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Bwrdd Iechyd Prifysgol
Bae Abertawe
Swansea Bay University
Health Board



Meeting Date	20 December 2022	Agenda Item	3.1
Report Title	Healthcare Acquired Infections Update Report		
Report Author	Delyth Davies, Head of Nursing, Infection Prevention & Control		
Report Sponsor	Gareth Howells, Executive Director of Nursing & Patient Experience		
Presented by	Delyth Davies, Head of Nursing, 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"> Year-on-year reductions in the following infections: <i>C. difficile</i> (4%) and <i>E. coli</i> bacteraemia (13%) (Appendix 1). <i>Staph. aureus</i> bacteraemia rates continue to be the highest in Wales. The rate of <i>Pseudomonas aeruginosa</i> bacteraemia continues to increase; however, no common themes or sources of infection have been identified to date that could explain why the increase has occurred. 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. All Service Groups provide at least monthly scrutiny updates to the Executive Nurse and Medical Directors. The HCAI Digital Dashboard work is progressing well, with a 'live staging' site available for validation by the Infection Prevention & Control team, prior to wider access being available. 		
Specific Action Required	Information	Discussion	Assurance
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Recommendations	<p>Members are asked to note:</p> <ul style="list-style-type: none"> the progress against the tier 1 infections to 30/11/2022; Service Group progress in relation to the Infection Improvement Plan, including Morriston's Rapid Improvement Programme to 30/11/22; the progress on the development of the HCAI Digital Dashboard to 30/11/22 and agree the next stages of testing and implementation. the development of the <i>Award for Improved Area of the Month</i> recognition programme 		

Infection Prevention and Control Report

		Agenda Item	3.1
Freedom of Information Status		Open	
Performance Area	Healthcare Acquired Infections Update Report		
Author	Delyth Davies, Head of Nursing, Infection Prevention & Control		
Lead Executive Director	Gareth Howells Executive Director of Nursing & Patient Experience		
Reporting Period	30 November 2022	Report prepared on	06/11/2022

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 November 2022.

Health Board and Service Group progress against the Tier 1 infection reduction goals to the end of November 2022 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 November 2022

Infection	Cumulative Cases to end of November 2022	Monthly total: November 2022	Average monthly reduction goal (max.)
<i>C. difficile</i> (CDI)	133	21	<8 (annual maximum: <95 cases)
<i>Staph. aureus</i> bacteraemia (SABSI)	103	8	<6 (annual maximum: <71 cases)
<i>E. coli</i> bacteraemia (EcBSI)	182	23	<21 (annual maximum: <251 cases)
<i>Klebsiella spp.</i> bacteraemia (KI BSI)	69	11	<6 (annual maximum: <71 cases)
<i>Ps. aeruginosa</i> bacteraemia (PAERBSI)	31	5	<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 November 2022 (cumulative)

	CDI	SABSI	EcBSI	KIBSI	PAERBSI
PCTSG - CAI	11 (46)	5 (45)	12 (112)	5 (34)	0 (9)
PCTSG - HAI	0 (2)	0 (0)	0 (2)	0 (0)	0 (0)
MH&LD – HAI	0 (0)	0 (0)	0 (1)	0 (0)	0 (0)
MORR – HAI	5 (57)	2 (41)	10 (40)	2 (20)	3 (14)
NPTH - HAI	0 (2)	0 (3)	0 (2)	0 (2)	1 (1)
SH - HAI	5 (26)	1 (14)	1 (25)	4 (13)	1 (7)

Progress against Infection Prevention Improvement Plan to 30.11.22

- To the end of November 2022, the Health Board had not achieved the reduction in infection in line with the proposed trajectories. There was a year-on-year reduction in *C. difficile* and *E. coli* bacteraemia. The incidence of *Staph. aureus* bacteraemia and *Pseudomonas aeruginosa* bacteraemia remains the highest in Wales and above the number of cases reported in the Health Board for the same period in 2021/22. The year-on-year comparison (April – November) 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	4%↓	6%↑	13%↓	1%↑	121%↑
Morrison Hospital	4%↑	37%↑	11%↑	20%↓	+7 cases ↑
Singleton Hospital	21%↓	39%↓	47%↑	30%↑	+5 cases ↑
Neath Port Talbot Hospital	50%↓	+2 cases ↑	86%↓	+1 case ↑	+1 case ↑
MH & LD	0 cases	0 cases	1 case	0 cases	0 cases
PCTG Gorseinon Hospital	+1 case ↑	0 cases	Equal to	0 cases	0 cases
PCTG Community acquired	2%↑	5%↑	21%↓	6%↑	+4 cases ↑

- Cases of *C. difficile* infection and *Staph. aureus* bacteraemia are significantly higher in Morrison than in the other acute hospitals, accounting for 66%, 71%, 57%, 57% and 64% 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 in particular.

Update on Infection Prevention Improvement Plan

Service Group Improvement Progress

Acute Care Service Groups

Morrison Hospital Rapid Improvement Programme

- There were two cases of *Staph. aureus* bacteraemia cases associated with Morrison Hospital in November 2022. This is the lowest number of monthly cases since January 2022. As cases of infection are subject to normal variation, there would need to be several months of reduced cases before identifying whether this reduction has occurred as a consequence of improvement activities.
- Joanne Walters, Infection Prevention & Control (IPC) Matron, commenced the three-month secondment into the Morrison Infection Improvement Lead post on 22nd November 2022.
- The roll-out of the implementation of 2% chlorhexidine daily skin decolonisation patient wash cloths is progressing across the rapid improvement wards in Morrison.
- Days between cases of *C. difficile* infection and *Staph. aureus* bacteraemia on the rapid improvement wards, to 30th November 2022, are shown in [Appendix 2](#).
- The Service Group continues to hold infection scrutiny panels. The Service Group reports improved medical engagement in the scrutiny process. Fortnightly scrutiny meetings continue with the Executive Nurse and Medical Directors.
- The Service Group is meeting with the Chief Executive on 9th December to review progress to their improvement plan.

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

- The monthly number of *C. difficile* cases in Singleton Hospital rose to 5 cases in November; three of these were in Ward 3 (Whole Genome Sequencing results are not yet available to determine if these cases are linked to a possible transmission event).
- The Service Group continues to hold infection scrutiny panels and to update monthly the Executive Nurse and Medical Directors.

Primary Care, Community & Therapies Group

- Monthly scrutiny meetings continue in Primary Care and the Service Group provides monthly updates to the Executive Nurse and Medical Directors.
- Review of community acquired cases of *C. difficile* between April and November 2021 identified that 22% of these cases were care home residents/patients. 10% of community acquired *E. coli* bacteraemia occurred in care home residents/patients.
- An increase in the Infection Prevention & Control resource has been redirected to PCTG, to be able to provide expertise and support. This IPC Nurse visits Care Homes when a new case of *C. difficile* is identified. However, this is a very limited resource when considering that there are over 50 care homes within the SBUHB boundary, and that this one IPCN also provides support to HM Prison, GP Practices, Community Nursing and other PCTG services.

Management Board 16 November 2022 – Executive and Non-Officer IPC-related Visits

The Management Board meeting scheduled for 16th November was stood down, and the time used instead for IPD-related visits. The visits occurred across inpatient sites and included wards with highest incidence of infection.

The Executive Director of Nursing & Patient Experience collated feedback from the visits, which was circulated to Service Groups. Where appropriate, immediate action was taken on the day of the visits. A summary is shown below:

- Insufficient cupboard spaces particularly for big equipment such as hoists, Zimmer frames, etc.
- One of the sisters in one of the Wards mentioned the whole storage and restocking system operated by the health board utilising bar codes scanned without necessarily consulting the sister on the Ward in question, did result in overstocking and hence she had adopted her own system and that enable better stock control and efficient storage.
- The estate in NPT being newer and in better condition clearly enabled easier and more effective cleaning than witnessed in Morriston by comparison.
- Overall it was a positive walk through.
- Staff were engaged and aware of the work which needed to be done.
- Great to see decolonisation in place at Morriston – just need to embed and progress in Singleton/NPH and Community Services.
- Inconsistent cleaning – mould in some shower and toilet areas, dirt in corners.
- Confirmation that Mattress audits take place – need to work on programme to replace.
- It still feels very nursing focussed, and not the same degree of input from all clinical groups.
- General clutter and equipment being stored in corridors.
- Staffing, capacity, operational pressures and estate were all noted as providing challenges to the IPC agenda.
- General wear and tear within Ward areas – tape on floors, leaks and estates issues in general.
- Inconsistent information on noticeboards, and different approaches.
- Some operational/clinical teams not being aware of their current performance in areas such as hand washing audit results, ANTT training levels, etc.
- The need to recognise and reward achievements.

- Competence of temporary (agency) in IPC principles.
- Not specifically re IPC, but weekly pay for Bank staff came up as an issue.
- Evidencing bundle compliance.
- Positive re “bare below the elbows”, only one Dr noted to have a jacket on in a clinical area.
- The key role the operational teams generally have in policing their areas, and the site.
- Lack of decant facilities to enable deep cleaning of ward areas.

This feedback has gone to Infection Control Committee on 8th December. The findings noted above will be incorporated into existing Service Group improvement plans, within the context of the diverse service areas.

Digital HCAI Dashboard update

- The ‘live stage’ HCAI Digital Dashboard work has been completed to the agreed timescale. At present, the HCAI Dashboard is available to senior IPC staff only. Data validation work will be undertaken by the Head of Nursing, IP&C to confirm that the data is correctly mapped to hospital and primary care and community locations, and that infection onset type definitions are correctly identified by application of specified national criteria.
- Once validation is completed in January 2023, the Head of Nursing IPC, with the Digital Intelligence Team, will provide appropriate training on use and interpretation.

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, 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 Morriston was agreed as the highest proportion of hospital-acquired infections are associated with Morriston. Also, a significant proportion of the IPC Matron’s time was already spent supporting the rapid improvement work in Morriston whilst the Infection Improvement Programme Lead had been unable to be released. Although this allows the Matron to focus only on improvement work, the result of this has been that the operational workload of the IPC Matron has been shared across the remaining senior IPC Team.
- Respiratory virus activity is increasing across the Health Board. Influenza, Respiratory Syncytial Virus (RSV) and Parainfluenza virus activity was very low during the first wave and second waves of COVID. Influenza activity remained low during winter 21/22, but cases within the Health Board have been increasing during November, with more cases seen within hospital settings in recent weeks. This situation will continue to be monitored, but increased influenza cases

circulating in the community will likely impact on hospital admissions, staff sickness and potential clusters of inpatient transmission. The COVID service and Immunisation Team continue to drive the vaccination campaign forward to ensure more staff are protected against flu and COVID this winter and plan a 'V-day' on the 7th December 2022.

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

Action: Validation of the 'live' Digital HCAI Dashboard to confirm accuracy of data. **Target completion date:** 31.01.23. **Lead:** Head of Nursing IP&C and Corporate Digital Intelligence Partners.

Action: Roll-out of Digital HCAI Dashboard. **Target completion date:** 28.02.23. **Lead:** Head of Nursing IP&C and Corporate Digital Intelligence Partners.

Action: Agree a recognition programme *Award for Improved Area of the Month*, with criteria to be agreed between Service Group Directors and Executive colleagues. **Target completion date:** January 2023. **Lead:** Assistant Director of Nursing and Service Group Nurse Directors.

Financial Implications

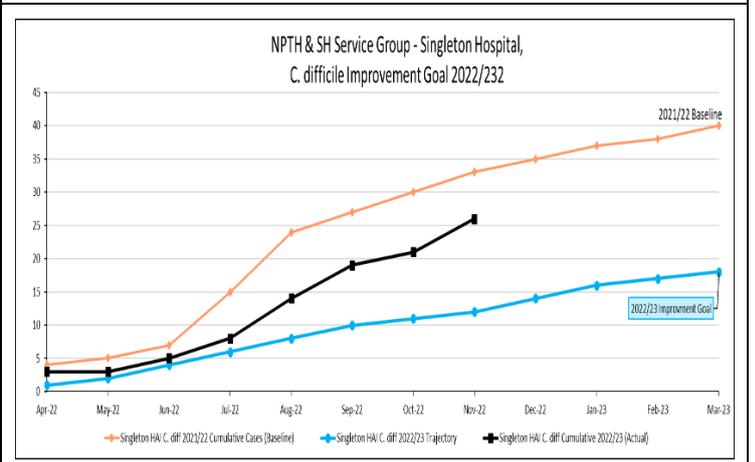
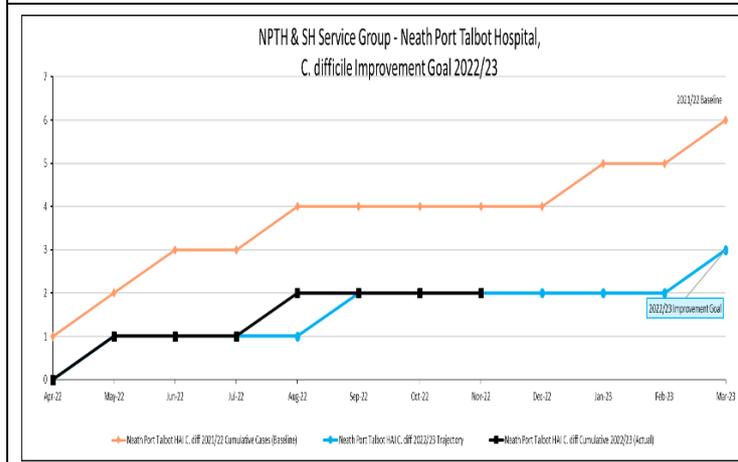
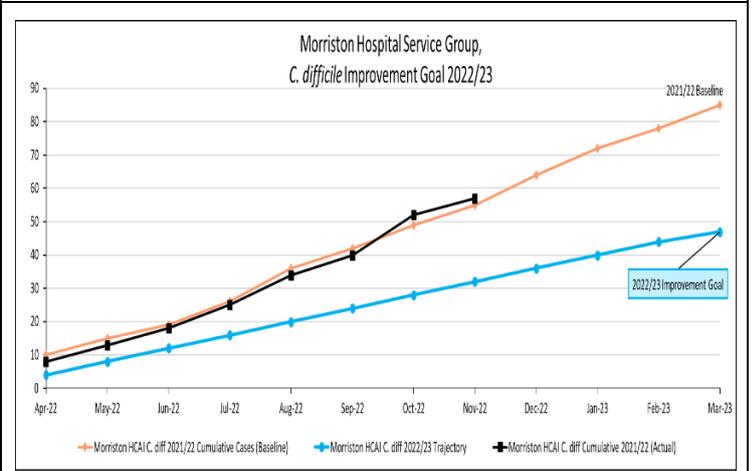
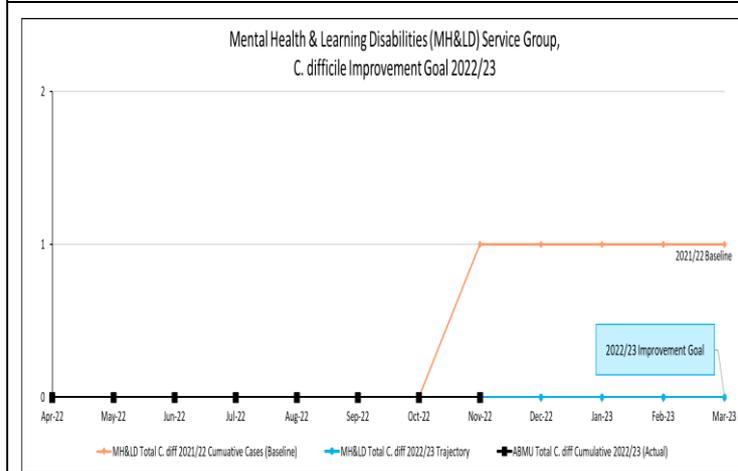
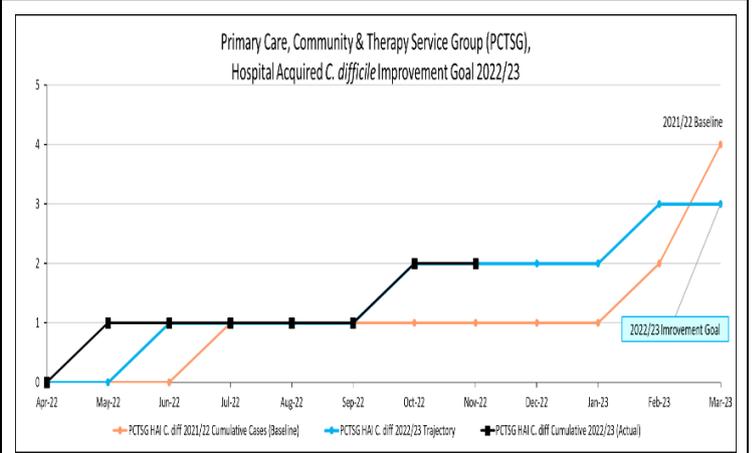
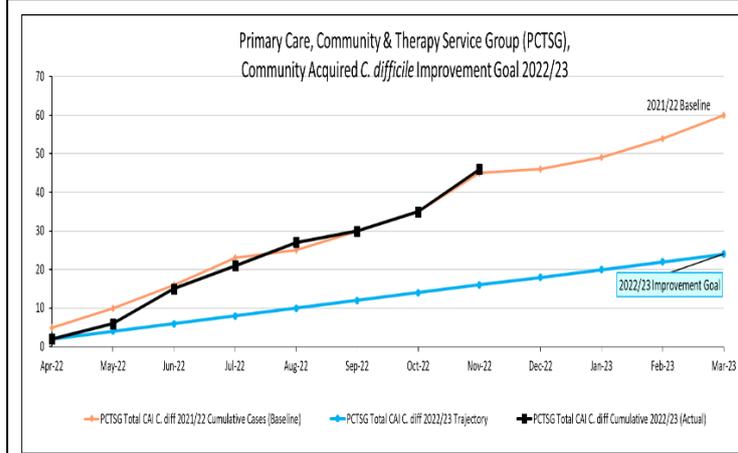
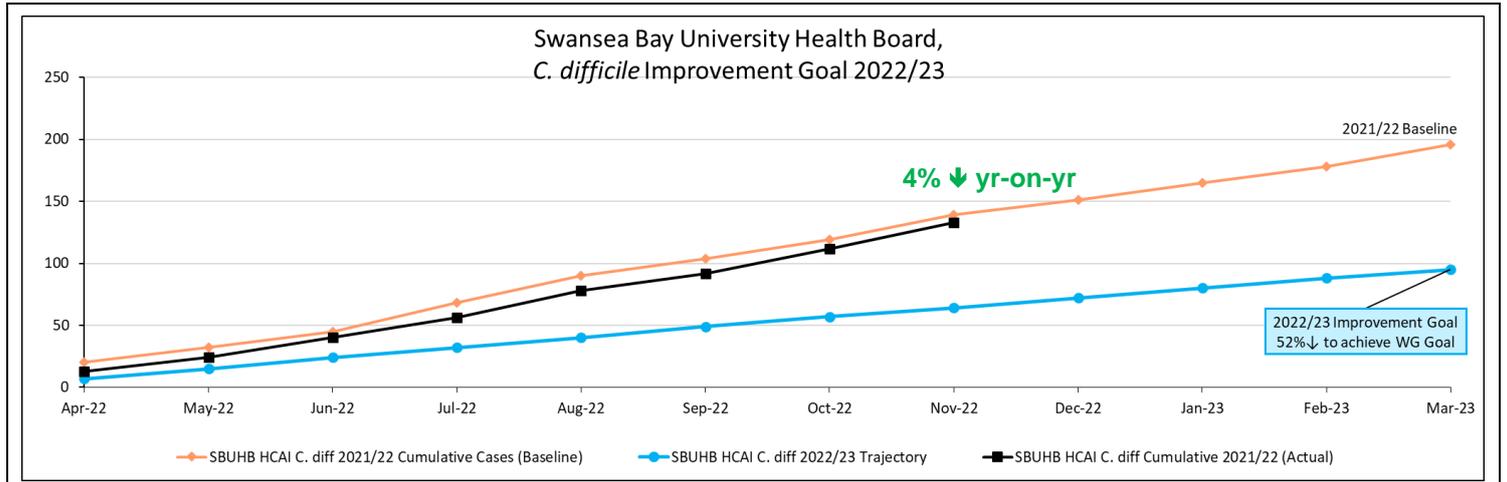
A Department of Health impact assessment report (IA No. 5014, 20/12/2010) stated that the best estimate of costs to the NHS associated with a case of *Clostridioides difficile* infection is approximately **£10,000**. The estimated cost to the NHS of treating an individual cost of MRSA bacteraemia is **£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 November 2022 is as follows: *C. difficile* - £1,330,000; *Staph. aureus* bacteraemia - £721,000; *E. coli* bacteraemia - £207,400; therefore, a total cost of **£2,258,400**.

Recommendations

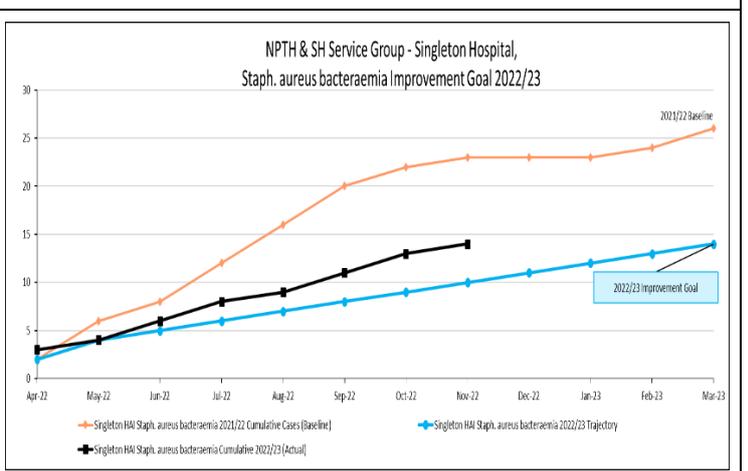
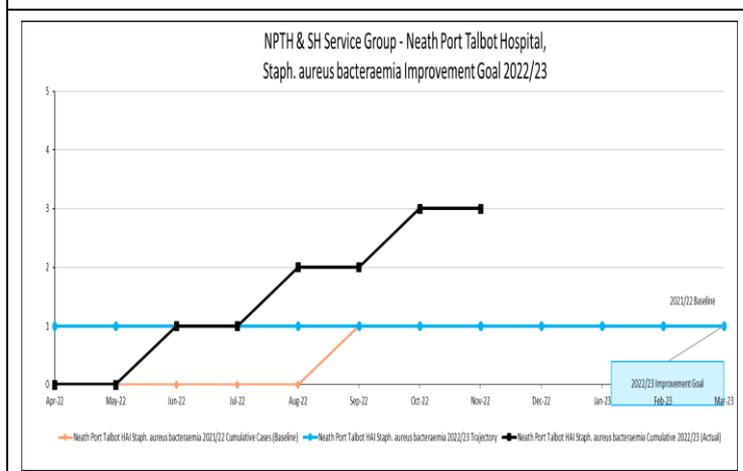
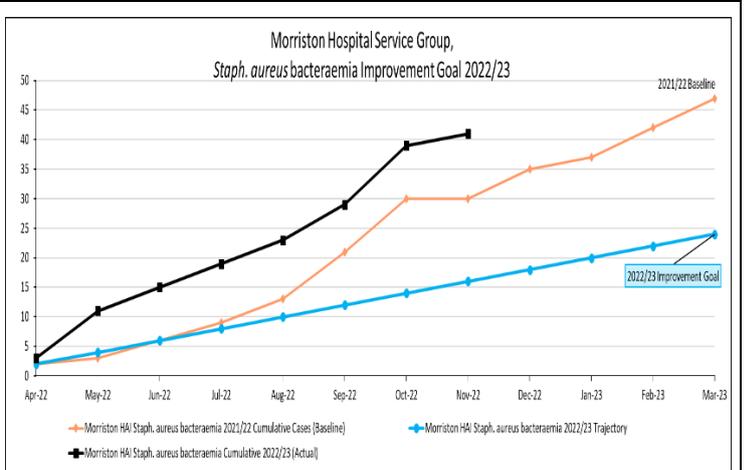
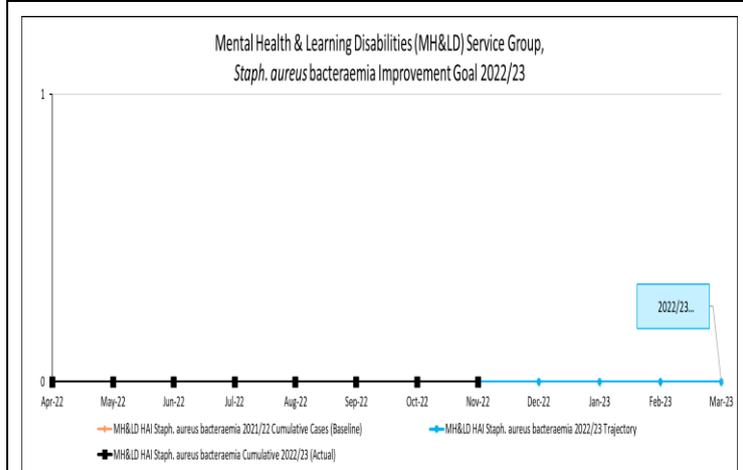
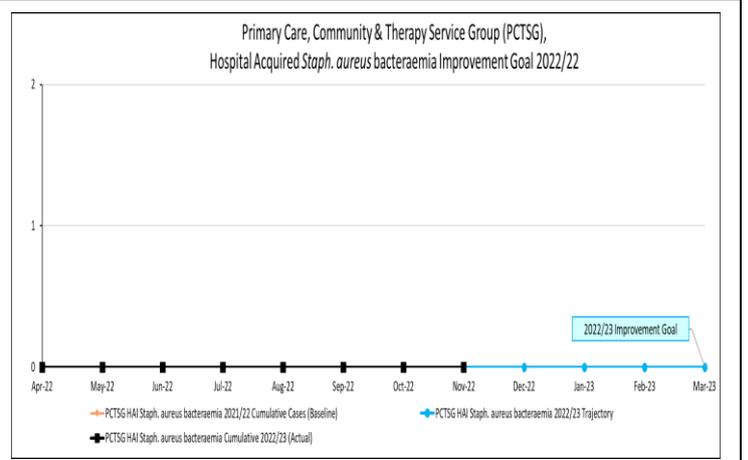
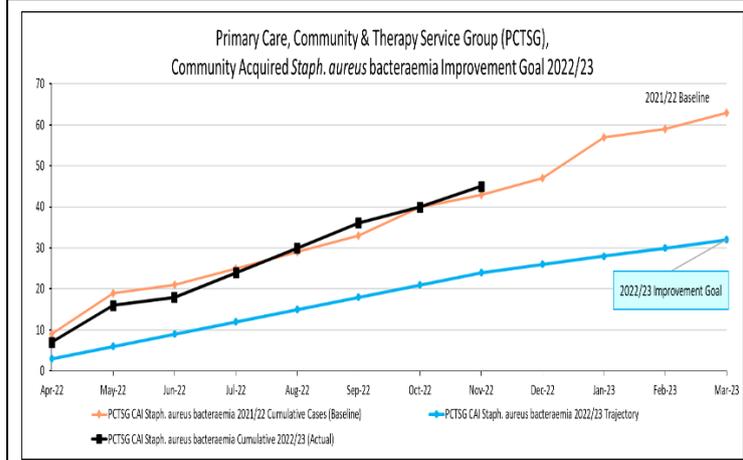
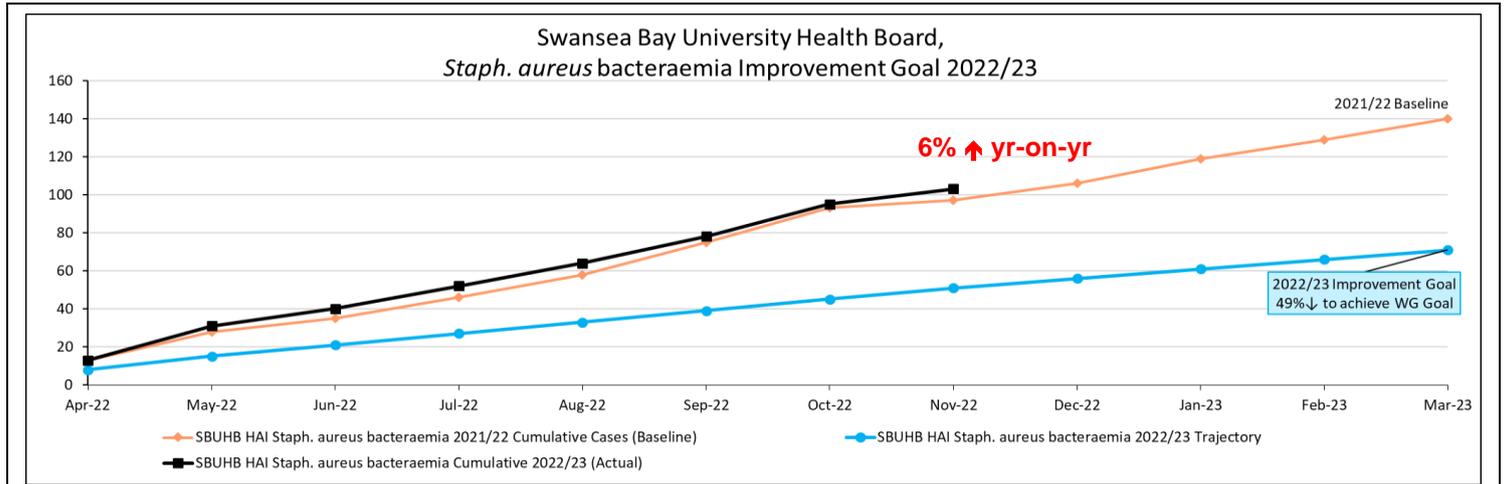
Members are asked to note:

- the progress against the tier 1 infections to 30/11/2022;
- Service Group progress in relation the Infection Improvement Plan, including Morriston's Rapid Improvement Programme to 30/11/22;
- the progress on the development of the HCAI Digital Dashboard to 30/11/22 and agree the next stages of testing and implementation.
- the development of the *Award for Improved Area of the Month* recognition programme.

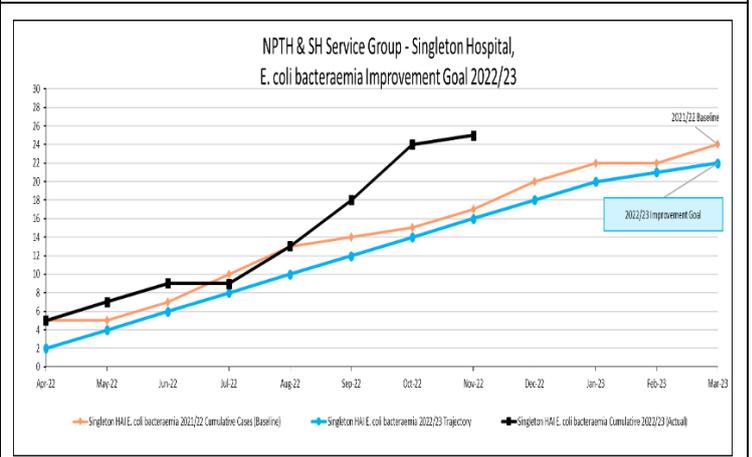
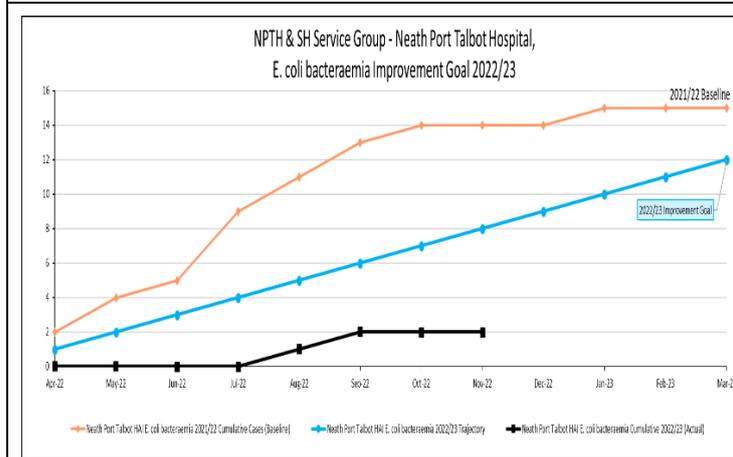
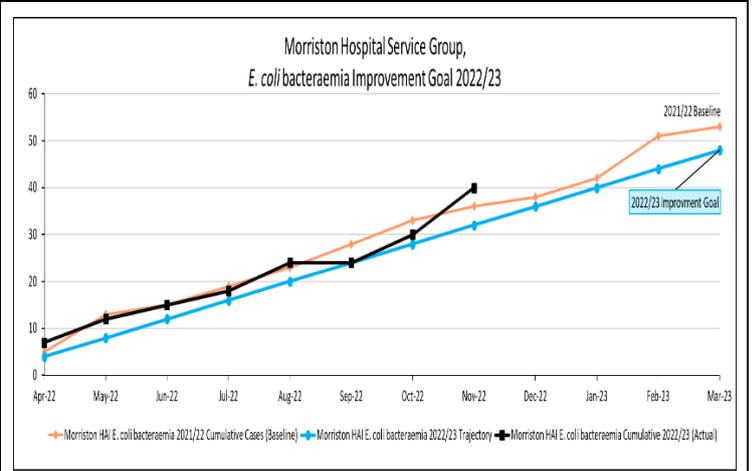
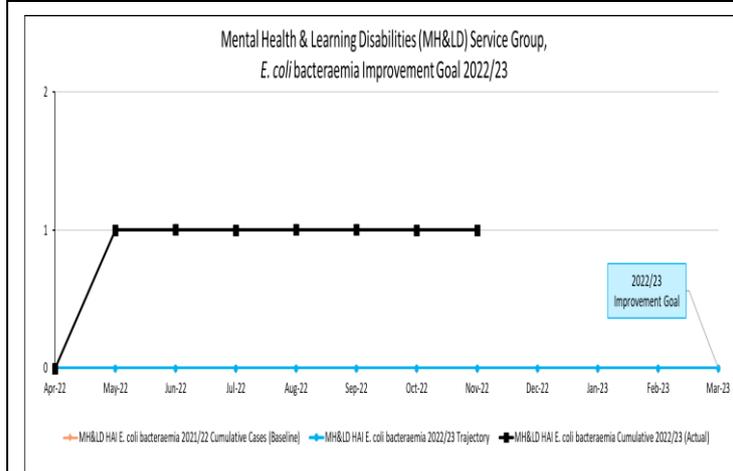
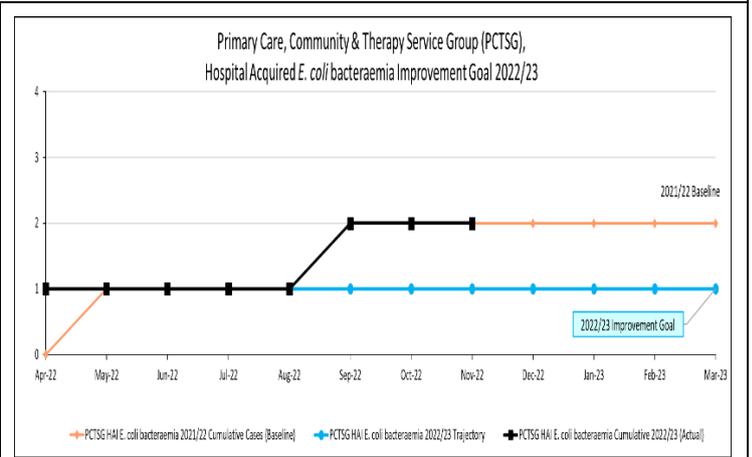
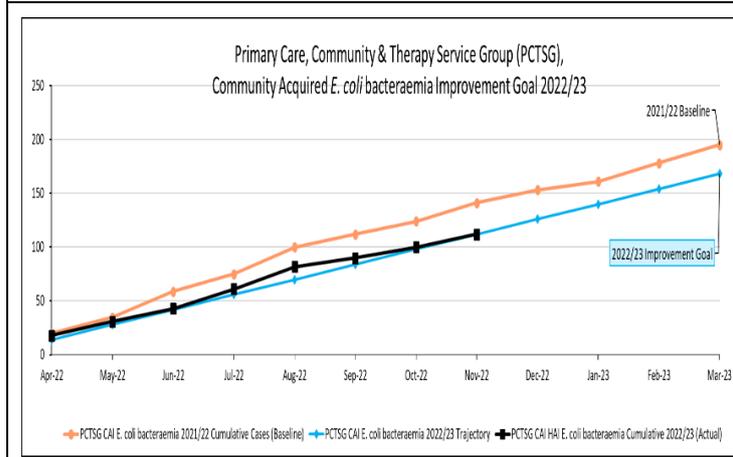
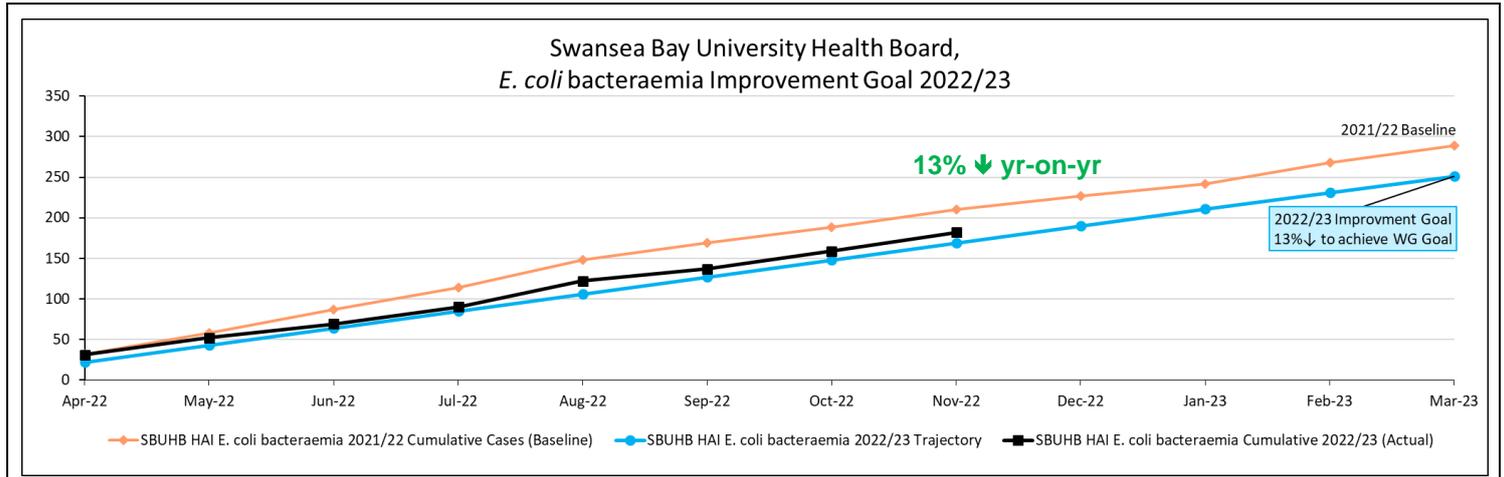
C. difficile



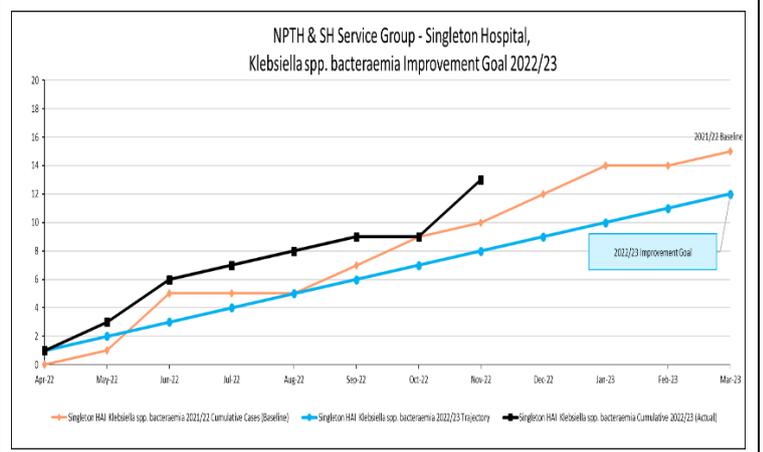
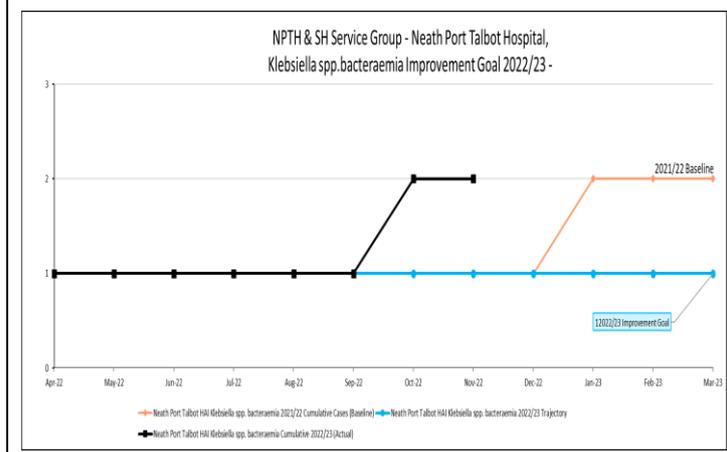
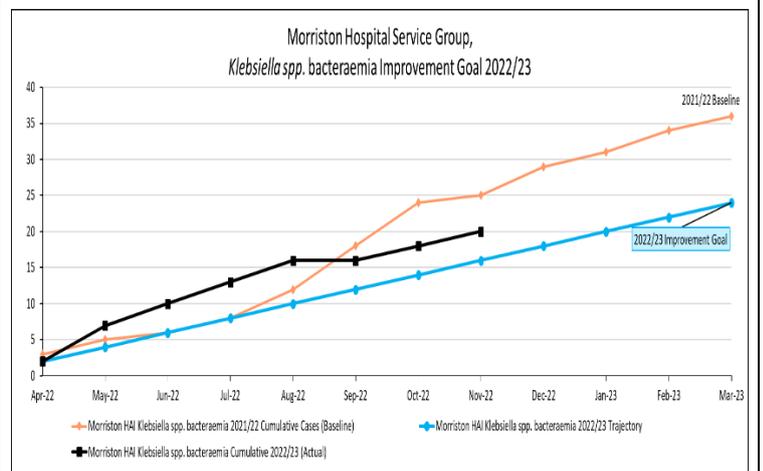
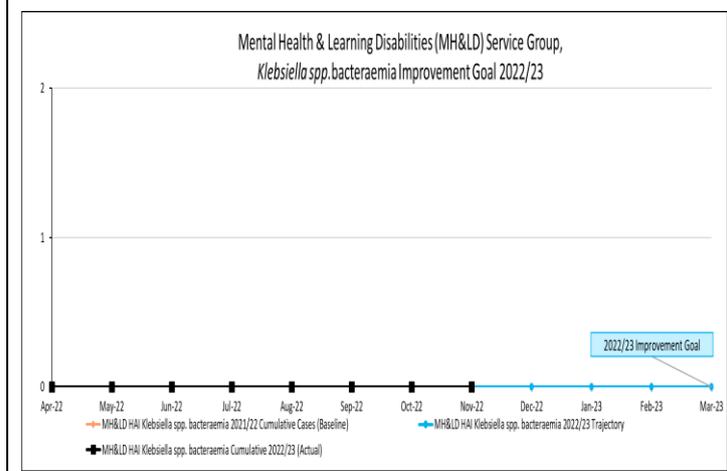
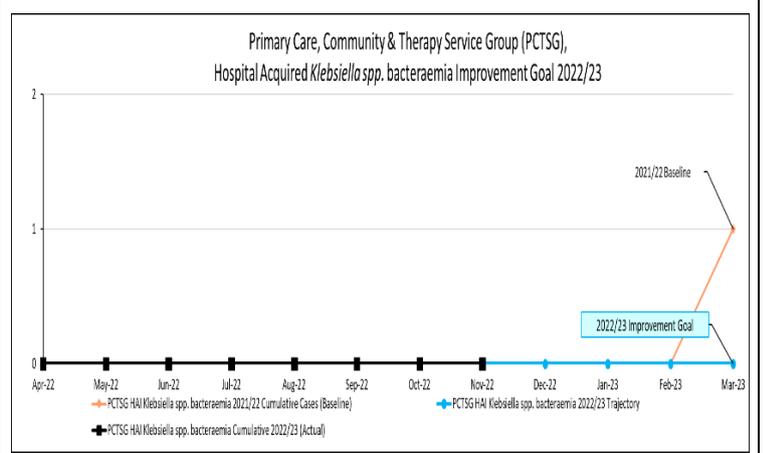
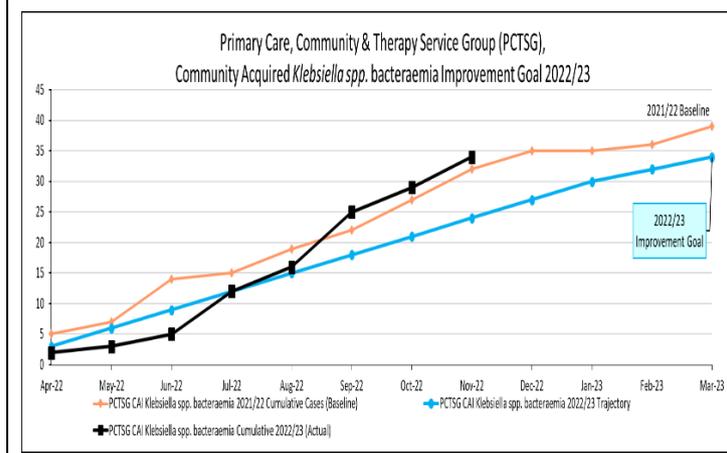
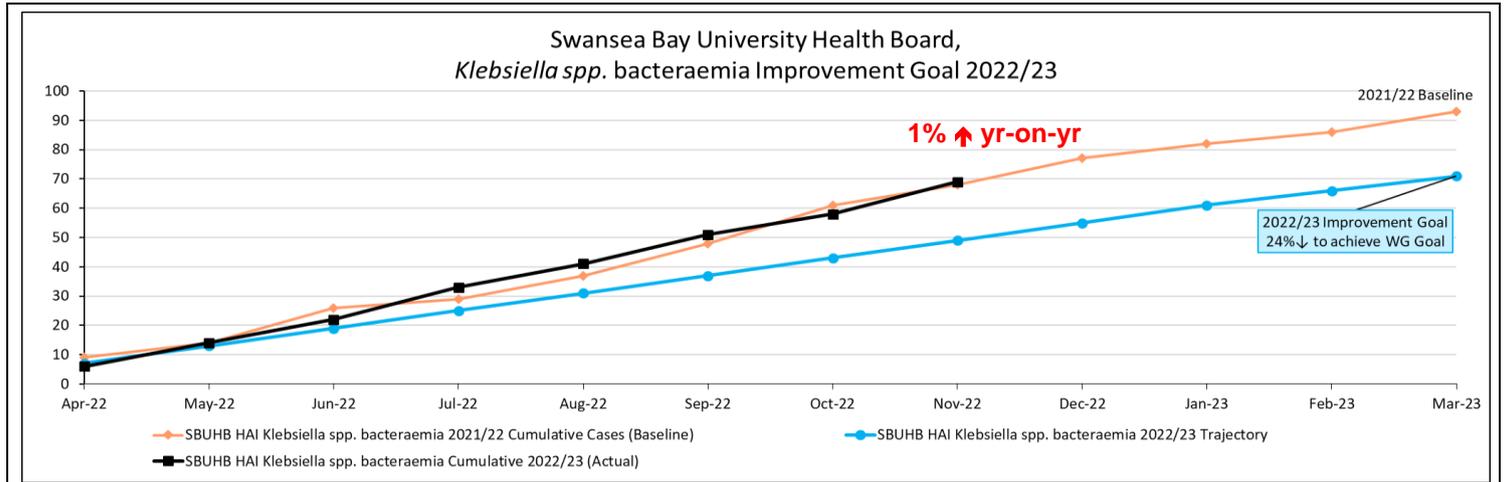
Staph. aureus bacteraemia



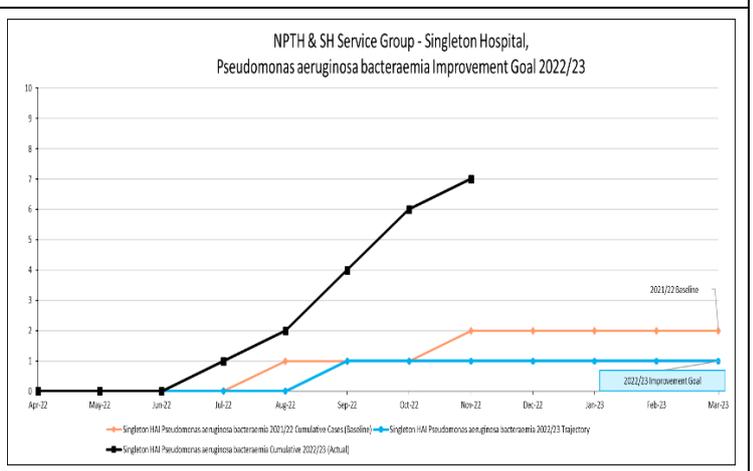
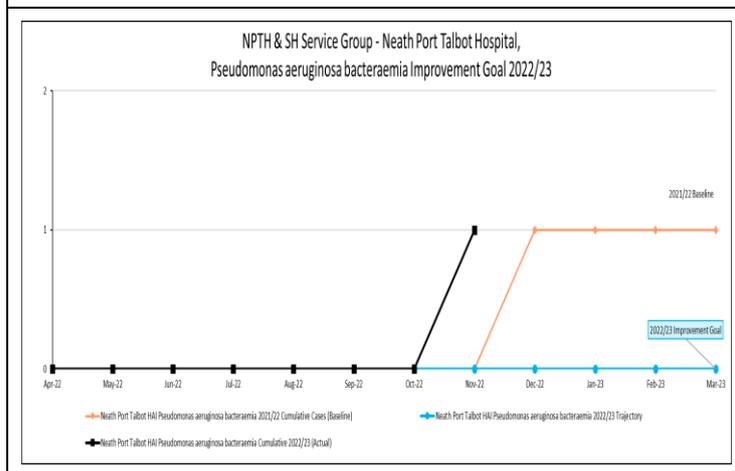
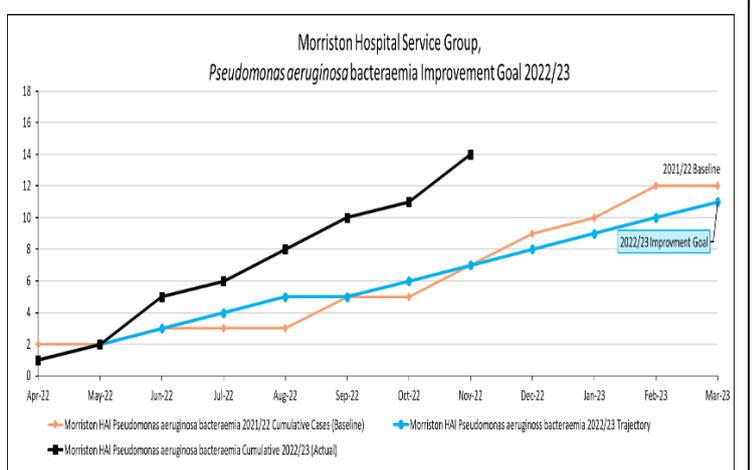
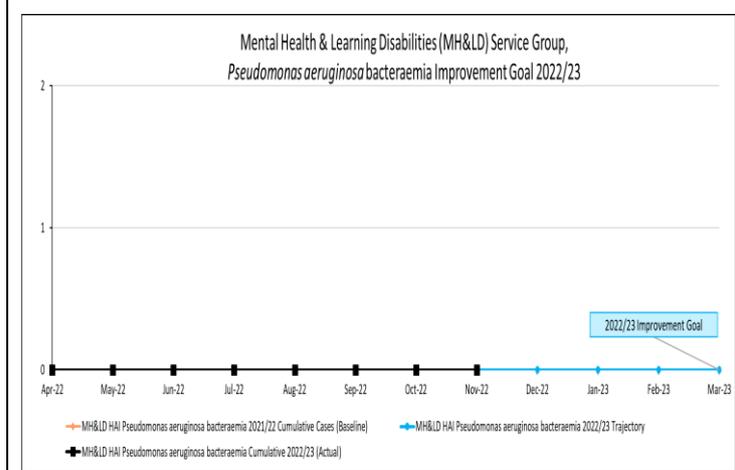
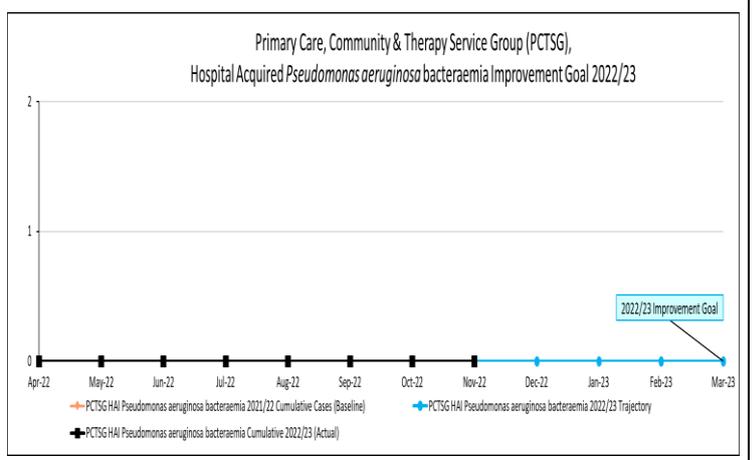
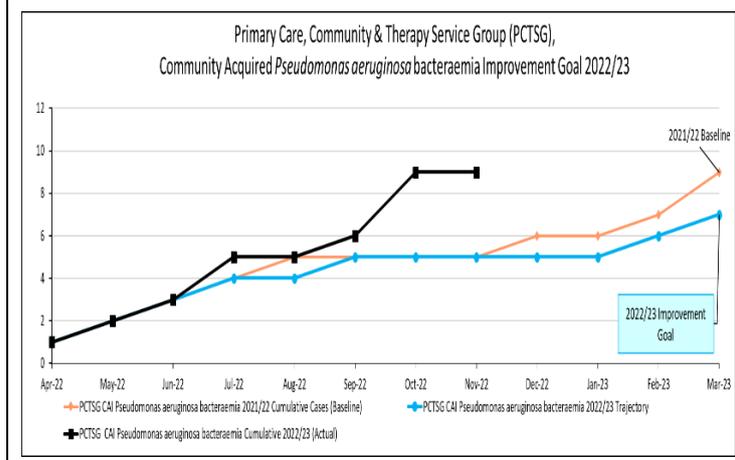
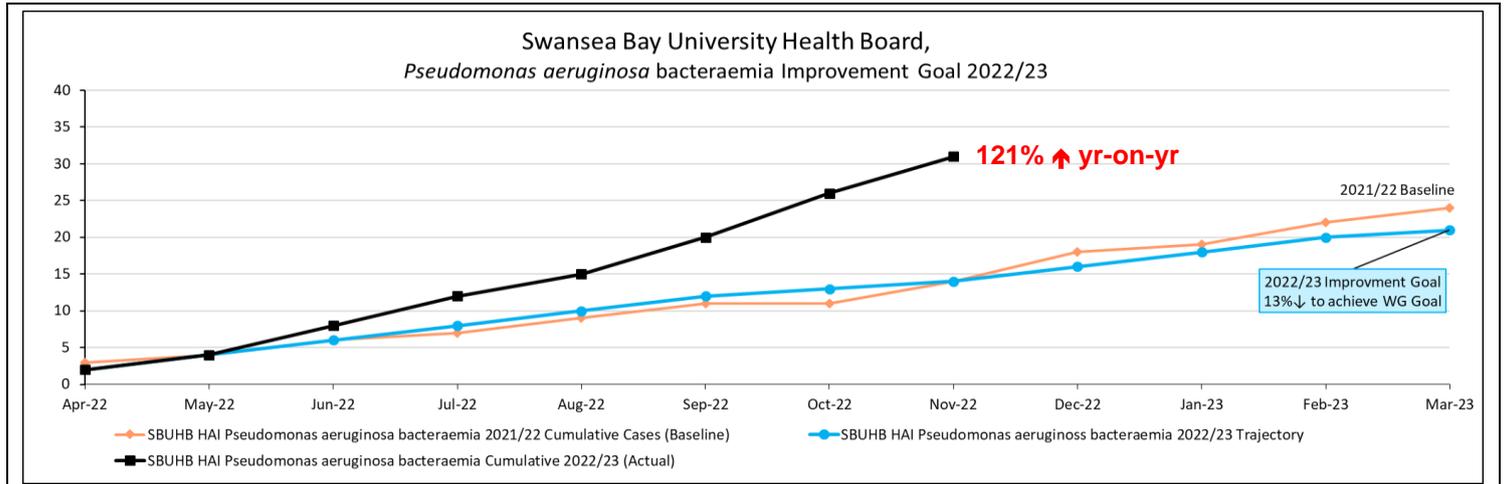
E. coli bacteraemia



Klebsiella spp. bacteraemia

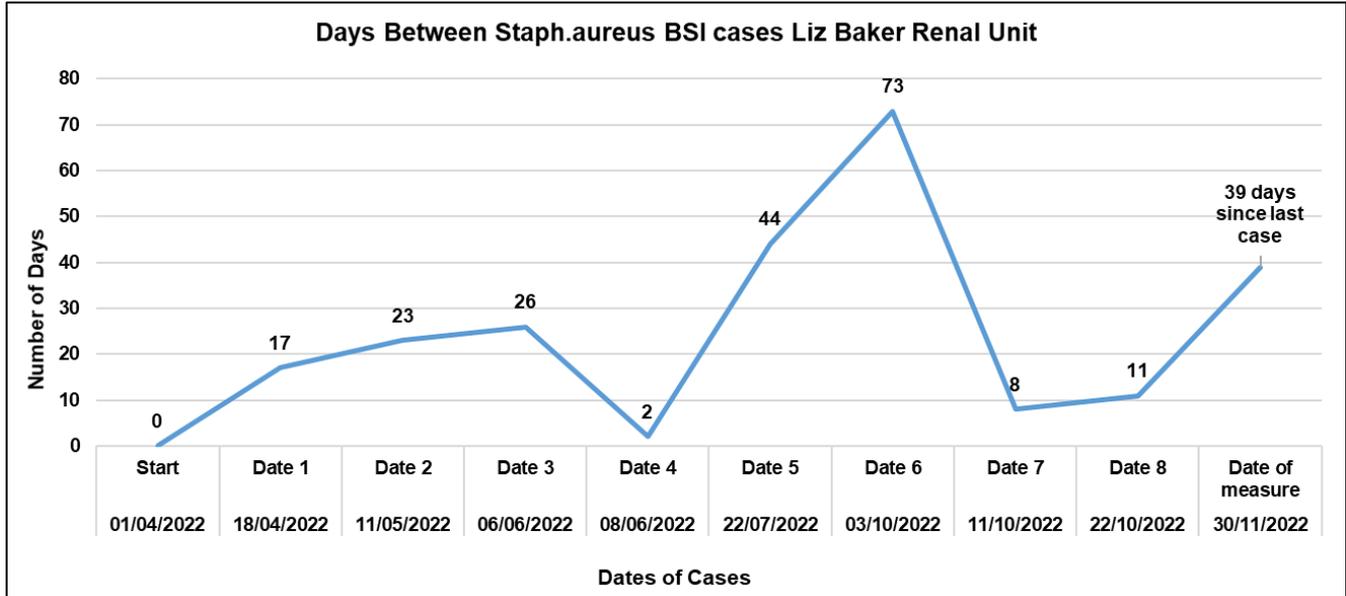


Pseudomonas aeruginosa bacteraemia

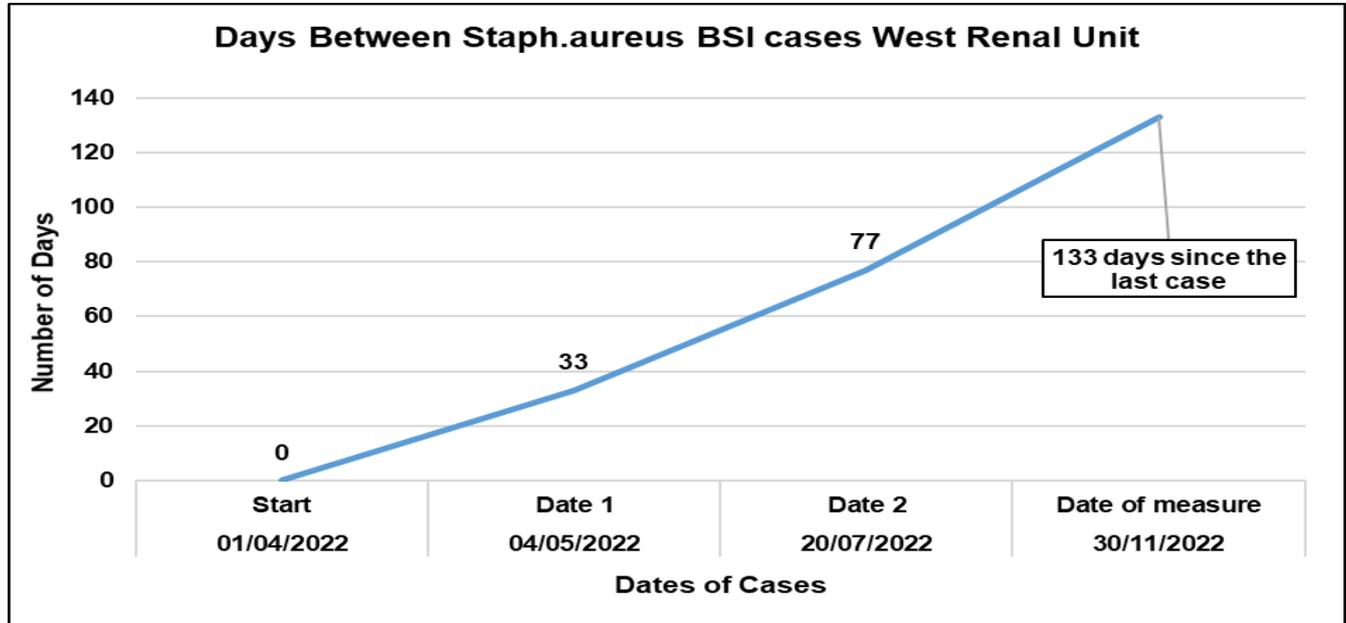


Staph. aureus bacteraemia

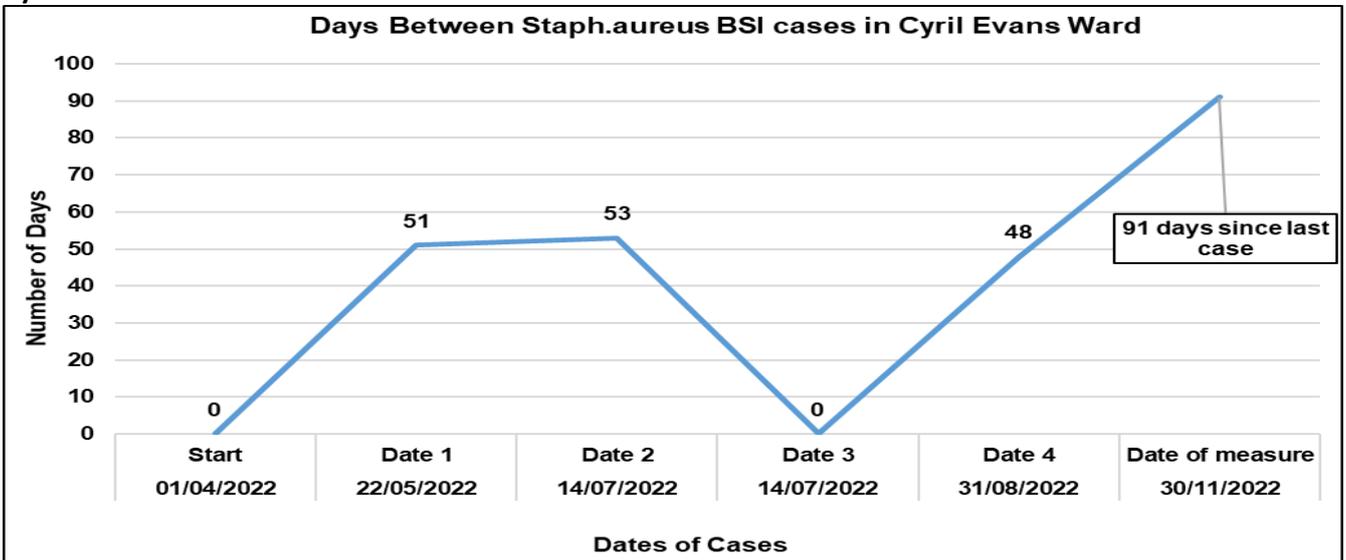
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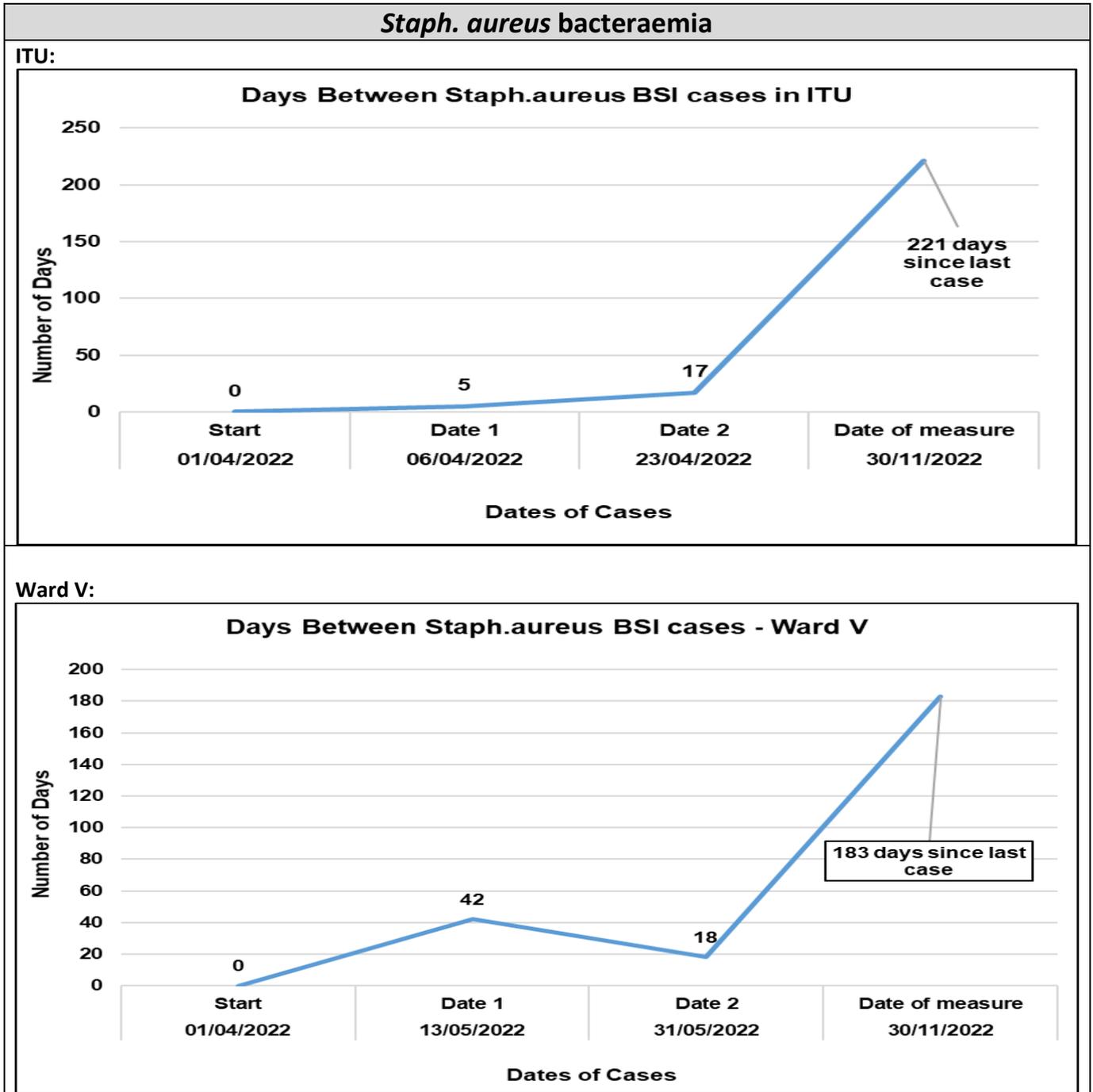


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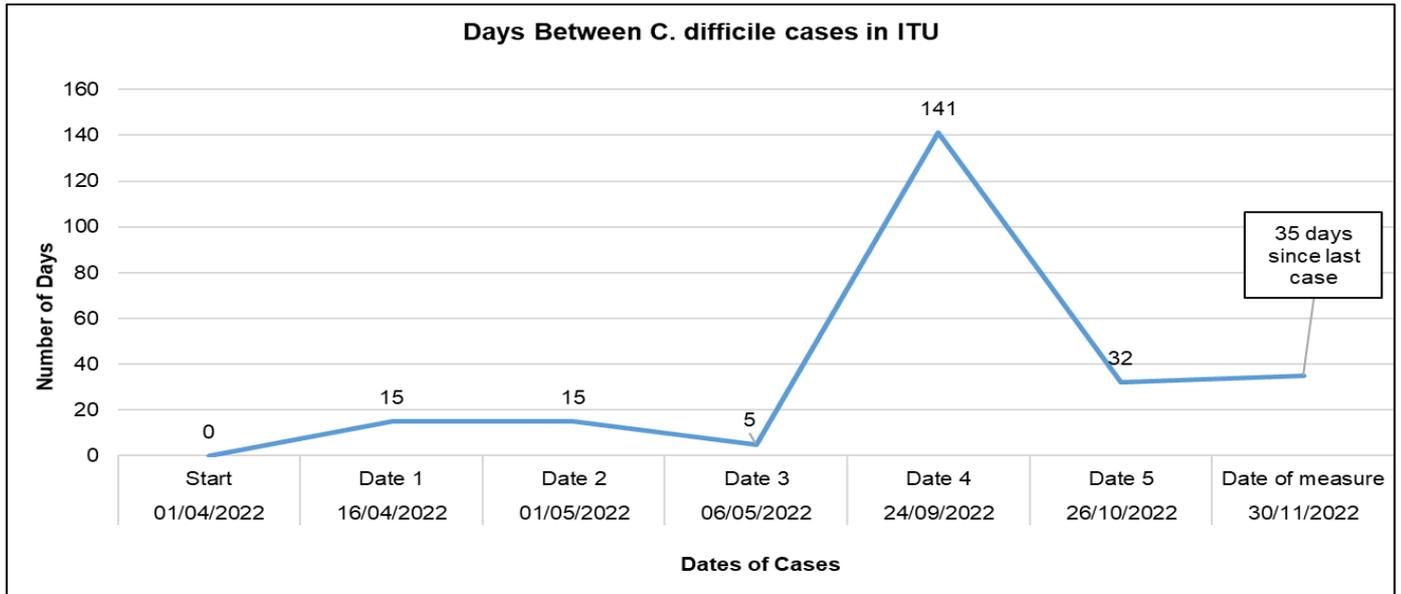
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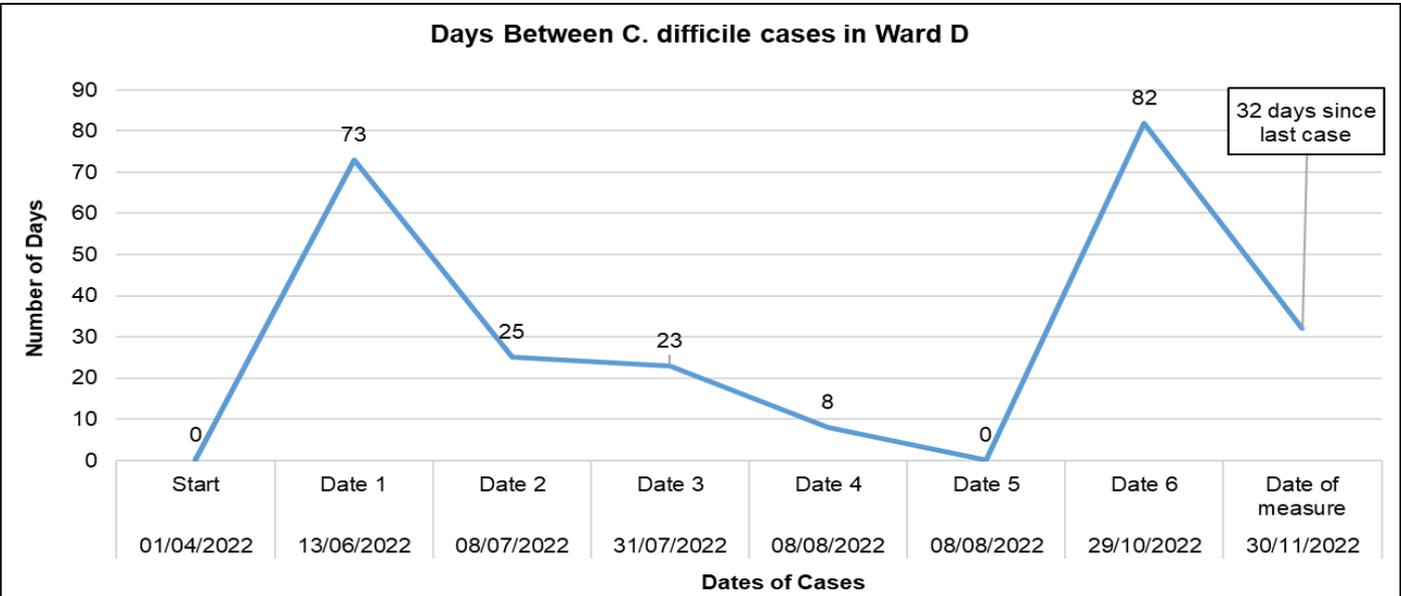


C. difficile Infection

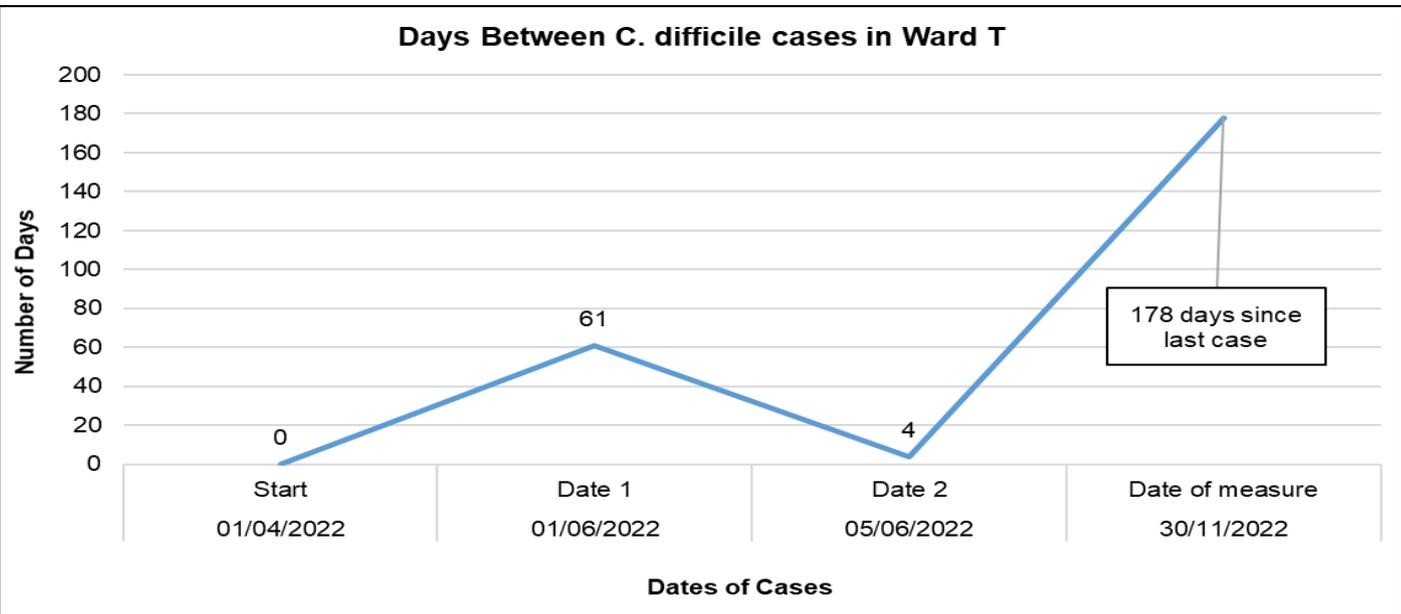
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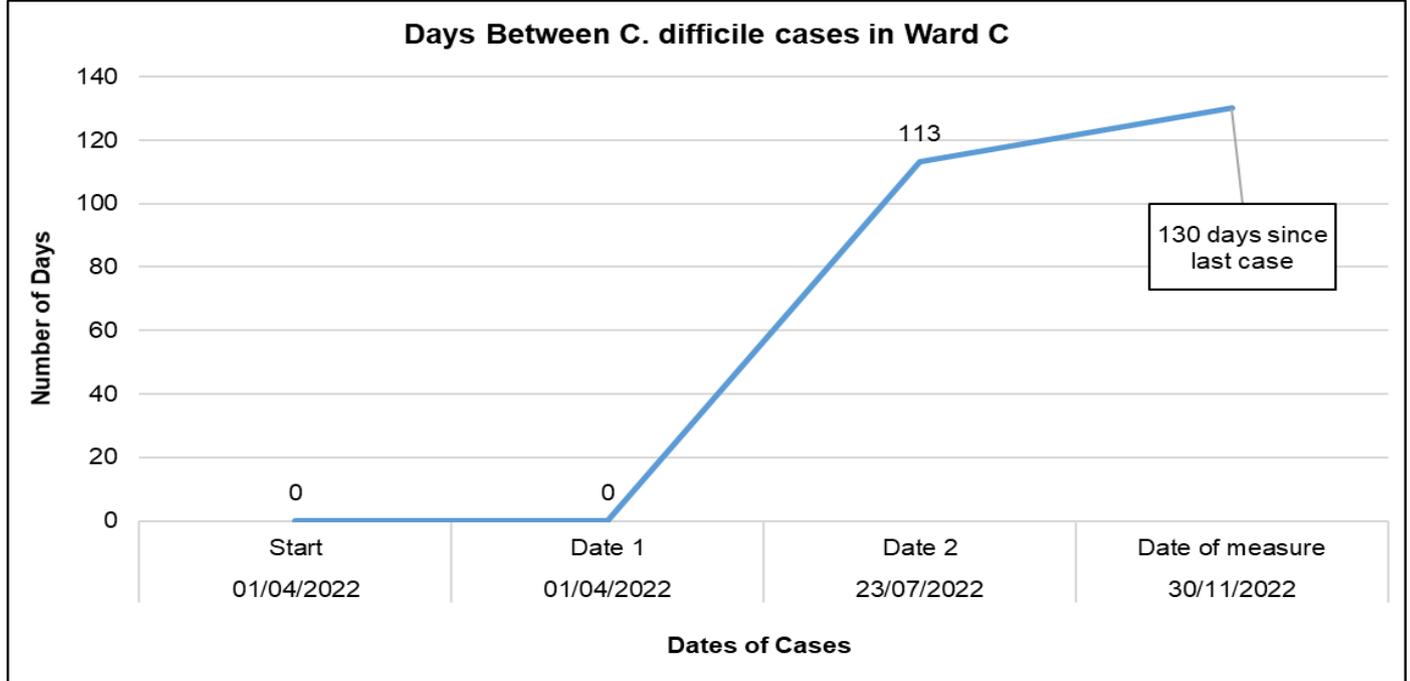
Ward D:



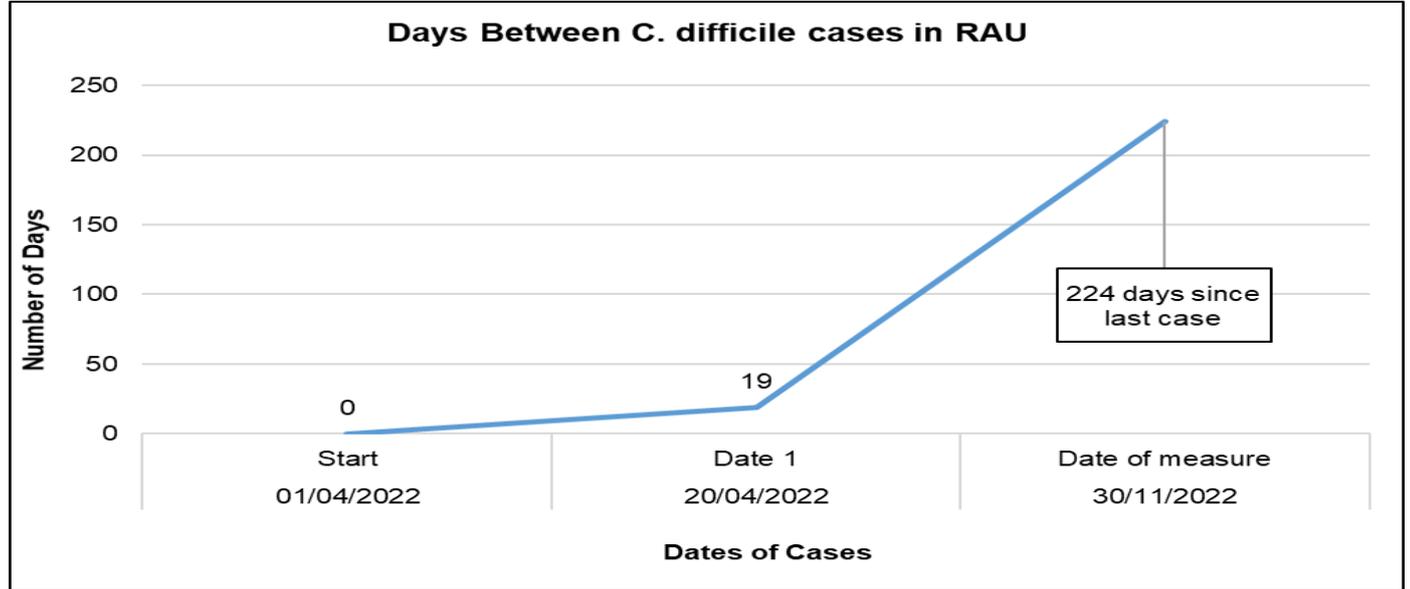
Ward T:



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RAU:



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