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Bwrdd Iechyd Prifysgol
Bae Abertawe
Swansea Bay University
Health Board



Meeting Date	28 March 2023	Agenda Item	4.1
Report Title	Healthcare Acquired Infections Update Report		
Report Author	Nicola Lewis, Interim Matron, Infection Prevention & Control		
Report Sponsor	Gareth Howells, Executive Director of Nursing & Patient Experience		
Presented by	Nicola Lewis, Interim Matron, Infection Prevention & Control		
Freedom of Information	Open		
Purpose of the Report	This paper provides the Committee with an update on the Health Board's progress against Tier 1 infections and against the Infection Improvement Plan.		
Key Issues	<ul style="list-style-type: none"> • The Health Board will not achieve the 2022/23 infection reduction expectations for <i>C. difficile</i>, and bacteraemias caused by <i>Staph. aureus</i>, <i>Klebsiella spp.</i> and <i>Pseudomonas aeruginosa</i>. To achieve the infection reduction expectation for <i>E. coli</i> bacteraemia, there could be no more than 10 further bacteraemias before the end of March. • The incidence per 100,000 population of <i>Staph. aureus</i> bacteraemia and <i>Pseudomonas aeruginosa</i> bacteraemia remains the highest in Wales; the second highest for both <i>Klebsiella spp.</i> bacteraemia and <i>C. difficile</i>; and the third lowest incidence for <i>E. coli</i> bacteraemia. • An update on the progress of the Rapid Improvement Programme in Morriston Hospital Service Group, particularly in relation to <i>C. difficile</i> and <i>Staph. aureus</i> bacteraemia. Days between cases are shown in Appendix 2. • There has been an 87% reduction in <i>E. coli</i> bacteraemia in Neath Port Talbot. • Tier 1 infections have been increasing over a number of months in Singleton Hospital. The Service Group are undertaking a deep dive of hot spot wards in Singleton to identify improvements and will share areas of good practice identified in Neath Port Talbot Hospital across the Service Group. 		
Specific Action Required	Information	Discussion	Assurance
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Recommendations	<p>Members are asked to:</p> <ul style="list-style-type: none"> - NOTE the progress against the tier 1 infections to 28/02/2023; - NOTE Service Group progress in relation the Infection Improvement Plan, including Morriston's Rapid Improvement Programme to 28/02/2023; - NOTE that Service Groups are expected to provide an update on progress to their 2022/23 Infection Improvement Plans, with an indication of actions for their 2023/24 Infection Improvement Plans. - NOTE the proposed actions related to the overarching Infection Improvement Plan. 		

Infection Prevention and Control Report

	Agenda Item	4.1
Freedom of Information Status	Open	
Performance Area	Healthcare Acquired Infections Update Report	
Author	Nicola Lewis, Interim Matron, Infection Prevention & Control	
Lead Executive Director	Gareth Howells, Executive Director of Nursing & Patient Experience	
Reporting Period	28 February 2023	Report prepared on 09/03/2023

Summary of Current Position

This paper will present a summary of the overarching position in relation to the number of cases of infection within the Health Board, and by Service Group, to the end of February 2023.

Health Board and Service Group progress against the Tier 1 infection reduction goals to the end of February 2023 is shown in [Appendix 1](#).

A summary position for the Health Board is shown in the table below, identifying the cumulative position for the financial year 2022/23, the monthly case numbers, and the average monthly goal.

Table 1: Health Board Summary Position for February 2023

Infection	Cumulative Cases to end of February 2023	Monthly total: February 2023	Average monthly reduction goal (max.)
<i>C. difficile</i> (CDI)	182	12	<8 (annual maximum: <95 cases)
<i>Staph. aureus</i> bacteraemia (SABSI)	137	11	<6 (annual maximum: <71 cases)
<i>E. coli</i> bacteraemia (EcBSI)	241	17	<21 (annual maximum: <251 cases)
<i>Klebsiella spp.</i> bacteraemia (KI BSI)	96	8	<6 (annual maximum: <71 cases)
<i>Ps. aeruginosa</i> bacteraemia (PAERBSI)	40	2	<2 (annual maximum: <21 cases)

A summary position for Service Groups is shown in the table below, identifying the number of cases in the reporting month, with cumulative totals for the financial year to date shown in brackets.

Table 2: Service Group Summary Position for February 2023 (cumulative)

	CDI	SABSI	EcBSI	KIBSI	PAERBSI
PCTSG - CAI	2 (62)	2 (52)	8 (146)	1 (44)	0 (13)
PCTSG - HAI	0 (2)	0 (0)	1 (3)	0 (0)	0 (0)
MH&LD – HAI	0 (0)	0 (0)	0 (1)	0 (0)	0 (0)
MORR – HAI	7 (81)	8 (60)	4 (51)	5 (32)	2 (17)
NPTH - HAI	0 (4)	0 (2)	0 (2)	0 (2)	0 (1)
SH - HAI	3 (33)	1 (23)	4 (38)	2 (18)	0 (9)

Progress against Infection Prevention Improvement Plan to 28.02.23

- The Health Board will not achieve the 2022/23 infection reduction expectations for *C. difficile*, and bacteraemias caused by *Staph. aureus*, *Klebsiella spp.* and *Pseudomonas aeruginosa*. To achieve the infection reduction expectation for *E. coli* bacteraemia, there could be no more than 10 further bacteraemias before the end of March. The current monthly average is 22 case/month.
- The incidence per 100,000 population of *Staph. aureus* bacteraemia, *Klebsiella spp.* bacteraemia, and *Pseudomonas aeruginosa* bacteraemia remains the highest in Wales; the second highest for *C. difficile*; and the third lowest incidence for *E. coli* bacteraemia.
- The year-on-year comparison (April 2022 – February 2023) for the Health Board, and by Service Group, for each of the Tier 1 infections is shown in the table below (Neath Port Talbot Hospital and Singleton Hospital are shown separately):

	CDI	SABSI	EcBSI	KIBSI	PAERBSI
SBUHB	2%↑	6%↑	10%↓	12%↑	82%↑
Morrison Hospital	4%↑	43%↑	≡	6%↓	+5 cases ↑
Singleton Hospital	13%↓	4%↓	73%↑	29%↑	+7 cases ↑
Neath Port Talbot Hospital	20%↓	+1 case ↑	87%↓	≡	≡
MH & LD	0 cases	0 cases	1 case	0 cases	0 cases
PCTG Gorseinon Hospital	≡	0 cases	+1 case ↑	0 cases	0 cases
PCTG Community acquired	15%↑	15%↓	18%↓	22%↑	+6 cases ↑

- Cases of Tier 1 infections are higher in Morrison than in the other acute hospitals, accounting for 68%, 71%, 54%, 62% and 63% respectively of all hospital attributed cases of *C. difficile*, *Staph. aureus* bacteraemia, *E. coli* bacteraemia, *Klebsiella* bacteraemia, and *Pseudomonas* bacteraemia. This will reflect the patient mix, complexity and acuity of patients cared for in Morrison.

Update on Infection Prevention Improvement Plan

Service Group Improvement Progress

Acute Care Service Groups

Morrison Hospital Rapid Improvement Programme

- COVID-19 activity and associated outbreaks across the Health Board have increased towards the end of February. Due to service pressures, in many instances, patients have been admitted into outbreak areas at risk. There has been also a small number of Norovirus outbreaks on the Morrison site during February, which have led to beds being out of use.
- Results of Whole Genome Sequencing received in February indicated two probable *C. difficile* transmission events: one on Pembroke ward involving three patients diagnosed in January; and one involving two patients who received care on Gower Ward during the same time period in June, and diagnosed with *C. difficile* in May and October 2022. A further possible transmission event has been identified on SDMU, involving two patients diagnosed in October and November 2022. Wards and Service Group have been informed and incident meetings requested to review the patient pathways, to identify possible routes of transmission and discuss and agree mitigations required.
- During February, there was an increase in the number *Staph. aureus* cases, with 8 cases in the month, one of which was MRSA. Four of these cases were line-associated. Scrutiny meetings continue to be held on a weekly basis to identify themes and areas of learning. The universal

use of decolonisation wash cloths will need to be applied consistently to determine whether this will have a sustained impact on infection reduction.

- Days between cases of *C. difficile* infection and *Staph. aureus* bacteraemia on the rapid improvement wards, to 28th February 2023, are shown in [Appendix 2](#).
- The Service Group continues to hold infection scrutiny panels and feeds back lessons learned through a number of forums, including Clinical Cabinet. Fortnightly scrutiny meetings continue with the Executive Nurse and Medical Directors.
- The secondment of Joanne Walters, Infection Prevention & Control (IPC) Matron, into the Morrision Infection Improvement Lead post ends on 1st April 2023.

Neath Port Talbot and Singleton Hospitals (NPTH&SH) Service Group

- The Service Group continues to hold infection scrutiny panels and to update monthly the Executive Nurse and Medical Directors.
- In Singleton Hospital, Tier 1 infections have been increasing over a number of months. The Service Group has provided assurance to the Executive Director of Nursing that they will undertake a deep dive in hot spot wards 12 and 3 to identify improvements. Chlorhexidine wash cloths are to be implemented as appropriate. The Service Group has reported high confidence with the scrutiny of cases within the Neonatal Unit. Cases of *Staph. aureus* bacteraemia within Neath Port Talbot Hospital are few but will be subject to a desk-top review by the Nurse and Medical Directors.
- Neath Port Talbot has continued to sustain an 87% reduction in *E. coli* bacteraemia cases over the past 11 months. The Service Group believe that this may be due to an increased focus on supporting continence care and patient mobilisation. These areas of good practice will be shared across the Service Group.

Primary Care, Community & Therapies Group

- Monthly scrutiny meetings continue in Primary Care and the Service Group.
- Cases of community associated *Staph. aureus* bacteraemia have reduced over the last two months and, to the end of February, there had been a 15% reduction in cases year-on-year.
- Cases of other community associated Tier 1 infections were fewer in February than in recent months.
- The Service Group is utilising an electronic Significant Event Analysis data collection tool to collate responses from General Practices and Care Homes on community-associated cases of *C. difficile* infection. This process is intended to facilitate analysis and identification of themes for learning. There have been very fewer than anticipated responses recorded, likely linked to the system process, which is being improved.

At the next Quality Management Board in April, all Service Groups will provide an update on the Infection Prevention Improvement Plans. It is expected that these updates will include progress against the 2022/23 improvement plans, lessons learned from scrutiny panels reviewing infections, including determination and criteria on avoidable or unavoidable infections. Service Groups will be expected to include actions and plans for their 2023/24 improvement plans.

Update on Infection Prevention Improvement Plan

Progress against the IPC improvement plan is as follows:

- An ANTT task and finish group is meeting monthly, with representatives from each Service Group in order to drive improvement in training compliance.
- Validation of data for the Digital Dashboard has been ongoing during February. There remain a number of technical challenges due to the complexity of developing robust, automated processes for determining infection onset type and location of likely infection attribution.

Challenges, Risks and Mitigation

- Current pressures on Health Board services, both in the community and in hospitals, continues to be extreme, as are the pressures on providing social care packages. The demand for unscheduled acute care remains high, leading to increased demand for inpatient beds. There are increasing numbers of medically fit for discharge patients, increased length of stay, and staff shortages, all of which increase risks of delivering safe patient care.
- The age and condition of the estate is a challenge, and planned preventive maintenance is not possible without the provision of dedicated decant facilities.
- The Infection Prevention & Control Nursing (IPCN) Team has held a Band 7 post to provide an additional resource to the Immunisation Team at a time of high demand for that service. The recent announcement of a National Immunisation Framework will, it is hoped, be accompanied by Welsh Government funding. Once this funding is confirmed, the Band 7 IPCN post will be released for advertisement and recruitment.
- The redirection of a Band 6 IPCN post from secondary care to Primary Care and Community (whilst also maintaining an input for Mental Health and Learning Disabilities) does impact on the IPCN support for secondary care.
- The secondment of the Infection Prevention & Control Matron to support the rapid improvement programme at Morriston is continuing until 1st April 2023. Although this allows the Matron to focus only on improvement work, the operational workload of the IPC Matron continues to be shared across the remaining senior IPC Team.
- The increase in ARI seen over winter months are likely to have an ongoing impact on *C. difficile* incidence within the Health Board. In previous years, the Health Board has seen an increase in the numbers of *C. difficile* cases approximately 8 to 12 weeks after the peak of the respiratory viruses. There are a number of studies on the co-seasonality of *C. difficile* and influenza, pneumonia and other respiratory viruses, with one study estimating that there could be an impact on *C. difficile* for up to 6 months.
- The centralisation of all acute medical intake in Morriston from January is anticipated to have a potential impact on the proportion of Tier 1 infections attributed to Morriston Hospital over the coming months.

Actions in progressing Infection Prevention Improvement Plan (what, by when, and by whom)

Action: With data validation completed, the reporting function of the Dashboard will be reviewed and instructions for use and training developed. **Target completion date:** 31.03.23. **Lead:** Head of Nursing IP&C and Corporate Digital Intelligence Partners.

Action: Roll-out of Digital HCAI Dashboard. **Target completion date:** 30.04.23. **Lead:** Head of Nursing IP&C and Corporate Digital Intelligence Partners.

Financial Implications

A Department of Health impact assessment report (IA No. 5014, 20/12/2010) stated that the best estimate of costs to the NHS associated with a case of *Clostridioides difficile* infection is approximately **£10,000**. The estimated cost to the NHS of treating an individual cost of MRSA bacteraemia is **£7,000** (the cost of MSSA bacteraemia could be less due to the availability of a wider choice of antibiotics). In an NHS Improvement indicative tool, the estimated cost of an *E. coli* bacteraemia is between **£1,100** and **£1,400**, depending on whether the *E. coli* is antimicrobial resistant. Estimated costs related to healthcare associated infections, from 01 April 2022 to the

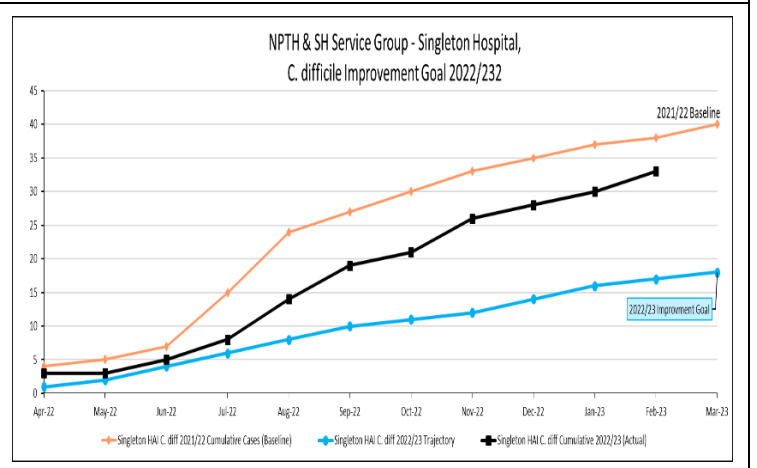
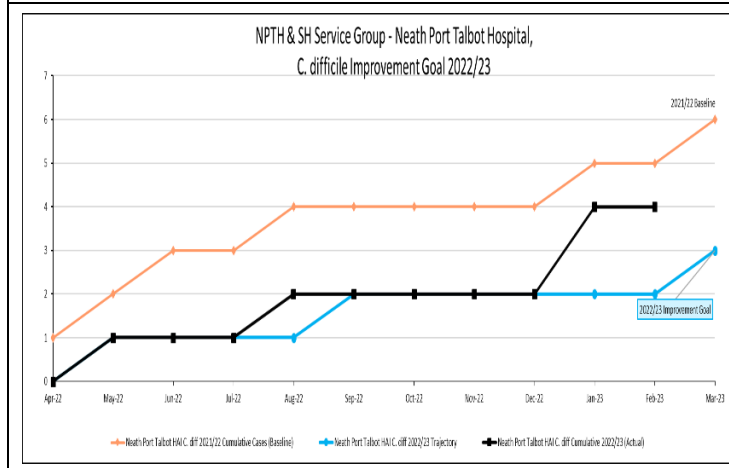
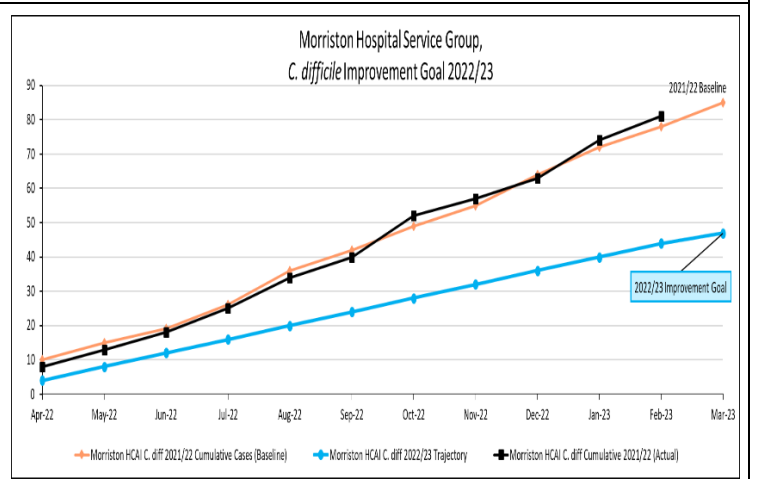
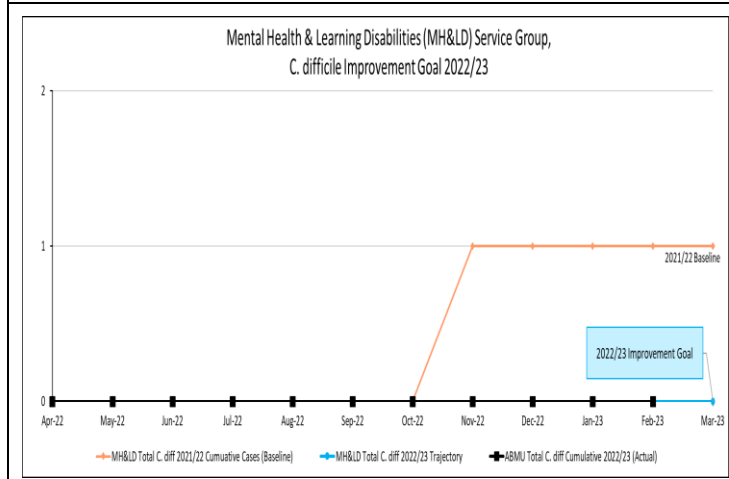
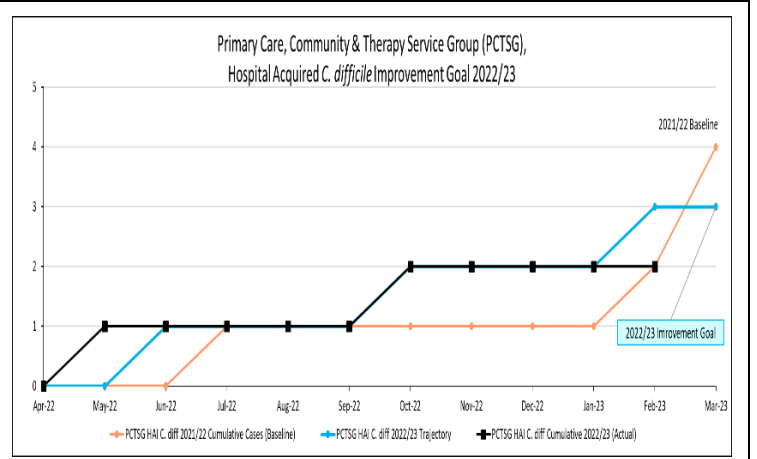
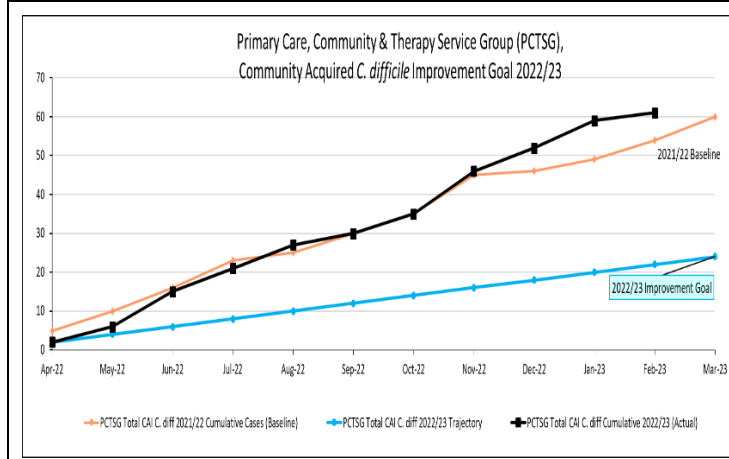
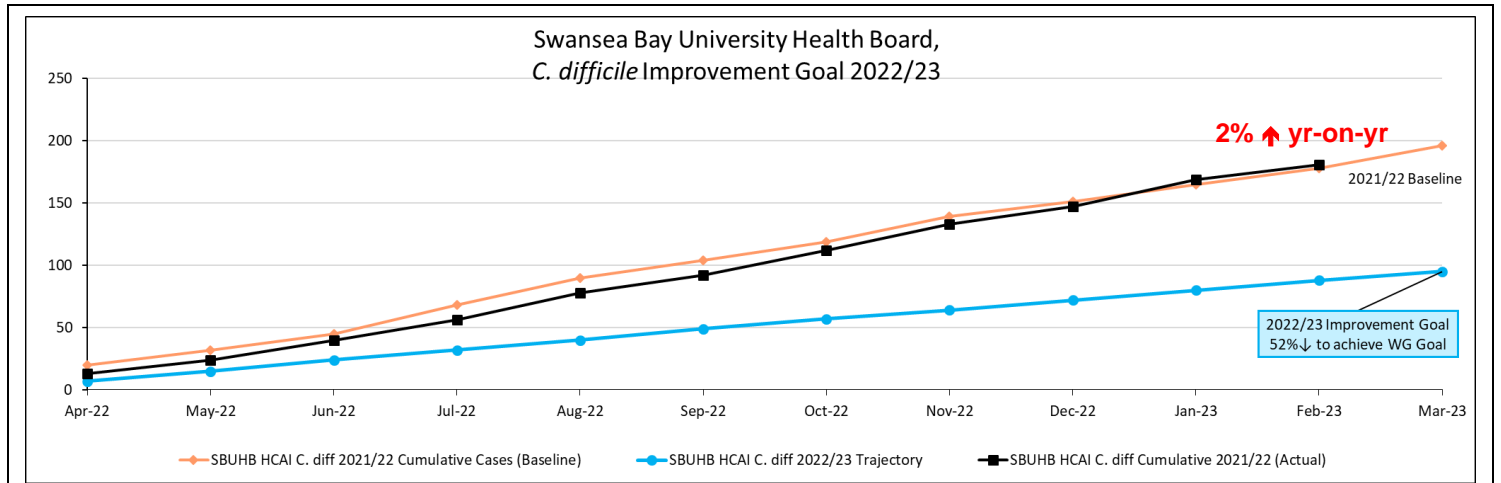
end of February 2023 is as follows: *C. difficile* - £1,820,000; *Staph. aureus* bacteraemia - £959,000; *E. coli* bacteraemia - £274,400; therefore, a total cost of **£3,053,400**.

Recommendations

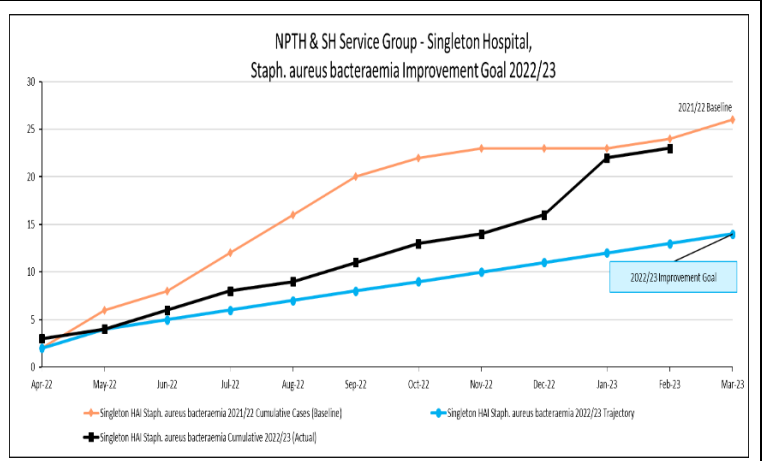
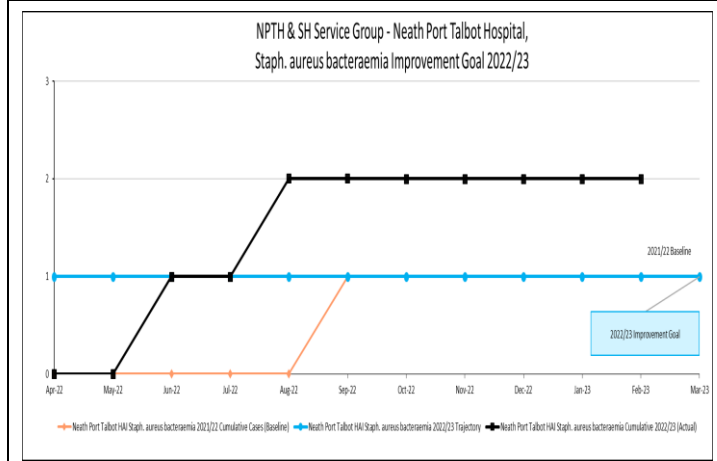
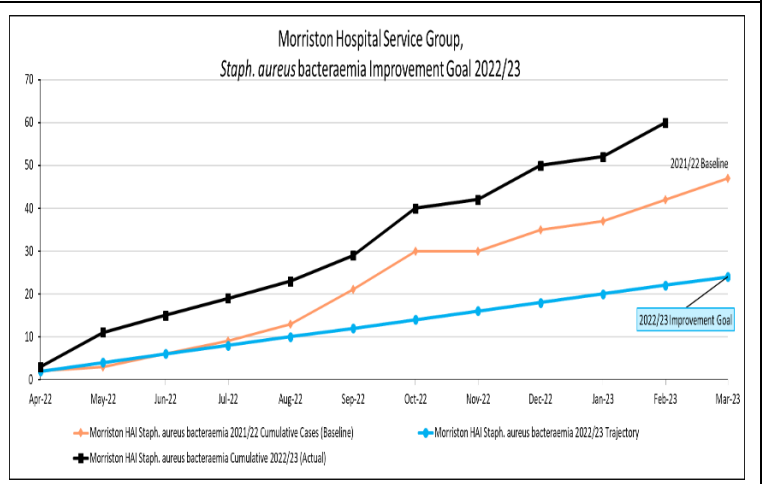
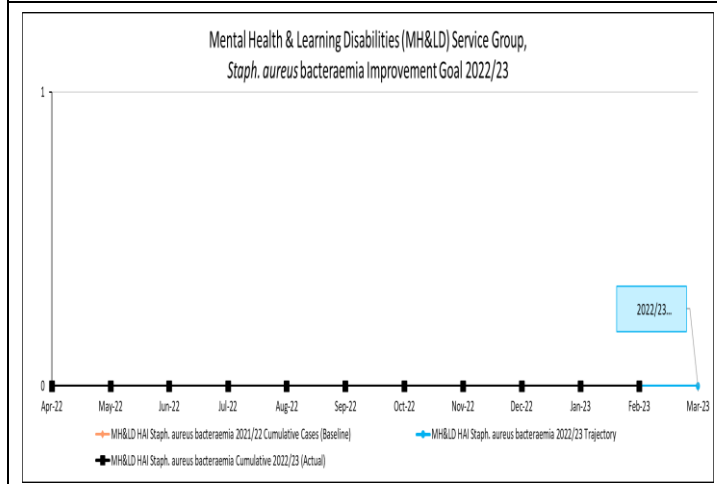
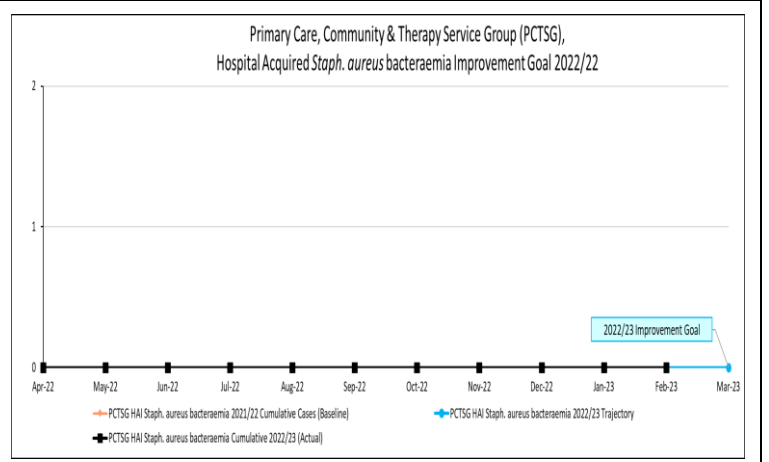
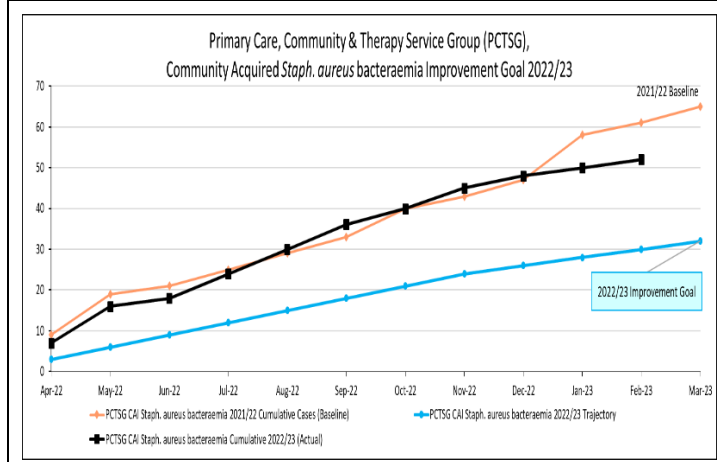
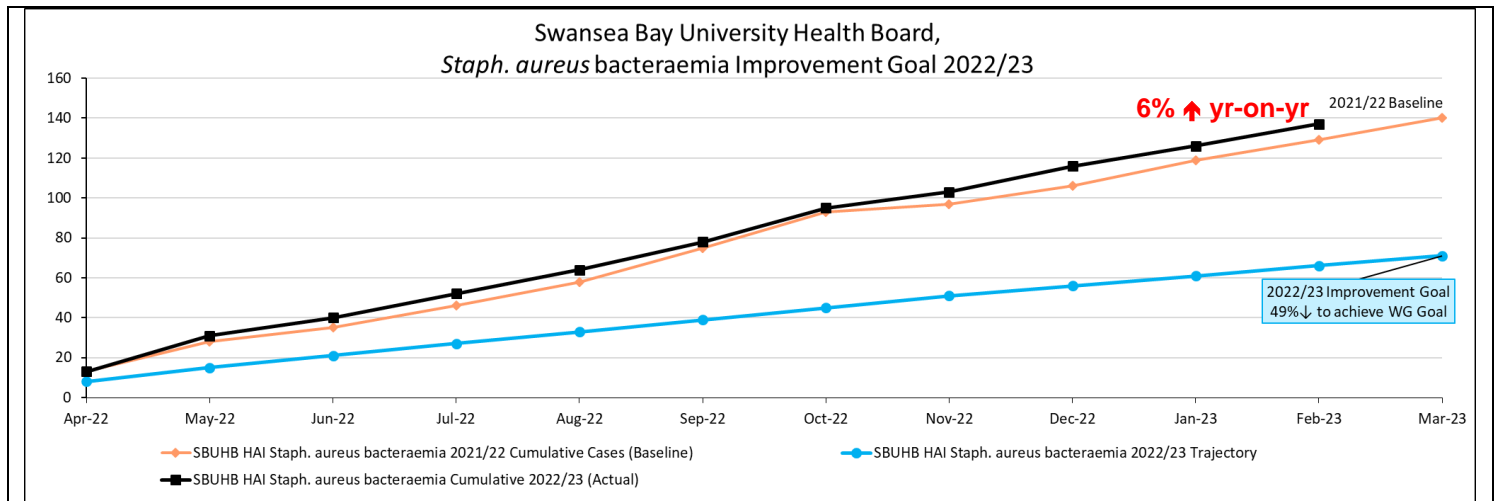
Members are asked to:

- **NOTE** the progress against the tier 1 infections to 28/02/2023;
- **NOTE** Service Group progress in relation the Infection Improvement Plan, including Morriston's Rapid Improvement Programme to 28/02/2023;
- **NOTE** that Service Groups are expected to provide an update on progress to their 2022/23 Infection Improvement Plans, with an indication of actions for their 2023/24 Infection Improvement Plans.
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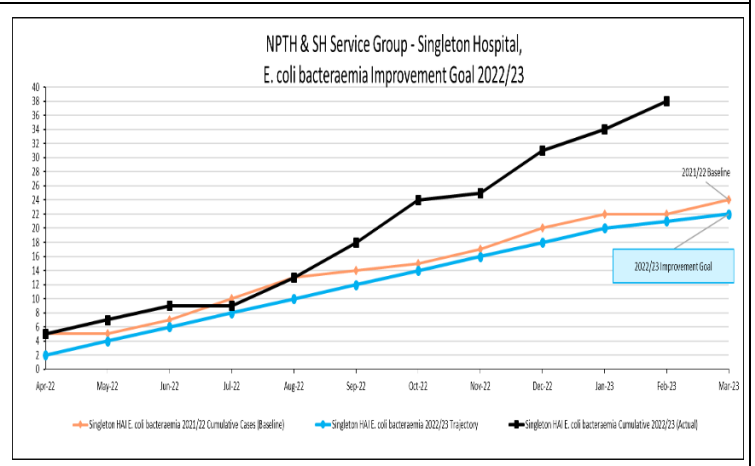
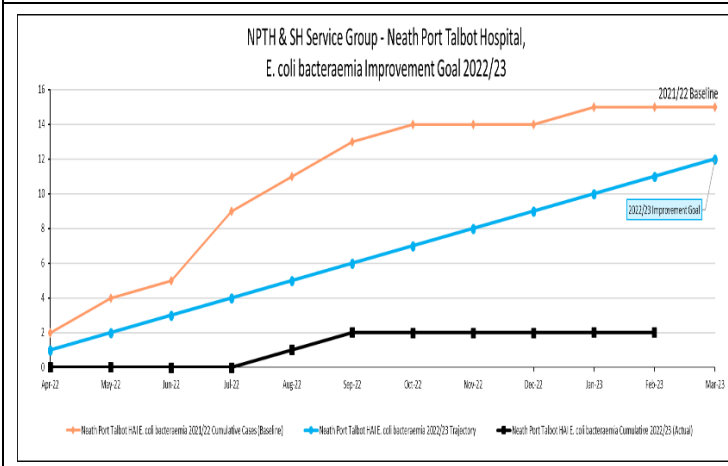
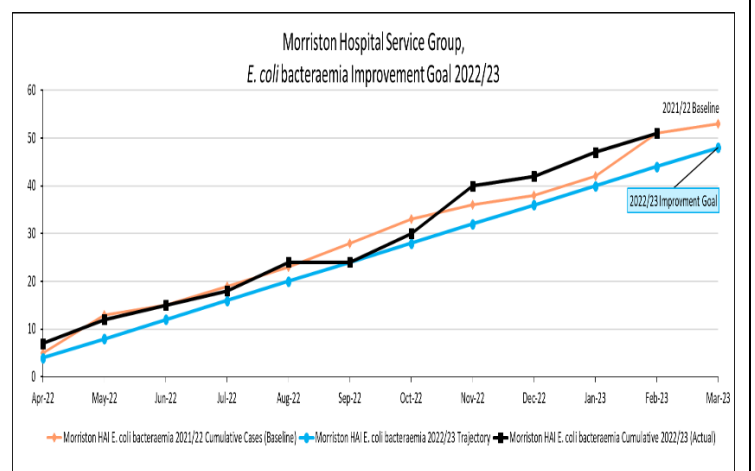
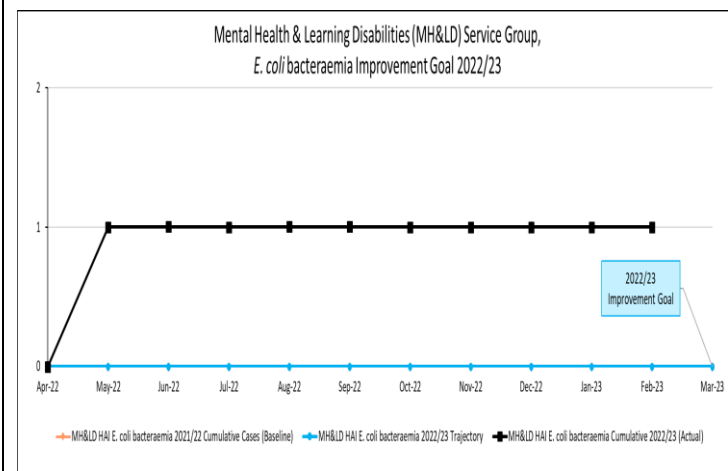
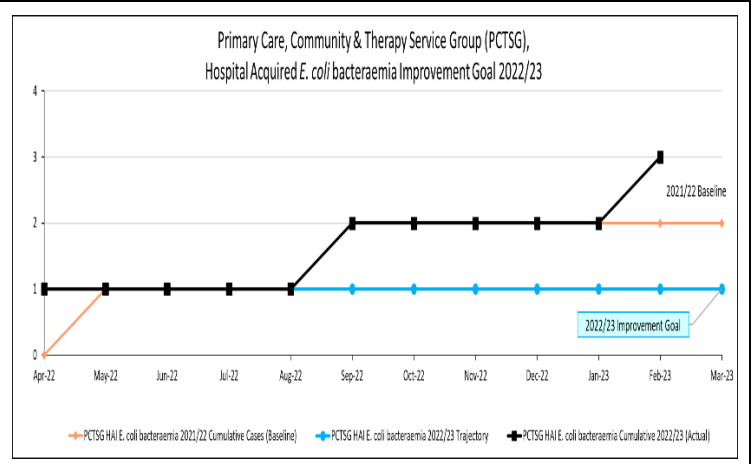
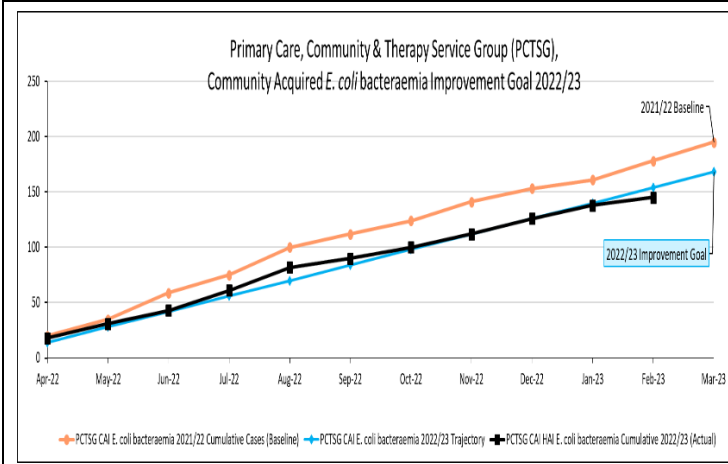
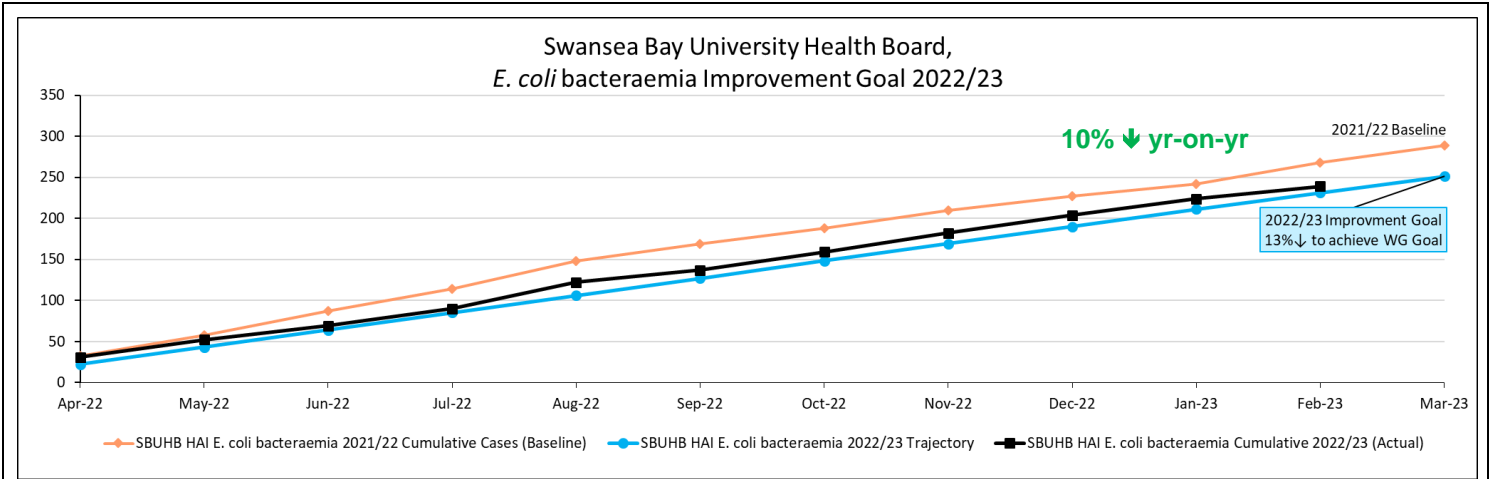
C. difficile



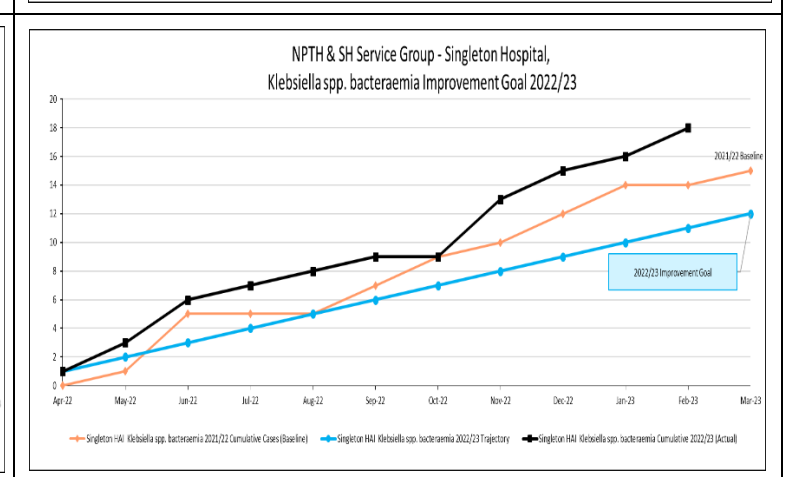
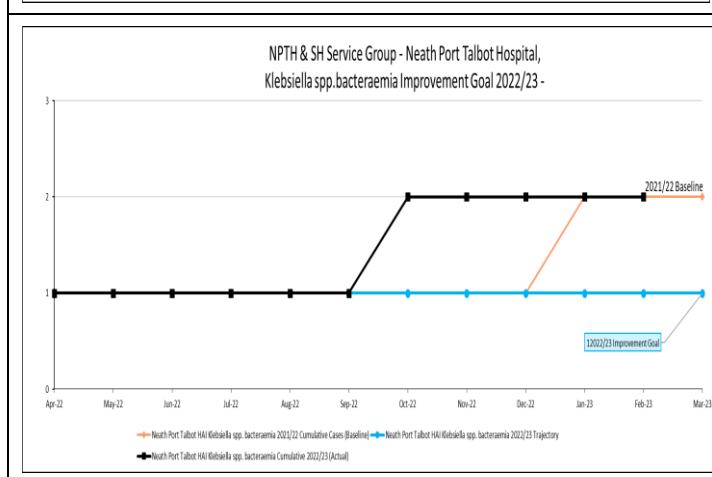
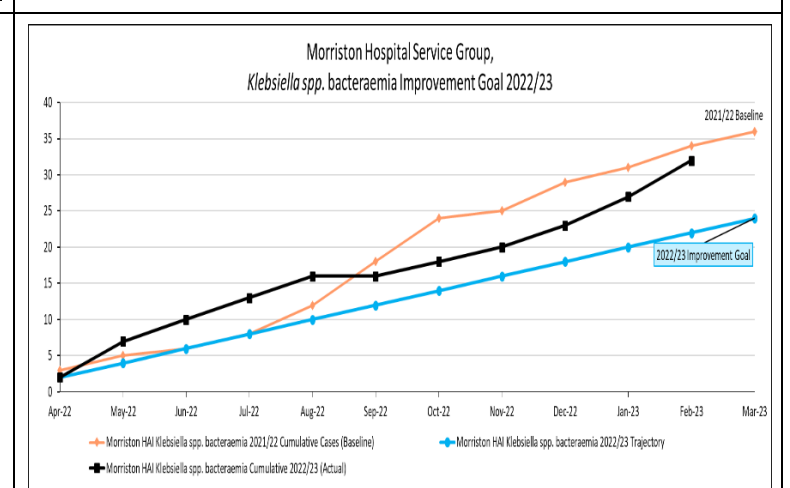
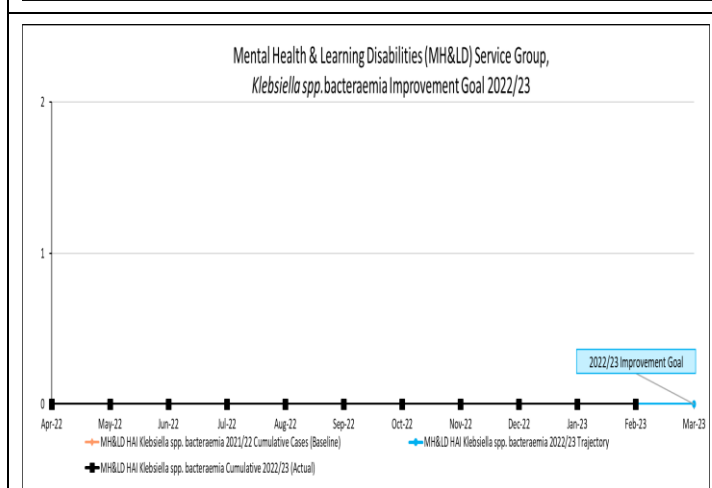
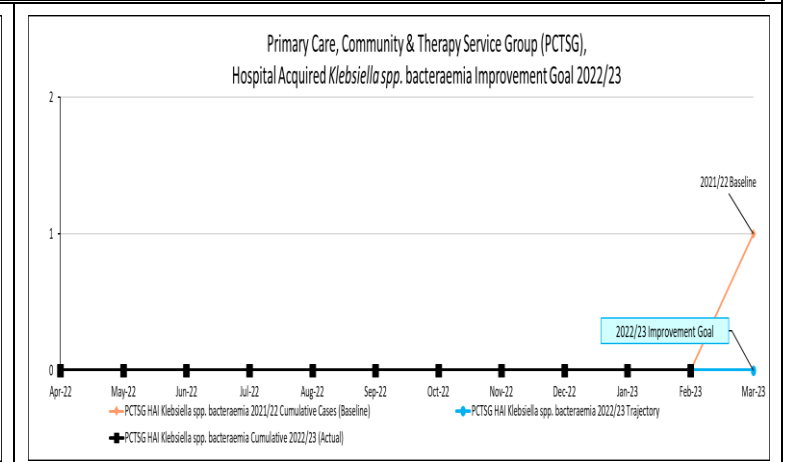
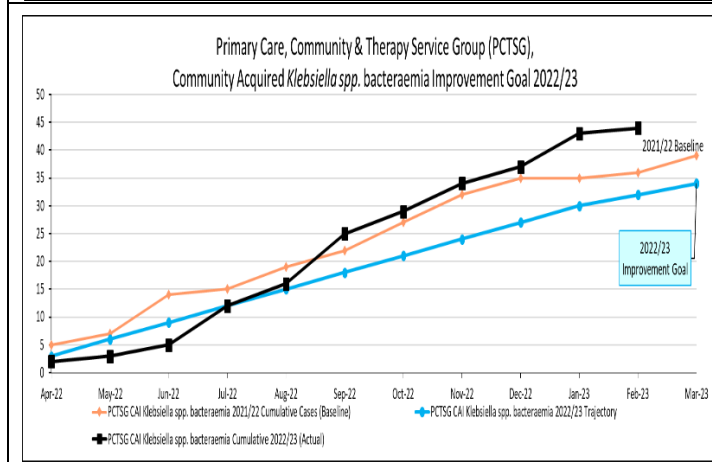
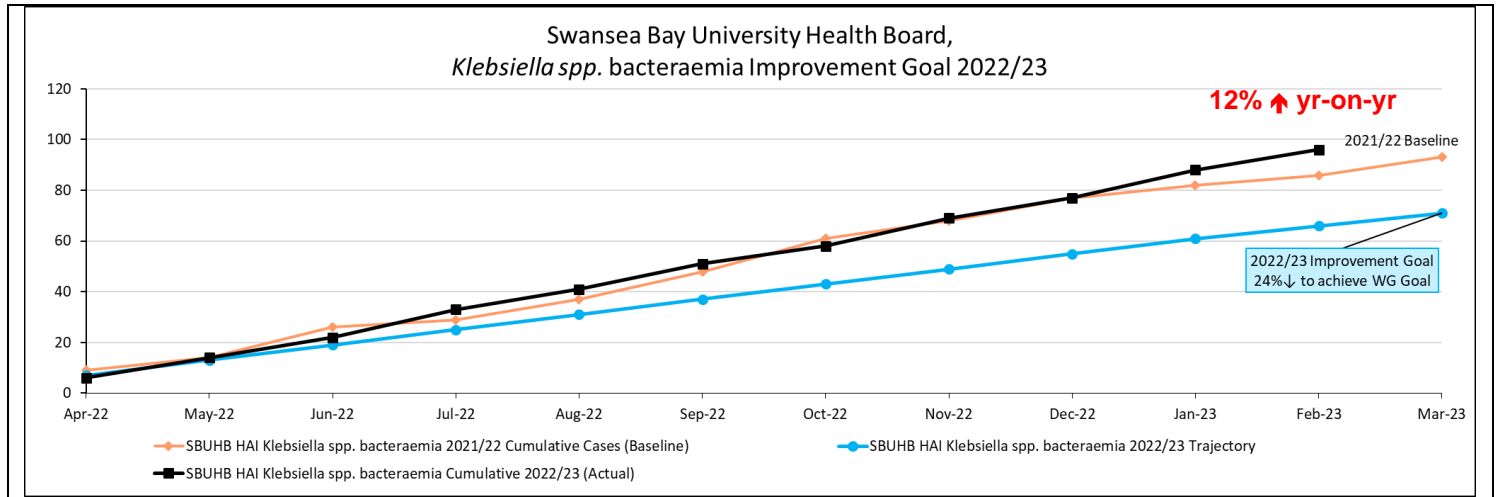
Staph. aureus bacteraemia



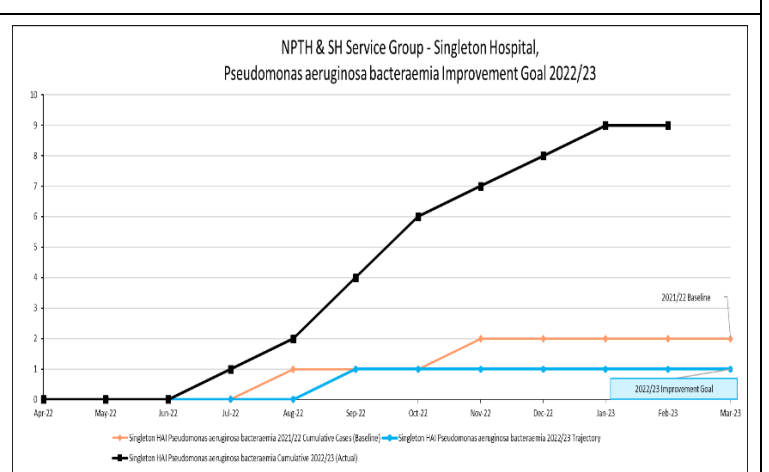
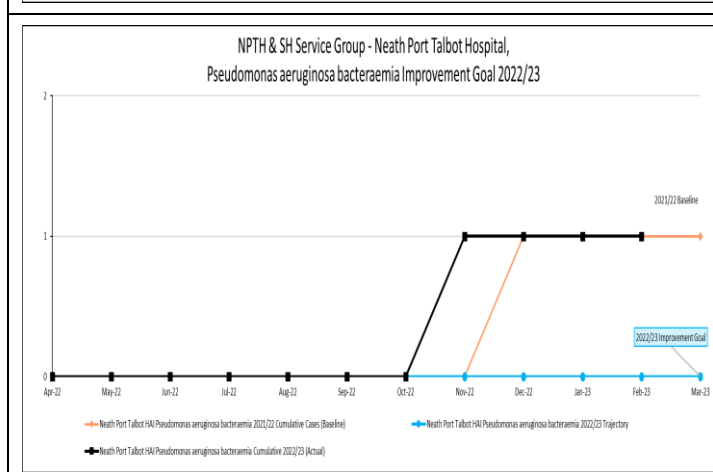
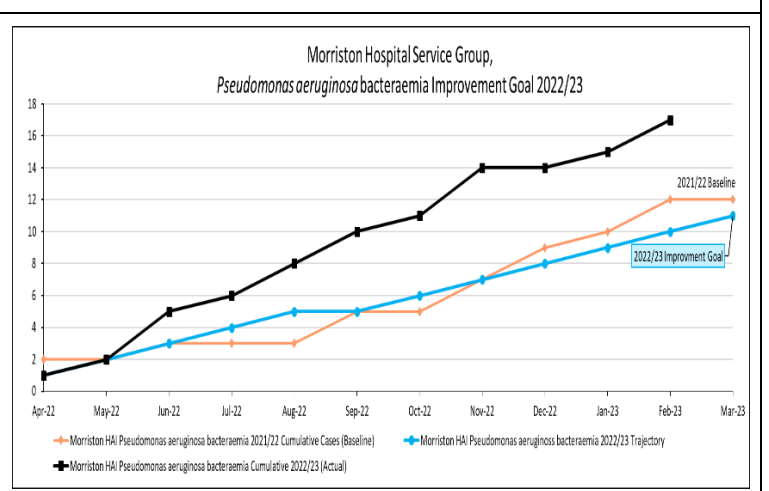
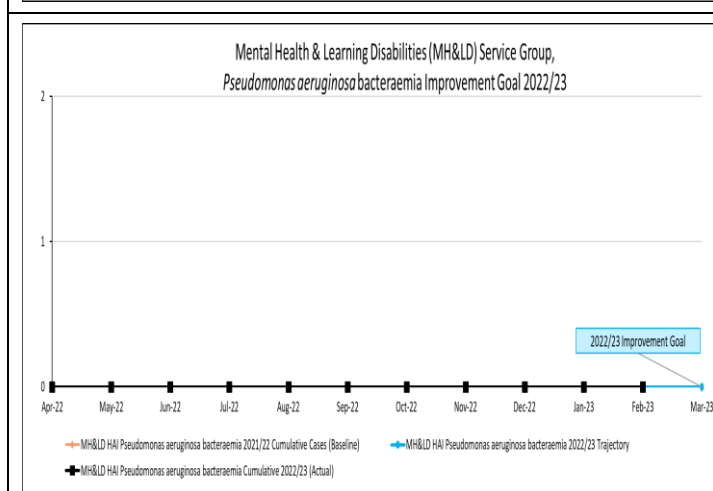
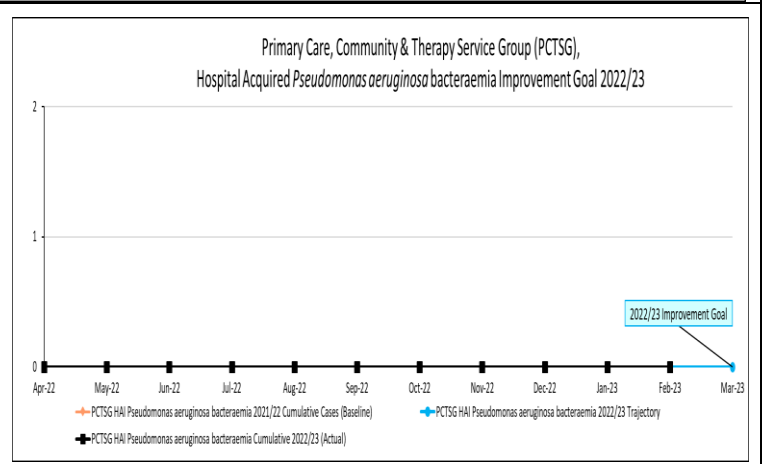
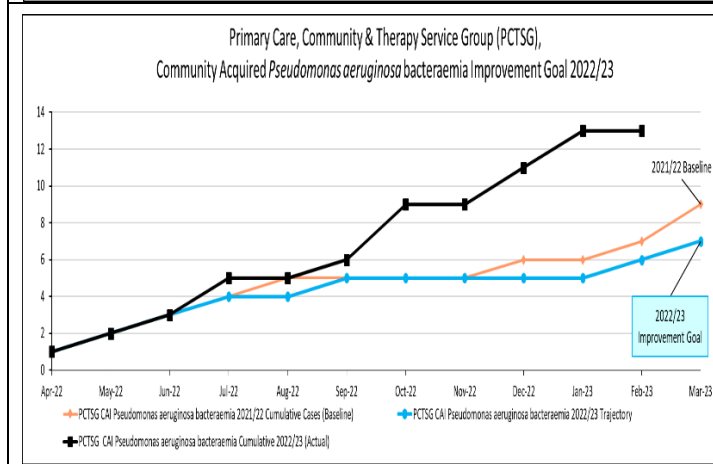
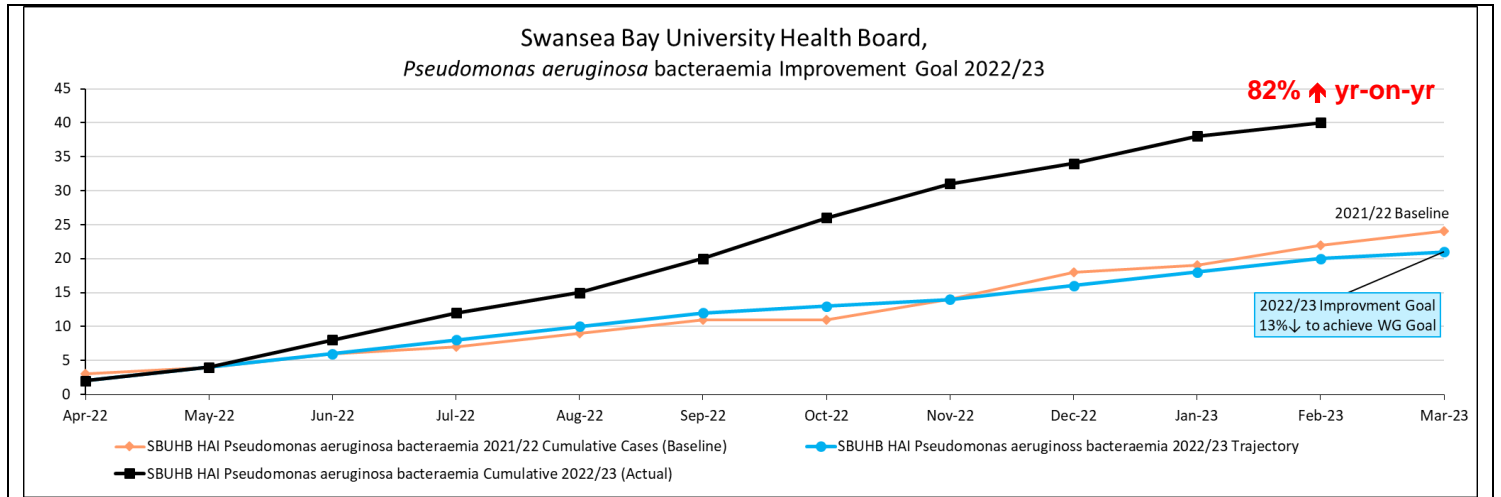
E. coli bacteraemia



Klebsiella spp. bacteraemia

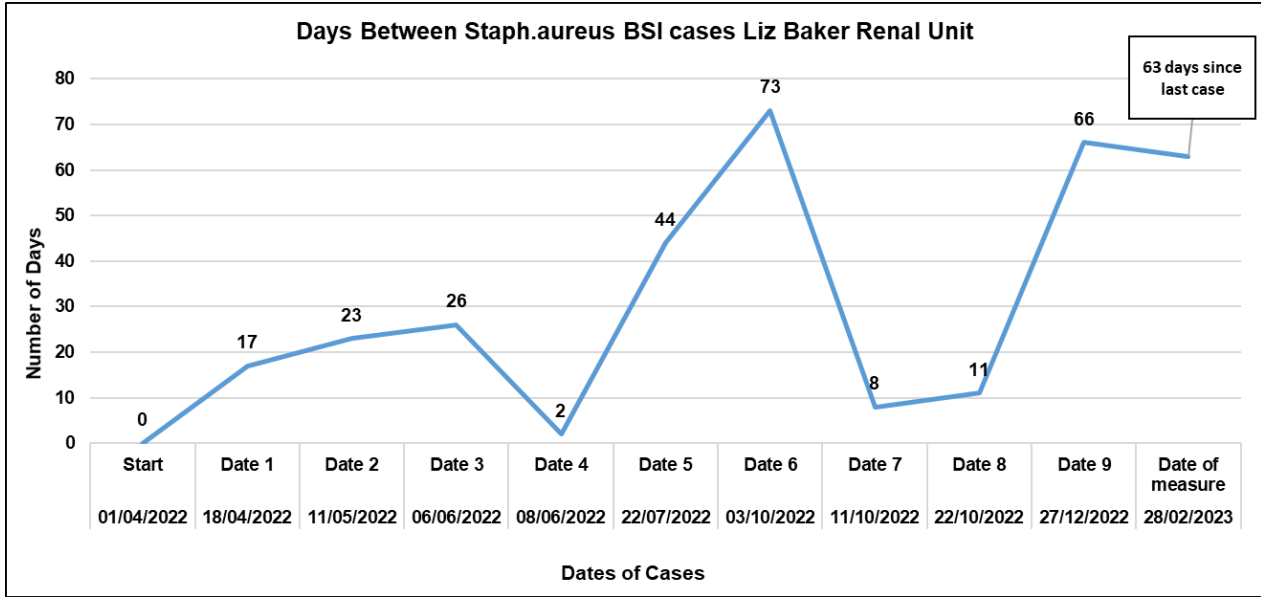


Pseudomonas aeruginosa bacteraemia

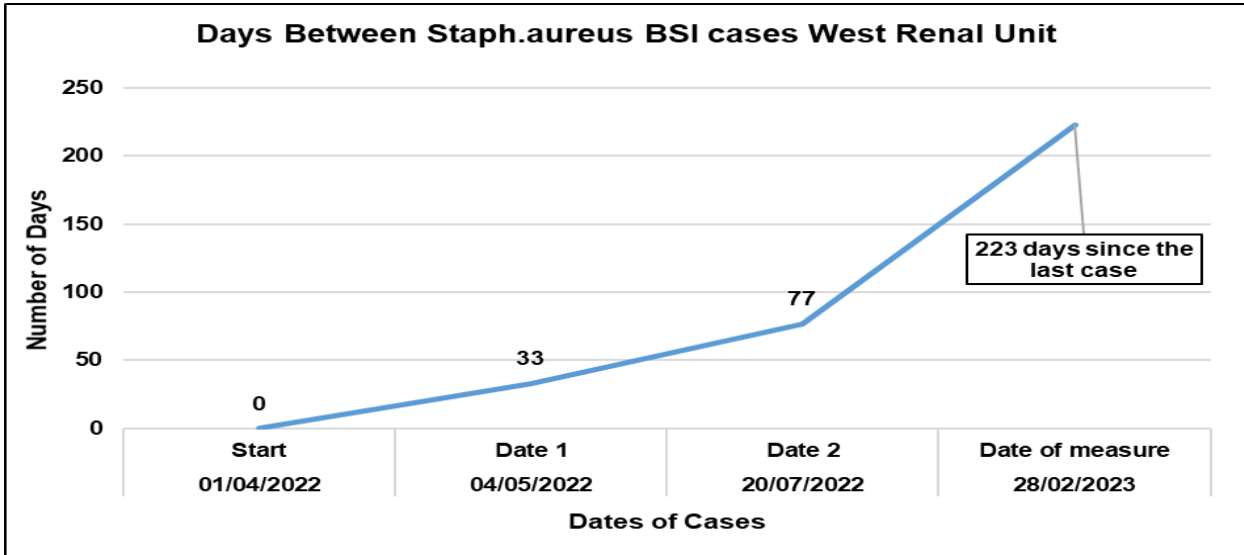


Staph. aureus bacteraemia

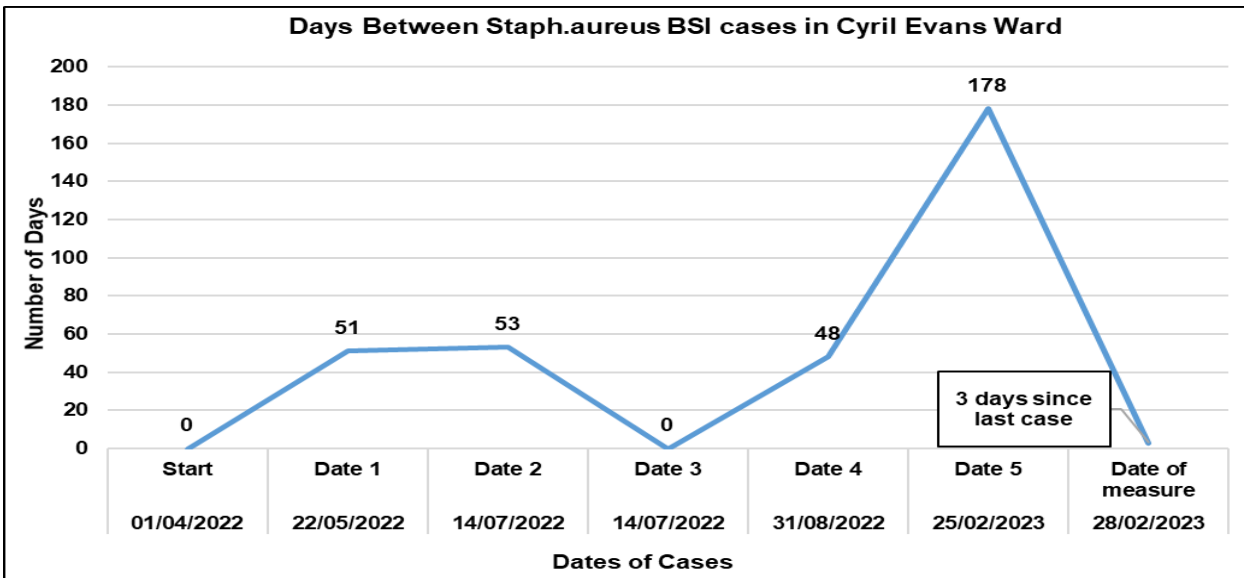
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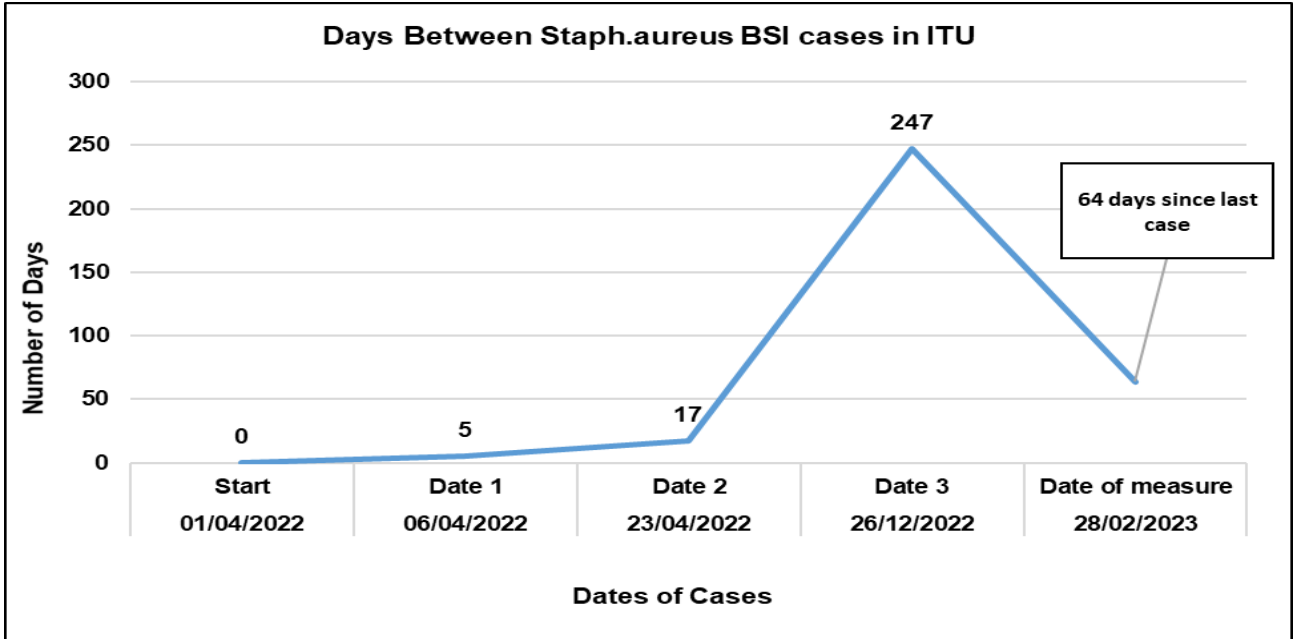


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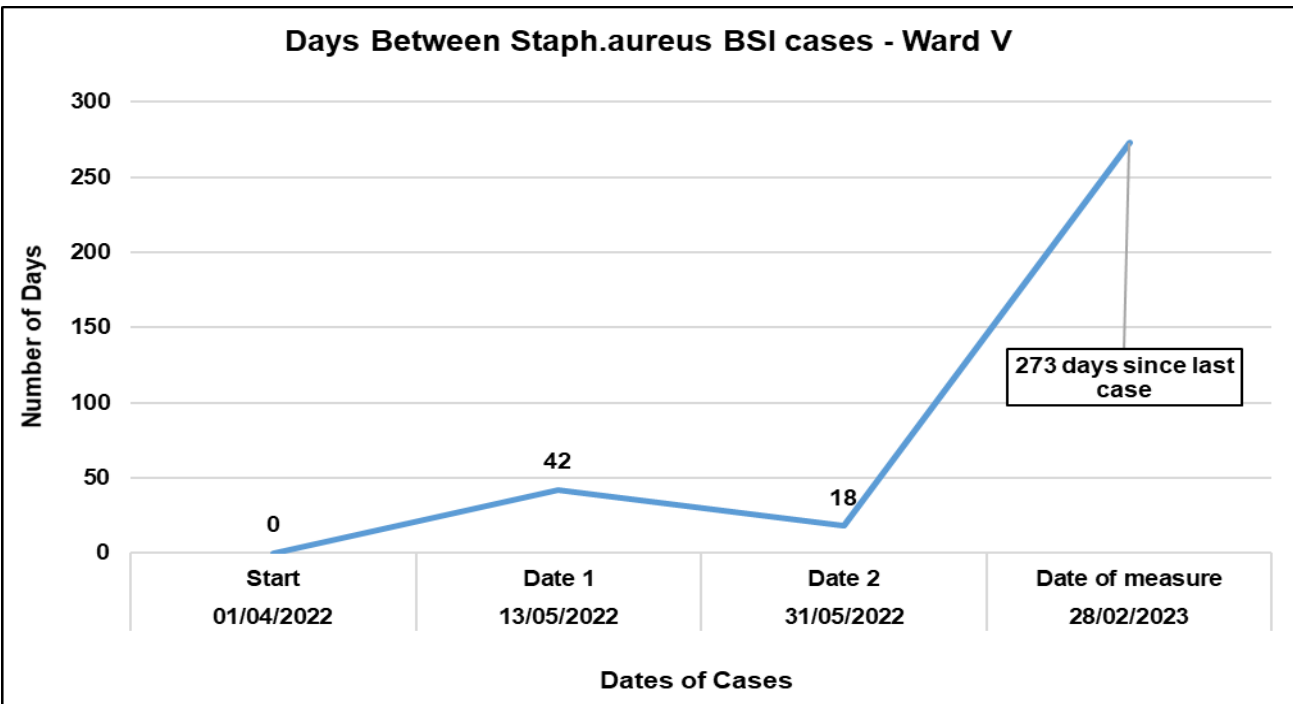


Staph. aureus bacteraemia

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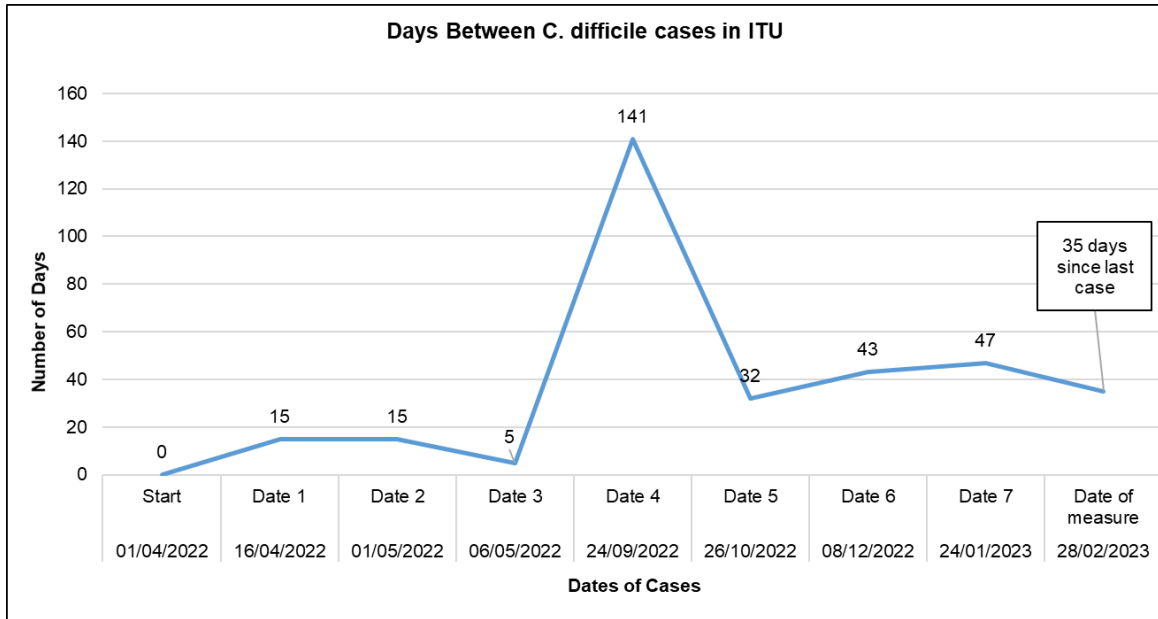


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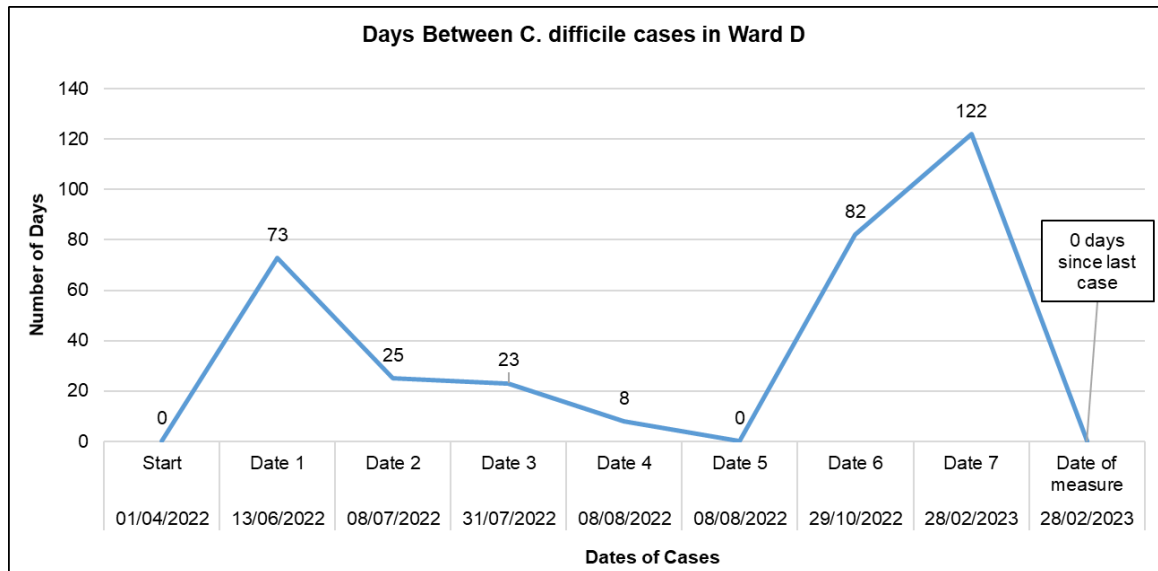


C. difficile Infection

ITU:



Ward D:



Ward T:

