Northern Health

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Myth Buster

Implementing a Renal Access Infection Surveillance and Reporting Program

Judy Harris CNC

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01. Background

02. Improving Dialysis Infection Surveillance

03. Surveillance Report

04. Outcomes & Conclusion



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Map of Northern Health Services





Hospital

MH Services

0.1 Background



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Dialysis patients are at a high-risk of infection

because frequent access is required over a

long period of time and they

also have increased exposure due to

frequent hospital admissions

and procedures. (Donlan et al, 2011)

Dialysis patients are at a high-risk of infection

Peritoneal Dialysis (PD) Associated Peritonitis

Hemodialysis Central Line Associated Blood Stream Infection (CLABSI)

Pre Implementation Surveillance and Audit Cycle

Area	Audited	Guidelines	Targets	Reported	Seek Input	Actions	Recommendations
BEFORE implementation							
Infection Prevention strategies. Eg Hand Hygiene, ANTT level 1& 2	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PD Peritonitis cases	Yes	Yes	Yes	Yes	Adhoc	No	No
PD Peritonitis rate	Yes	Yes	Yes	Adhoc	No	No	No
Dialysis CLABSI cases	Yes	Yes	No	No	No	No	No
Dialysis CLABSI rate	No	No	No	No	No	No	No

With IP

With Renal Quality

With Both IP and Renal Quality

PD associated Peritonitis:

Infections are recorded in ANZDATA registry

- Infective organism
- Treatment provided
- Outcome for patient

Line day data is recorded

Reports available upon request

PD associated Peritonitis:

Quality of reporting and access to results: *Excellent*

Accountability and action of results: *Adequate*

Level of Transparency : *Poor* => *Aim to improve*

Recommendations for monitoring Dialysis CLABSI

ANZDATA record episodes dialysis CLABSI

VICNISS recommend renal surveillance : voluntary reporting

- Positive blood culture (tunnel/exit site infections excluded)
- Infective organism
- Antibiotic therapy

Renal guidelines: KDOQI 2019

- Monitor CLABSI rates to enable service comparison
- Target < 1.5 infections/1000 days

Dialysis associated CLABSI:

Quality of reporting and access to results: *Poor*

Accountability and action of results: *Poor*

Level of transparency : *Poor* => *Aim to improve*

0.2 Improving Dialysis Infection Surveillance



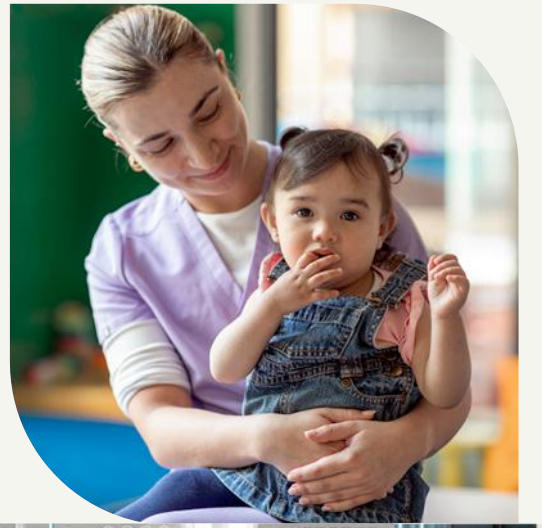
Quality Activity: Infection Surveillance

PD peritonitis rates

Dialysis CLABSI rates … starting from Zero

What do we need?





Dialysis CLABSI rate

Benchmarking

Tool Development

Establish Targets

Develop Surveillance Report





Safe.
Kind.
Together.

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Dialysis CLABSI Tool

Calculate quarterly line day data

CVC insertion date

CVC removal date

Reason for removal

Infection incidents

Hospital admission data

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Dialysis CLABSI Tool

Infection rate calculation by quarter

Catheter days

Number of infections

Line prevalence by quarter

% of patients with lines

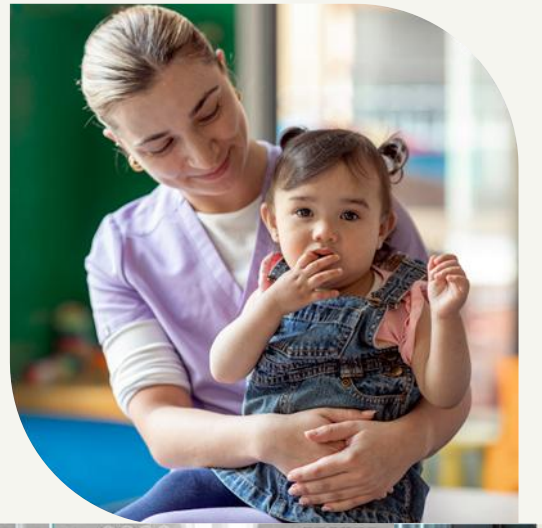
% of patients dialysing with permanent lines

0.3 Surveillance Report



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Dialysis Access Infection Surveillance Report

Background
Data Results
Issues Identified: PD Peritonitis & CLABSI
Aim
Action Plan
Recommendation
Conclusion

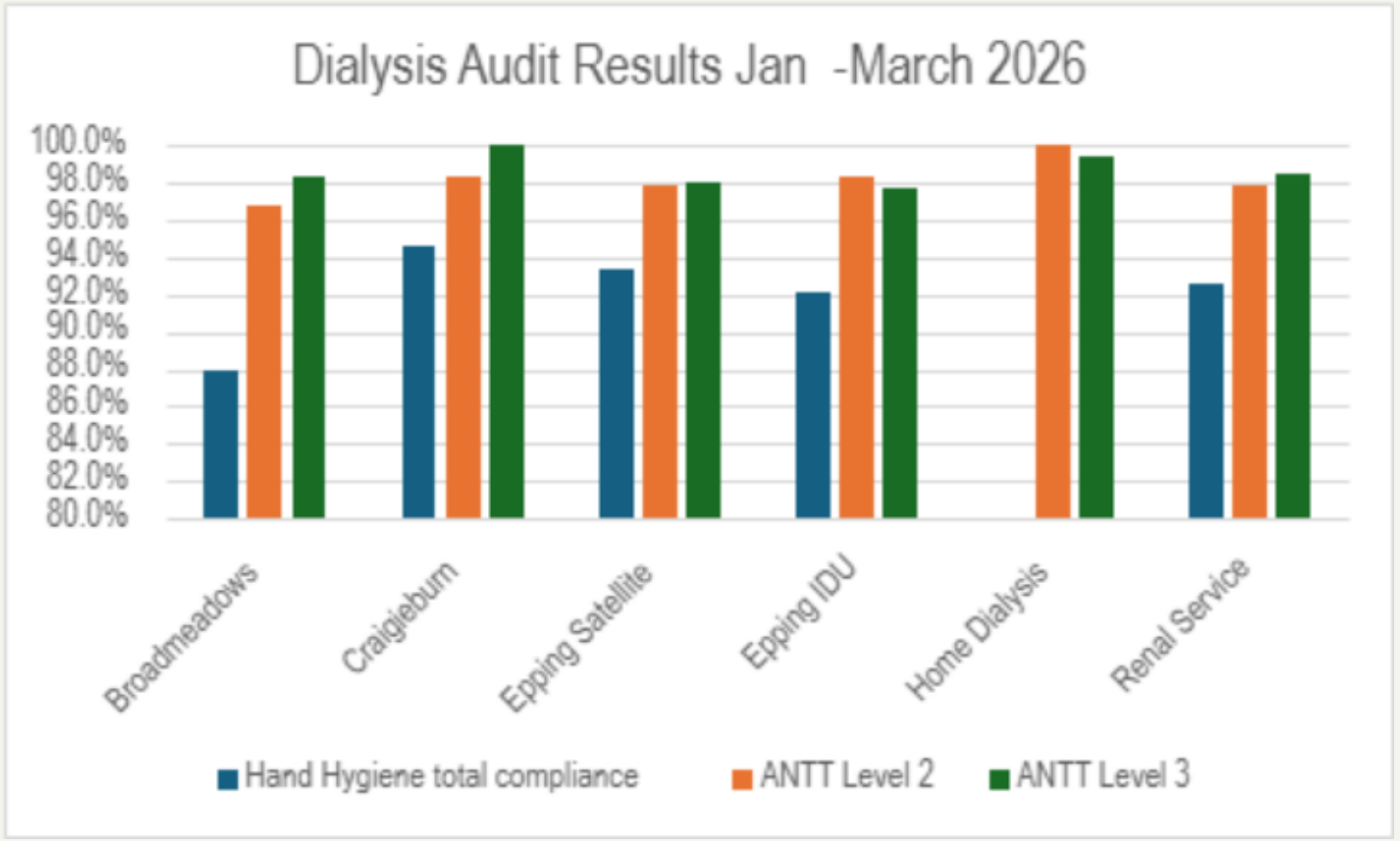




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Kind.
Together.

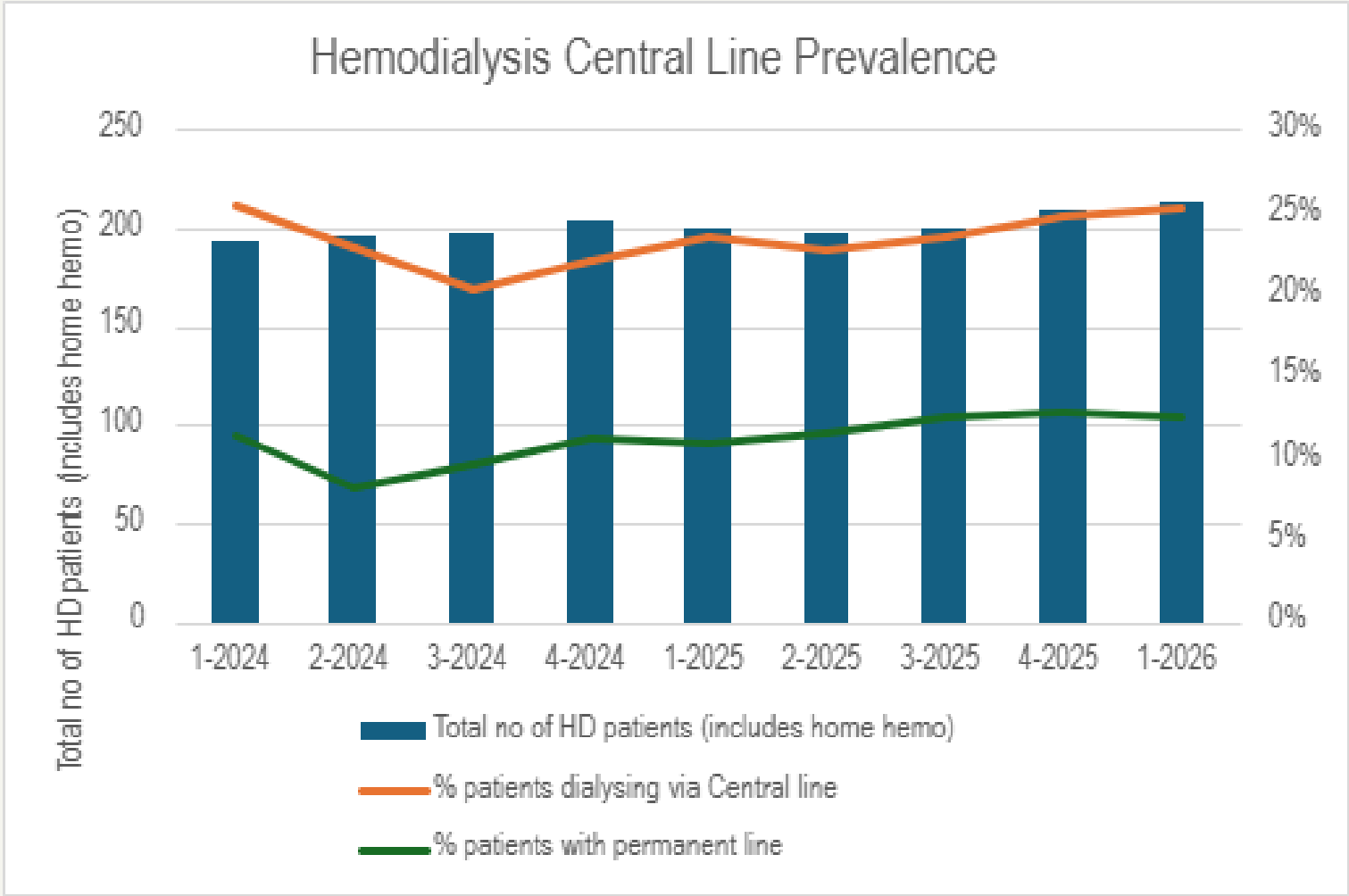
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Dialysis Hand Hygiene and ANTT Audit Results



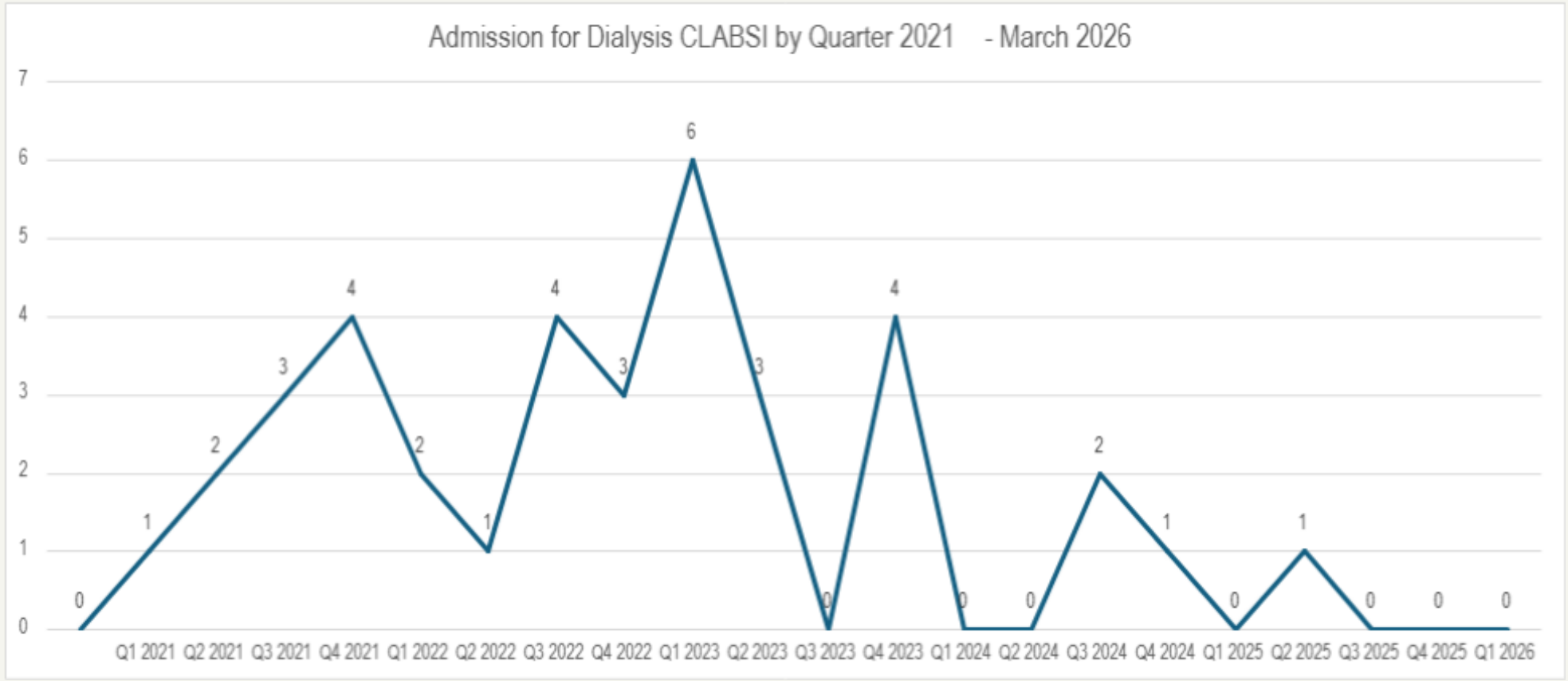
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Dialysis Line Prevalence at Northern



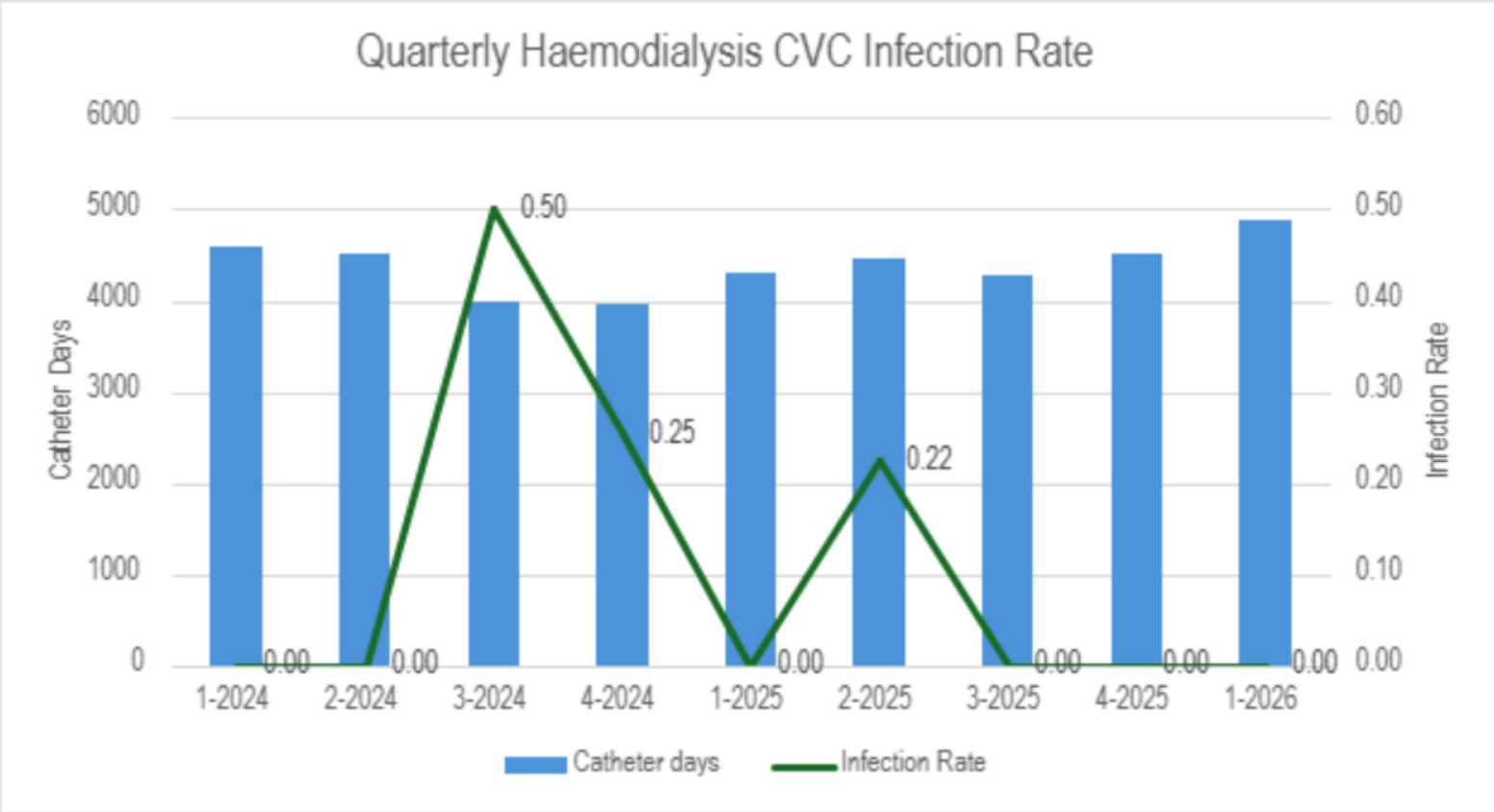
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Number of Admissions for CLABSI by Quarter



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Quarterly Dialysis CLABSI Rate



Quarterly Peritonitis Rate

Quarter	Patient Years of PD exposure this Quarter	Number of Peritonitis Infections	Peritonitis Rate this Quarter (per patient-year) **ISPD Target <0.4 episodes/patient year**
Q1-2024	8	1	0.12
Q2-2024	9	0	0.00
Q3-2024	9	1	0.11
Q4-2024	9	1	0.11
Q1-2025	9	3	0.34
Q2-2025	9	1	0.11
Q3-2025	9	2	0.22
Q4-2025	8	1	0.13
Q1-2026	8	2	0.26

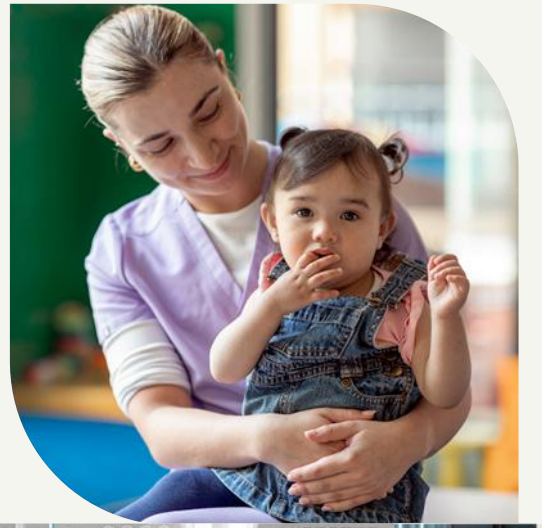
Annual Peritonitis Rate

Year	Patient-Years of PD exposure this Year	Number of Peritonitis Infections	Peritonitis Rate this Year (per patient-year) **ISPD Target <0.4 episodes/patient year**
2021	34	9	0.27
2022	36	7	0.20
2023	36	5	0.14
2024	36	3	0.08
2025	34	7	0.20

Quarterly Peritonitis Free Rate

Quarter 2024	Patients receiving PD this Quarter	Number of patients with peritonitis	Percentage of Patients without Peritonitis this Quarter **Target >80%**
Q1-2024	38	1	97.4
Q2-2024	39	0	100.0
Q3-2024	40	1	97.5
Q4-2024	42	1	97.6
Q1-2025	38	2	94.7
Q2-2025	38	1	97.4
Q3-2025	38	3	92.1
Q4-2025	34	1	97.1
Q1-2026	33	2	93.9





Dialysis Access Infection Surveillance Report

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Safe.
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0.4 Outcomes & Conclusion



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Dialysis CLABSI cases	Yes	Yes	No	No	No	No	No
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With Both IP and Renal Quality

Post Implementation Surveillance and Audit Cycle

Area	Audited	Guidelines	Targets	Reported	Seek Input	Actions	Recommendations
AFTER Implementation							
Infection Prevention strategies. Eg hand Hygiene, ANTT level 1& 2	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PD Peritonitis cases	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PD Peritonitis rate	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dialysis CLABSI cases	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dialysis CLABSI rate	Yes	Yes	Yes	Yes	Yes	Yes	Yes

With IP

With Renal Quality

With Both IP and Renal Quality

Results

All results are within target range ……. Myth Busted!!

Improved visibility of results

- Regular reporting
- Comparable parameters
- Enable early identification of trends and action

Embedded process with continuous opportunity for improvement

Where to now?

Justification for changes to process or resources

- Reduce cost and improve sustainability

Early identification may improve quality outcomes for patients

- Reduced hospital admission, morbidity and death



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