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Bwrdd Iechyd Prifysgol
Abertawe Bro Morgannwg
University Health Board



Meeting Date	6th December 2018	Agenda Item	3a
Report Title	Infection Control Report		
Report Author	Joanne Walters, Acting Matron Infection Prevention and Control		
Report Sponsor	Lisa Hinton, Assistant Director of Nursing for Infection Prevention & Control		
Presented by	Gareth Howells, Director of Nursing & Patient Experience		
Freedom of Information	Open		
Purpose of the Report	<p>This report provides the Quality & Safety Committee with an assurance report on progress to 31st October 2018, against the following:</p> <p>A. Healthcare associated infection reduction priorities:</p> <ol style="list-style-type: none"> <i>Clostridium difficile</i> infection. <i>Staph. aureus</i> bacteraemia <i>E. coli</i> bacteraemia <p>B. Decontamination</p> <ol style="list-style-type: none"> Lead Decontamination IPC nurse post All Wales Audit <p>C. Influenza preparedness</p>		
Key Issues	<p>Antimicrobial resistance (AMR) is an International concern. Antimicrobial stewardship and a reduction in Hospital Acquired Infection are both pivotal to improve patient outcomes and to reduce AMR. The drive for improved patient outcomes in relation to Healthcare Associated Infection require the Service Delivery Units to introduce Quality Improvement initiatives that will assist us to achieve the required infection reduction targets set by the Welsh Assembly Government.</p>		
Specific Action Required <i>(please ✓ one only)</i>	Information	Discussion	Assurance
			✓
Recommendations	<p>Members are asked to:</p> <ul style="list-style-type: none"> NOTE reported progress against healthcare associated infection reduction priorities up to 31st October 2018 		

INFECTION CONTROL UPDATE

1. INTRODUCTION

This report provides the Health Board with an update to 31st October 2018 in relation to infection reduction priorities for the following:

- A. Healthcare associated infections (HCAI)
 - i. *Clostridium difficile* infection
 - ii. *Staph. aureus* bacteraemia
 - iii. *E. coli* bacteraemia
- B. Decontamination
- C. Influenza preparedness

2. BACKGROUND

- A. The Health Board has committed to achieving the following infection reduction priorities within its Annual Plan 2018/19:
 - *Clostridium difficile* infection: 15% reduction against the 2017/18 position;
 - *Staph. aureus* bacteraemia: 10% reduction against the 2017/18 position;
 - *E. coli* bacteraemia: 5% reduction against the 2017/18 position.

The overall Health Board progress against the HCAI Reduction Improvement Goals, together with progress for each Service Delivery Unit (SDU), detailed in **Appendix 1**.

Quarter 3 - Infection Prevention and Control Performance, to 31st October 2018

How are we doing to the end of October 31st in Quarter 3?

- *Clostridium difficile* – 131 cases in total (Apr - Oct) 15 cases below IMTP trajectory.
- *Staph. aureus* bacteraemia – 113 cases in total (Apr – Oct) 14 cases above trajectory.
- *E. coli* bacteraemia – 313 cases in total (Apr – Oct) 13 cases above trajectory.

What went well?

- Year-on-year reduction in *Clostridium difficile* infection. The number of cases, April - October 2018 was 24% lower than the number of cases in the same period in 2017; this was despite the outbreak identified in Morriston Hospital in July 2018.
- Successful implementation of a restrictive antibiotic policy, restricting the use of Co-amoxiclav, which is a broad-spectrum antibiotic associated with a higher risk of *Clostridium difficile* infection. There has been a significant reduction in Co-amoxiclav prescribing since the introduction of the usage, the most recent report from antimicrobial pharmacists audit indicates a 70% reduction in use.
- Continued focus on reactive decanting of bays for deep cleaning and high level disinfection; this continues to be a critical driver in reducing the environmental burden of pathogens.

- Improved medical engagement, with the appointment of Clinical Quality Improvement Leads for Infection. These Quality Improvement Leads have been identified in each SDU.
- Assistant Director of Nursing for Infection, Prevention and Control has taken up her post. In addition, the Decontamination Lead Infection Prevention Control Nurse has taken up post. An Infection Surveillance Officer will take up post in Quarter 4.
- Improved data analysis, facilitated by ICNET, and feedback to SDUs.
- SDUs have commenced a number of small-scale quality improvement projects, using PDSA methodologies in line with the national Healthcare Associated Infection Collaborative programme priorities.
- Weekly multi-disciplinary team (Consultant Microbiologist, Antimicrobial Pharmacist, and Infection Prevention & Control Nurse) *Clostridium difficile* ward round undertaken on Morriston and Princess of Wales sites have commenced.

What did we learn from our root cause analysis?

- Results of ribotyping demonstrated that increased incidence of *Clostridium difficile* cases is influenced more by disruption of the healthy balance of gut flora caused by antimicrobials.
- Restricting use of broad-spectrum antibiotics, such as Co-amoxiclav, is a critical driver for reducing infection.
- Medical engagement in infection improvement programmes is critical.
- Focus on reactive and pro-active **D**eclutter, **D**ecanting, **D**eep-cleaning and high level **D**isinfection (“**4D**” programme), is a critical driver for infection reduction.
- Early assessment and isolation for unexplained diarrhoea is critical driver for protecting others from infection risk. The new molecular polymerase chain reaction (PCR) test, which enables the identification of those patients that are carriers of toxigenic *Clostridium difficile*, is advantageous in that it provides the opportunity to gain greater control of *Clostridium difficile* in the Health Board (as previously unrecognised cases, that were potential sources of transmission, can be identified, isolated and managed appropriately).
- Improvement is required in compliance with undertaking Clinical Risk Assessment for MRSA screening.
- PWID (people who inject drugs) are at increased risk of *Staph. aureus* bacteraemia. Public Health Wales are aware of this correlation.
- There is variation in compliance with urinary catheter insertion bundles.

What will we continue to focus on during Quarter 3 & 4?

- Continue to undertake bimonthly antimicrobial audits, incorporating adherence with the restricted antimicrobial guidelines.
- Continue reactive **Declutter, Decant, Deep-clean & Disinfection** (“4D” programme); extend to a proactive “4D” programme Quarter 2, 2018/19.
- Working in collaboration with staff side for a successful re-introduction of the Ultraviolet-C disinfection System. Following this, the Task & Finish Group will review staff-side concerns regarding the utilisation of Hydrogen Peroxide Vapour systems, as this is a technology widely used across the NHS and is considered to be the optimal technology for environmental disinfection for *Clostridium difficile*.
- Continue to progress with recruitment & appointments of experts that enhance the Infection Prevention team approach, with the appointment of Consultant in Infectious Disease, Consultant Microbiologist, and a Consultant Antimicrobial Pharmacist.
- Continue with PDSA-style quality improvement programmes to reduce the prevalence of invasive devices, which have an associated risk of infection. A baseline, point prevalence survey of urinary catheters and peripheral vascular catheters on a number of priority wards in the acute hospitals.
- Submit a bid for charitable funds to print posters and other resources that will support the Aseptic Non Touch Technique (ANTT) guidelines.

B. Decontamination; What went well?

- The inaugural meeting of the Ultraviolet-C Disinfection System Task & Finish has taken place. This has commenced the planning process for the successful re-introduction of the system by the end of January 2019. Meetings will continue monthly.
- The Decontamination Lead, Infection Prevention Control Nurse has taken up post. Initial key objectives include the scoping of progress made in the local decontamination of reusable medical devices (i.e. decontamination not undertaken within the Hospital Sterilisation & Disinfection Unit (HSDU)), and to identify areas for further improvement.
- All-Wales Endoscopy Audit Team visited ABMU between the 5th and 7th November. The Audit Team visited the four acute hospital sites, visiting Endoscopy, Urology, Radiology, ENT and Cardiology departments. A formal report is anticipated early in 2019. Each SDU is in the process of developing their action plans to address the feedback received from the Audit Team.

Further action?

- Current environmental decontamination protocol terminology refers to a Red, Amber, and Green (RAG) cleaning system. The transition to the “4D” Programme, with the focus on **Declutter, Decant, Deep-clean & Disinfection**, emphasises the critical requirement of removing patients from a multi-bedded

bay so that the total environment is accessible for effective and efficient cleaning and disinfection. This is a critical driver for infection reduction. Existing reference material and advice within policies & procedures will need to reflect this new process. Training resources are in development to support and launch this new system, and this will be incorporated within the protocols for the re-introduction of UV-C disinfection system.

C. Influenza Preparedness

What went well?

- Lessons learned during the 2017/18 influenza season provided an opportunity for the SDUs to share their experiences as part of the Influenza debrief meeting. The debrief informed the development of resources to enhance SDU preparedness for the 2018/19 season. Health Board wide meetings have continued to review influenza preparedness planning.
- The IPCT developed and launched an Influenza resource pack to support staff in the risk assessment and triage of Influenza-like Illness (ILI) cases. This is accessible via the Intranet Infection Control Page.
- Infection Prevention & Control Nurses have visited hospital wards and units to launch these resources.
- Welsh Government has set a target to vaccinate 60% of frontline staff. To date, the total number of frontline staff vaccinated is 46 %.

Delivery Unit	% of Staff vaccinated (14/11/18)
Corporate Nursing	44%
Morriston Hospital	49%
Princess of Wales Hospital	59%
Singleton Hospital	46%
Neath Port Talbot Hospital	49%
Primary Care & Community	34%
Mental Health & Learning Disabilities	37%

Further action

- To continue raising awareness of the importance of the influenza vaccination programme for all staff and the public.
- To progress with the use of local laboratory testing for influenza, which will improve the turnaround time of results.
- To increase the availability of accredited training for staff in relation to respiratory protective equipment.

3. GOVERNANCE AND RISK ISSUES

Healthcare associated infections are associated with poor patient outcomes, and are significant quality and safety issues. Continuing failure to achieve the infection reduction improvements is an unacceptable position for our patients, for the Health Board and Welsh Government and is likely to be a consideration in a decision to escalate to Special Measures.

4. 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 *Clostridium 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. (*Trust and CCG level impact of E.coli BSIs* accessed online at <https://improvement.nhs.uk/resources/preventing-gram-negative-bloodstream-infections/>).

5. RECOMMENDATION

Members are asked to:

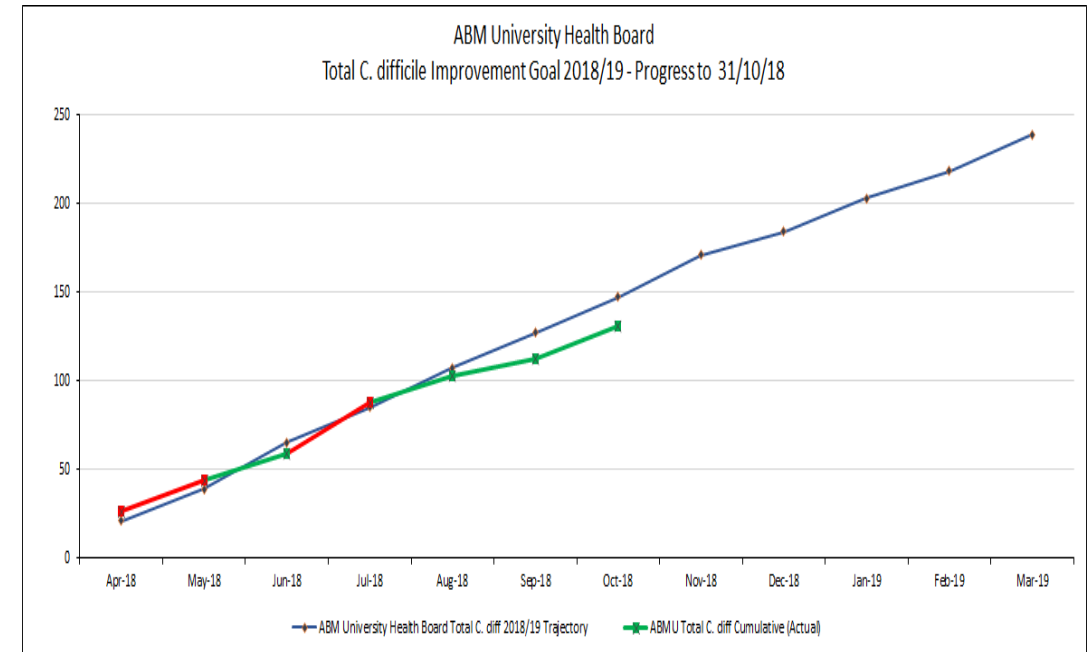
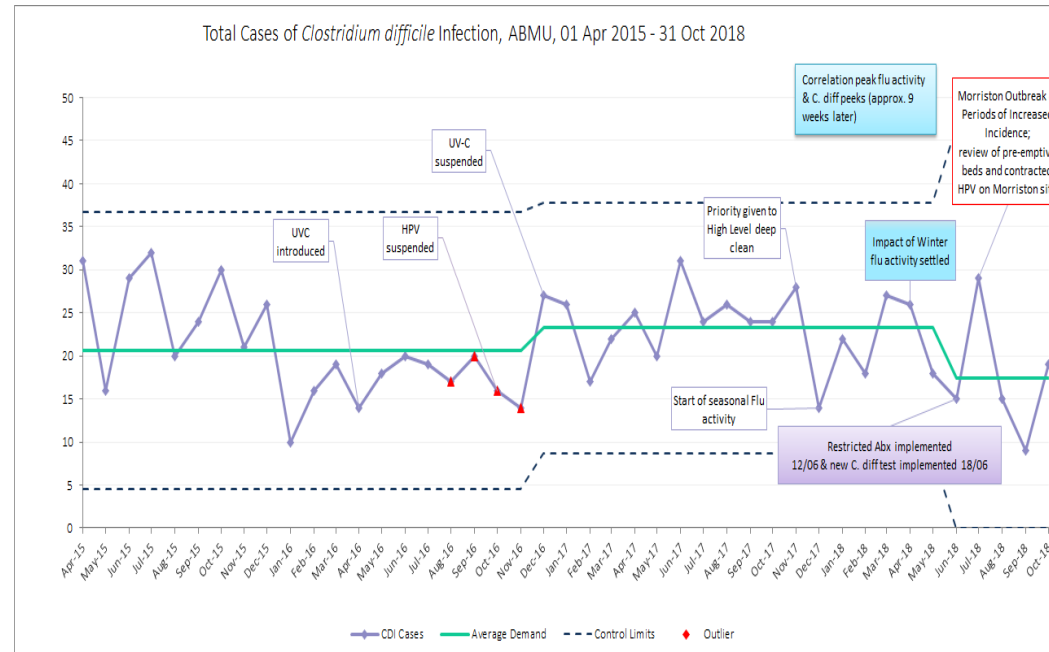
- **NOTE** reported progress against healthcare associated infection reduction priorities up to 31st October 2018

Governance and Assurance							
Link to corporate objectives (please ✓)	Promoting and enabling healthier communities		Delivering excellent patient outcomes, experience and access		Demonstrating value and sustainability		Embedding effective governance and partnerships
			✓				
Link to Health and Care Standards (please ✓)	Staying Healthy	Safe Care	Effective Care	Dignified Care	Timely Care	Individual Care	Staff and Resources
		✓					
Quality, Safety and Patient Experience							
Effective infection prevention and control needs to be everybody's business and must be part of everyday healthcare practice and be based on the best available evidence so that people are protected from preventable healthcare associated infections.							
Financial Implications							
<p>Cost per case of:</p> <p><i>Clostridium difficile</i> infection - approximately £10,000;</p> <p><i>Staph. aureus</i> bacteraemia - up to 7,000;</p> <p><i>E. coli</i> bacteraemia – between £1,100 (antibiotic sensitive strains) and £1,400 (antibiotic resistant strains).</p> <p>Cumulative costs from April 2018 to October 31st for all three organism is approximately £2,465,100</p> <p>Ongoing costs associated with contracted HPV services (e.g. Bioquell) for high-level environmental decontamination.</p> <p>Cost associated with Local Laboratory testing for Influenza (Public Health Wales will confirm).</p>							
Legal Implications (including equality and diversity assessment)							
Potential litigation in relation to avoidable healthcare associated infection.							
Staffing Implications							
None identified.							
Long Term Implications (including the impact of the Well-being of Future Generations (Wales) Act 2015)							
A healthier Wales: preventing infections							
Report History	Previous meeting October 4th 2018						
Appendices	Appendix 1 – Health Board and Service Delivery Unit Monthly Performance to 31.10.2018						

HCAI Update Report Quality & Safety Committee 6th December 2018

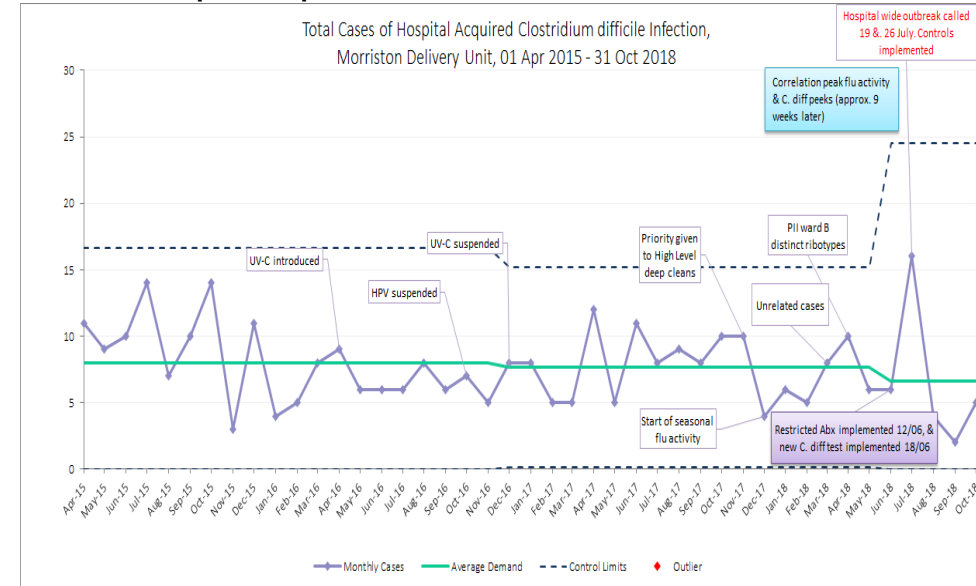
ABMU HCAI *Clostridium difficile* infection (to 31/10/2018)

31 October 2018 position

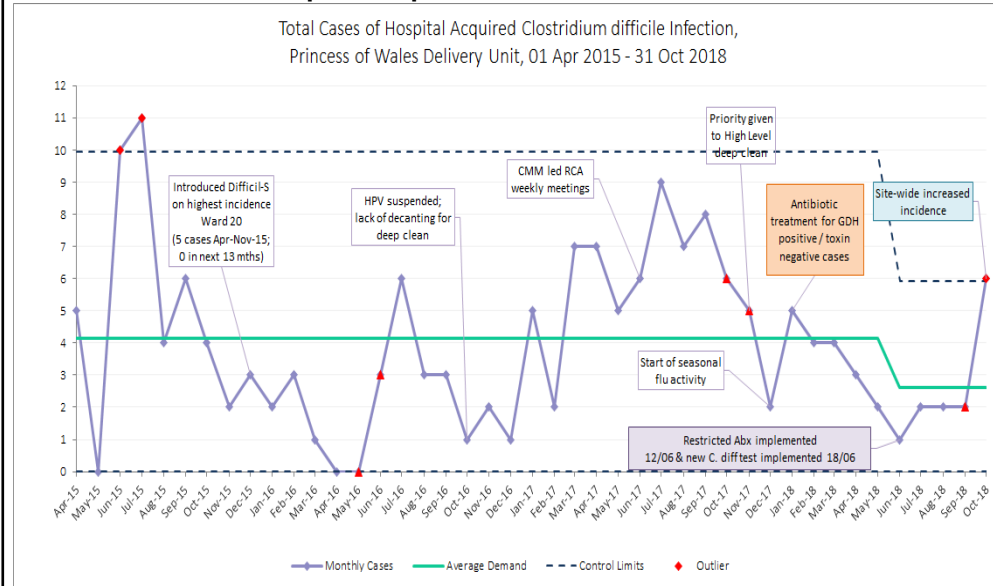


HCAI *Clostridium difficile* infection – supporting information

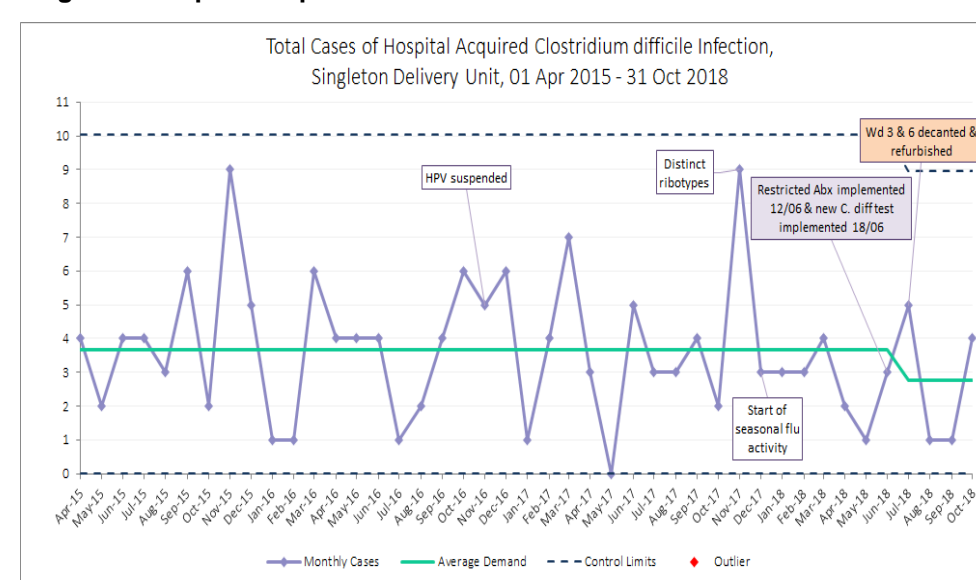
Morrison Hospital Acquired *C. difficile* infections:



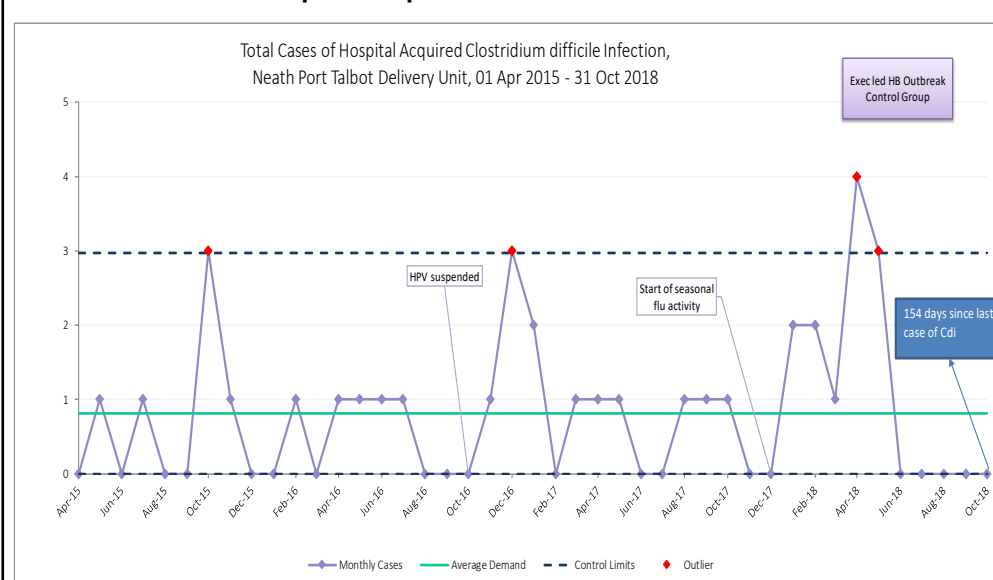
Princess of Wales Hospital Acquired *C. difficile* infections:



Singleton Hospital Acquired *C. difficile* infections:

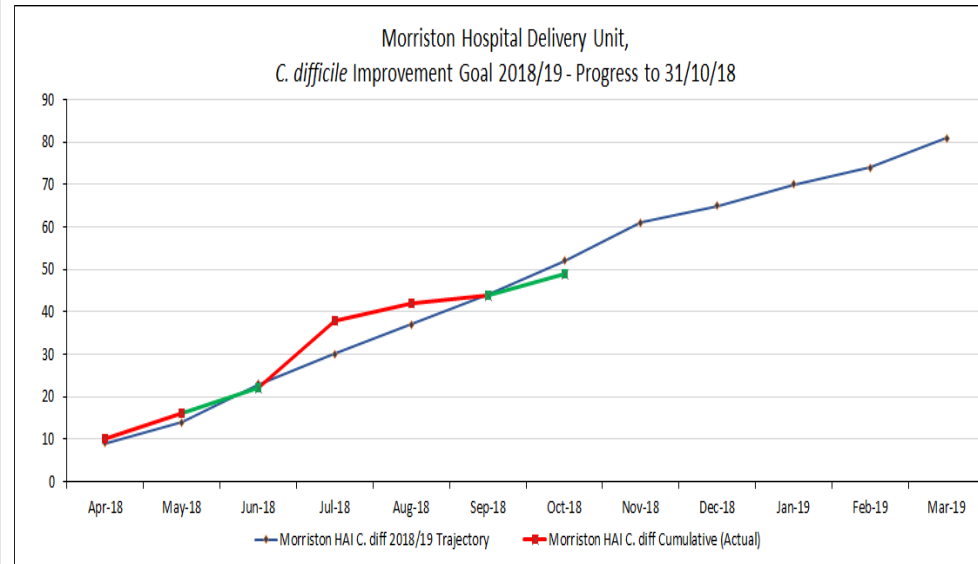


Neath Port Talbot Hospital Acquired *C. difficile* infections:

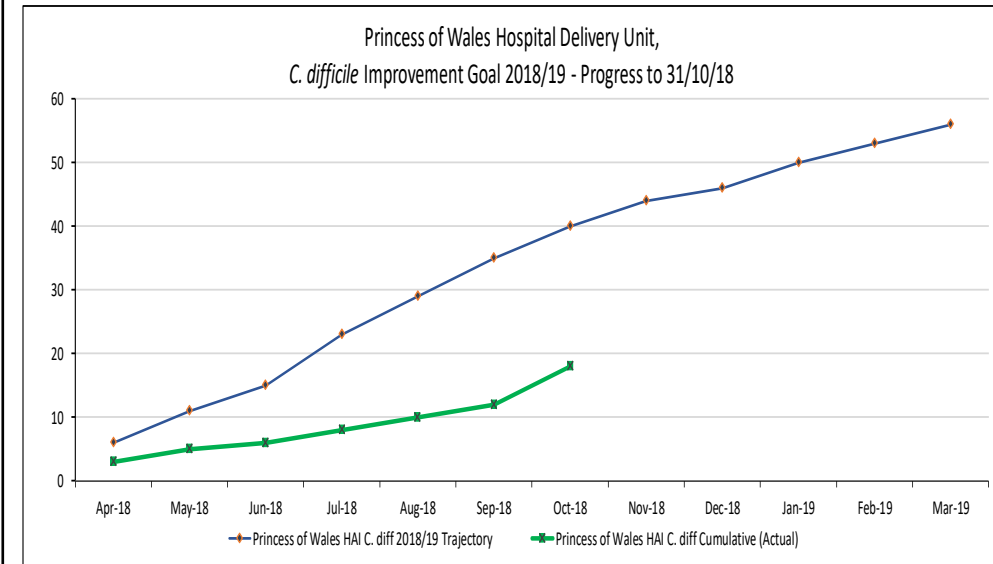


HCAI *Clostridium difficile* infection – supporting information

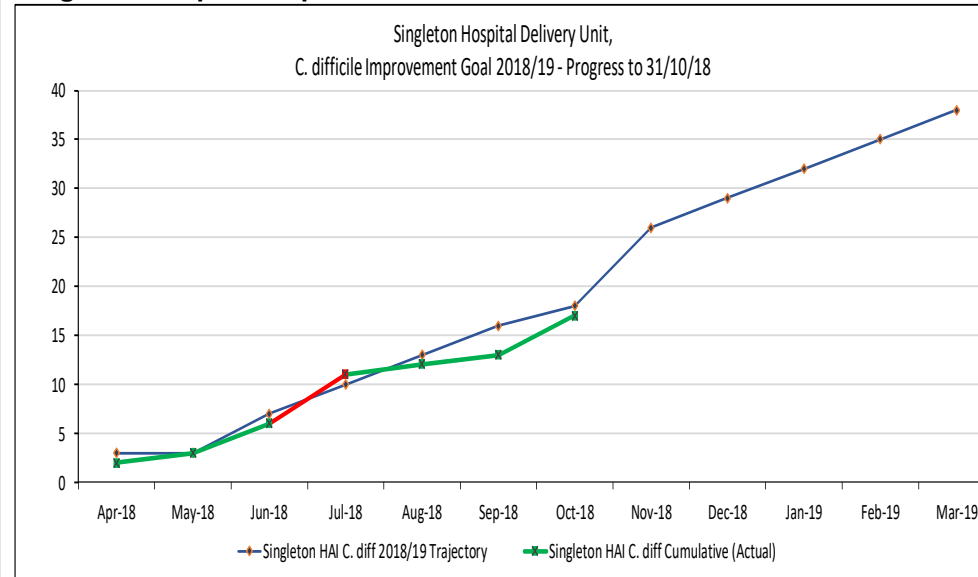
Morriston Hospital Acquired *C. difficile* infections:



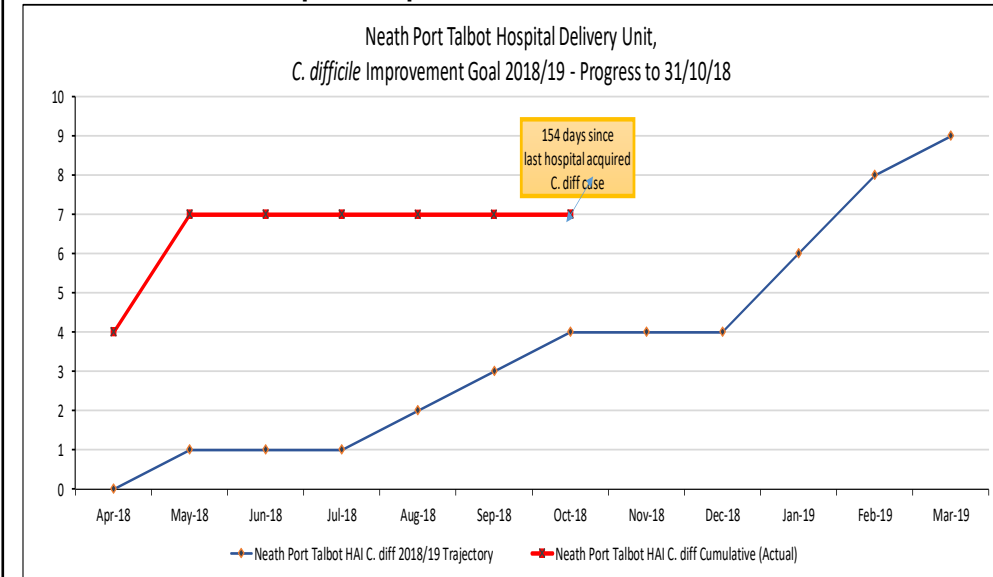
Princess of Wales Hospital Acquired *C. difficile* infections:



Singleton Hospital Acquired *C. difficile* infections:

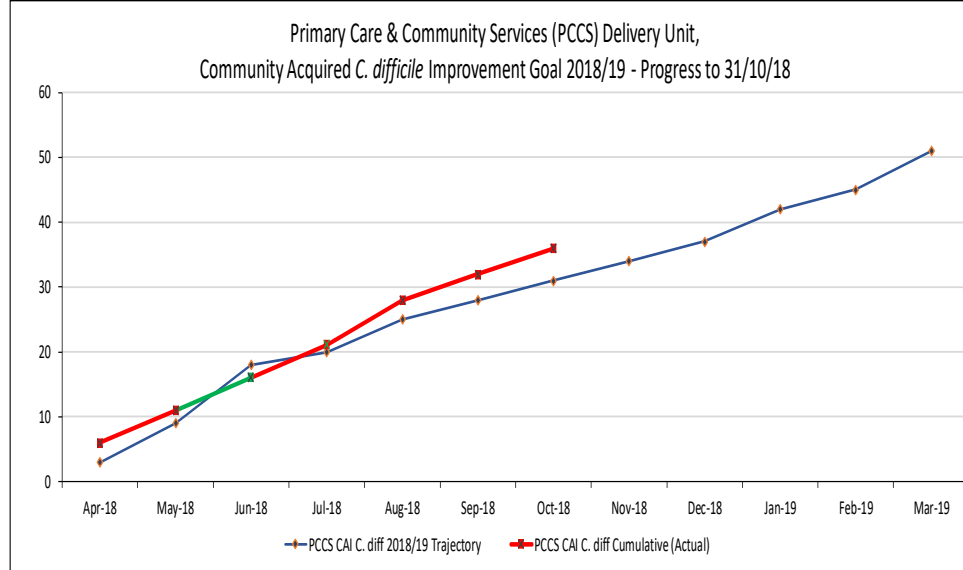


Neath Port Talbot Hospital Acquired *C. difficile* infections:

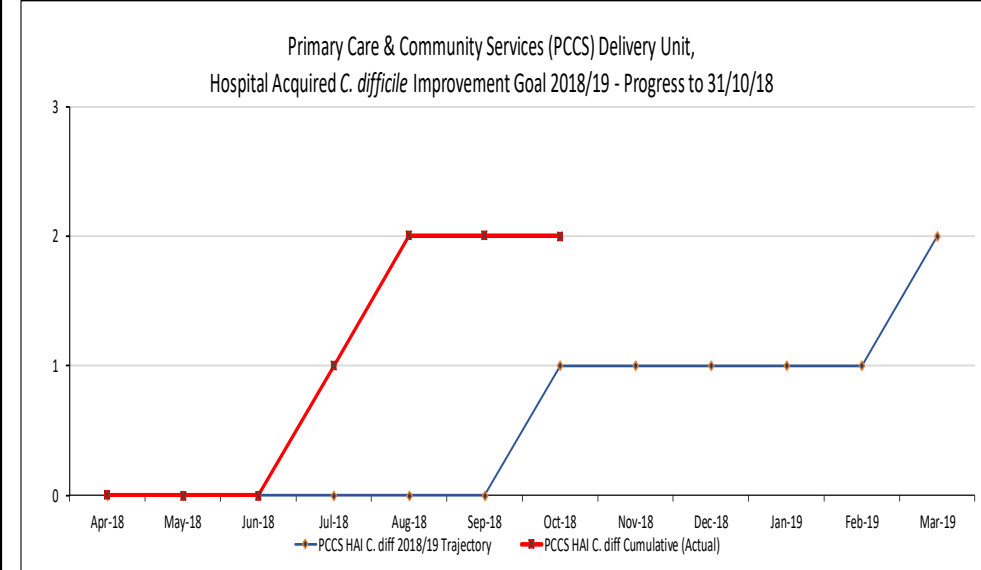


HCAI *Clostridium difficile* infection – supporting information

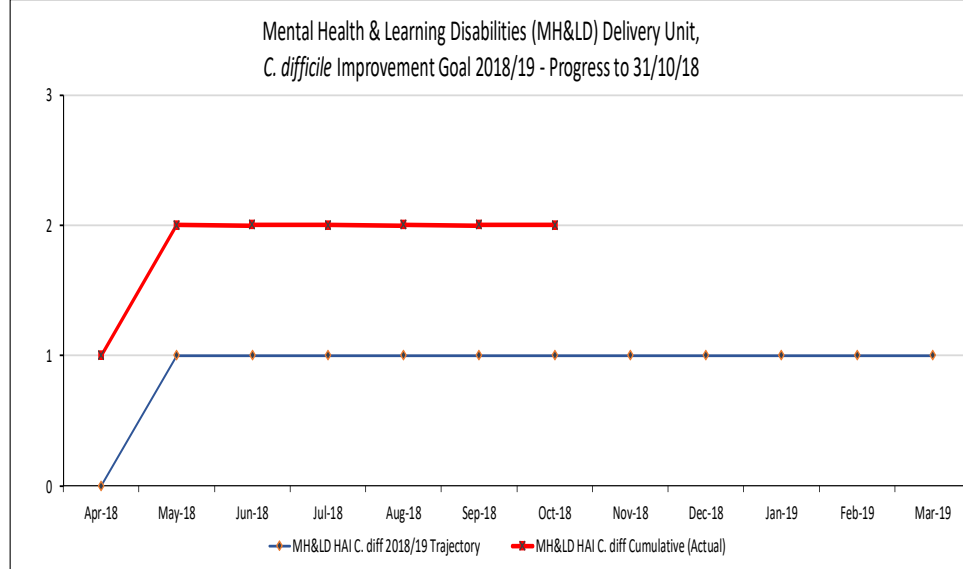
PCCS Community Acquired *C. difficile* infections:



PCCS Hospital Acquired *C. difficile* infections:

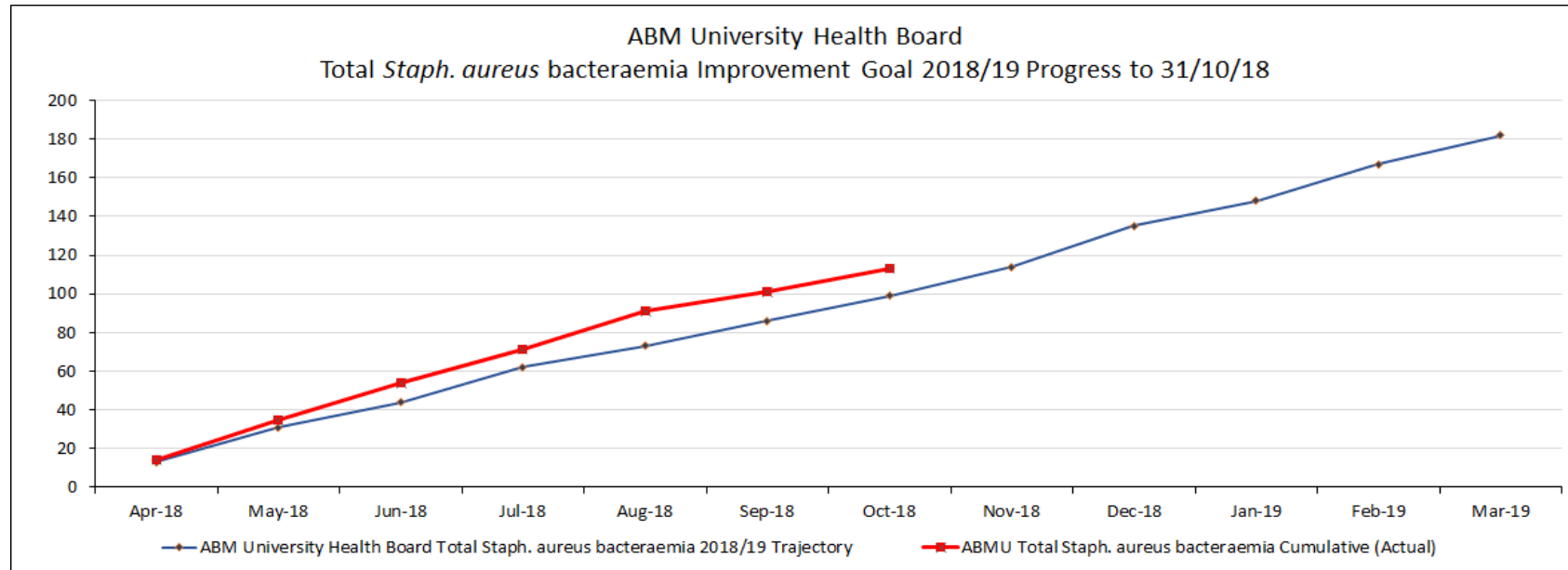
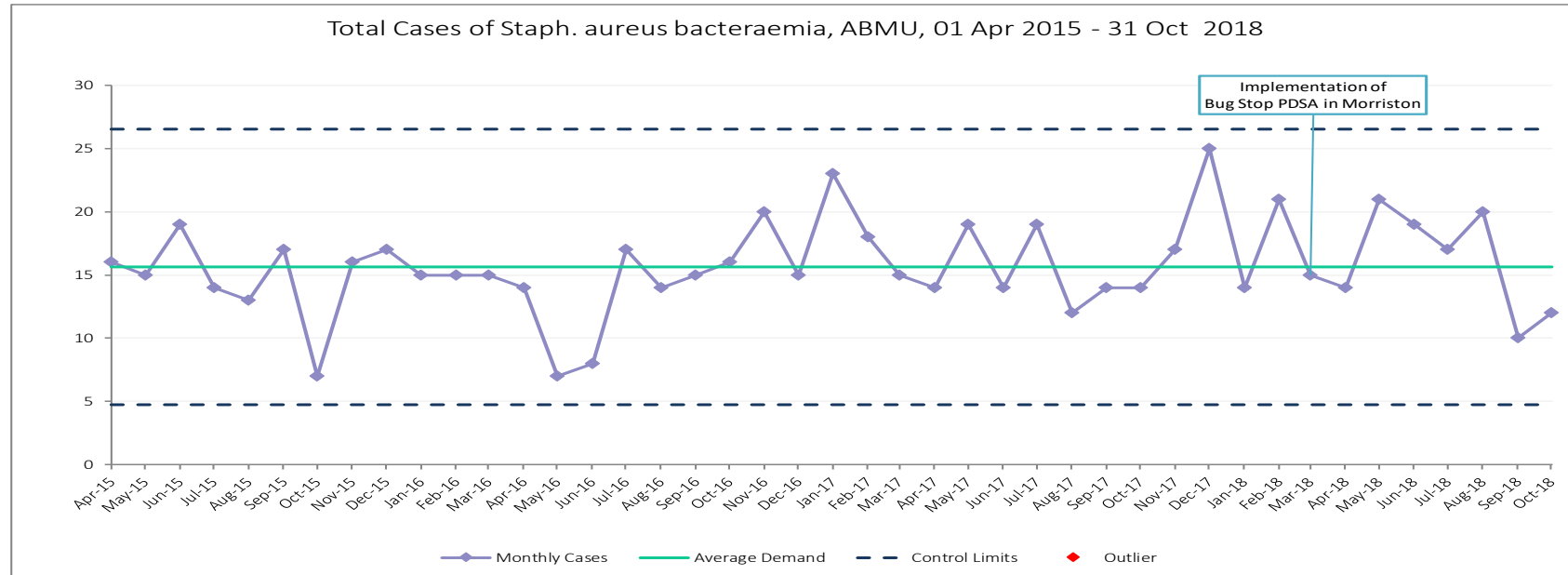


MH&LD Hospital Acquired *C. difficile* infections:



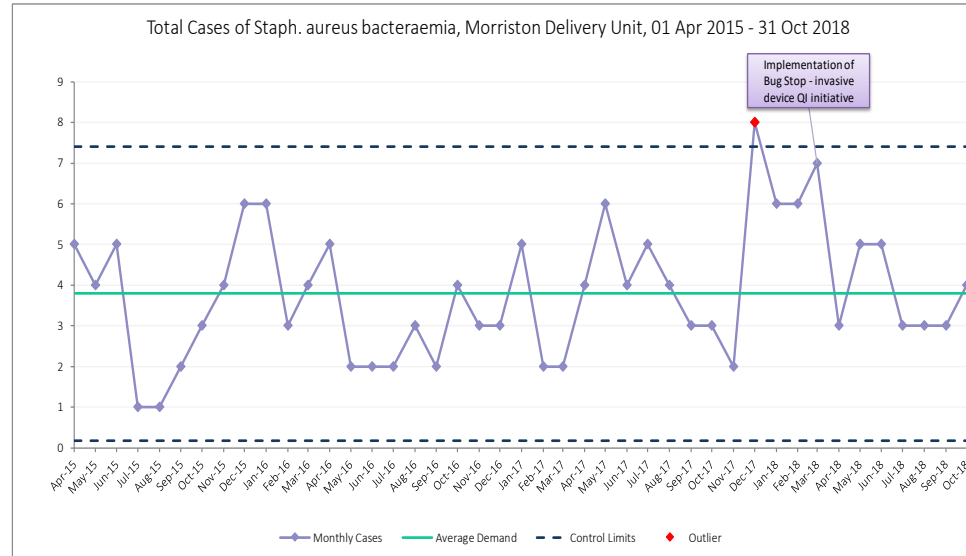
ABMU HCAI *Staph. aureus* bacteraemia (to 31/10/18)

April - October 2018 position

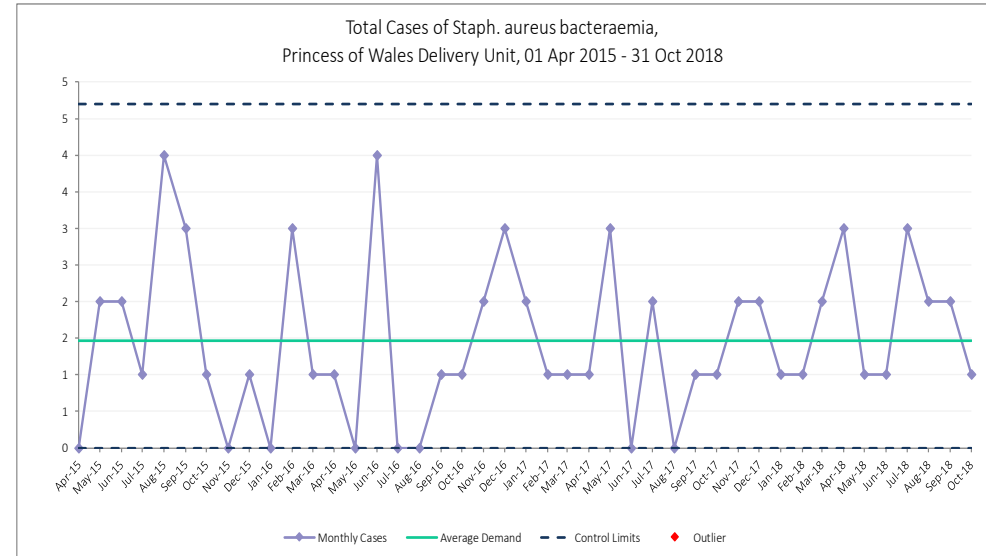


HCAI *Staph. aureus* bacteraemia – supporting information

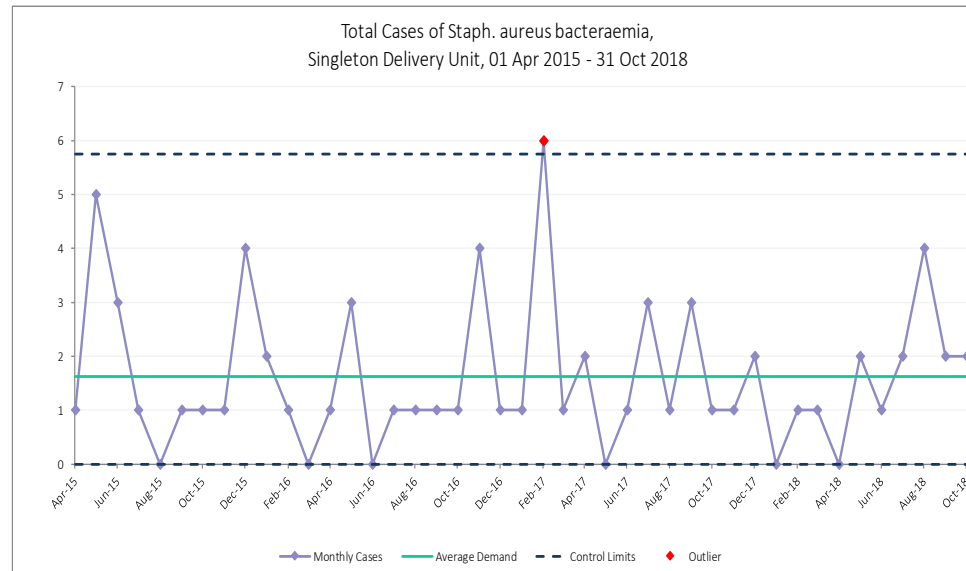
Morrison Hospital Acquired *Staph. aureus* bacteraemia:



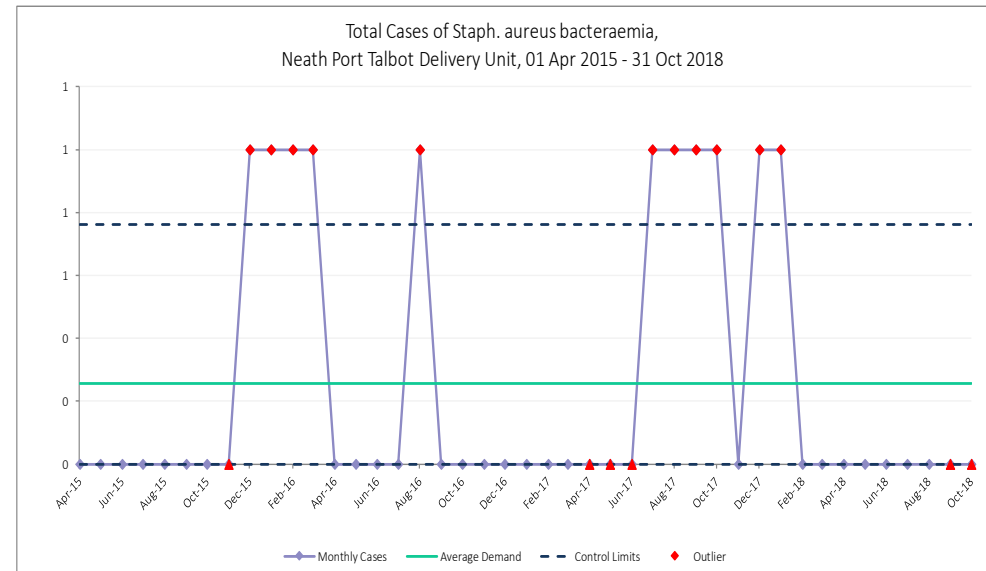
Princess of Wales Hospital Acquired *Staph. aureus* bacteraemia:



Singleton Hospital Acquired *Staph. aureus* bacteraemia:

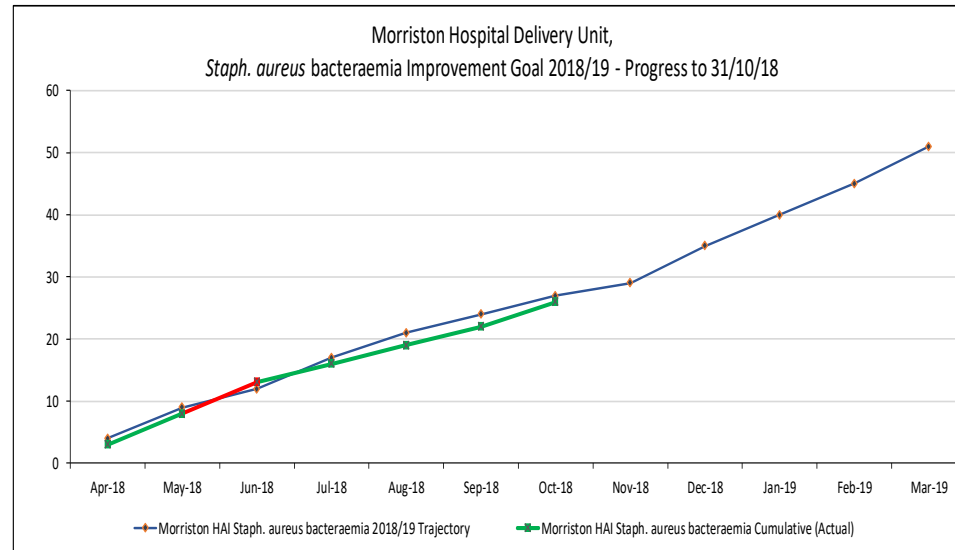


Neath Port Talbot Hospital Acquired *Staph. aureus* bacteraemia:

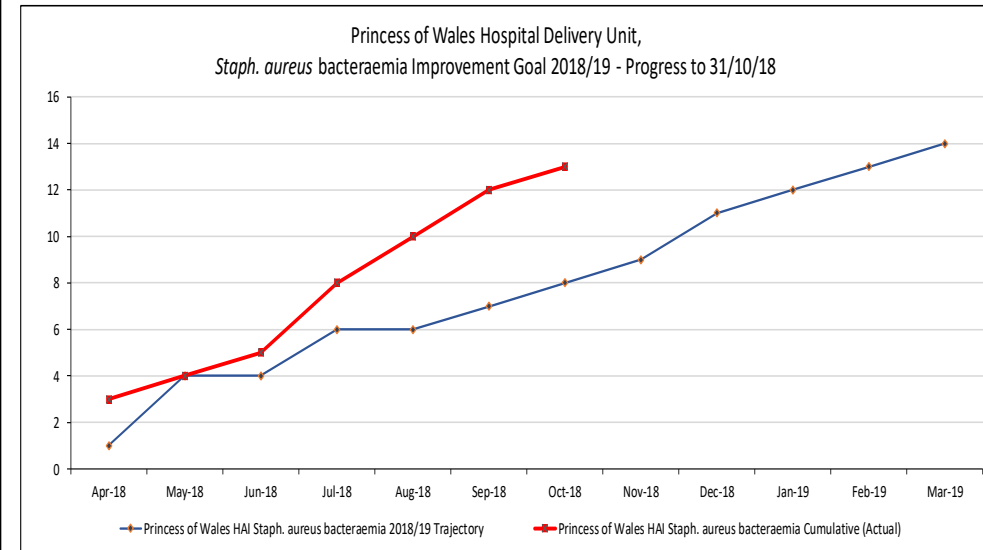


HCAI *Staph. aureus* bacteraemia – supporting information

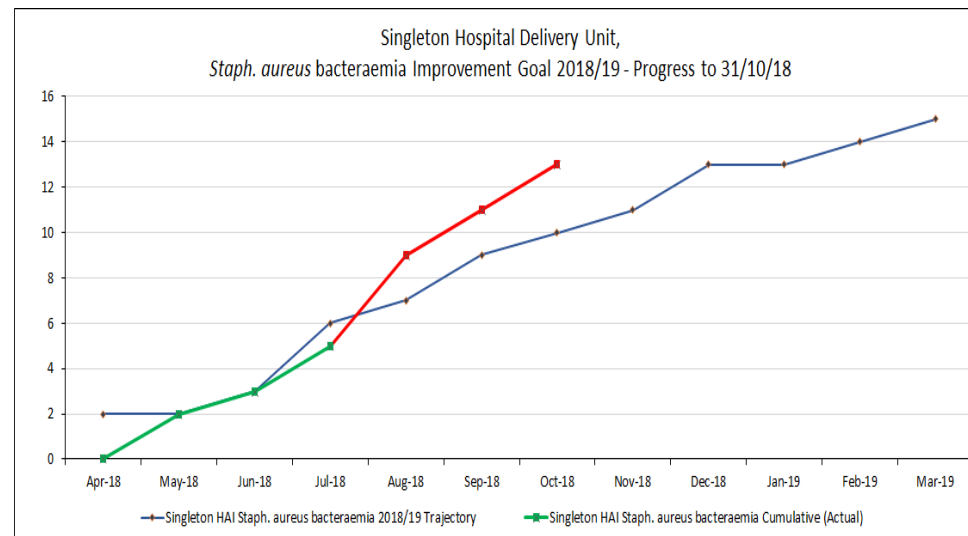
Morriston Hospital Acquired *Staph. aureus* bacteraemia:



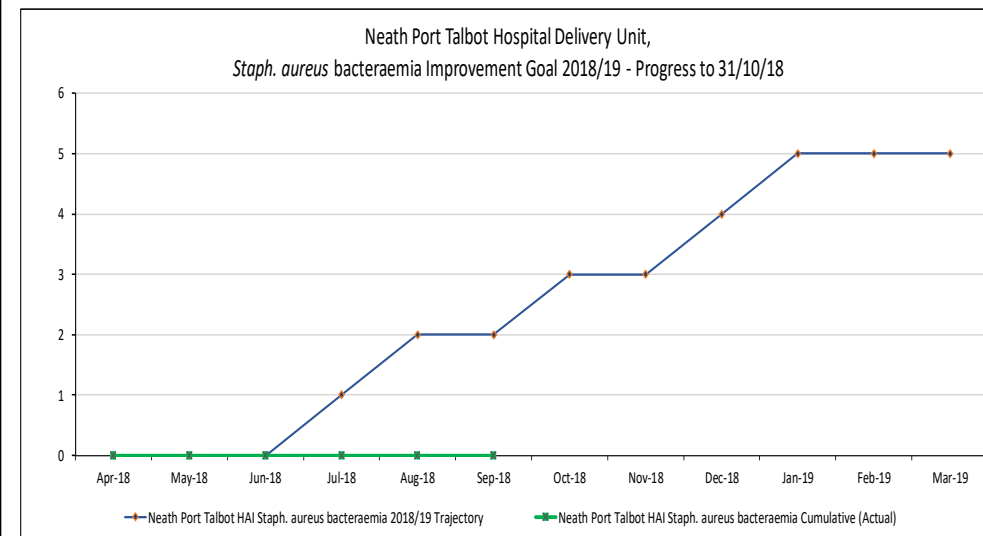
Princess of Wales Hospital Acquired *Staph. aureus* bacteraemia:



Singleton Hospital Acquired *Staph. aureus* bacteraemia:

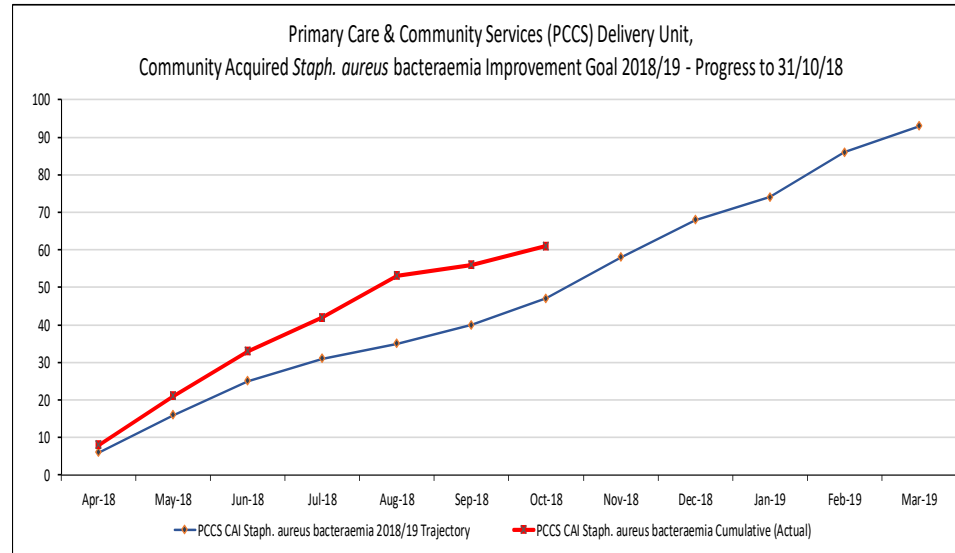


Neath Port Talbot Hospital Acquired *Staph. aureus* bacteraemia:

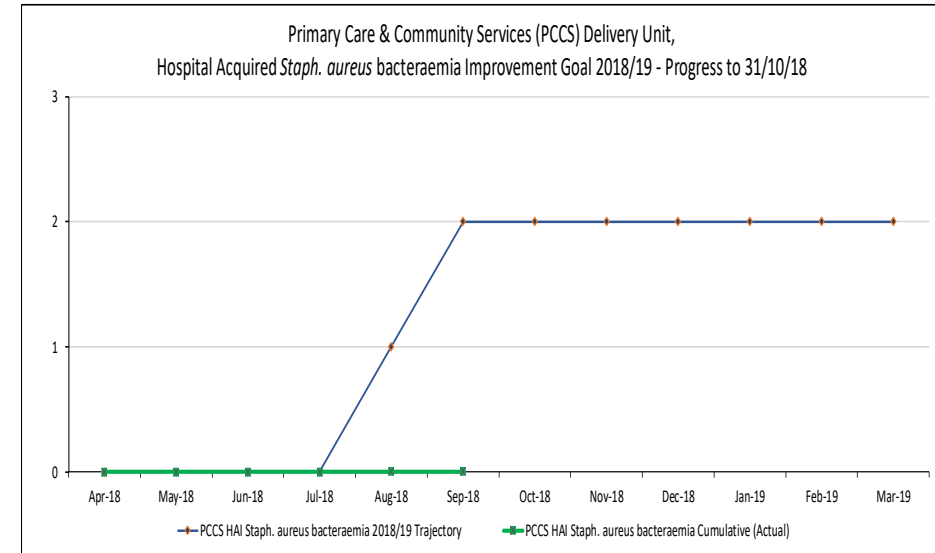


HCAI *Staph. aureus* bacteraemia – supporting information

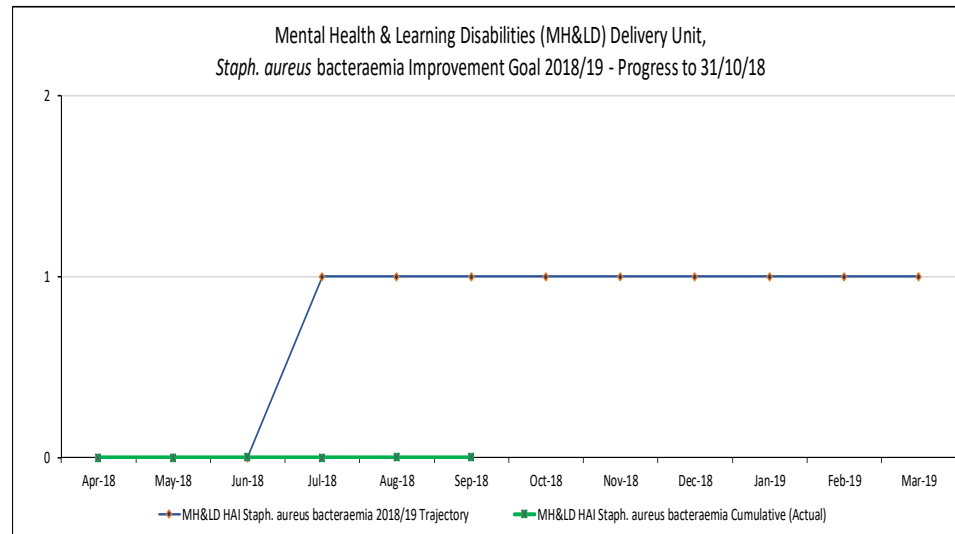
PCCS Community Acquired *Staph. aureus* bacteraemia:



PCCS Hospital Acquired *Staph. aureus* bacteraemia:

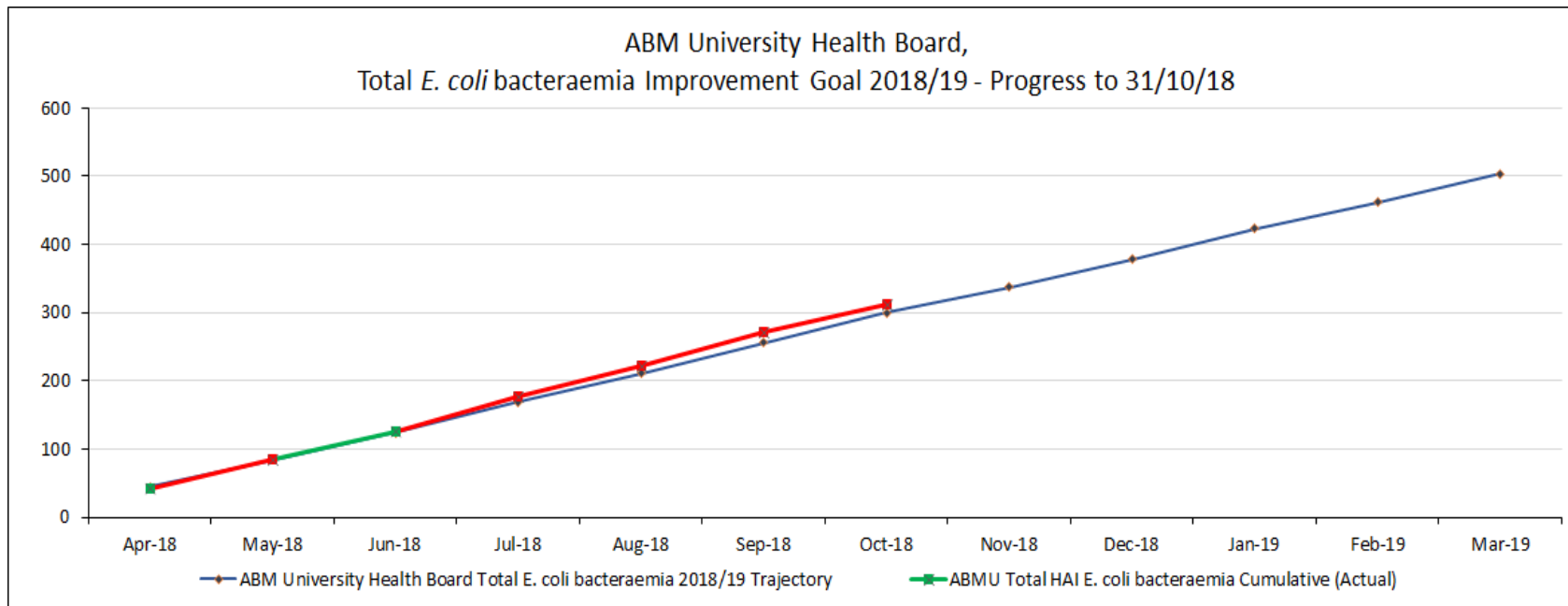
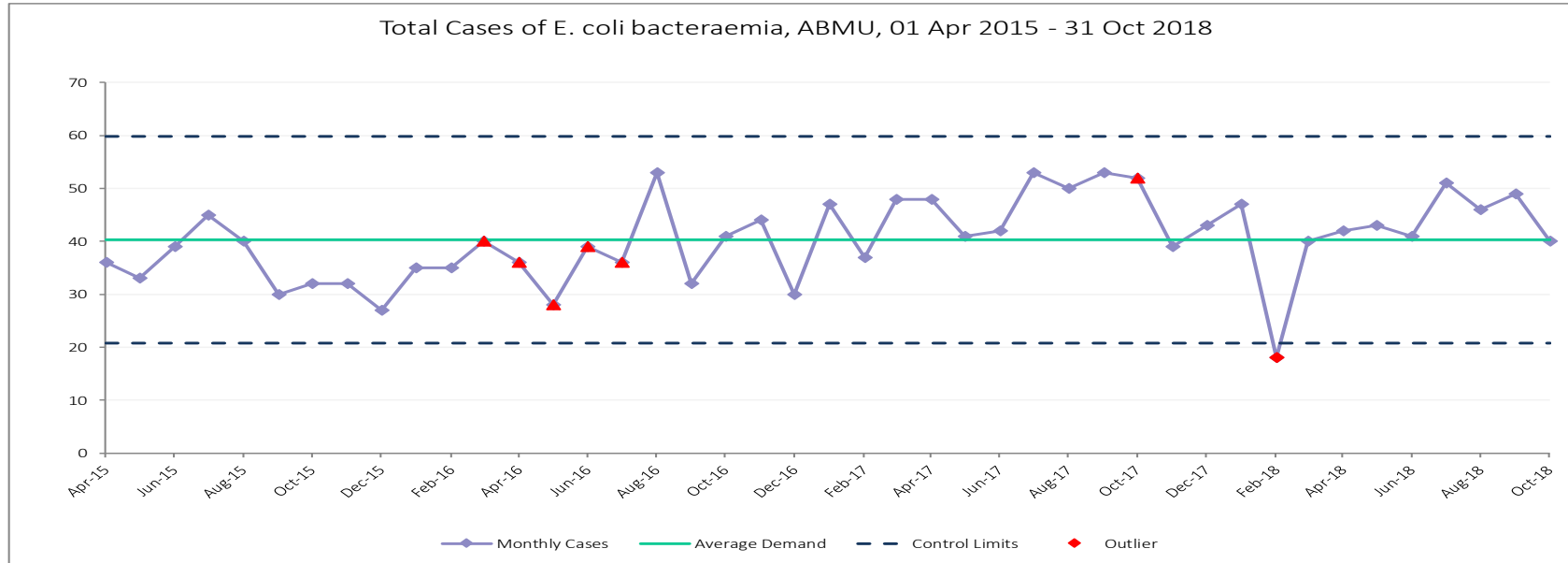


MH&LD Hospital Acquired *Staph. aureus* bacteraemia:



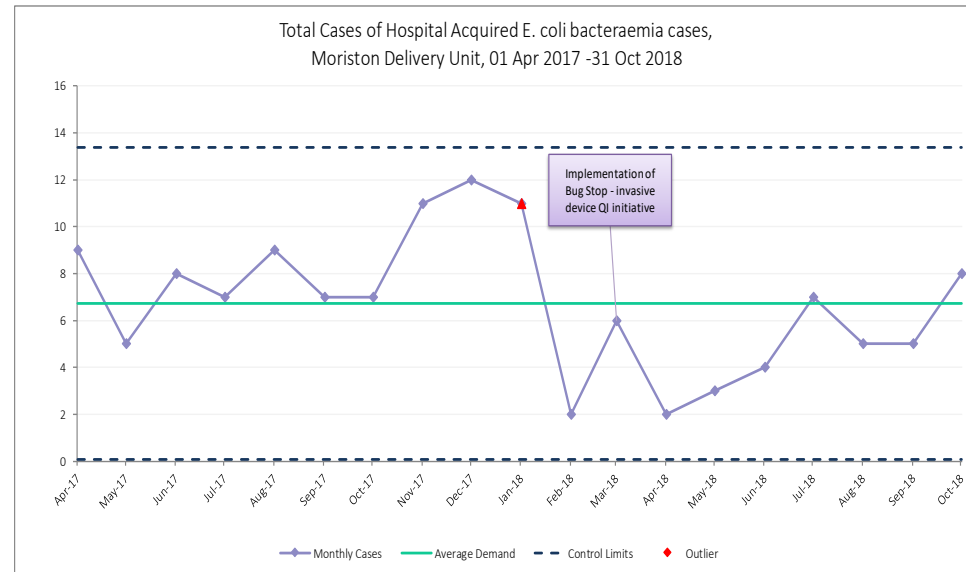
ABMU HCAI *E. coli* bacteraemia (to 31/10/18)

October 2018 position

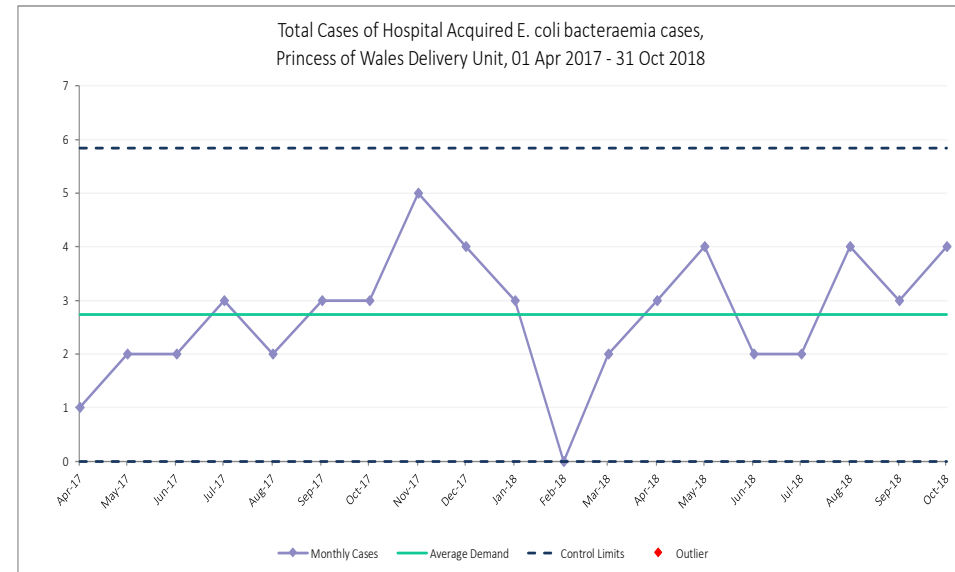


HCAI *E. coli* bacteraemia – supporting information

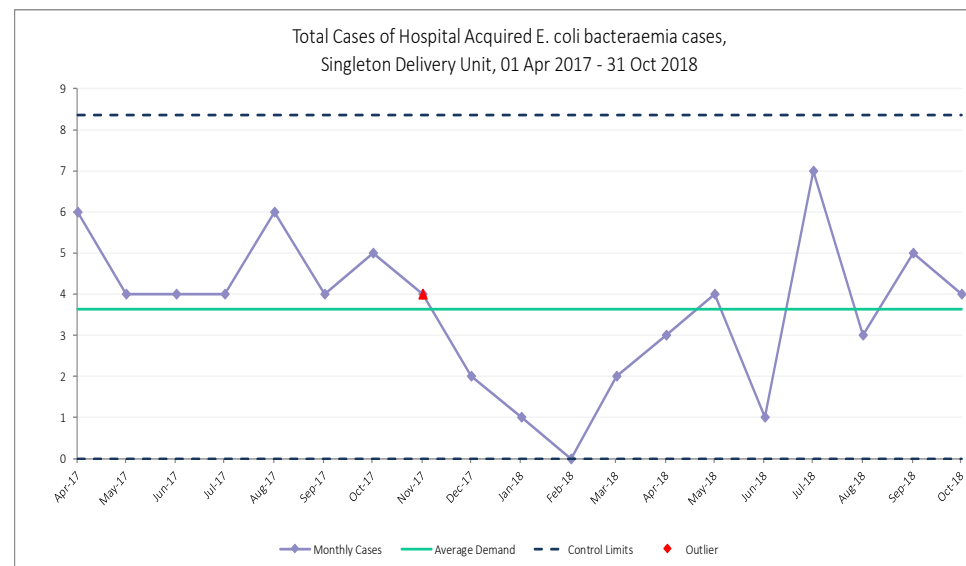
Morriston Hospital Acquired *E. coli* bacteraemia:



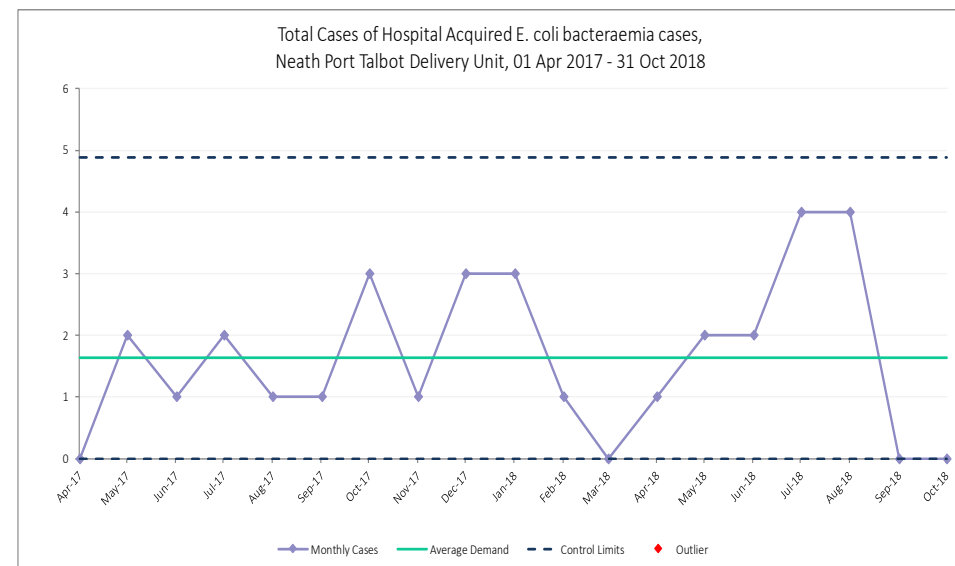
Princess of Wales Hospital Acquired *E. coli* bacteraemia:



Singleton Hospital Acquired *E. coli* bacteraemia:

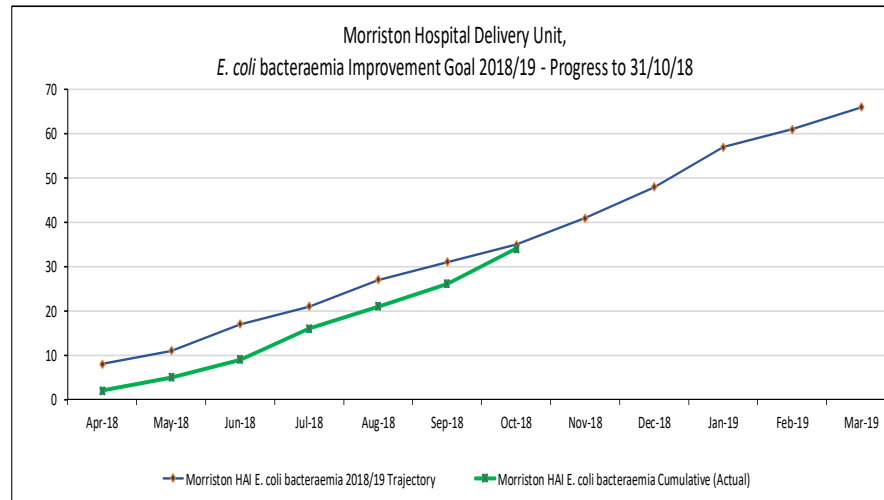


Neath Port Talbot Hospital Acquired *E. coli* bacteraemia:

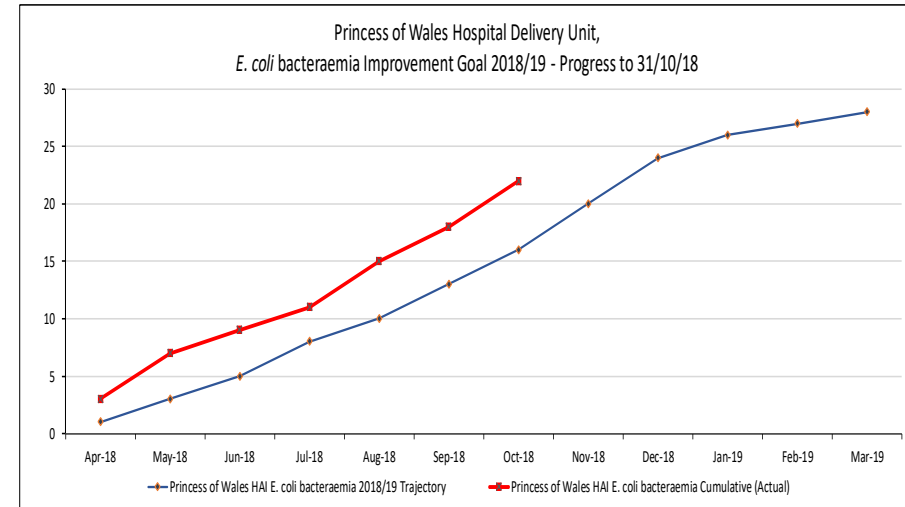


HCAI *E. coli* bacteraemia – supporting information

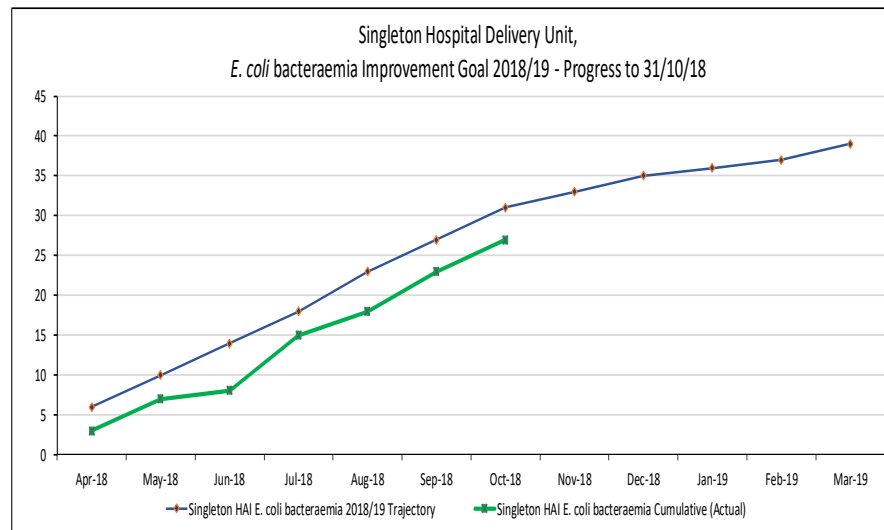
Morriston Hospital Acquired *E. coli* bacteraemia:



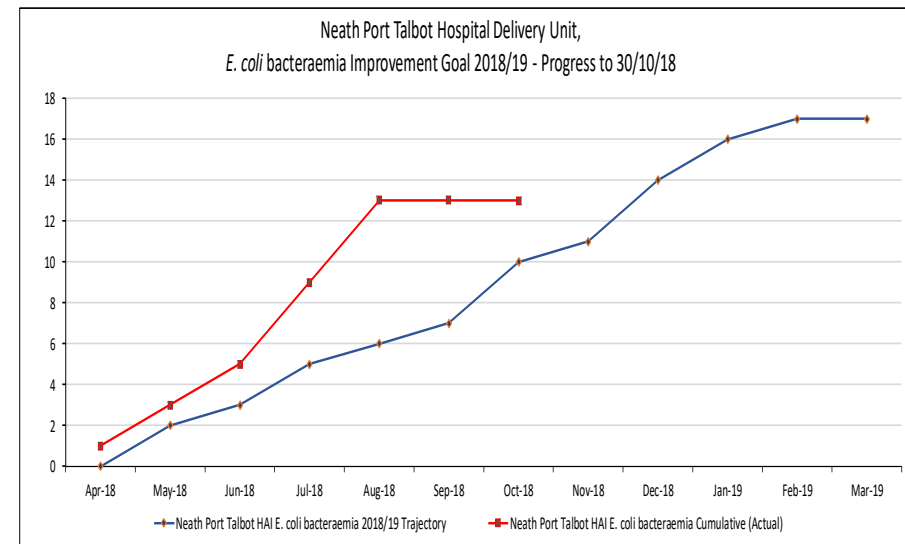
Princess of Wales Hospital Acquired *E. coli* bacteraemia:



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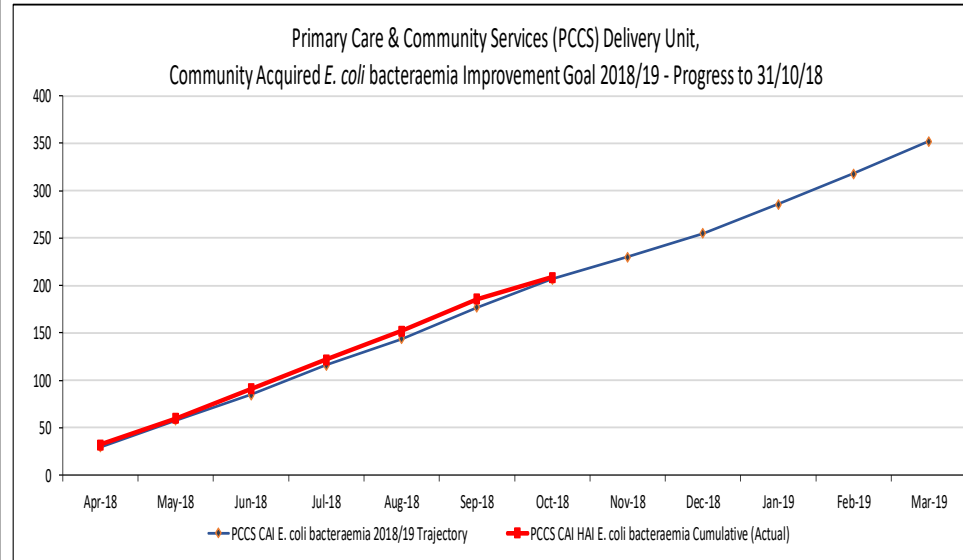


Neath Port Talbot Hospital Acquired *E. coli* bacteraemia:

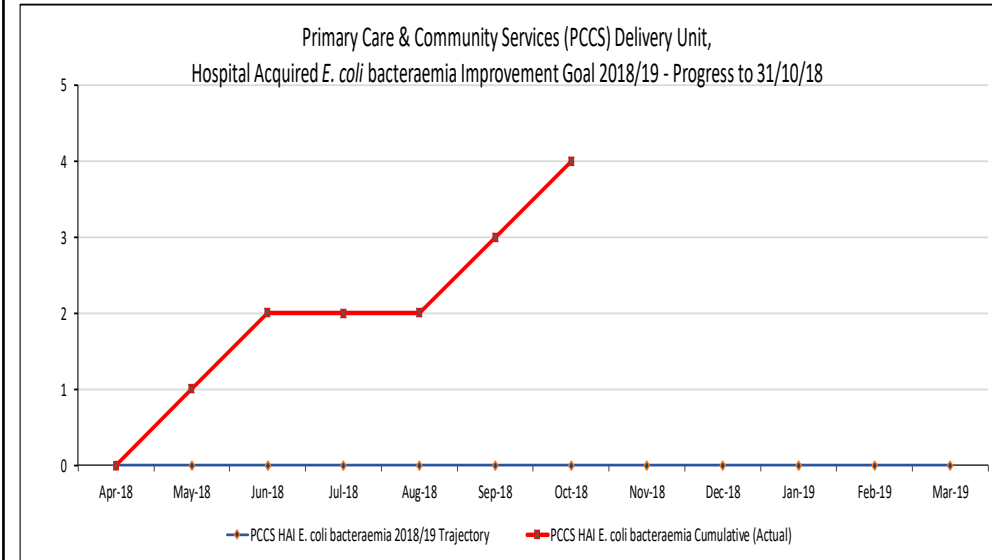


HCAI *E. coli* bacteraemia – supporting information

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PCCS Hospital Acquired *E. coli* bacteraemia:



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