Debugging MRO Screening

A Quality Improvement Project to improve MRO screening compliance in Renal Transplant Unit

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Introduction

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Background

MRO Screening involves collecting information about multi resistant organisms colonisation for at-risk patient groups.

What happens if screening is missed?

- Undetected infections/colonisations.
- Potential for transmission of antibiotic-resistant organisms in acute health care facilities.
- Increase the risk of difficult to treat infections and threat to patient safety.

Timely Screening helps to

- Implement appropriate infection control measures.
- Target antibiotics appropriately.
- Reduce potential for outbreaks and complications for patients.

Problem

Spot Audits conducted quarterly by IPAC showing low compliance (less than 50%)in the renal transplant unit.

Previous attempt to resolve this problem has been unsuccessful.

Bed blocks due to CPE isolates in 4 bedded bays causing bed flow issues.

Increased risk of transmission in the unit due to immunocompromised Renal Transplant patient cohorts.

SMART Aim Statement

To improve MRO screening compliance in Renal Transplant unit to 90% by 31 December 2023.

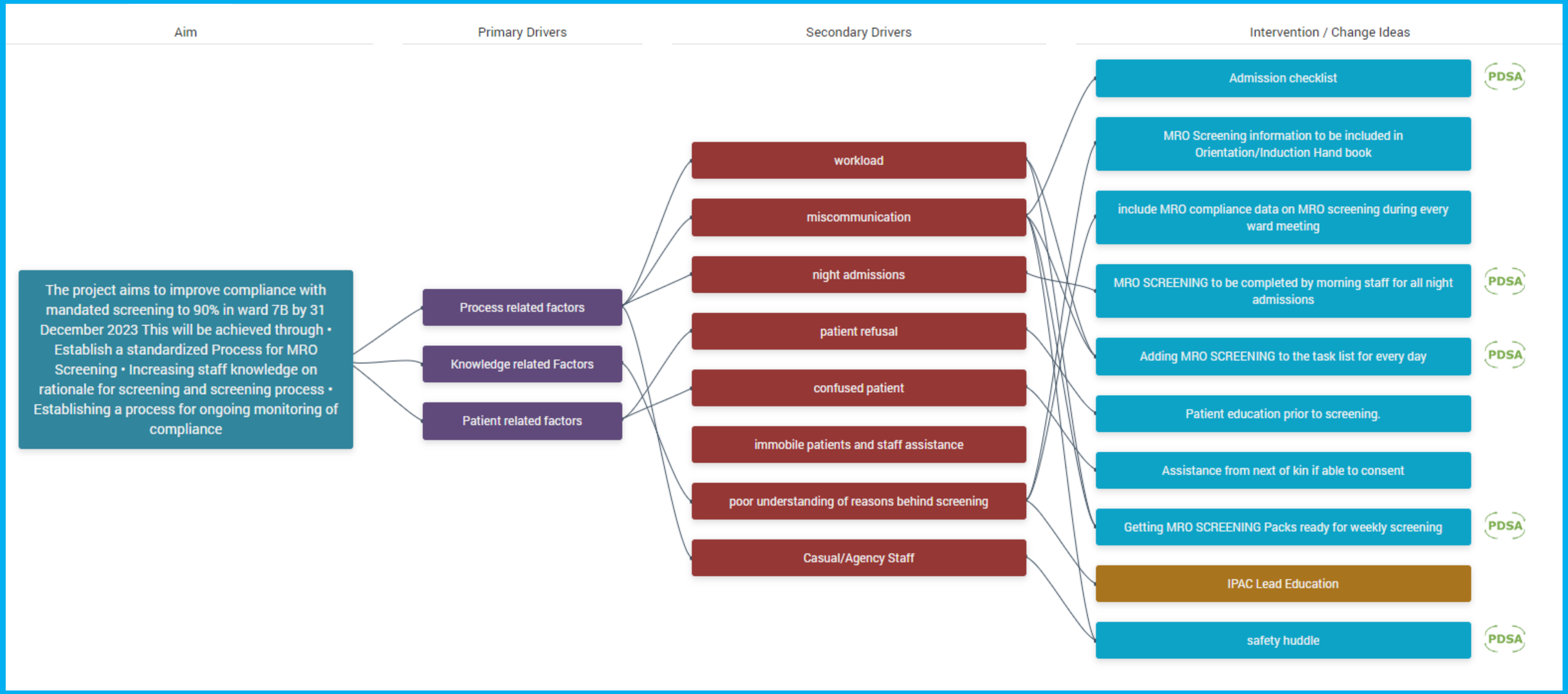
Goals

Establish a **standardised process** for MRO Screening.

Increase staff **knowledge** on rationale for screening and screening process.

Establish a **process for ongoing monitoring of compliance.**

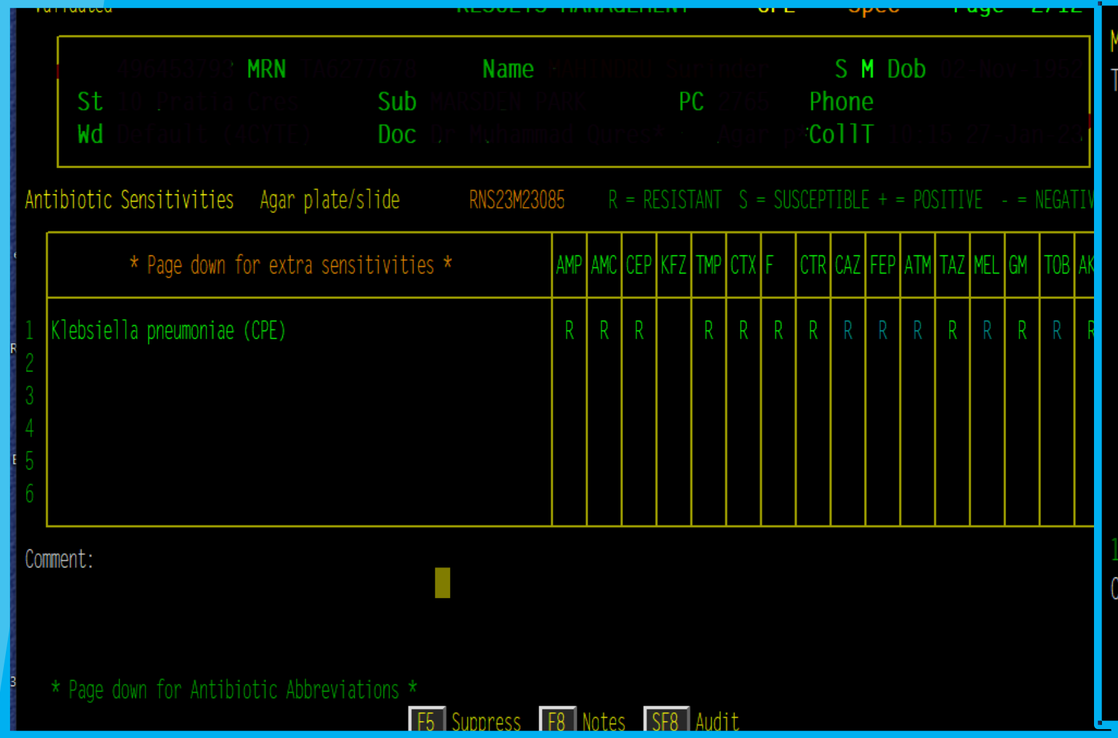
Driver Diagram



Case Study

- 56 Years old, Relapsed AML.
- Admitted with fevers 3/7 and generally unwell. Empirical antibiotics.
- Rapid response for acute deterioration and hypotension 4 days after admission.
- T/F to ICU for inotropes. Intubated, Antibiotics upgraded to Meropenem.
- MRO Screening missed in the unit, MRO screening in ICU-Positive for CPE.
- CPE Sensitive to Colistin only.
- Renal failure due to sepsis, limitations to optimal dosing of Colistin.
- Early CPE Detection will help to target antibiotics appropriately.

Case Study



MRN Name S M Dob

St Sub PC Phone

Wd Doc Coll T

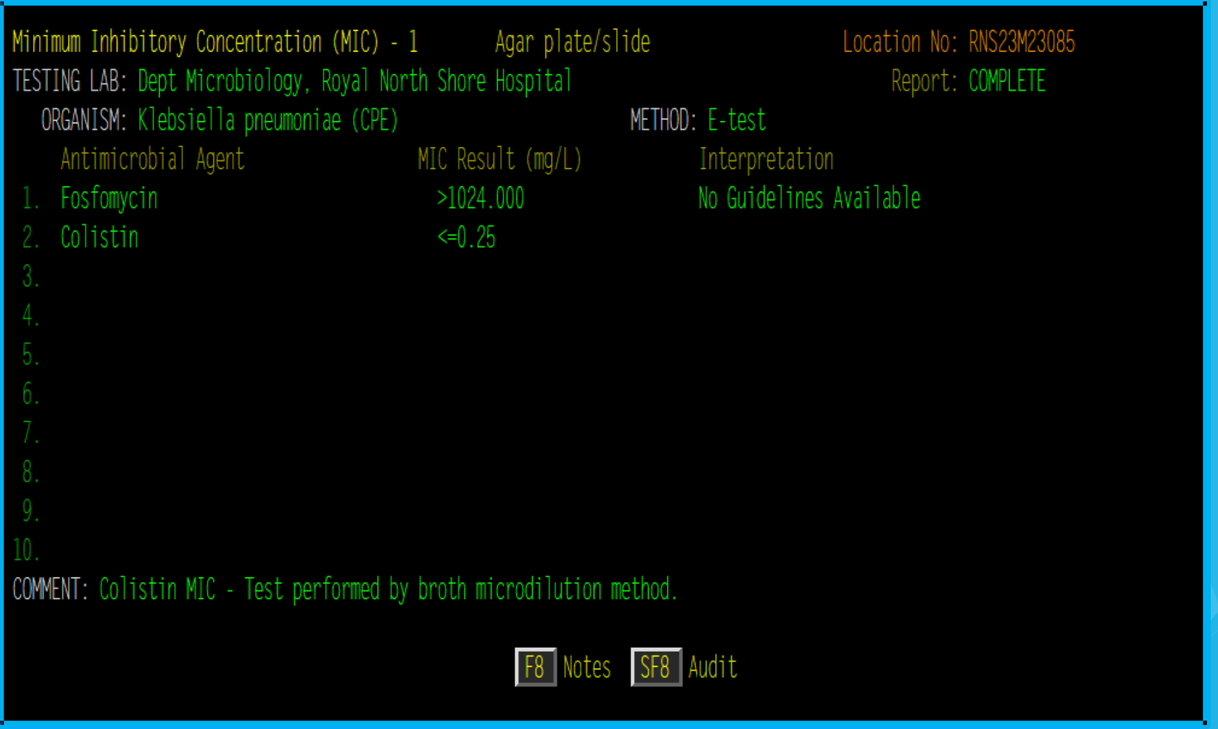
Antibiotic Sensitivities Agar plate/slide RNS23M23085 R = RESISTANT S = SUSCEPTIBLE + = POSITIVE - = NEGATIV

	* Page down for extra sensitivities *	AMP	AMC	CEP	KFZ	TMP	CTX	F	CTR	CAZ	FEP	ATM	TAZ	MEL	GM	TOB	AK
1	Klebsiella pneumoniae (CPE)	R	R	R		R	R	R	R	R	R	R	R	R	R	R	R
2																	
3																	
4																	
5																	
6																	

Comment:

* Page down for Antibiotic Abbreviations *

F5 Suppress F8 Notes SF8 Audit



Minimum Inhibitory Concentration (MIC) - 1 Agar plate/slide Location No: RNS23M23085

TESTING LAB: Dept Microbiology, Royal North Shore Hospital Report: COMPLETE

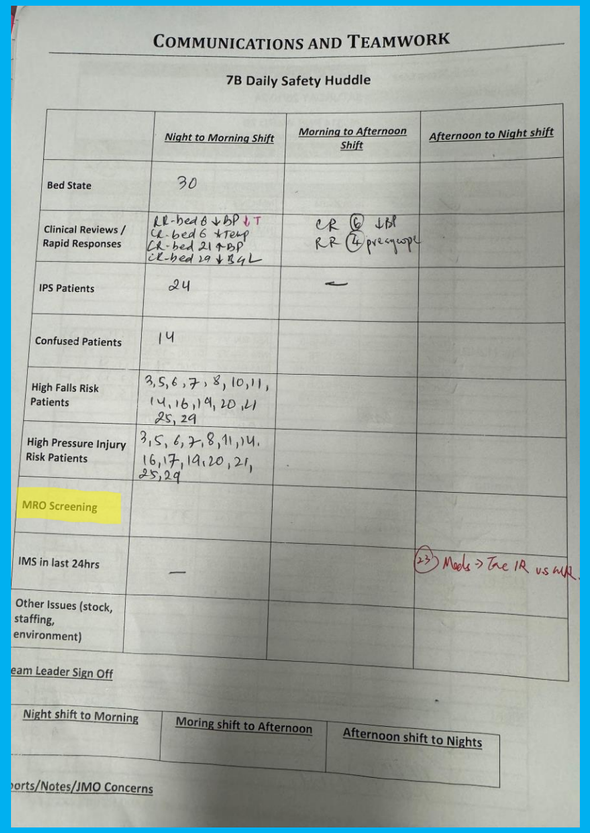
ORGANISM: Klebsiella pneumoniae (CPE) METHOD: E-test

	Antimicrobial Agent	MIC Result (mg/L)	Interpretation
1.	Fosfomycin	>1024.000	No Guidelines Available
2.	Colistin	<=0.25	
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

COMMENT: Colistin MIC - Test performed by broth microdilution method.

F8 Notes SF8 Audit

Safety Huddles



COMMUNICATIONS AND TEAMWORK

7B Daily Safety Huddle

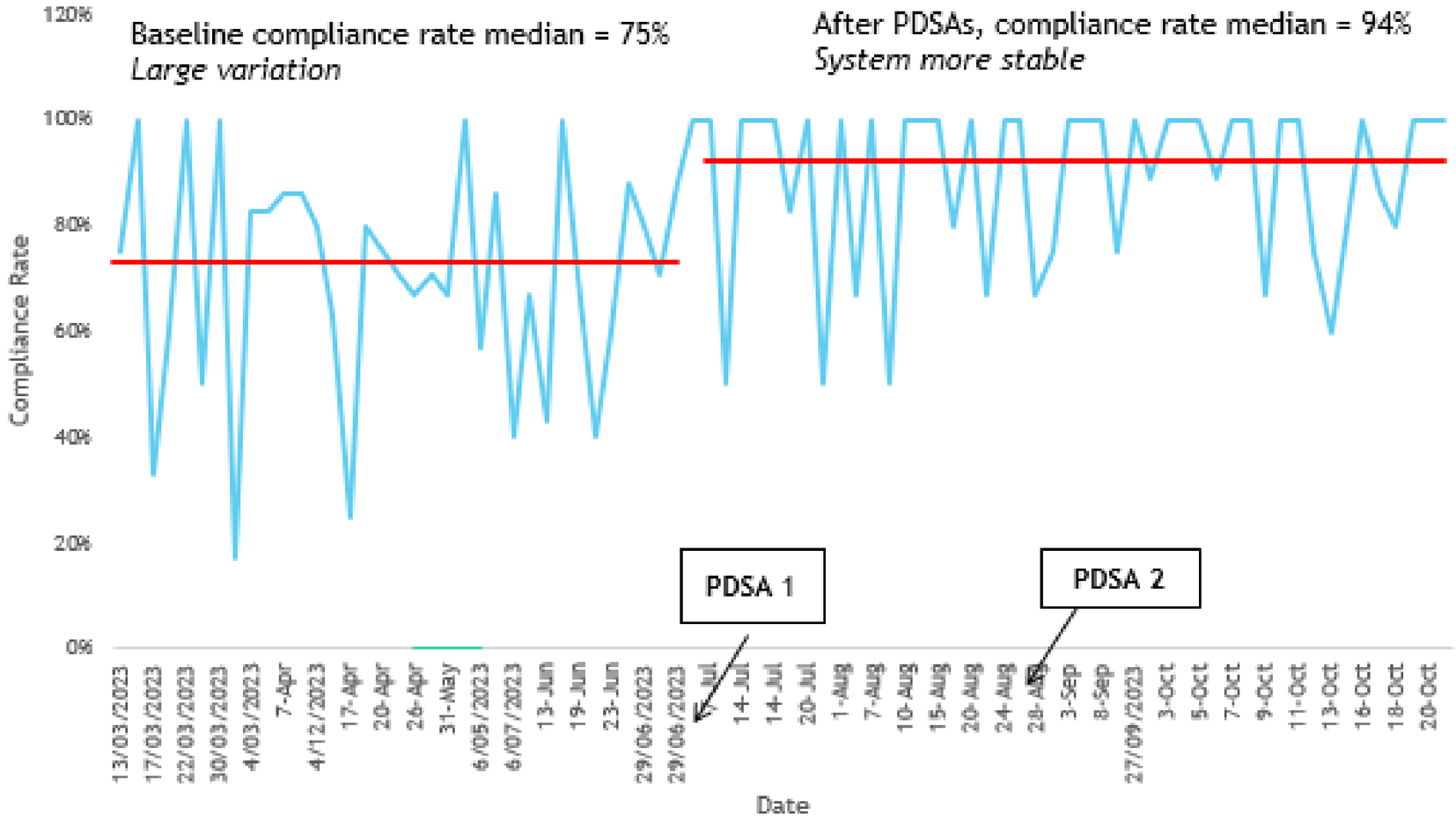
	Night to Morning Shift	Morning to Afternoon Shift	Afternoon to Night shift
Bed State	30		
Clinical Reviews / Rapid Responses	RR-bed 8 ↓BP ↓T CR-bed 6 ↑Temp CR-bed 21 ↑BP CR-bed 29 ↓BGL	CR (6) ↓BP RR (4) pregnant	
IPS Patients	24	—	
Confused Patients	14		
High Falls Risk Patients	3,5,6,7,8,10,11,14,16,19,20,21,25,29		
High Pressure Injury Risk Patients	3,5,6,7,8,11,14,16,17,19,20,21,25,29		
MRO Screening			
IMS in last 24hrs	—		(23) Meds > Tue IR vs MR
Other Issues (stock, staffing, environment)			

eam Leader Sign Off

Night shift to Morning	Moring shift to Afternoon	Afternoon shift to Nights

orts/Notes/JMO Concerns

Admission Screening Data



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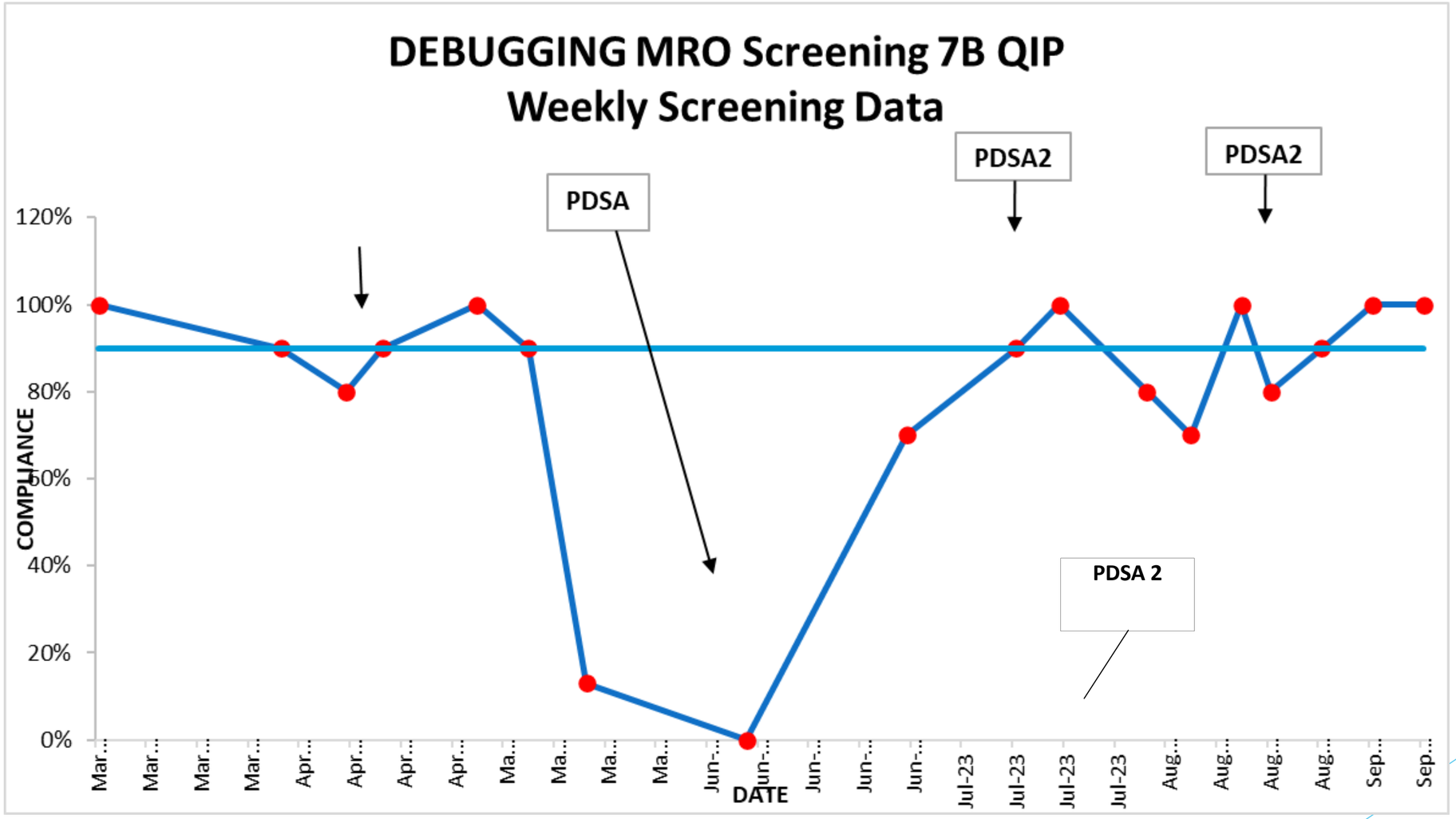
Weekly Screening Data



Overall Outcome of the Project

Admission Screening Data	• 20% Admission screening compliance rate improvement • 69.5% baseline compliance rate. • 84% at the end of PDSA cycle 1 • 90% at the end of PDSA cycle 2.
Weekly Screening Data	• Baseline compliance rate was above 80% • 82% at the end of PDSA Cycle 1 • 85% at the end of PDSA Cycle 2

Strategies for Sustaining and Spreading the Improvement

- MRO Screening information included in the Induction Handbook.
- Safety Huddle Template amended to include MRO screening.
- Request submitted made with ICT program of work to build a report in eMR to capture the data electronically.

Thankyou

- NSLHD Clinical Reliability Improvement team
- IPAC NSLHD/RNSH team
- Renal Transplant Team
- Mentor – Nicole Vause ACIPC Mentoring Program

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Q&A