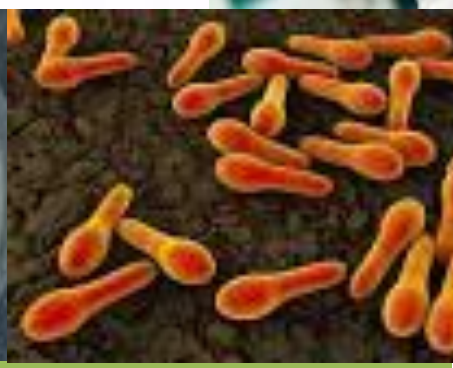
GIG CYMRU NHS WALES

Bwrdd Iechyd Prifysgol
Cwm Taf Morgannwg
University Health Board

2019/20

Infection Prevention & Control Annual Report



March 2021

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EXECUTIVE SUMMARY

Cwm Taf Morgannwg University Health Board (CTMUHB) is committed to delivering safe and effective care for all and embraces the philosophy of Cwm Taf Cares. Healthcare Associated Infections (HCAI) remain a key patient safety issue and results in a significant burden of disease and financial cost to the NHS in Wales. CTMUHB is committed to reducing HCAI and adopts a zero tolerance to all preventable infections. There are effective management arrangements, assurance systems and reporting processes in place to support and drive the infection prevention and control (IP&C) agenda.

We are focussed on the goal to be the best in Wales and we are making incremental changes to improve patient safety and deliver the national reduction expectations set by Welsh Government.

Additional IPC Nurses have been appointed to fulfil the requirements of the new Health Board as a consequence of the boundary change in April 2019. The Infection Prevention and Control Team (IP&CT) work across all areas in secondary care but have minimal input into improving IPC practice in primary care. To effectively deliver a sustainable integrated whole system approach to reduce HCAI and AMR, a dedicated team including an IP&C resource is required.

The infrastructure continues to strengthen across the Health Board which is supported by a comprehensive range of infection prevention and control policies and procedures which act as a resource for staff.

This annual report is produced to provide detailed analysis of the surveillance data, audit, education / training and policies developed to support and direct patient care, collected and produced by the Infection Prevention & Control Team (IP&CT) for the time period from April 2019 – March 2020.

Key achievements

- Successful integration of the IPC team following formation of the new Cwm Taf Morgannwg UHB.

- Recruitment of additional IPC Nurses to provide a comprehensive IPC service.

- We are strengthening links with primary care to target key interventions to reduce preventable infections.

- We have introduced IPC C.difficile huddles in primary care and successfully managed to engage the GP’s and sustain the process.

- Aseptic non touch technique (ANTT) training is progressing well. Responsibility for training and monitoring compliance has been handed to the Directorates.

- The IPC Team have worked collaboratively with a range of multi professional colleagues in response to the emerging novel COVID pandemic.

Healthcare associated infections (HCAI): statistics and performance

Effective infection prevention and control needs to be everybody's business and must be part of everyday healthcare practice and based on the best available evidence so that people are protected from preventable healthcare associated infections.

Welsh Government (WG) reduction expectations for April 2019 – March 2020.

Number and rate of *C. difficile, S.aureus* bacteraemia, *E. coli* bacteraemia, Klebsiella sp. bacteraemia and Pseudomonas aeruginosa bacteraemia per 100,000 population, April 2019 – March 2020.

	Rate of C. difficile/ 100,000 population		Rate of MRSA bacteraemia / 100,000 population		Rate of MSSA bacteraemia / 100,000 population		Rate of E. coli bacteraemia/ 100,000 population		Rate of Klebsiella sp. bacteraemia/ 100,000 population		Rate of Pseudo aer bacteraemia/ 100,000 population	
	No. of cases	Rate	No. of cases	Rate	No. of cases	Rate	No. of cases	Rate	No. of cases	Rate	No. of cases	Rate
Cwm Taf Morgannwg	117	26.35	8	1.80	132	29.96	408	91.90	100	22.52	22	4.96
All Wales	843	26.93	66	2.11	763	24.38	2466	78.78	627	20.03	196	6.26

(A) *Clostridium difficile* Infection (CDI):

The reduction expectation set for 2019/20 was 21 per 100,000 population, which equates to no more than 94 cases.

The Health Board did not achieve the reduction expectation set and ended the period with a rate of 26.35 per 100,000 population.

Of the total cases, 51% were healthcare associated infections (HCAI) and 49% were community acquired (CAI).

<u>Royal Glamorgan Hospital</u>
RGH had a total of 39 cases – 46% HCAI.

- 26 cases were identified in hospital and 69% were HCAI.
- 13 samples were sent from GP practices, all were CAI.

There were 2 clusters identified and periods of increased incidence meetings were held to explore opportunities for learning to inform/influence practice.

Prince Charles Hospital

PCH had a total of 29 cases – 55% HCAI

- 21 cases identified in hospital, 71% HCAI
- 8 samples sent from GP practices, 88% CAI.

There were 2 clusters identified and periods of increased incidence meetings were held to explore opportunities for learning to inform/influence practice.

Princess of Wales Hospital

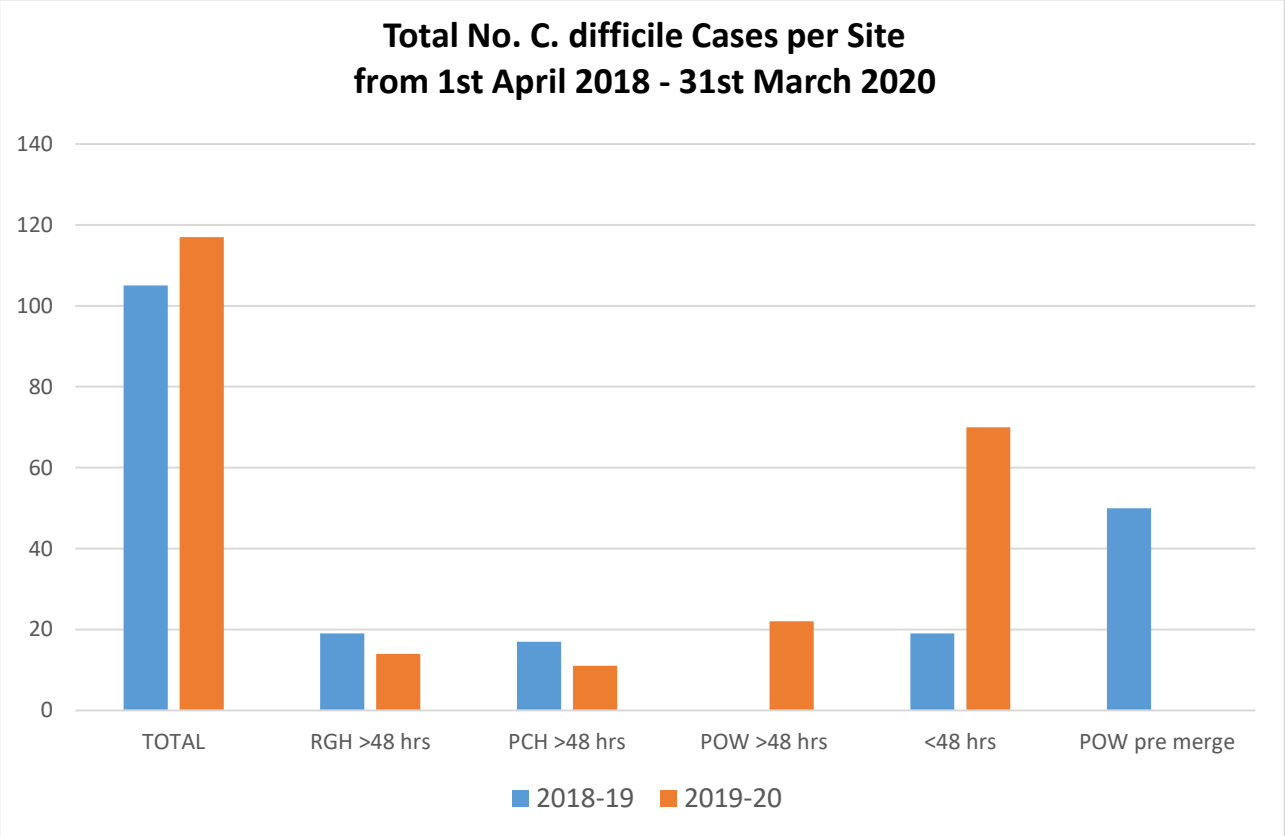
POW had a total of 50 cases – 50% HCAI

- 32 cases were identified in hospital, 75% HCAI
- 18 samples sent from GP practices, 94% CAI.

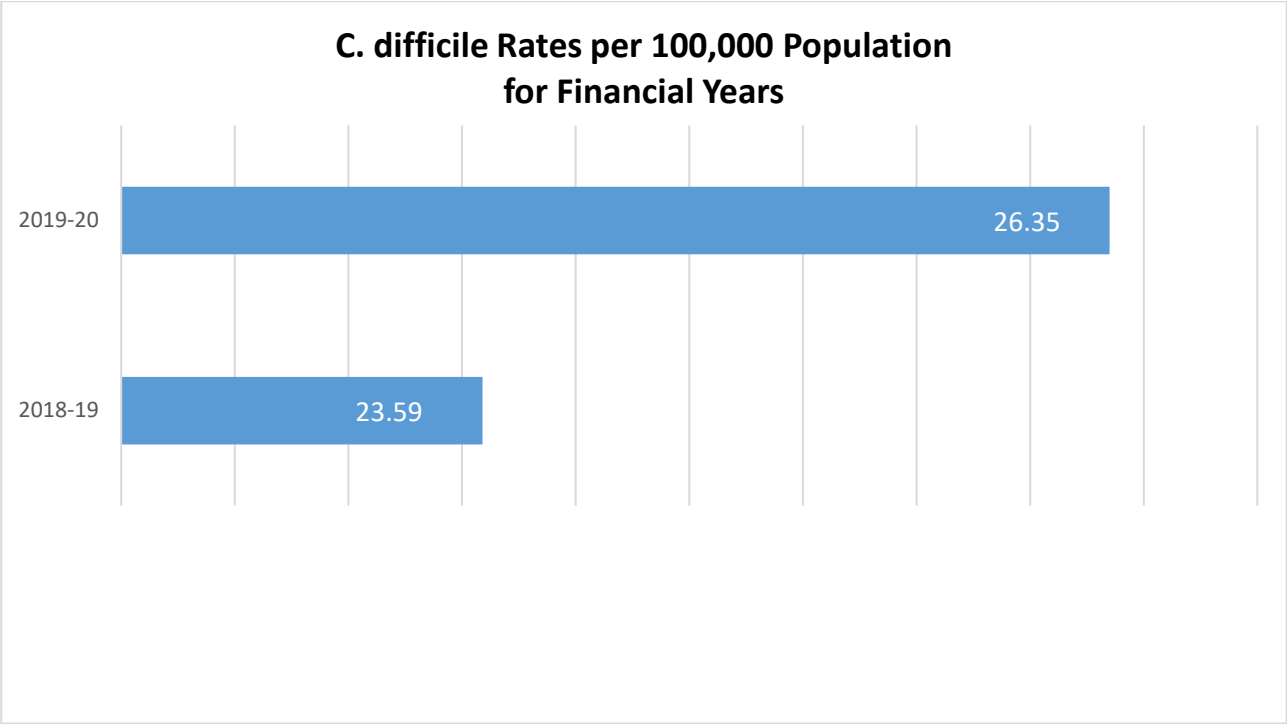
There were 4 clusters identified and periods of increased incidence meetings were held to explore opportunities for learning to inform/influence practice.

Reducing C. difficile infection in primary care is key to reducing the overall C. difficile rate.

The following graph demonstrates the breakdown of cases by hospital as well as the number of cases which are community onset.



(Community onset = GP sample or <48hrs in hospital with no hospital admission in the previous 4 weeks).



CDI Mortality Data

A serious incident (SI) notification is submitted for all C. difficile deaths when it is included on the death certificate. A multi-disciplinary SI meeting is also arranged by the Directorate and supported by the IP&CT and Consultant Microbiologist to review each case.

Direct attributable cause of death (CDI on any part of death cert.)[++]

	2018/19	2019/20
RGH*	5 **	1
PCH*	2	1
POW		8
Total	7 (13%)	11 (9%)

** 3 of the 5 cases in RGH were GDH positive/ toxin negative but C.difficile infection was clinically suspected and documented on the death certificate.

(B) *Staphylococcus aureus* Bacteraemia (MSSA & MRSA)

The reduction expectation set for 2019/20 was a combined target of 20 per 100,000 population, which equates to no more than 89 cases. CTM did not achieve the reduction expectation and ended the period with a rate of 31.76 per 100,000 population which exceeds the All Wales rate of 26.45 per 100,000 population.

MRSA

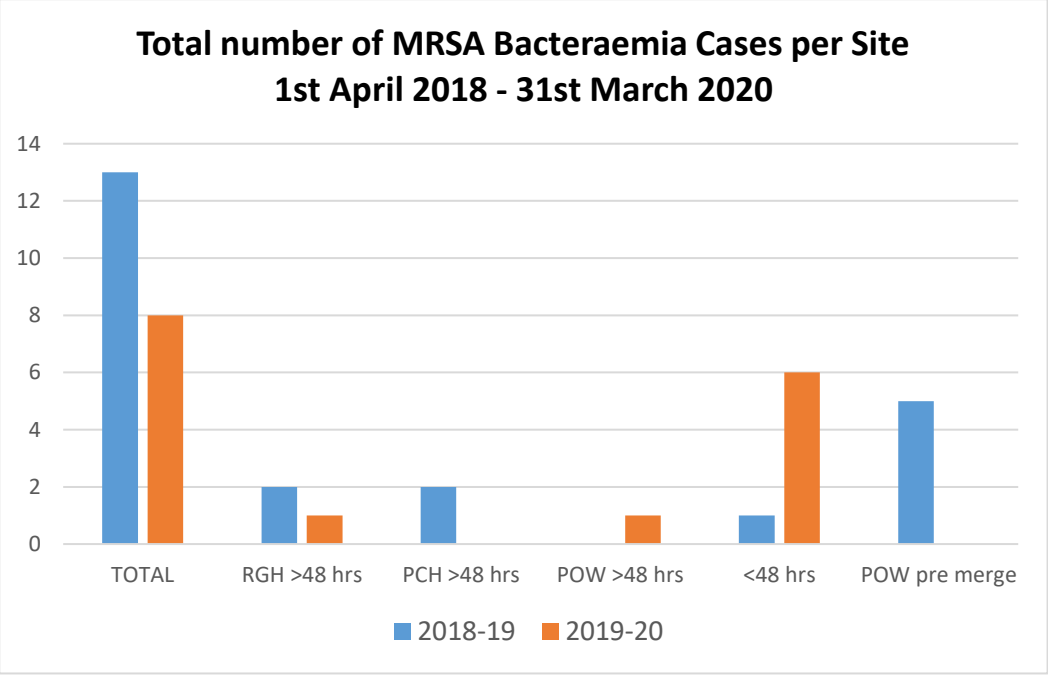
The Welsh Health Circular (2019) 019 describes WG's zero tolerance approach to MRSA bacteraemia.

It is often very difficult to determine if the MSSA/MRSA bacteraemia is healthcare associated as this organism can form part of the patient's own flora unless it can be directly linked to a recent procedure or intervention that the patient has undergone.

8 cases of MRSA were reported for CTM during the 2019/20 period, which is a 38% decrease compared to the same period last year, with a rate of 1.8 per 100,000 population. This is less than the all Wales rate of 2.1.

1 case was associated with a urinary catheter but the remaining cases did not have a preventable source. Every case is investigated and a source attributed where possible. Any learning was shared with the Directorates/ Clinicians to ensure lessons are learnt to improve patient safety.

The following table shows a breakdown of cases by hospital as well as the number of cases which are community onset.



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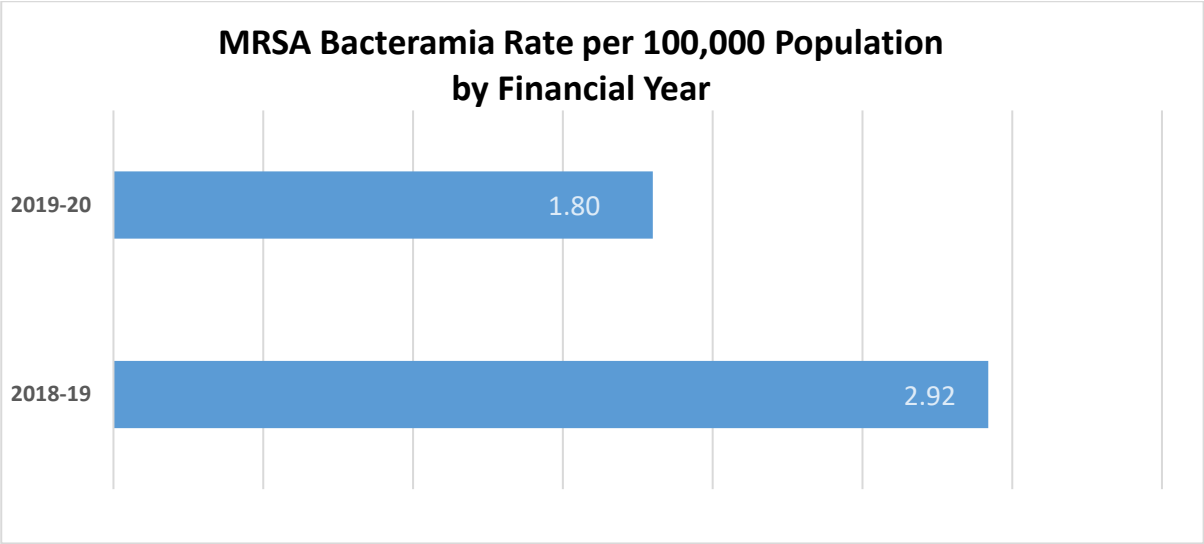


MSSA

CTM ended 2019/20 with a population rate of 29.96 per 100,000 population which is above the all Wales rate of 24.38. Fewer cases were reported compared to the same period in 2018/19.

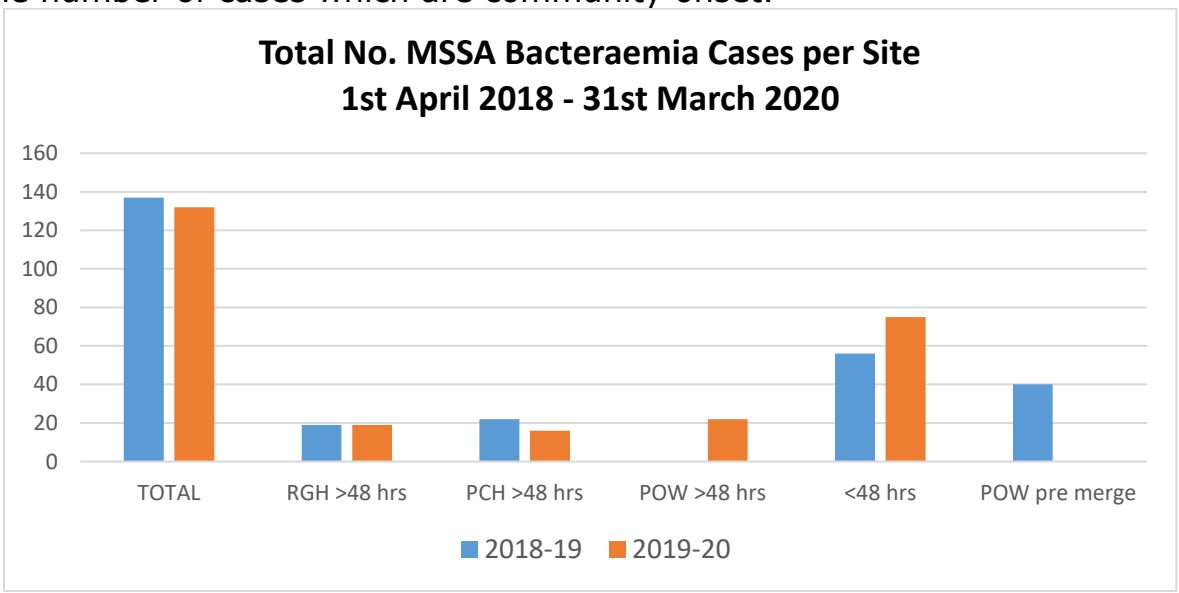
A total of 132 cases of MSSA bacteraemia were reported during 2019/20, 43% were HCAI, 57% CAI.

14% (19/132) were deemed to have a preventable source. Of the 19 cases,

- 12 were associated with peripheral cannulae (PVC)
- 5 were associated with central lines
- 2 were associated with urinary catheters

Further work is critical to improve management of indwelling devices to reduce preventable infections.

The following graph demonstrates the breakdown of cases by hospital as well as the number of cases which are community onset.



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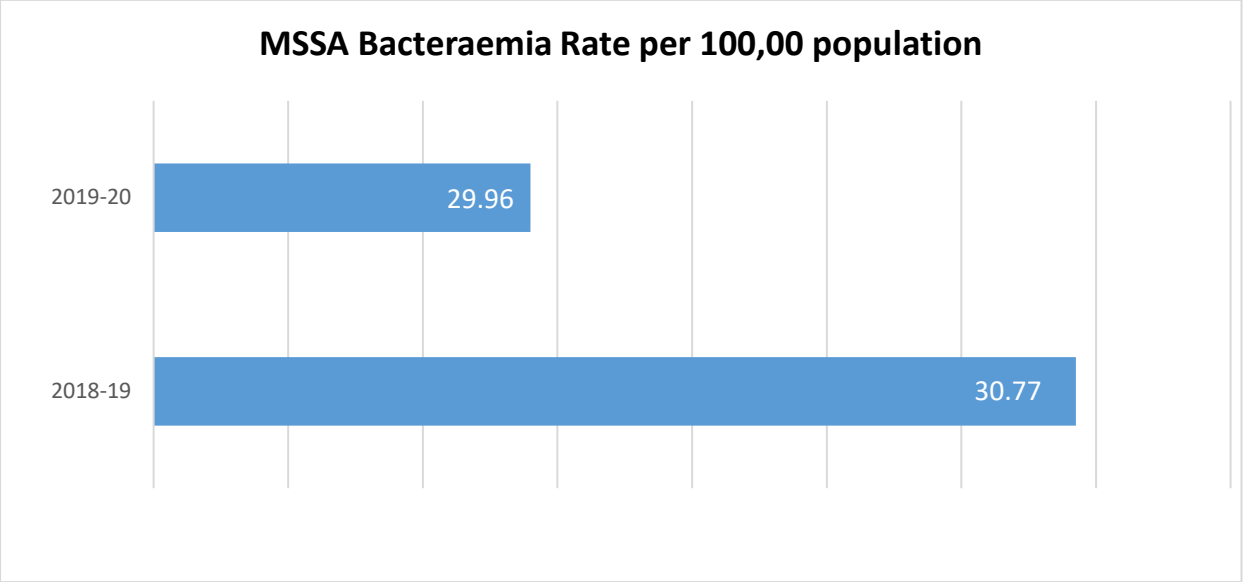


(C) E.coli bacteraemia

E.coli bacteraemia was added to the mandatory surveillance in 2017, in direct response to the UKs commitment to halve gram negative bacteraemia by 2020/21.

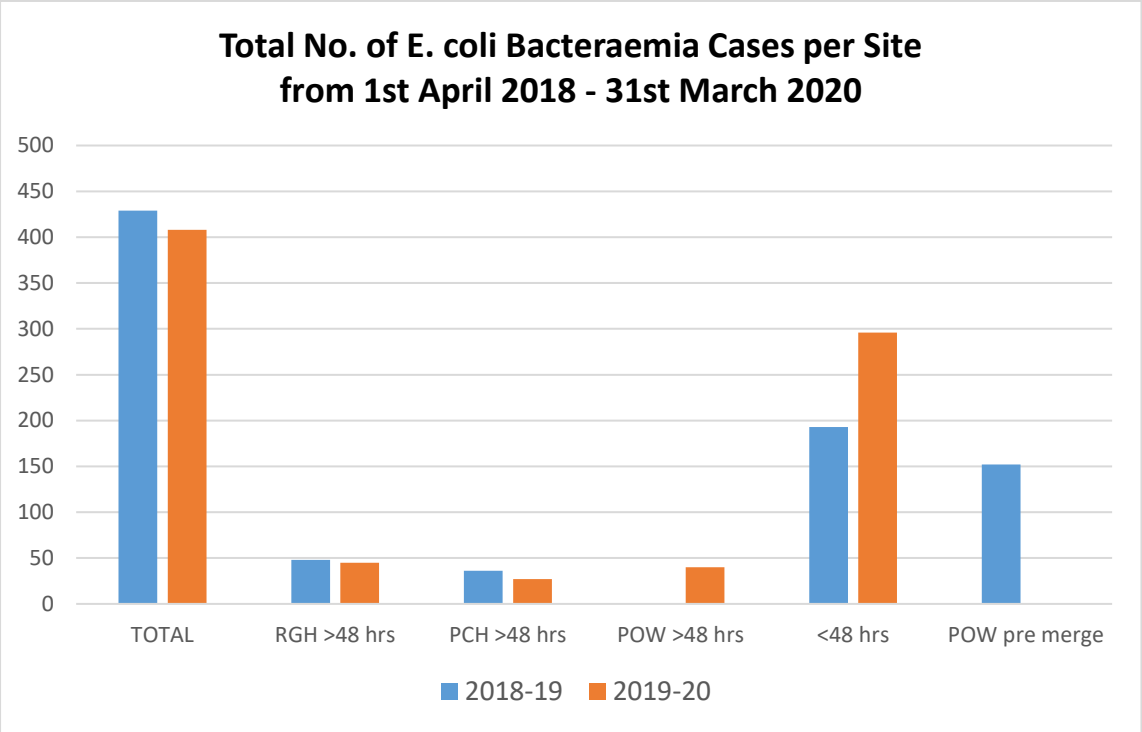
The WG reduction expectation set for CTMUHB for 2019/20 was a rate of no more than 67 cases per 100,000 population. This equates to 298 cases per year.

CTM ended the 2019/20 period with a rate of 91.90 per 100,000 population. Despite not achieving the reduction expectation set, fewer cases were reported compared to the previous year. The All Wales rate was 78.78 per 100,000 population.

412 cases of E.coli bacteraemia were reported for CTM in 2019/20, 27% HCAI (112/412) and 73% CAI (300/412).

Of the 412 cases, 32 were associated with a urinary catheter (8%). Urosepsis (non catheter related) was attributed as the source for 40% of the total cases.

The following graph demonstrates the breakdown of cases by hospital as well as the number of cases which are community onset.



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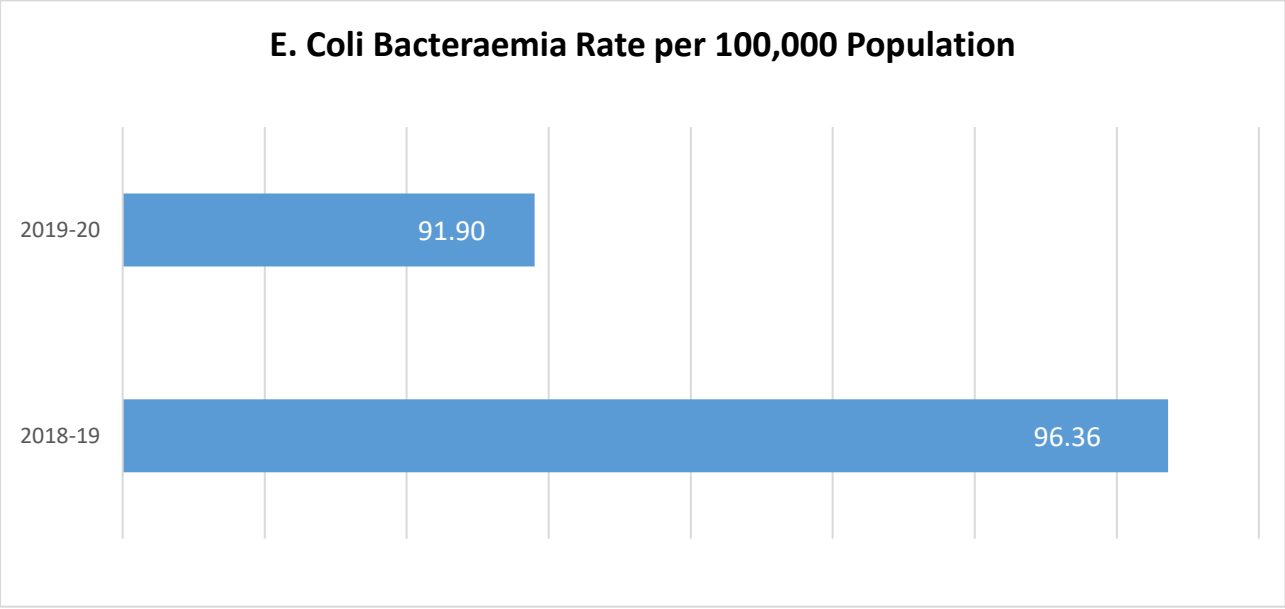
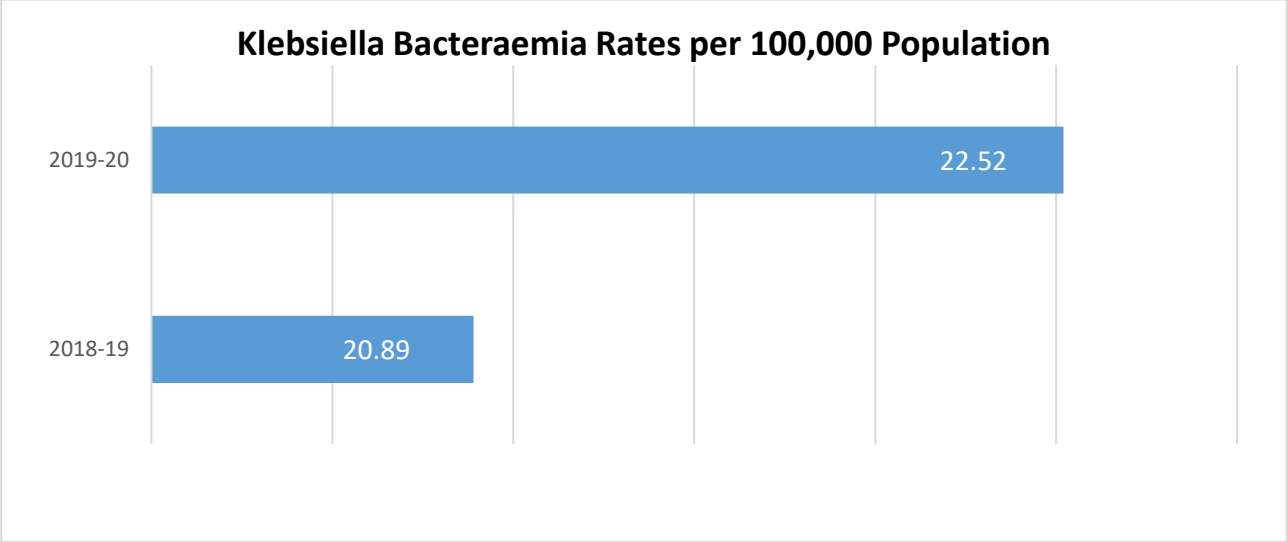


(D) Klebsiella sp. bacteraemia

A 10% reduction based on 2018/19 numbers was expected in 2019/20, which equates to no more than 69 cases per year.

At the end of the 2019/20 period, CTM achieved a rate of 22.52 per 100,000 population. The All Wales rate was 20.03 per 100,000 population.

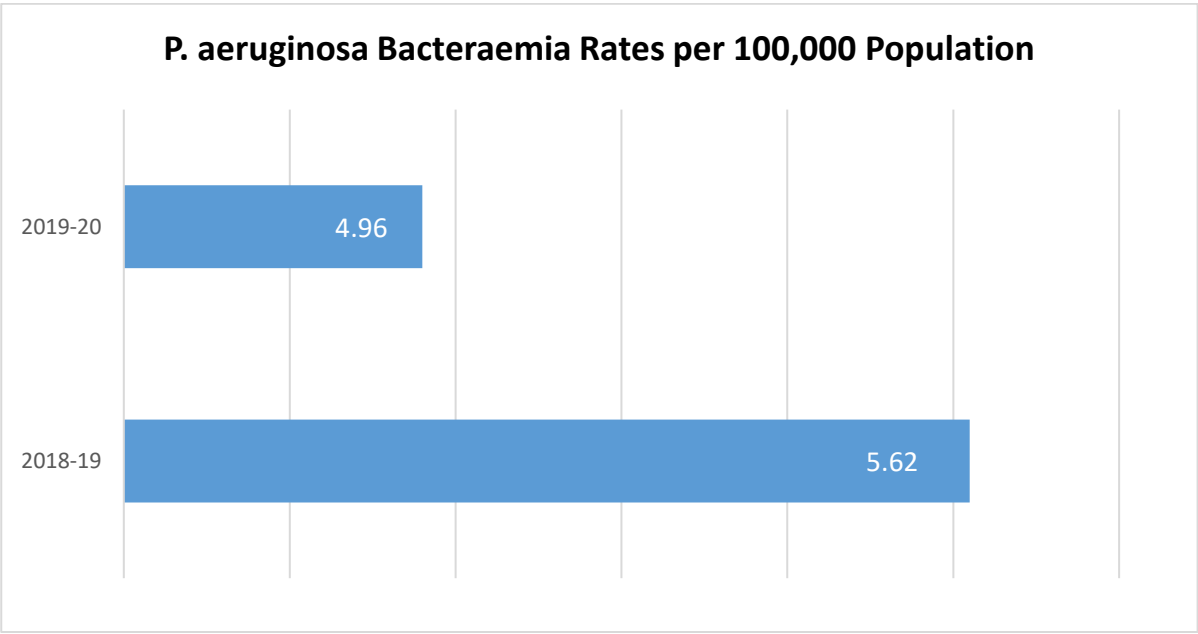
A total of 100 cases were reported, 35 HCAI/65 CAI. 8% of the total cases had a preventable source, 7 cases associated with a urinary catheter and 1 case associated with a PICC line.



(E) Pseudomonas aeruginosa bacteraemia

A 10% reduction based on 2018/19 numbers was expected in 2019/20, which equates to <25 cases per year. The HB ended the financial period with a rate of 4.96 per 100,000 population which is less than the All Wales rate of 5.62.xc

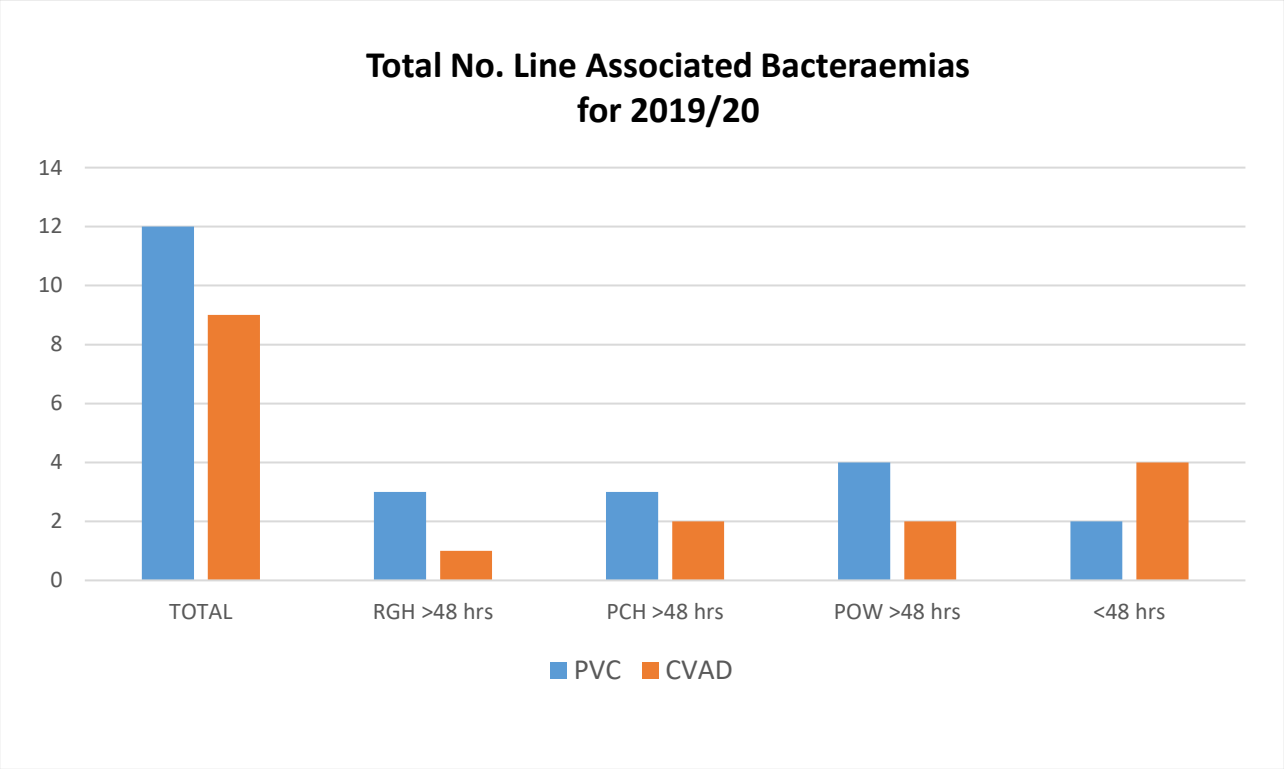
The HB reported a total of 22 cases and met the reduction expectation set, 13 HCAI/ 9 CAI. 14% (3/22) had a preventable source and all were attributed to a urinary catheter.



(F) Line associated infections

There is no national surveillance scheme for monitoring blood stream infections associated with medical devices eg. IV lines, urinary catheters. In CTM, the IPC Team have investigated each case since 2011. To strengthen the investigation process and learning opportunities, multi-disciplinary IPC huddles were introduced in 2018/19 to discuss every line associated bacteraemia and clinical line infection. Findings from the investigations are shared with the Directorates for action. Clinical engagement is critical to provide opportunities for multi professional learning.

The data presented below includes all probable and definite line associated blood stream infections for all organisms. This data is based on positive blood culture results in association with PVC's, CVAD's or PICC lines which are clinically felt to be the likely source of the bacteraemia, or has associated clinical signs of infections at the site of insertion or a positive line tip culture with the same organism.



*PVC – includes Arterial lines, **CVAD includes PICC lines

21 line associated bacteraemia were reported in 2019/20. MSSA was isolated in 81% (17/21) of the cases.

- 62% (13/21) were associated with a PVC
- 28% (6/21) were associated with a CVAD
- 10% (2/21) were associated with a PICC line

Other clinically diagnosed line infections (without blood cultures taken) are not included in the graph above as the IP&C team are dependent on clinical

staff reporting clinical line infections. Therefore the data may not reflect the true incidence of infection.

3. Surveillance

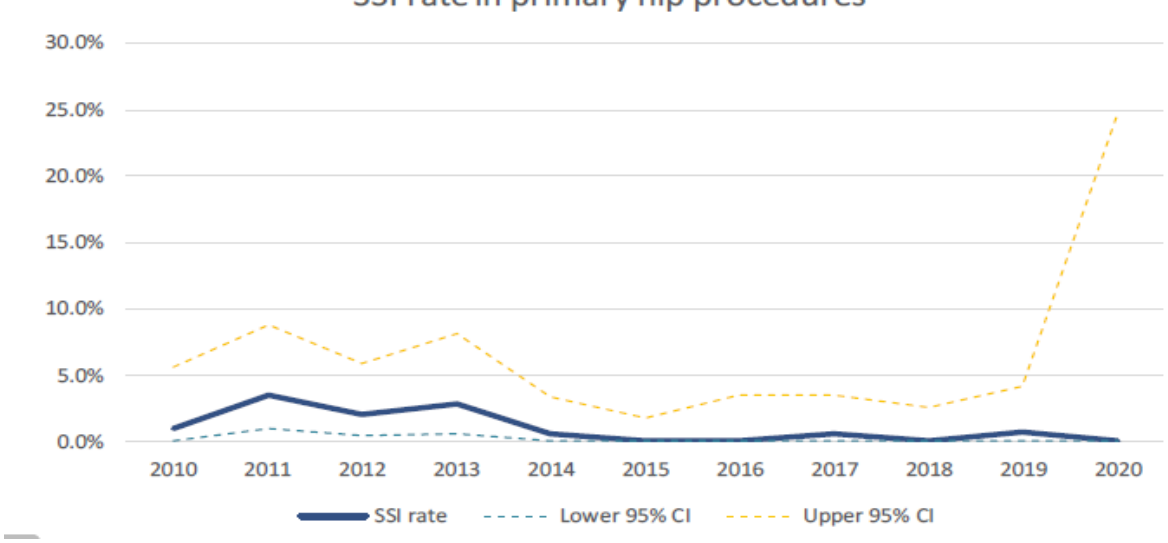
Surgical Site Infection Surveillance (SSI)

Cwm Taf UHB participate in the mandatory surveillance of Surgical Site Infections (SSI) for Orthopaedic and C. section surgery. Using standardised methods allows Health Boards to analyse their SSI data to improve the quality of care which also acts as a comparison between different hospitals to benchmark performance. The data produced by the HARP Team, PHW for the orthopaedic and caesarean section surveillances is based on a calendar year (Jan-Dec).

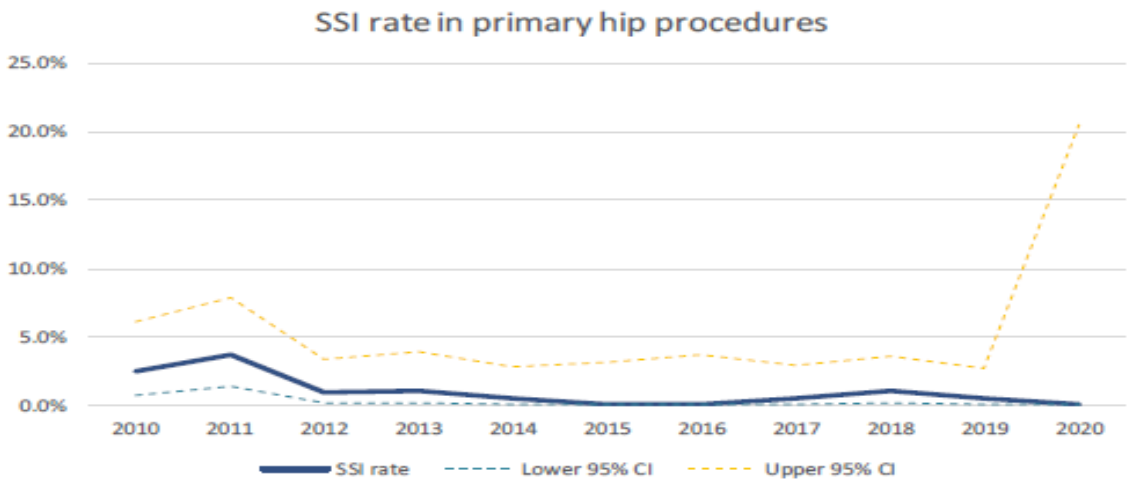
(A) Orthopaedic

The graphs below represent SSI rates for primary hip and knee procedures and their respective confidence intervals for each year for the previous decade. All suspected wound infections are discussed by the Orthopaedic Teams before they are reported to HARP.

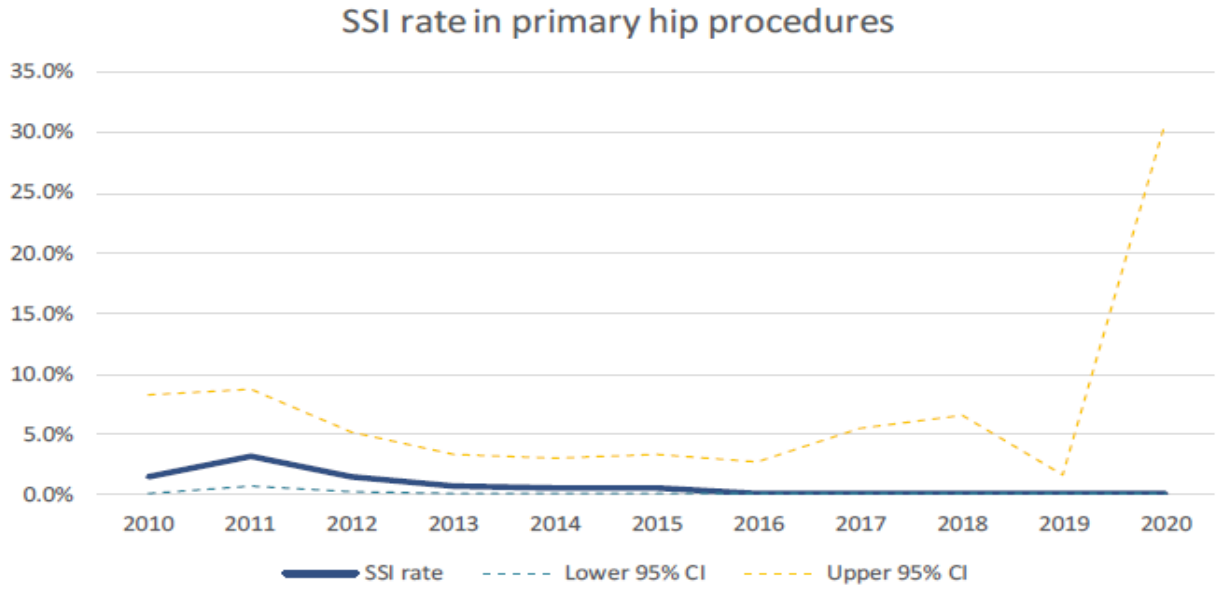
PCH



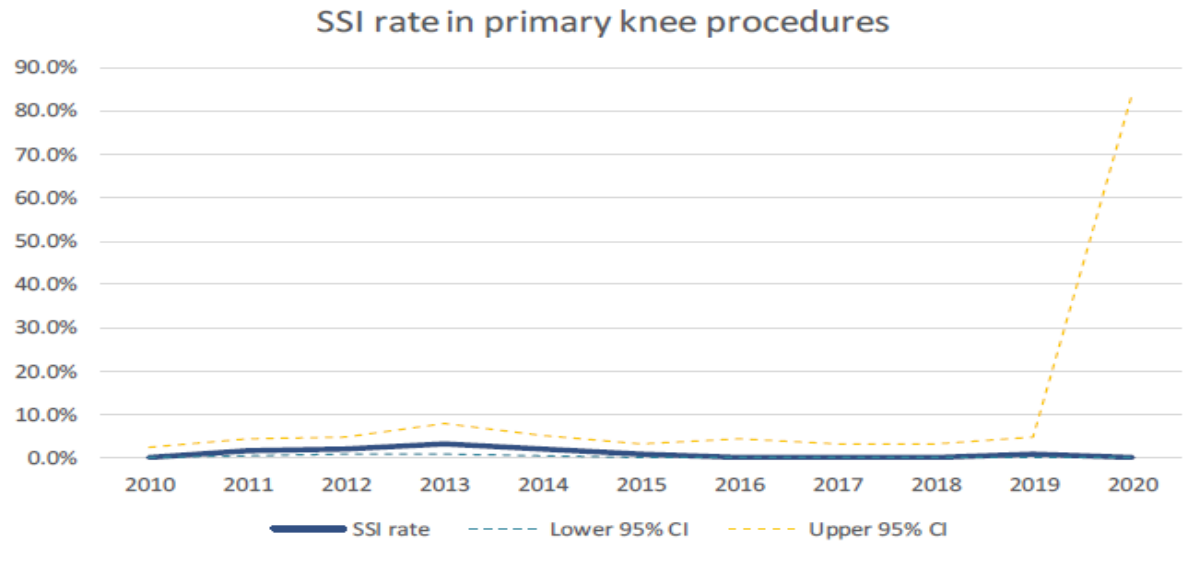
RGH


SSI rate in primary hip procedures
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
SSI rate
Lower 95% CI
Upper 95% CI

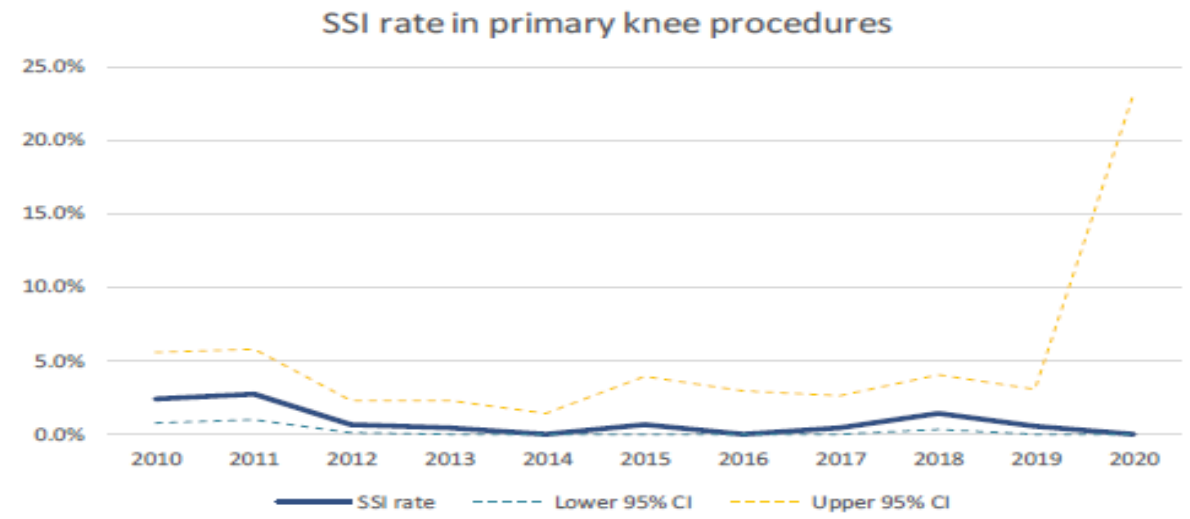
POW


SSI rate in primary hip procedures
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
SSI rate
Lower 95% CI
Upper 95% CI

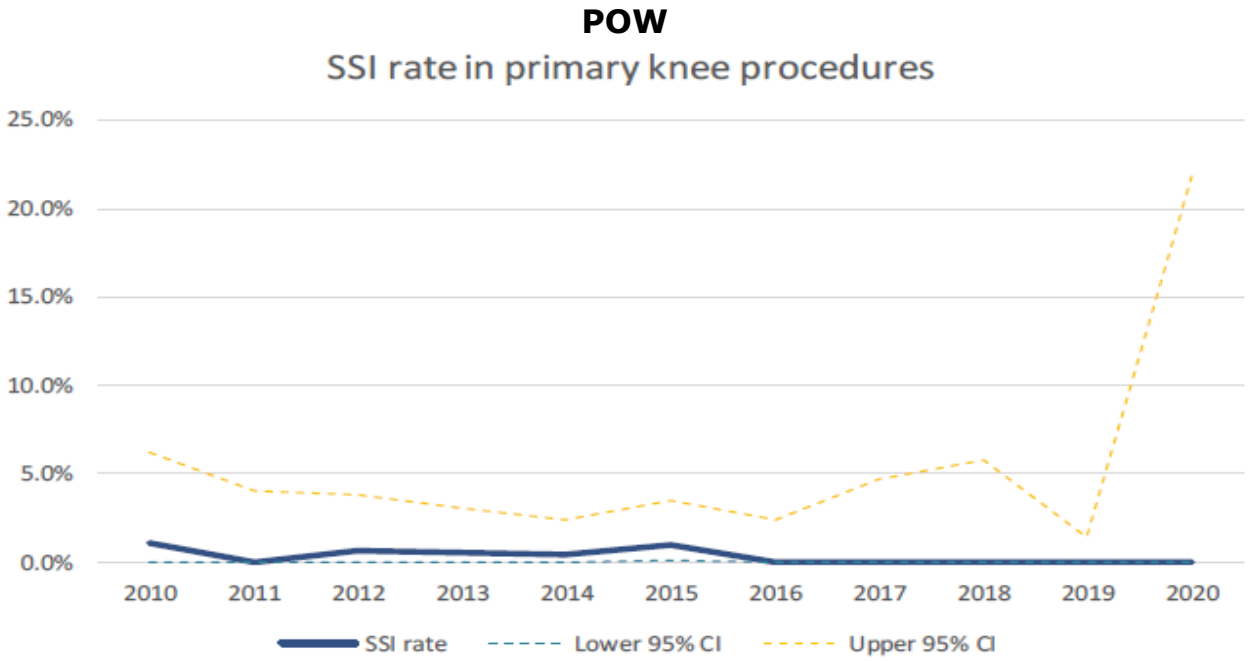
PCH


SSI rate in primary knee procedures
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
SSI rate
Lower 95% CI
Upper 95% CI

RGH



POW



	Total No. Hip Procedures	SI Rate
PCH	132	0.8%
RGH	204	0.5%
POW	220	0.0%

	Total No. Knee Procedures	SI Rate
PCH	107	0.9%
RGH	173	0.6%
POW	262	0.0%

B) Caesarean Section Surgical Site Infections (SSI)

The Caesarean Section Surgical Site Infection Surveillance continues and the results are published quarterly.

PCH data was removed from the overall compliance for CTMUHB in 2019 due to unreliable process and data collection which has since been rectified and is monitored through the SSI Meetings.

The Infection Prevention and Control Team has supported Maternity Services to develop and introduce a robust surveillance and reporting system in October 2019 to improve the quality of data collected and submitted to PHW. This will provide greater confidence in the accuracy of the SSI data. The reporting and monitoring system has been standardised across CTM.

A new surgical site dressing was evaluated by the Princess of Wales Hospital to support reduction in SSI's following elective and emergency caesarean section surgery. The POW evaluation demonstrated improved maternal compliance with wound care and improved comfort for women. To be rolled out across the Prince Charles Hospital site.

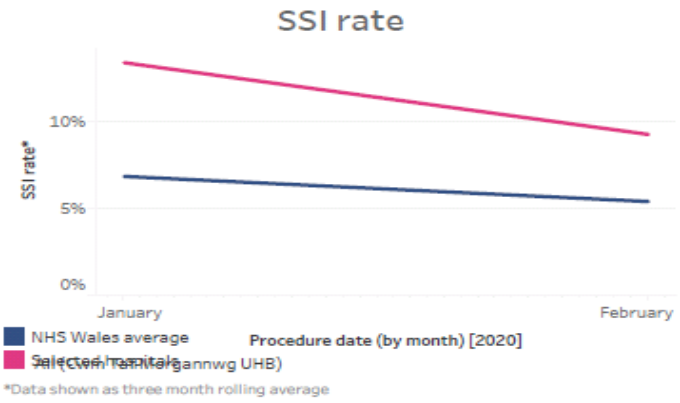
Skin preparation for C.section has also been standardised across the HB.

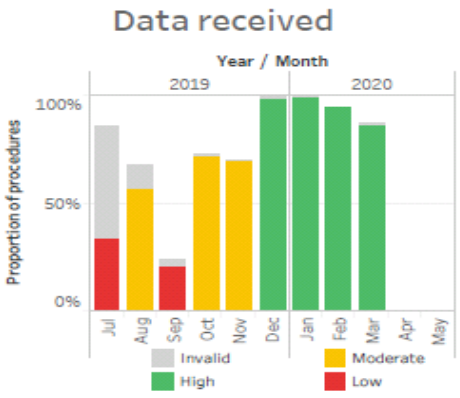
Surgical Site Infection Surveillance in Caesarean Section procedures

Data summary

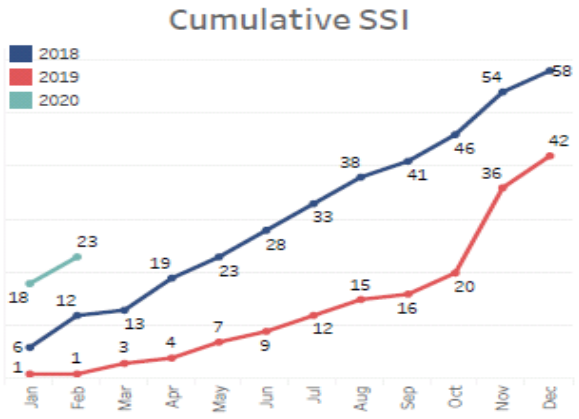
Health board: Cwm Taf Morgannw..

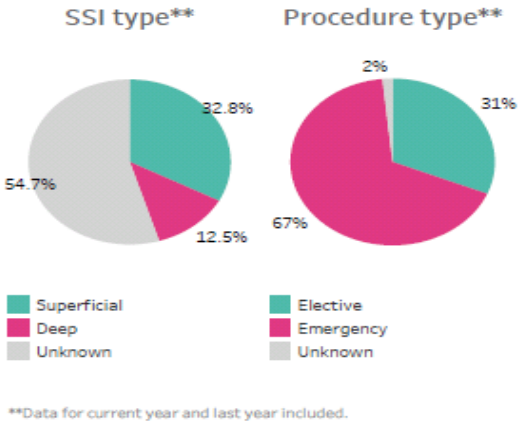
Hospital: All





		Procedures	Inpatient SSI	Post-discharge SSI	Number of SSI	Rate
2020	Q1	231	7	16	23	9.96%
2019	Q4	471	6	20	26	5.52%
	Q3	140	1	6	7	5.00%
	Q2	97	2	4	6	6.19%
	Q1	56	0	3	3	5.36%
2018	Q4	266	1	16	17	6.39%
	Q3	261	0	13	13	4.98%
	Q2	259	1	14	15	5.79%
	Q1	202	2	12	13	6.44%





Data is provisional and liable to change. SSI rate data provided up to February 2020. Last updated on 08/06/2020 16:19:56.

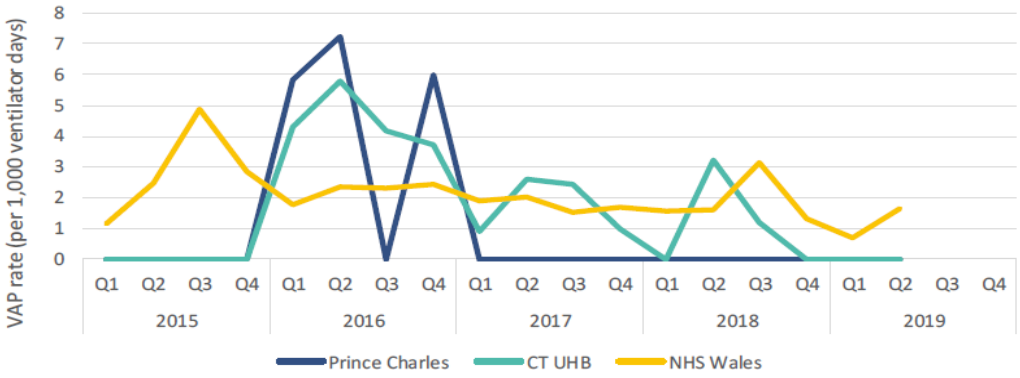
Critical Care Surveillance

Ventilator Associated Pneumonia (VAP) Surveillance

VAP is the second most common health care associated infection (HCAI) reported in critical care units.

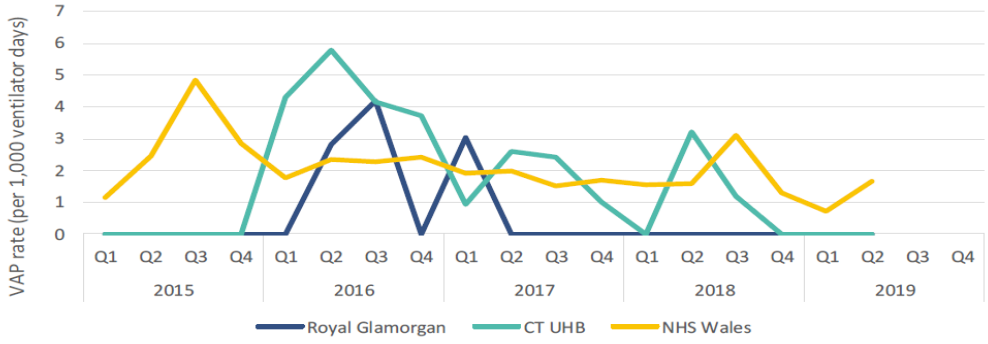
PCH data up to June 2019

Appendix 1: HELICS VAP rates (excluding PNX data)



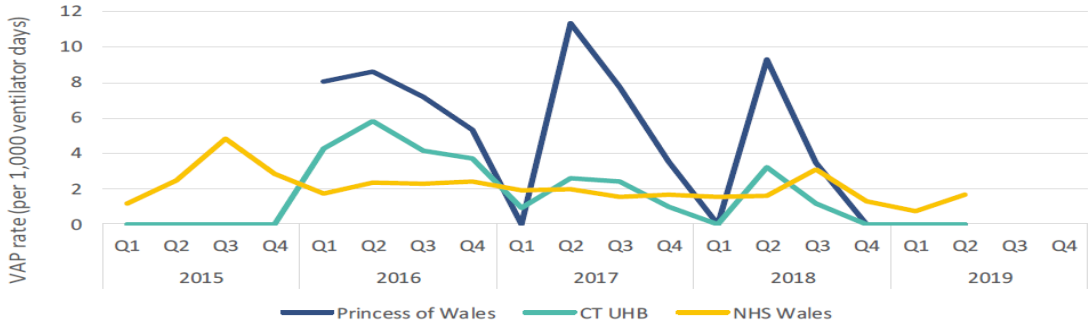
RGH data up to June 2019

Appendix 1: HELICS VAP rates (excluding PNX data)



POW data up to June 2019

Appendix 1: HELICS VAP rates (excluding PNX data)



	Ventilator day	VAP	Rate per 1,000 ventilator days
PCH	**1535**	**0**	**0.00**
RGH	**1936**	**0**	**0.00**
POW	**1692**	**4**	**2.36**
NHS Wales	**32995**	**54**	**1.64**

Other Surveillance

ICNet

ICNet is a case management and surveillance system which has been adopted nationally. The IPC Team has contributed to the development of the enterprise monitor modules for enhanced carbapenamase producing organism and other multi drug resistant organism surveillance. Further work is underway to develop surgical site infection and outbreak management modules.

4. IPC Policies Approved in 2019/20

The following Infection Prevention and Control policies/procedures and guidelines were approved at the Infection Prevention & Control Committee. All documents are accessible for staff via the Intranet.

There are a number of IPC policies/procedures that need re-aligning and standardisation following the integration of POW and the Bridgend boundary with the former Cwm Taf UHB.

No.	Title	IPCC Approval
IPC02	Outbreak Management Procedure	November 2019
IPC04	Hand Hygiene Policy	August 2019
IPC21	Meningitis Policy for IPC	August 2019
IPC25	Measles Policy	August 2019
IPC26	Midline Catheters - Protocol for the Insertion, Care and Removal of IV Peripherally inserted	February 2020
FAC12	Steam Cleaning Procedure	May 2019

5. Internal Audit Programme and performance

All clinical areas are required to perform weekly hand hygiene and environmental audits. Directorates must monitor and act on their audit findings and report to the directorate IP&C quarterly meetings. This data is entered onto the Healthcare Monitoring System to provide ward to board assurance.

The IPC Team has a rolling annual audit programme including all clinical areas and directorates for independent verifications. Additional audits are carried out where there is increase in alert organisms, an outbreak of infection or as required. Audit reports are forwarded to Senior Nurses/ Heads of Nursing. Where

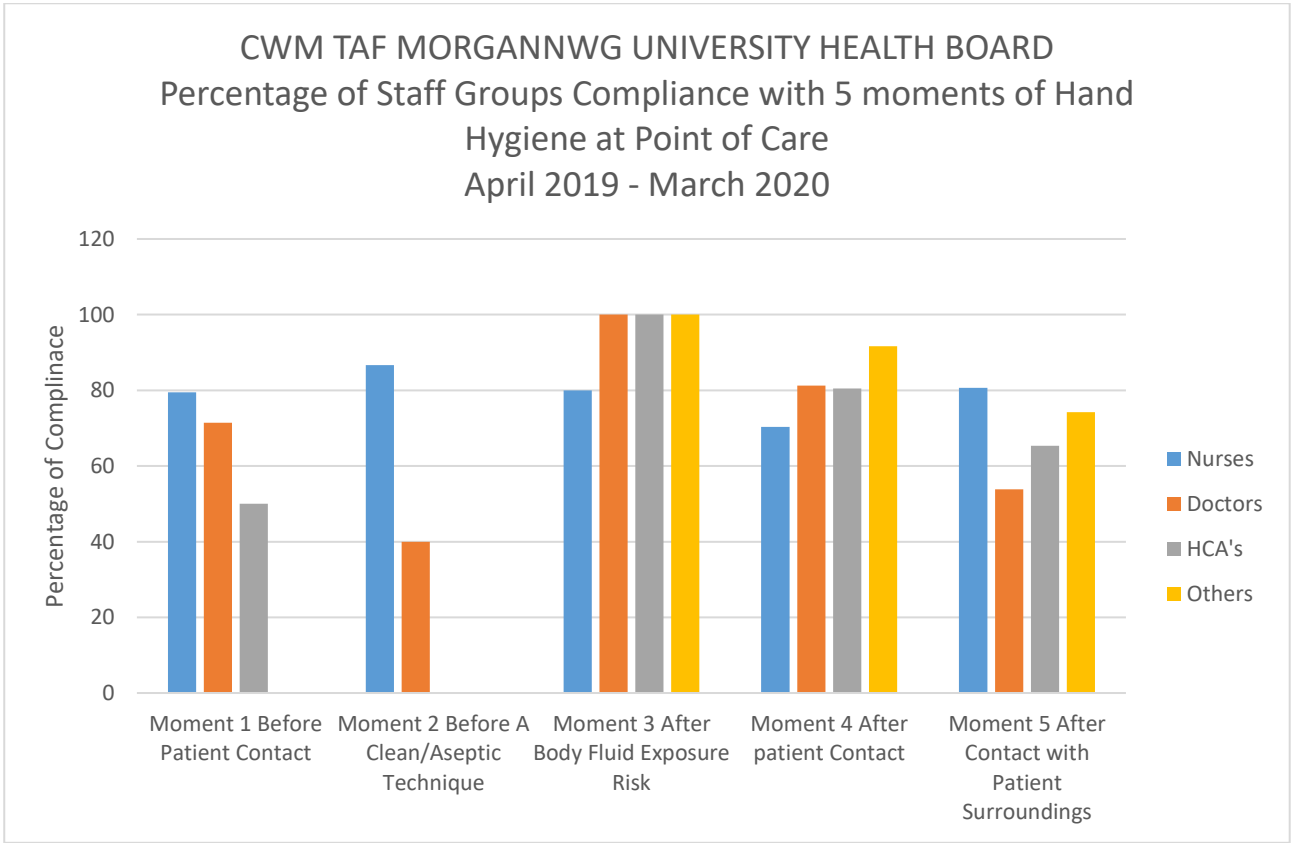
poor performance or non compliance with IPC policy is identified, an action plan is expected. Audits are supported by training where required.
The IPC team did not achieve the annual audit programme due to vacancies and long term sickness within the team.

Audit Results

The data shown below are cumulative results of IP&CT verification audits across staff groups and directorates in secondary care. Due to vacancies and long term sickness, the IPC audit programme was not completed as planned.

(A) Hand Hygiene Audits

Hand hygiene audits are based on the WHO's "5 moments for hand hygiene" which is applied to all staff working in clinical areas. The graph below identifies staff group achievements and compliances at each observed moment of care during clinical intervention where hand hygiene opportunities were either observed as achieved or missed. All missed opportunities/ non-compliance is discussed with the member of staff at the time of the audit.



Key for tables below

* No audit undertaken in this area.
Figures in red show result below expected score of ≥85%.
Please note that the actual numbers of observations made may be small.

Breakdown of Hand Hygiene compliance (all staff) by Directorate of each site.

	PCH & Community Hospitals		RGH & Community Hospitals		POW & Community Hospitals	
Directorate	**2018/19**	**2019/20**	**2018/19**	**2019/20**	**2018/29**	**2019/20**
Medicine	85%	70%	80%	**75%**	N/A	84%
Surgery	78%	51%	68%	60%	N/A	83%
Trauma & Orthopaedics	93%	71%	61%	55%	N/A	70%
Anaesthetics & Theatre	85%	68%	88%	92%	N/A	100%
Obs & Gynae	85%	*	67%	*	N/A	*
Children & Young People	*	94%	100%	*	N/A	*
Localities	95%	100%	78%	*	N/A	*

Breakdown of Hand Hygiene compliance by Staff Groups, by Directorate 2019-2020

	Nurses		Doctors	
Directorate	**2018/19**	**2019/20**	**2018/19**	**2019/20**
Medicine	92%	83%	62%	57%
Surgery	85%	71%	54%	50%
Trauma & Orthopaedics	94%	58%	*	0%
Anaesthetics & Theatre	90%	86%	0%	67%
Obs & Gynae	100%	*	33%	*
Children & Young People	100%	90%	100%	100%
Localities	87%	100%	100%	100%

	HCA's		Others	
Directorate	**2018/19**	**2019/20**	**2018/19**	**2019/20**
Medicine	81%	81%	87%	80%
Surgery	72%	56%	75%	54%
Trauma & Orthopaedics	77%	58%	61%	85%
Anaesthetics & Theatre	86%	100%	*	80%
Obs & Gynae	78%	*	*	*
Children & Young People	*	100%	*	100%
Localities	88%	100%	81%	100%

Hand hygiene is the single most important measure to prevent cross infection. Clinical engagement is paramount to improve compliance with hand practice. Infection prevention and control is everybody's business and all staff must practice infection prevention and control precautions at all times.

(B) Bare Below the Elbow Audit

Consistent efforts have been made to improve hand hygiene practice and compliance with bare below the elbow. It must be the responsibility of all clinical staff, irrespective of grade or profession to be bare below the elbow in the clinical environment. Generally, compliance with BBE has improved compared to 2018/19.

Breakdown of BBE compliance (all staff) by Directorate of each site

	PCH & Community Hospitals		RCH & Community Hospitals		POW & Community Hospitals	
Directorate	**2018/19**	**2019/20**	**2018/19**	**2019/20**	**2018/19**	**2019/20**
Medicine	97%	100%	89%	69%	N/A	95%
Surgery	29%	100%	78%	89%	N/A	95%
Trauma & Orthopaedics	42%	100%	92%	100%	N/A	100%
Anaesthetics & Theatre	89%	100%	100%	71%	N/A	100%
Obs & Gynae	100%	*	67%	*	N/A	*
Children & Young people	*	92%	100%	*	N/A	*
Localities	70%	100%	85%	*	N/A	*

Breakdown of BBE compliance by Staff Groups by Directorate

	Nurses		Doctors	
Directorate	**2018/19**	**2019/20**	**2018/19**	**2019/20**
Medicine	100%	98%	98%	89%
Surgery	100%	98%	75%	81%
Trauma & Orthopaedics	100%	100%	86%	100%
Anaesthetics & Theatre	97%	100%	100%	67%
Obs & Gynae	100%	*	*	*
Children & Young People	100%	100%	100%	100%
Localities	88%	100%	100%	100%

	HCA's		Others	
Directorate	**2018/19**	**2019/20**	**2018/19**	**2019/20**
Medicine	92%	96%	94%	76%
Surgery	100%	100%	92%	92%
Trauma & Orthopaedics	60%	100%	75%	96%
Anaesthetics & Theatre	83%	100%	100%	67%
Obs & Gynae	100%	*	*	*
Children & Young People	*	100%	*	67%
Localities	80%	100%	91%	100%

Environmental Cleanliness Audits

Environmental audits have shown consistent levels of cleaning in the majority of the areas across the Health Board. Resources have been utilised to ensure they are equally applied to all clinical areas. The scores below not only reflect standards of cleaning for housekeeping and nursing staff but also includes any maintenance/ estates issues identified.

Poor audit scores have been reported across all sites.

	PCH & Community Hospitals		RGH & Community Hospitals		POW & Community Hospitals	
Directorate	**2018/19**	**2019/20**	**2018/19**	**2019/20**	**2018/19**	**2019/20**
Medicine	79%	82%	82%	70%	N/A	68%
Surgery	74%	83%	78%	61%	N/A	72%
Trauma & Orthopaedics	87%	90%	78%	64%	N/A	74%
Anaesthetics & Theatre	84%	77%	81%	76%	N/A	75%
Obs & Gynae	77%	67%	75%	66%	N/A	68%
Children & Young People	*	88%	79%	69%	N/A	*
Localities	85%	86%	65%	*	N/A	*

(C) Personal Protective Equipment (PPE) Audits

	PCH & Community Hospitals		RGH & Community Hospitals		POW & Community Hospitals	
Directorate	**2018/19**	**2019/20**	**2018/19**	**2019/20**	**2018/19**	**2019/20**
Medicine	81%	80%	86%	73%	N/A	80%
Surgery	78%	70%	67%	67%	N/A	79%
Trauma & Orthopaedics	85%	67%	75%	61%	N/A	80%
Anaesthetics & Theatre	56%	57%	100%	81%	N/A	94%
Obs & Gynae	81%	*	*	*	N/A	*
Children & Young People	*	93%	91%	*	N/A	*
Localities	76%	100%	69%	*	N/A	*

Poor audit scores have been reported across all sites. The IPC provide additional training when non compliance with IPC policies/dress code is identified.

Outbreaks and incidents

Diarrhoea and Vomiting (D&V)

Viral D&V is usually brought into the hospital from the community. It is essential that everyone is compliant with policies and procedures in order to reduce outbreaks of viral gastroenteritis on the wards. Prompt assessment and isolation is key to minimising outbreaks.

All patients should have a clinical risk assessment performed on admission to identify any infection prevention and control risks. We have a robust system in place where patients should be screened for D&V symptoms, which are:

- Communication by GPs – GPs are asked to assess/screen patients for D&V symptoms and communicate this information before referring patients into hospital.
- Bed Managers – are required to ask referring GPs if the patient has had D&V symptoms and record this in their daily sheet (which should be kept and available for audits).
- Admitting nurse – is required to ask the patient regarding D&V symptoms within the first 2 hours of admission and documenting this in the Admission pack documents under 'Infection Control Risk Assessment' section.

	2018/19	2019/20
Total no of Ward Closures & Bay Restrictions (Due to Suspected / Confirmed Viral Diarrhoea and Vomiting)	14	34
No. of Patients	82	204
No. of Staff	28	49
No. of Bed Days lost	145	175

No. of Norovirus Outbreaks on Closed wards	2018/19	2019/20
Confirmed	4	4
Suspected	0	5

There were more ward closures and bay restrictions in 2019/20 compared to the previous year. During periods of increased incidence of infection/outbreaks, the additional availability of side rooms in Prince Charles Hospital means there is less disruption to service provision and patient flow. It is easier to isolate patients in single rooms and manage the outbreak more efficiently which leads to a more timely resolution. Only 2 of the 34 incidents relate to PCH while 9 incidents relate to RGH and 23 to PCH.

Period of Increase Incidence (PII)

5 PII meetings were held during 2019–2020. Remedial and corrective actions were identified and monitored by the Directorates, supported by the IPC Team.

Location	Period	Organism	Cases
Ward 2 PCH	April 2019 – May 2019	Clinical line infection associated with PVC Line associated bacteraemia	2 2
Ward 14 RGH	April 2019	Increase in GDH+/ CDI	5
Ward 8 RGH	June 2019	Increase in GDH+ / CDI	4
ITU PCH	September 2019	P. aeruginosa	4
Ward 2 PCH	October 2019	Clinical line infection associated with PVC	1

Serious Incident/ No Surprises Notifications (excludes SI notifications for CDI related deaths)

POW Ward 18	April 2019	Influenza A	8 patients	Ward closed
POW	May – June 2019	Legionella incident	Widespread across POW site	

6. COVID - 19

Public Health Wales released a briefing in January 2020 alerting Health Board's to cases of pneumonia of unknown microbial aetiology associated with Wuhan City, Hubei Province, China. A cluster of cases had been identified which represented the emergence of a novel pathogen – COVID-19.

PHW published regular briefings, IPC guidance, a clinical and epidemiological criteria and testing strategies to promote standardisation across Wales.

CTM reviewed and tested pandemic flu plans and business continuity arrangements to demonstrate preparedness to deal with individuals presenting with symptoms or travel history suggestive of COVID-19 or clusters of cases. Testing units were set up across the CTM boundary to test symptomatic staff. A command structure was introduced to lead and manage the evolving situation.

The IPC Team were integral to the COVID preparedness and response agenda and played a pivotal role in this work.

Confirmed cases in CTM up to the end of March 2020

- RGH - 31 cases from 25.03.20 – 31.03.20
- PCH - 42 cases from 18.03.20 – 31.03.20
- POW – 32 cases from 18.03.20 – 31.03.20

A proactive programme including IPC training, PPE instruction (donning and doffing) and fit test training was introduced.

7. Antimicrobial Stewardship

(1) Secondary Care

(a) National Prescribing Targets

There are 2 national antimicrobial prescribing targets. The progress made by CTM in 2019-2020 is shown in the table below.

	Indicator	Target	CTM progress	Notes
Welsh Health Circular antimicrobial resistance (AMR) and healthcare-associated infection (HCAI) Improvement Goals 2019/20	Total antimicrobial volume	1% reduction	Target not achieved: **PCH:** 3.1% increase **RGH:** 3.6% increase **POWH:** No data (problems with denominator data since HB merge).	Total antimicrobial prescribing (oral and parenteral agents) is highest in RGH and lowest in POWH. 6 of the 15 acute hospitals in Wales met the target (POWH not included).
	World Health Organisation (WHO) ACCESS** category target	≥55% of antibacterial prescribing should be antibacterials in the ACCESS** category	All 3 acute hospitals achieved the target: **PCH:** 67.4% **RGH:** 66.5% **POWH:** 68.2%	10 of the 16 acute hospitals in Wales met the target.

** key antibiotics which are narrow spectrum and used as first-line treatment options.

(b) Antimicrobial stewardship work programme

Antimicrobial Guidelines

The major focus of the antimicrobial stewardship team has been the merge of the Cwm Taf and POWH antimicrobial guidelines. This has involved detailed review and update of all sections of the guidelines in conjunction with clinical and microbiology colleagues. The original deadline for the complete merge and creation of a single CTM antimicrobial guideline was March 2020. This has been delayed due to the COVID-19 pandemic. The progress so far is as follows: primary care approximately 66% complete, secondary care approximately 35% complete, paediatrics approximately 40% complete.

Antimicrobial Ward Rounds

Antimicrobial ward rounds (Consultant Microbiologist and Antimicrobial Pharmacist) are key to engaging with clinical staff and embedding good antimicrobial stewardship at ward level. There are were regular multidisciplinary antimicrobial ward rounds in RGH, PCH and POWH in 2019/20.

C. difficile Root Cause Analysis

Antibiotic prescribing is investigated in detail for all patients with healthcare-associated *C. difficile* infection. Any lessons learnt with regard to antimicrobial stewardship are communicated to clinical colleagues along with other measures put in place as necessary e.g. amendment of antimicrobial guidelines.

Restricted Antibiotics

There are protocols in place in PCH, RGH and POWH for the issue of restricted antibiotics (those requiring microbiology approval) by the pharmacy department. In addition, in POWH there is a separate, specific procedure for co-amoxiclav. In POWH, any antimicrobial prescribing outside of guidelines, without microbiology approval necessitates the pharmacist completing an antibiotic exception report, which is cascaded to the Medical Director. This is to ensure the prudent use of broad-spectrum antibiotics (WHO WATCH antibiotics) and antibiotics that should be reserved to treat resistant infections (WHO RESERVE antibiotics).

Audits

The Welsh Health Circular July 2019 mandated that all Health Boards will demonstrate compliance with 'Start Smart then Focus' by using the audit tool developed by Public Health Wales. This will allow benchmarking between acute sites in CTM and also against all hospitals in Wales. Due to the COVID-19 pandemic, progress with embedding these audits in PCH, RGH and POWH has been suspended until the locality Clinical Service Groups Antimicrobial Stewardship Groups are established.

Education and Training

Education on antimicrobial stewardship is provided by clinical pharmacists in PCH, RGH and POWH. Audiences include pharmacists, fifth year medical students, doctors new to the Health Board and junior doctors.

ARK (Antibiotic Review Kit) Chart

The ARK chart has been approved for use across Wales. The introduction and roll out of the ARK chart in CTM is to be discussed and agreed when the Health

Board Antimicrobial Resistance and Healthcare-Associated Infections Delivery Group is re-established. This has been delayed by the COVID-19 pandemic.

(2) Primary Care

(a) National Prescribing Targets

There are 3 national antimicrobial prescribing targets:

	Indicator	Target	CTM progress	Notes
All Wales Medicines Strategy Group National Prescribing Indicators	Total antibacterial items/1000 STAR-PUs	Quarterly reduction of 5% against April 2018 - March 2019 baseline	Target achieved	
	4C* antibacterial items/1000 patients	Quarterly reduction of 10% against April 2018 – March 2019 baseline	Target not achieved. 13% of GP practices in CTM met the target.	
Welsh Health Circular AMR and HCAI Improvement Goal 2019/20	Total antimicrobial volume	25% reduction from baseline year of 2013 by 2024 (10 year target).	Not on track to meet target by 2023/24. Position at end 2019/20: An overall 9.5% reduction in total antimicrobial consumption against the target.	Wales remain on track to meet this target. CTM is one of 3 HBs not on track to meet the target. There was an increase in total antimicrobial usage in the winter quarters of 2019/20, halting overall reduction against the baseline rate.

*4C = co-amoxiclav, cephalosporins, fluoroquinolones, clindamycin.

(b) Antimicrobial stewardship work programme

Antimicrobial Guidelines

The major focus of the antimicrobial stewardship team has been the merge of the Cwm Taf and Bridgend Locality antimicrobial guidelines. This has involved detailed review and update of all sections of the guidelines in conjunction with clinical and microbiology colleagues. The original deadline for the complete merge and creation of a single CTM antimicrobial guideline was March 2020. This has been delayed due to the COVID-19 pandemic.

Audits

Work has focused on completing antibiotic prescribing audits within GP practices, and the results fed-back to the prescribers along with local and national prescribing and resistance data. A co-amoxiclav audit was completed as part of the Prescriber Management Scheme (PMS)/Prescriber Quality Improvement Programme (PQIP).

Education and Training

Public education and awareness sessions were undertaken in the form of 'antibiotic myth busting' amongst the over 50s and in local schools and Scout groups. The 'UTI Friday' project, focusing on UTI management was undertaken by GP clusters in Merthyr, Taf Ely and Bridgend. GP registrar training was undertaken in Merthyr.

8. Education and Training Activities

The IPC Nurses offer mandatory infection prevention and control training at different sites within the UHB and also provide a range of other educational sessions. The attendance of central training has been poor and group specific training at local level has been provided to encourage attendance of staff at both acute and community hospitals. The plans for extending invitation to primary care users to utilise Health Board training has been implemented.

IPC induction is run twice yearly for junior and new medical staff and the IPC team also contribute to other corporate, nursing and graduate induction programmes.

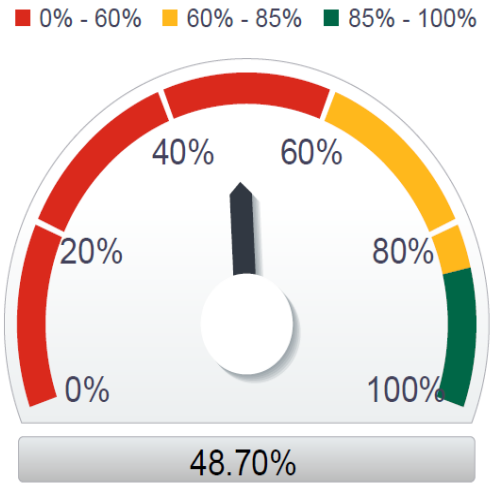
The table below identifies the number of staff trained this year. IPC training is mandated for Registered Practitioners and ancillary staff annually. Individual directorates have the responsibility to monitor staff compliances with mandatory training and this is monitored at directorate IP&C meetings.

Total Number of staff attending IP&C Training

	Level 2		Management of IPC		Other*	
	2018/19	2019/20	**2018/19**	2019/20	**2018/19**	2019/20
Attended	1099	495	186	143	641	700
Withdrawn	175	4	59	58	0	9
Did Not Attend	22	2	31	5	0	1

*Other – includes IV drugs and nurse induction

Combined Compliance % for all 4 Levels of IPC Training as at 31.03.20



Compliance Percentage for each of the Four Levels of IPC Training as at 31.03.20

Competence Full Name	Headcount	Competencies Required	Competencies In-date	Compliance %	Competencies Expiring in Next 90 Days	Predicted % in 90 Days
110|CSTF|Infection Prevention and Control Level 2a - 1 Year|	4027	4027	205	5.09%	25	4.67%
110|CSTF|Infection Prevention and Control Management Training - No specified renewal|	658	658	192	29.18%	0	29.18%
NHS|CSTF|Infection Prevention and Control - Level 1 - 3 Years|	3877	3877	3197	82.46%	310	79.57%
NHS|CSTF|Infection Prevention and Control - Level 2 - 1 Year|	7408	7408	4184	56.48%	577	60.14%

Overall Combined Compliance % for each Staff Group as at 31.03.20

Staff Group	Headcount	Competencies Required	Competencies In-date	Compliance %	Competencies Expiring in Next 90 Days	Predicted % in 90 Days
Add Prof Scientific and Technic	354	419	202	48.21%	17	51.55%
Additional Clinical Services	2163	3547	1455	41.02%	200	42.32%
Administrative and Clerical	2208	2238	1809	80.83%	141	81.14%
Allied Health Professionals	628	891	488	54.77%	35	57.58%
Estates and Ancillary	1306	1306	1093	83.69%	162	73.12%
Healthcare Scientists	189	208	160	76.92%	6	82.69%
Medical and Dental	978	1839	163	8.86%	23	11.36%
Nursing and Midwifery Registered	3447	5512	2407	43.67%	327	46.04%
Students	6	10	1	10.00%	1	0.00%

Aseptic Non Touch Technique (ANTT)

Aseptic Non Touch Technique (ANTT) is a comprehensive practice framework for aseptic technique used for all invasive procedures, from major surgery to maintenance of invasive devices and will affect every directorate and varying disciplines of staff.

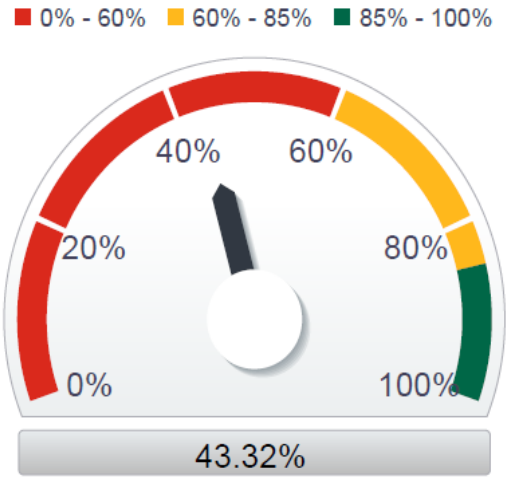
All health board employees who perform aseptic procedures as part of their role must complete the ANTT e-learning package which is available via NHS learning Wales. Staff will then be competency assessed in their areas by designated ANTT trainers for the organisation.

A Senior Infection Prevention and Control Nurse coordinated the roll out of ANTT in the former Cwm Taf UHB and the responsibility for monitoring compliance and DOPS assessment has been given to the Directorates to monitor and manage compliance. The IP&CT will continue to offer support and assistance to provide training for ANTT assessors and with assessments.

The All Wales ANTT policy has been adopted by the UHB and a steering group has been set up to oversee the implementation which is ongoing in primary and secondary care.

A Senior Infection Prevention and Control Nurse is coordinating ANTT workshops on the Princess of Wales Hospital site to introduce/roll out ANTT.

Combined compliance % for Level 1 (e-learning) and Level 2 (workplace assessment) ANTT Training as at 31.03.20



Compliance Percentage for each of the three levels of ANTT training as at 31.03.20

Competence Full Name			Headcount	Competencies Required	Competencies In-date	Compliance %	Competencies Expiring in Next 90 Days	Predicted % in 90 Days
110|MAND|Aseptic Non Touch Technique - Level 2 (Workplace Assessment) - 3 Years|			3758	3758	926	24.64%	84	24.40%
110|MAND|Aseptic Non Touch Technique - Level 3 (Assessor) - No Specified Renewal|			232	232	31	13.36%	0	13.79%
NHS|MAND|Aseptic Non Touch Technique - 3 Years|			4005	4005	2437	60.85%	89	65.89%

Combined Level 1 and Level 2 compliance % for each Staff Group as at 31.03.20

Staff Group	Headcount	Competencies Required	Competencies In-date	Compliance %	Competencies Expiring in Next 90 Days	Predicted % in 90 Days
Add Prof Scientific and Technic	19	38	22	57.89%	0	63.16%
Additional Clinical Services	1056	2045	805	39.36%	46	42.00%
Administrative and Clerical	1	2	0	0.00%	0	0.00%
Allied Health Professionals	279	557	226	40.57%	28	38.60%
Healthcare Scientists	1	2	1	50.00%	0	50.00%
Medical and Dental	572	1144	115	10.05%	0	13.55%
Nursing and Midwifery Registered	2072	3965	2193	55.31%	99	58.03%
Students	5	10	1	10.00%	0	10.00%

9. Decontamination

- **PCH & RGH Centralised Decontamination Scheme**
  The scheme started in PCH in January 2019 and was commissioned for use in December 2019. The old machines were decommissioned and removed from Endoscopy.

- **POW- centralisation scheme**
  Discussions are ongoing between the Health Board and Welsh Government to retain permanent JAG accreditation for Endoscopy in POW. The Health Board has prepared a scoping document on the options for this and identified the risks of ageing equipment and facilities in HSDU for medical and surgical equipment decontamination. A Strategic Outline Case (SOC) was requested by Welsh Government and if this is approved, funding will be agreed for design costs for the production of a Business Justification Case (BJC) with a designed and tendered scheme. A project team is being established to oversee the business case process. As an interim measure, a statement of need will be developed to replace ageing equipment within HSDU.

- **Community Dental Survey**
  Welsh Government commissioned a national survey of decontamination practices in November 2019. The main recommendations from the survey is to transfer decontamination of dental equipment to an accredited Sterile Service department (SSD). Arrangements are being made to pilot this in POW and RGH. An action plan will be developed to identify and monitor compliance against the survey.

- **RGH HSDU Bowel Screening Wales Audit**
  NWSSP audited the department in July 2019. Operational management of the facility needs to be improved to meet the principles of JAG requirements. A delivery plan was presented to the decontamination committee in January 2020 detailing the actions taken/required following

the audit. It was agreed that progress against the action plan will be monitored in the Integrated Locality Group Decontamination meeting in RGH and to provide updates in decontamination committee.

- **Decontamination role**
  From June 2019, the role of the operational lead for decontamination has been incorporated into the Deputy Lead Infection Prevention Control Nurse post but this is not sustainable and poses a risk for the organisation. In order to fulfil the requirements of this position, the decontamination lead role must be a dedicated post. This has been included in the IMTP.

- **Laryngoscope handles**
  There is a lack of standardisation across the Health Board in the decontamination process for laryngoscope handles. POW use single use laryngoscope handles and discussions have taken place in RGH and PCH to adopt the same practice. Following discussions at the directorates clinical business meeting, it was agreed that changing to single use handles would have a significant cost implication. A risk assessment will be developed by the directorate.

11. Challenges this year and priorities for 2019/20

Challenges faced in the past year:

- Poor staffing levels due to the formation of the new HB, vacancies and longterm sickness within IPC resulted in the team having to re-prioritise plans and pause improvement work.

- Poor compliance with hand hygiene practice, use of PPE and environmental audits continues to be a challenge.

- There has been no progress with the IPC link system due to a shortage of nursing staff in the clinical areas.

- No dedicated IPC resource for primary care makes it extremely difficult to progress with improvement projects. A significant proportion of C.Difficile infection, S.aureus and gram negative bacteraemia are community acquired infections.

Priorities for 2020/21

- Restructure and re-align IPC team to the planned new organisational structure.

- Work with Integrated Locality Group leads to develop local improvement goals against the WG reduction expectations.

- Re-align and standardise governance arrangements for infection prevention and control to reflect the needs of the new Cwm Taf Morgannwg University Health Board. Policies, procedure and reporting mechanisms will be standardised over the coming months.

- Investment is needed to provide an integrated whole system approach for infection prevention and control. More emphasis must be placed on making improvements in primary care to improve patient care and safety and influence a reduction in C.Diffiicle infection, S.aureus and gram negative bacteraemia. The HB will not achieve the healthcare associated improvement goals without investment in primary care.

- A dedicated resource is critical to lead on the operational agenda for decontamination for Cwm Taf Morgannwg UHB.

- There are a number of refurbishment and capital building schemes ongoing across the Organisation which have identified a number of engineering issues which affect IPC. A dedicated resource to support the ground and 1st floor refurbishment programme at PCH is being requested as part of the capital scheme.

12. Glossary

CCU	Coronary Care Unit
CDI	*Clostridium difficile* Infection
C.diff	*Clostridium difficile*
CTUHB	Cwm Taf Morgannwg University Health Board
CVAD	Central Venous Access Device
CVC	Central Venous Catheter
D&V	Diarrhoea and Vomiting
GP	General Practitioner
HARP	The Healthcare Associated Infection, Antimicrobial Resistance & Prescribing Programme
HCAI	Health Care Associated Infections
HPV	Hydrogen Peroxide Vapour
IPC/IP&C	Infection Prevention & Control
IPCC	Infection Prevention & Control Committee
IPCN	Infection Prevention & Control Nurses
IP&CT	Infection Prevention & Control Team
ITU	Intensive Therapy Unit
MRSA	Methicillin - Resistant *Staphylococcus aureus*
MSSA	Methicillin - Sensitive *Staphylococcus aureus*
NHS	National Health Service
OPD	Out Patient Department
PCH	Prince Charles Hospital
POW	Princess of Wales Hospital

PPE	Personal Protective Equipment
PVC	Peripheral Venous Access Catheter
RCA	Root Cause Analysis
RGH	Royal Glamorgan Hospital
RRAI	Rapid Response to Acute Illness
SCBU	Special Care Baby Unit
SSI	Surgical Site Infection
UHB	University Health Board
VAP	Ventilator Associated Pneumonia
WG	Welsh Government
WHO	Welsh Health Organization