within the 99.8% predicted range 998 times out of 1000

LOCAL DATA

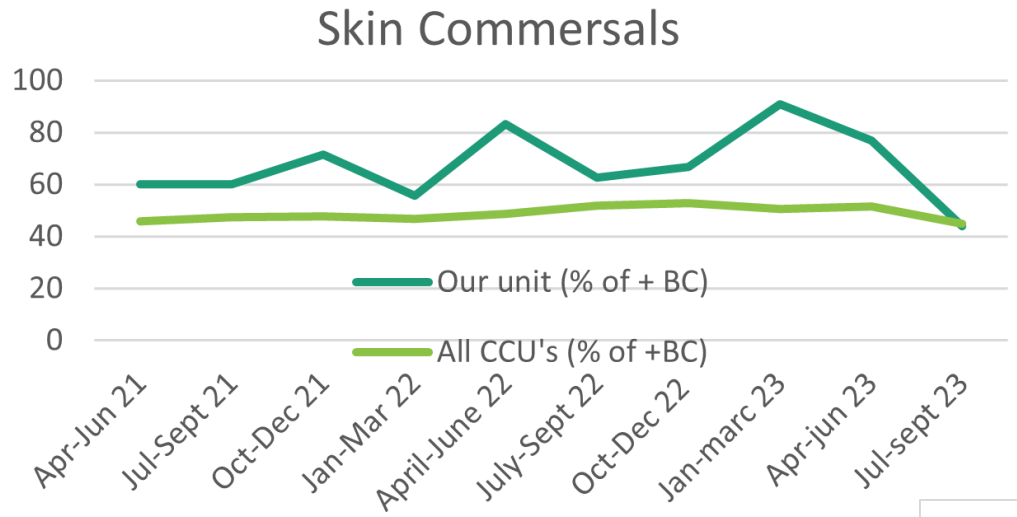


ICCQIP DATA

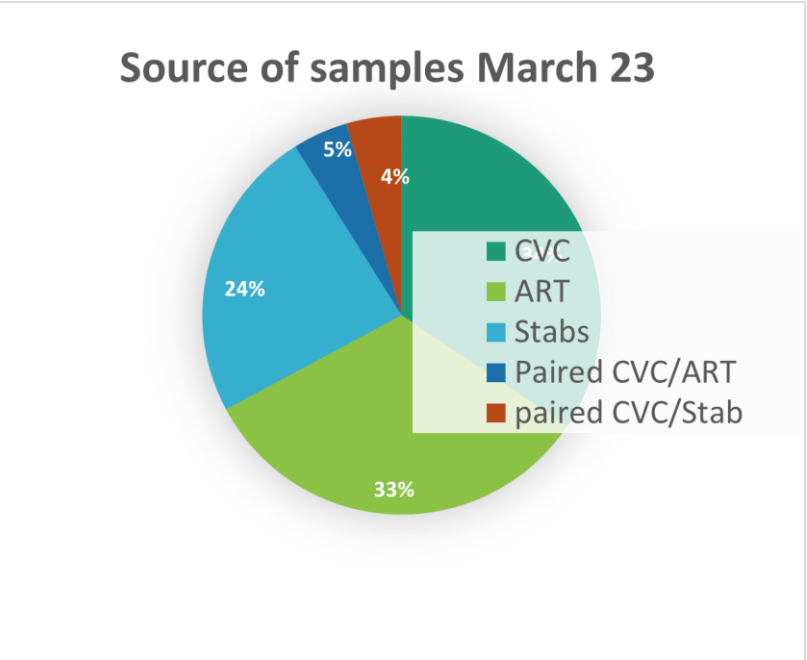


A rise in positive blood cultures rates from 2.4 to 7.6 per 1,000 patient days

UNDERSTANDING THE PROBLEM(S)



Patient - March 24	Organism	Source
1	Klebsiella pneumoniae	CVC & Vas cath
2	Pseudomonas aeruginosa	CVC
3	Staphylococcus epidermidis	Vas Cath
4	Staphylococcus epidermidis	Art Line
5	Staphylococcus epidermidis	Art Line
6	Enterobacter kobei	Art Line
7	Enterobacter roggenkampii	Peripheral, CVC, Vas cth, Art
8	Staphylococcus epidermidis	Peripheral
9	Serratia marcescens	Art, CVC
10	Pseudomonas aeruginosa	peripheral x2



OPTIMISING BLOOD CULTURE COLLECTION: PROCESS MAPPING

Identify Current Practice

Review Best Practice Guidelines

Compare and Contrast

Develop Standardized Workflow

Implement and Monitor

Why has practice changed?

Unexpected implications of the changes?

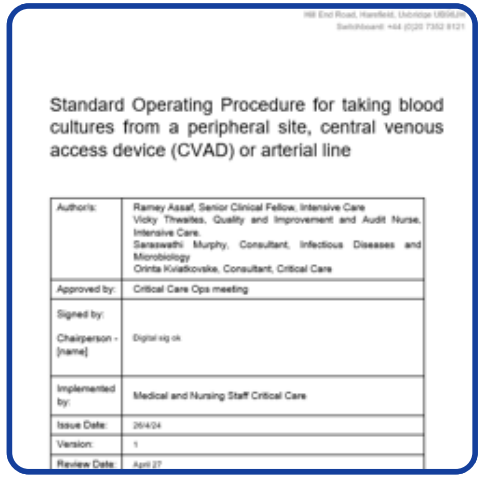
Reviewing practice from different perspectives

Pulling together experts from across merged trust

Best practice

Highlight the gaps between the current practice and the recommended best practice guidelines.

Does our current trust guideline meet the needs of our unit?



Standard Operating Procedure for taking blood cultures from a peripheral site, central venous access device (CVAD) or arterial line

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Approved by:	Critical Care Ops meeting
Signed by: Chairperson - [name]	Digital sig ok
Implemented by:	Medical and Nursing Staff Critical Care
Issue Date:	26/4/24
Version:	1
Review Date	April 27

Utilising national audit data to reduce the burden of data collection/analysis for QI

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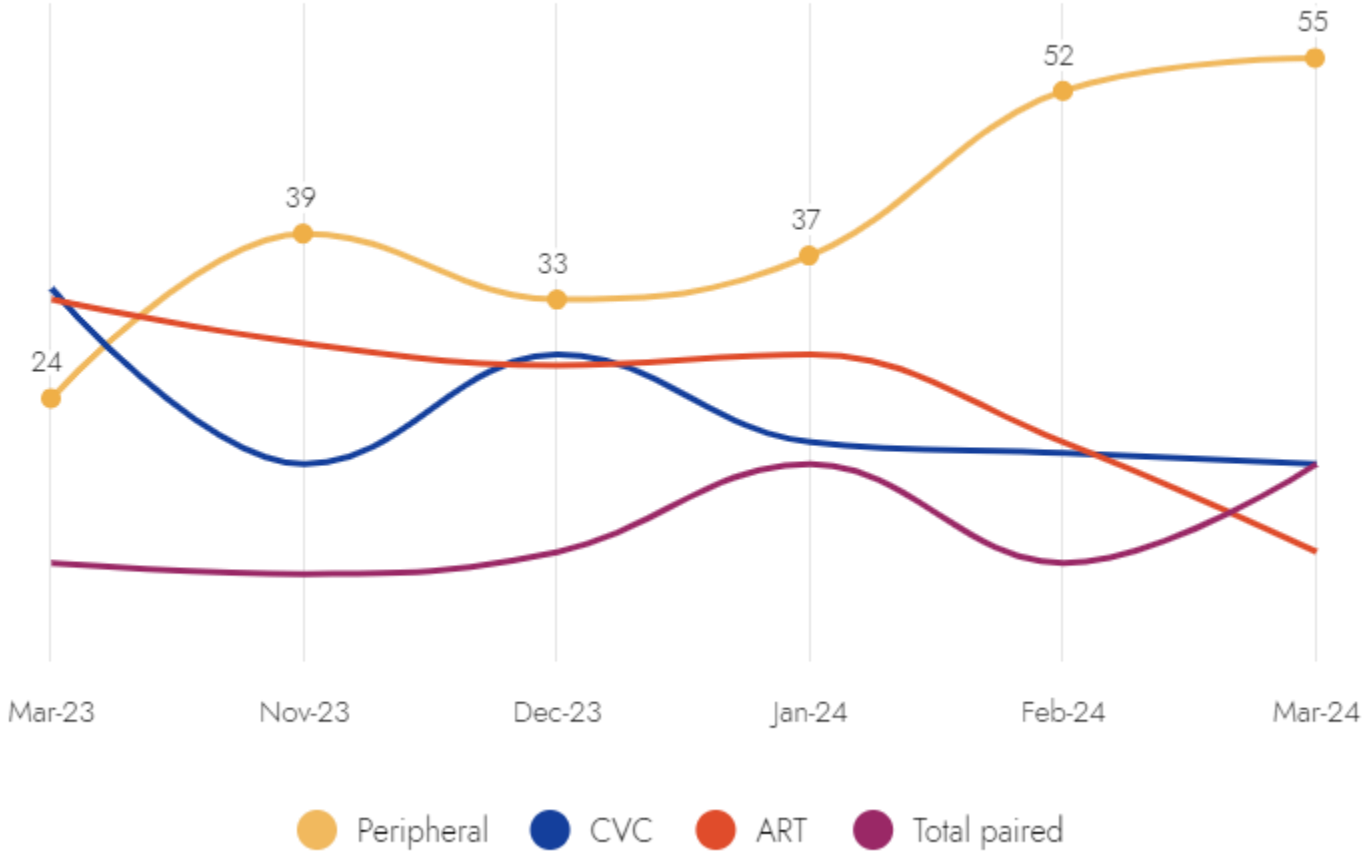
EARLY SUCCESS

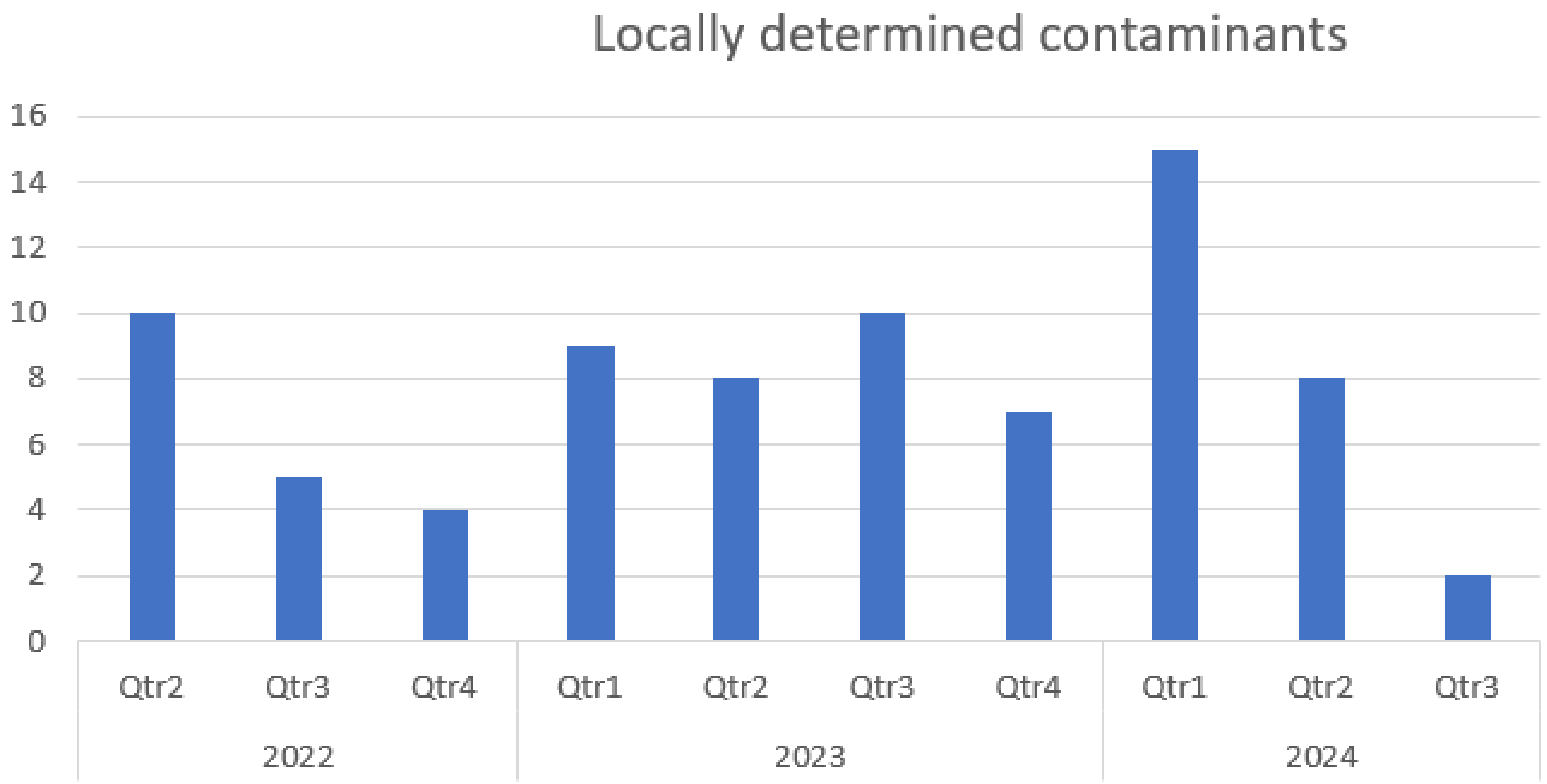


PERIPHERAL STABS DOUBLED!

in 1 year

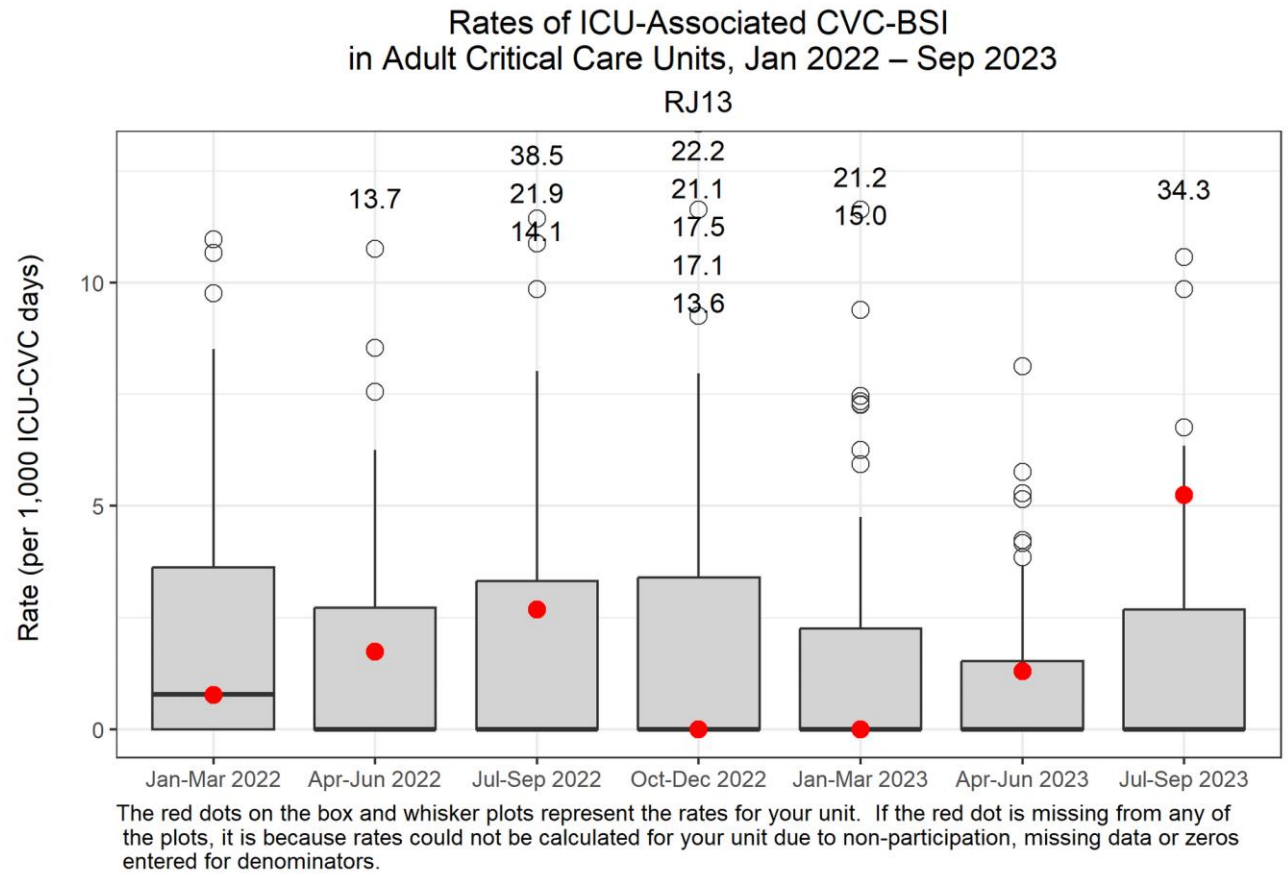
by raising awareness alone

REDUCED CONTAMINATION RATES



CONTAMINANTS ARE ONLY HALF OF THE STORY

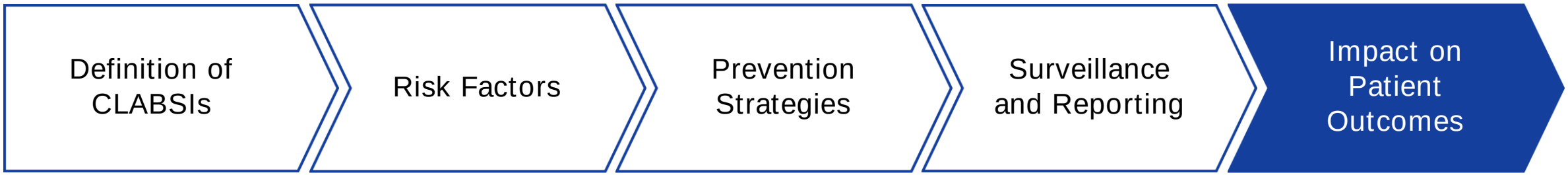
Rate of ICU Associated CVC-BSI Per 1,000 days



Oct – Dec 22 = 0 (All units 1.7)

Jul – Sept 23 = 3 (all units 1.1)

CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS (CLABSI)



Primary bloodstream infections that occur in patients with central lines. Considered a significant source of healthcare-associated infections (HAIs) in critical care settings.

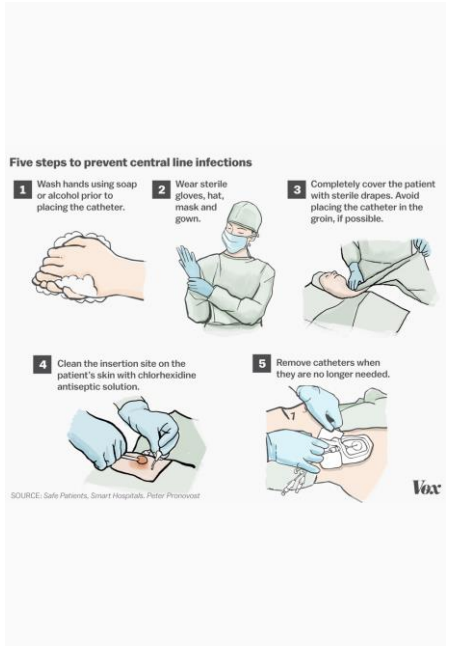
Prolonged central line use, improper insertion techniques, inadequate **hand hygiene, line management** and immunocompromised patient status.

Proper **hand hygiene, central line dressing management**, correct **ANTT** when handing lines, only access lines when necessary and promptly removing unnecessary central lines.

Ongoing surveillance and reporting through established ICCQIP audits in critical care.

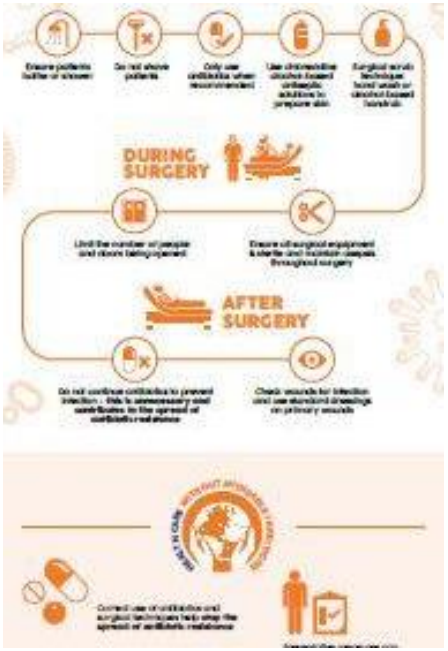
CLABSIs can lead to significant patient morbidity and mortality, increased hospital length of stay, and higher healthcare costs.

BRINGING TOGETHER MULTIPLE AUDITS - WHERE IS THE ACTION NEEDED?



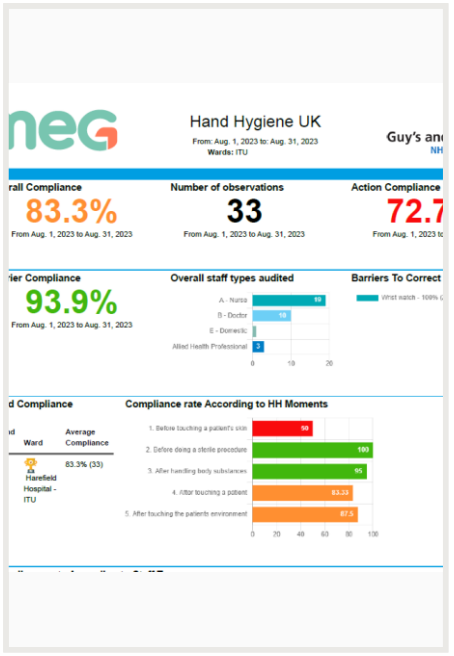
Central Line Implementation & Care bundles

IN PLACE



Surgical Site Infection Surveillance

Rise in wound infections



IPC audits

Hand hygiene audits

Infection control rates (CPE outbreak)

Matrons Assurance Spot Check Audits

Drop in compliance with Line Care

ANTT - observations

Observations - 4/4 failed!

"ASEPTIC NON TOUCH TECHNIQUES ARE A SILENT GUARDIAN, PROTECTING PATIENTS FROM THE UNSEEN DANGERS OF INFECTION"

ANONYMOUS

BACK TO OUR CLINICAL CONTEXT

1 PATIENT - 1 12HR SHIFT

- 5 different vascular access devices in place
- Vascular access devices accessed 42 time
- 5mins per access?
  - 3hrs
  - 1/4 of shifts spent accessing vascular devices!

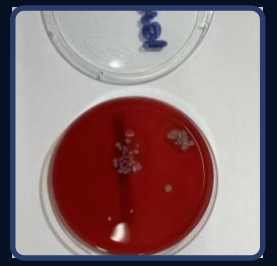
INTERVENTIONS OF ANTT WEEK

Our main aim for this week was to get all members of the MDT to reflect on their practice and see where in their own day practice could be improved.

Intentional rounding & Action cards

Gloves off campaign

Dynamic Teaching, competitions



Touch tracing and hand plating

ANTT Champions

Audit- lines and dressing

WHAT WORKED WELL AND WHAT DIDN'T

Strengths

- Dynamic teaching
- Touch plating
- Auditing
- Support from the wider MDT
- linking in with sustainability project - Gloves off

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Weaknesses

- Touch trays
- Intentional rounding
- Action card

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Opportunities

- Change the way the unit approaches ANTT
- Up-skill ANTT champions
- Promote ANTT conversations and reflection on practice
- Review dressing in the unit - highlighting other areas to focus action

O

Threats

- The demands on the unit
- Use of agency
- Needed buy in from more key senior staff
- NEW COMPUTER SYSTEM
- COVID-19 - shift in nursing practice

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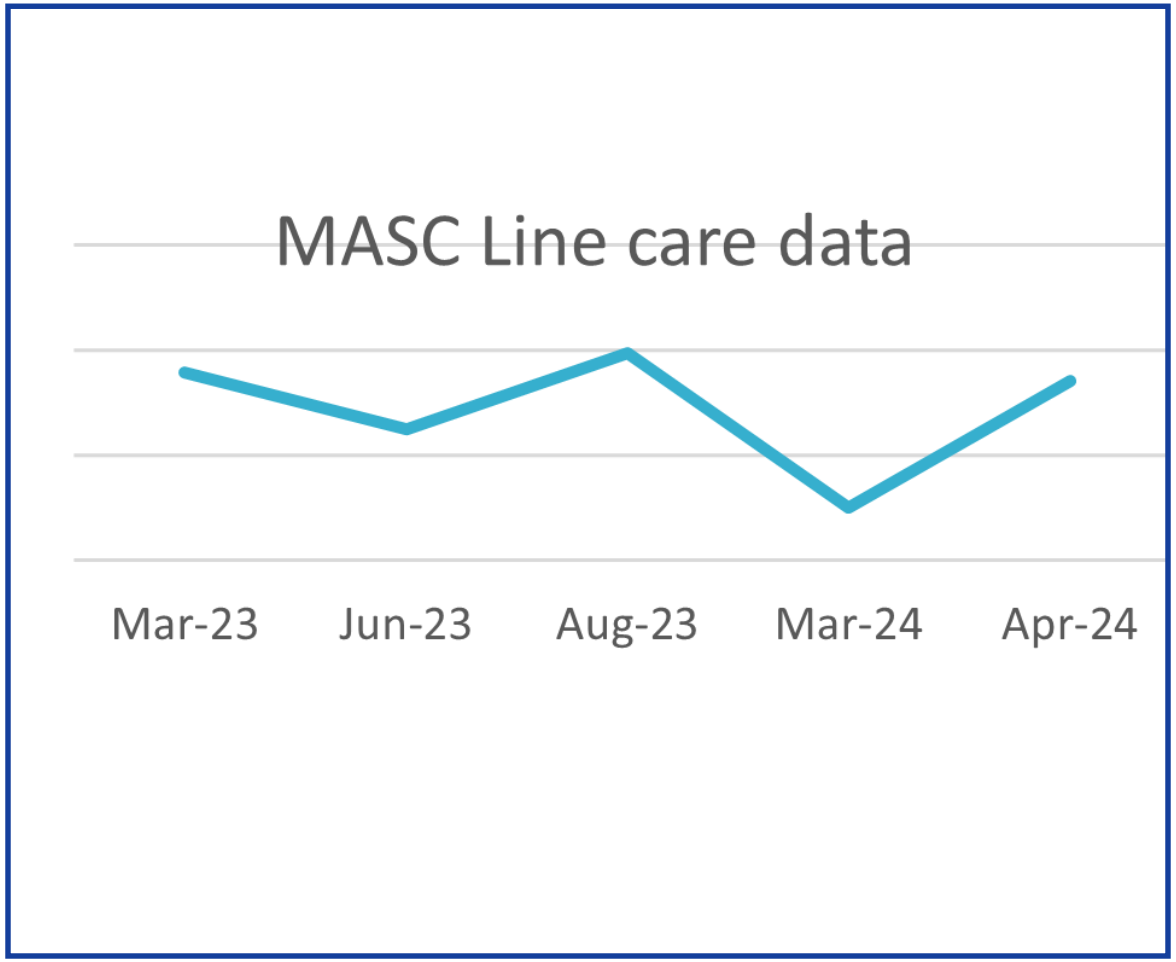
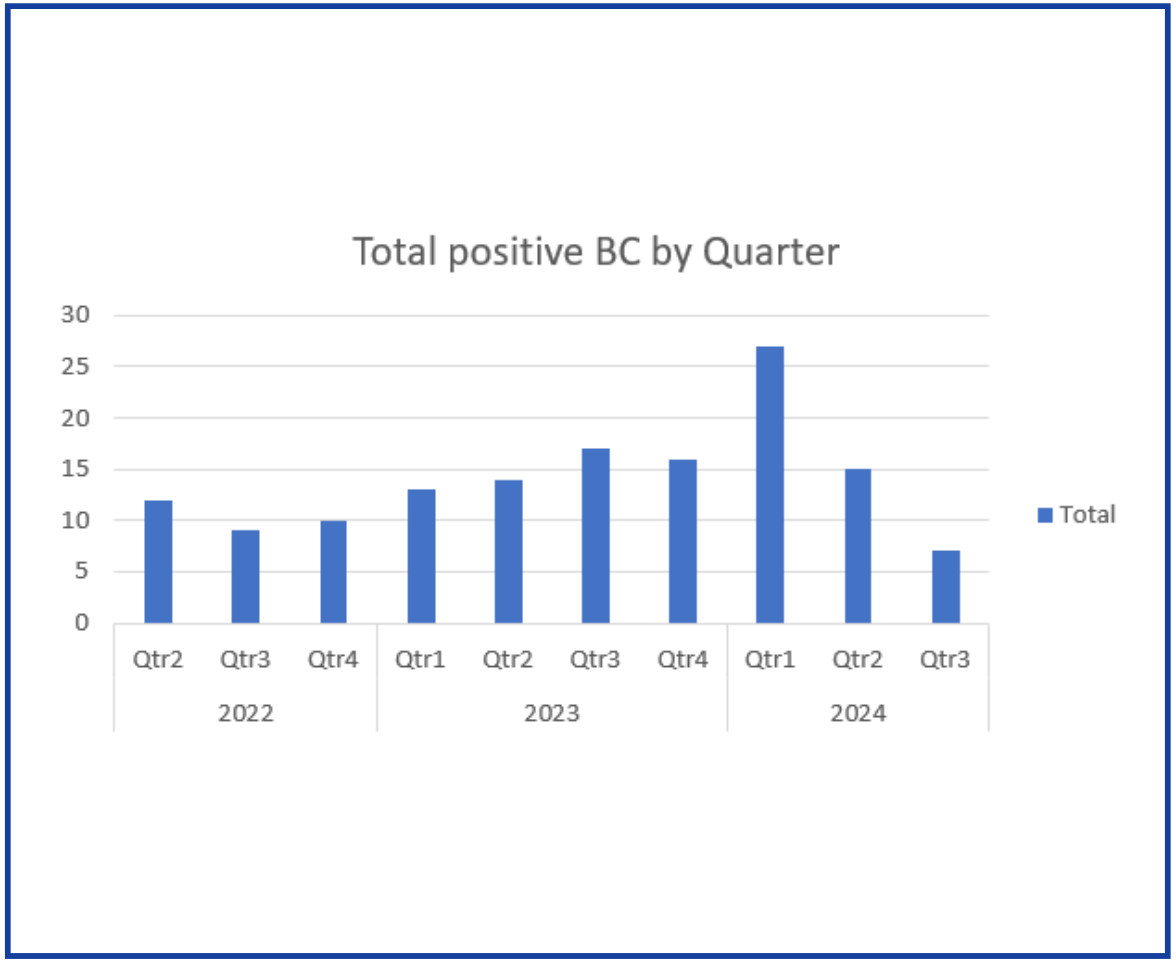
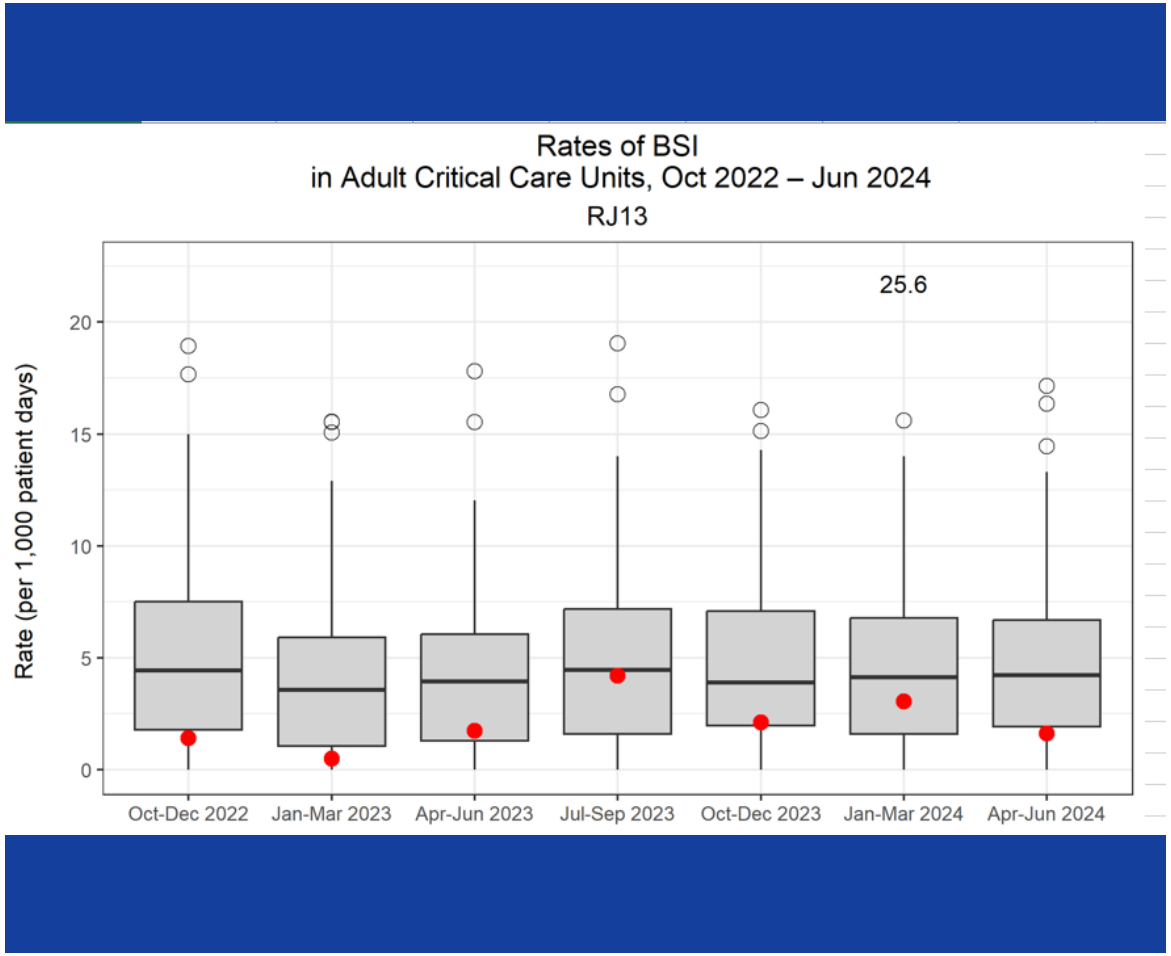
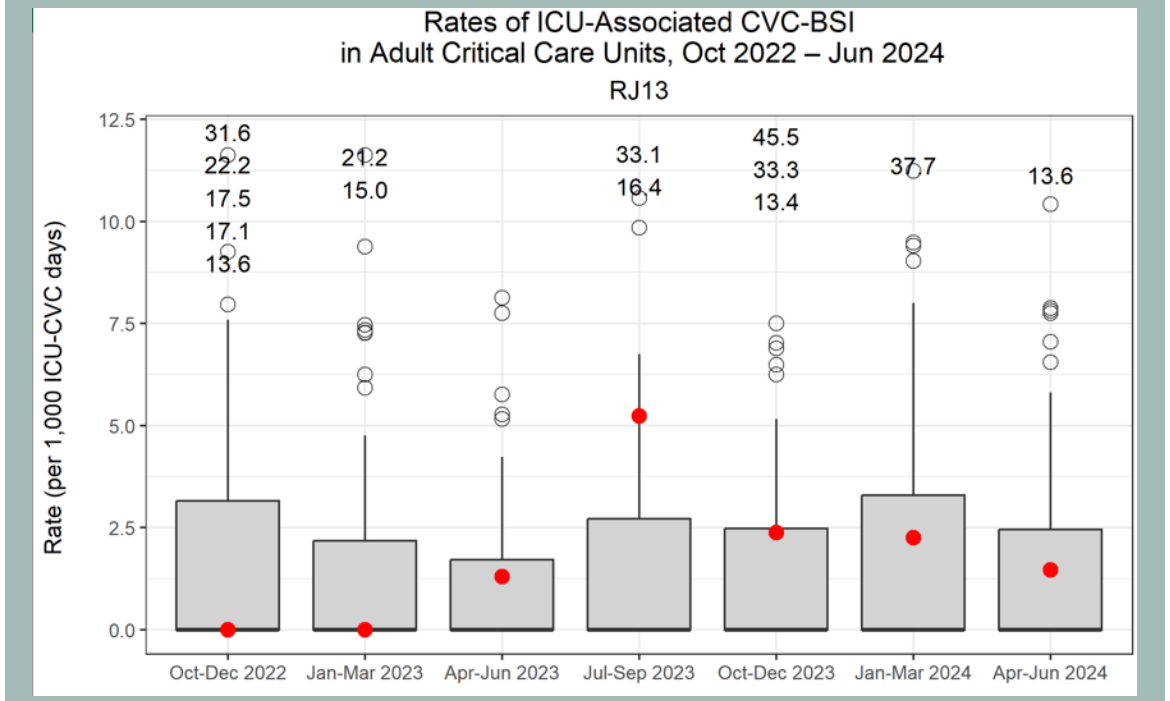
EARLY INDICATORS OF IMPROVEMENT





NATIONAL AUDIT RESULTS - ICCQIP





FUTURE DIRECTIONS - SUSTAINING CHANGE

- Culture change through ongoing audit, feedback and teaching
- Upskilling MDT ANTT champions
- Review of dressings & devices to reduce contaminants
- Gloves off campaign
- Repeat ANTT week

THANK YOU

References

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