



Meeting Date	22 September 2020		Agenda Item	2.1
Report Title	Healthcare Acquired Infections Update Report			
Report Author	Lisa Hinton, Assistant Director of Nursing IPC			
Report Sponsor	Christine Williams, Interim Director of Nursing & Patient Experience			
Presented by	Lisa Hinton, Assistant Director of Nursing IPC			
Freedom of Information	Open			
Purpose of the Report	This is an assurance report provides an update on prevalence, progress and actions for healthcare associated infections (HCAIs) within Swansea Bay University Health Board for the reporting period.			
Key Issues	<ul style="list-style-type: none"> Challenging to attain improvements in reduction of targeted infections. However, there has been year-on-year improvement in the following key infections: <i>Staph. aureus</i>, <i>E. coli</i>, <i>Klebsiella</i>, and <i>Pseudomonas aeruginosa</i> bacteraemia cases. Of concern, there has been a 72% year-on-year increase in <i>C. difficile</i> cases. Adherence to best practice in infection prevention and control precautions is critical. Delivery Units must focus on achieving compliance with staff training in this area and on auditing compliance. It is acknowledged that staffing shortages can present a challenge for staff accessing IPC training. Lack of decant facilities, when occupancy is at acceptable levels on acute sites, compromises effectiveness of the '4D' cleaning/decontamination programme. A funded three-month programme of proactive deep cleaning, with a contracted hydrogen peroxide vapour disinfection service has been successfully implemented across Health Board acute hospitals. COVID-19 may have an impact on <i>C. difficile</i> infections, which may relate to antimicrobial treatment for respiratory tract infections. The number of COVID-19 tests taken has increased in the past few weeks and there has been a slight increase in the number of positive cases. Trends will be closely monitored. 			
Specific Action Required	Information	Discussion	Assurance	Approval
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Recommendations	Members are asked to: <ul style="list-style-type: none"> Note reported progress against HCAI priorities up to 31st August 2020 and agree actions. 			

Infection Prevention and Control Report

		Agenda Item	2.1
Freedom of Information Status		Open	
Performance Area	Healthcare Acquired Infections Update Report		
Author	Lisa Hinton, Assistant Director of Nursing, Infection Prevention & Control		
Lead Executive Director	Christine Williams, Interim Director of Nursing & Patient Experience		
Reporting Period	31 August 2020		

Summary of Current Position

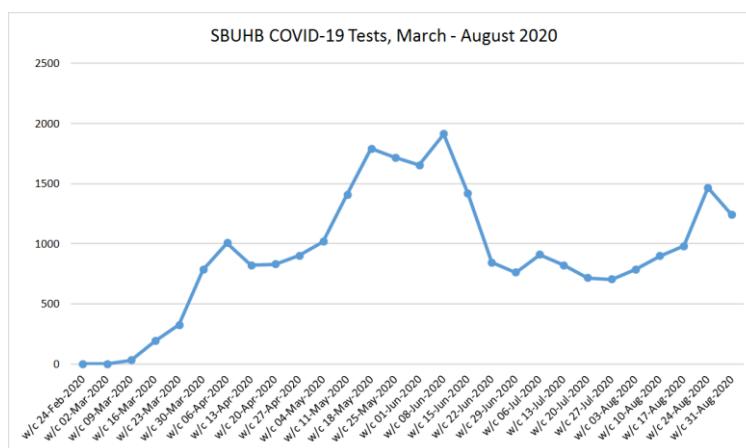
The Health Board has been under significant pressure as a result of the current COVID-19 (SARS 2) pandemic. This is having a significant impact on the health of the Health Board's population and its staff. Services have been under significant pressure as a consequence.

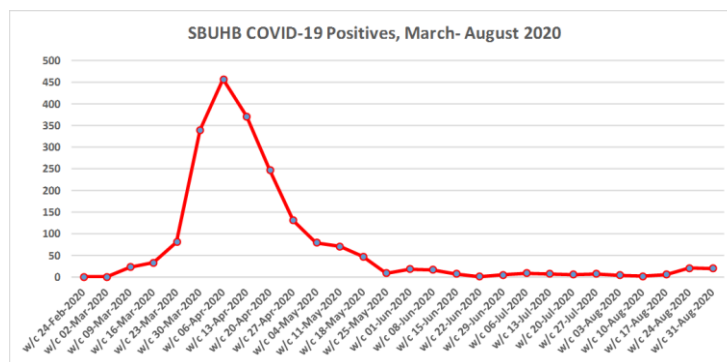
COVID-19 (SARS 2):

- From 1st March 2020 to 31st August 2020: **2,004** positive cases of COVID-19 (SARS 2) from **24,834** tests.

Location	No. COVID-19	Location	No. COVID-19
SB CTU*	1,350	Gorseinon	13
Morrison	398	NPT CRT	2
Singleton	114	Swansea ACT	1
Neath Port Talbot	53	HMP Swansea	10
Cefn Coed	30	GP	30
LD	2	Other	1

* mostly staff/essential workers, but started testing Care Homes w/c 15.04.20





- The graphs above demonstrate the number of COVID-19 tests taken and number of positives. In general the number of tests taken has increased in the past few weeks and there has been a slight increase in the number of positive cases.
- The number of cases in the table above identifies confirmed cases only. There have been cases of COVID-19, clinically confirmed by X-Ray, that have tested negative.
- Possible outbreaks or incidents of COVID-19 (SARS 2) associated with MH AMAU, MH Ward A, MH Ward D, MH Cardigan Ward, SH Ward 12, SH Ward 9, SH Ward 7, NPTH Ward A, NPTH Ward C, CCH Ysbryd y Coed Unit.
- There have been at least 39 care homes within the Health Board that have reported cases of COVID-19 SARS 2 (with more than 230 confirmed cases amongst patients and staff).

Targeted Intervention Infections

• 2020/21

There will be significant pressure on the Health Board to reverse this position in 2020/21. The Tier 1 infection reduction goals for 2020/21 have yet to be published. Until their publication, Health Board progress will be shown in comparison with the 2019/20 monthly targets.

Infection	2019/20 EYO total cases	Comparison 2018/19
<i>C. difficile</i>	138	7% ↑
<i>Staph aureus</i> BSI	133	3% ↓
<i>E. coli</i> BSI	317	11% ↓
<i>Klebsiella</i> BSI	82	34% ↓
<i>Ps. aeruginosa</i> BSI	28	12% ↑

Infection	Cumulative cases Apr-Aug 2020	Aug 2020 Cases	Sept Cases to 06/09/20	WG Monthly Expectation
<i>C. difficile</i>	81	23	2	<8 cases
<i>Staph aureus</i> BSI	46	12	3	< 6 cases
<i>E. coli</i> BSI	102	32	1	< 21 cases
<i>Klebsiella</i> BSI	36	10	1	< 8 cases
<i>Ps. aeruginosa</i> BSI	11	3	0	< 2 cases

Achievements

- Health Board performance against all Tier 1 infection reduction goals for 2020/21 has deteriorate, although there has been improvement in relation to year-on-year comparisons (against April-August 2019 cases):
 - *Staph. aureus* bacteraemia – 23% decrease
 - *E. coli* bacteraemia – 24% decrease
 - *Klebsiella spp.* bacteraemia – 3% decrease
 - *Pseudomonas aeruginosa* bacteraemia – 35% decrease.
- Further review will be undertaken by the Delivery Units that have seen increased trends in relation to Tier 1 infections to identify themes and areas for infection reduction quality improvement initiatives. The IPC team will support this work.
- A 4 weekly *C. difficile* scrutiny panel has been established and local action plans driven by the Delivery Units, with IPC support, will provide the focus on improvement. Delivery Units have developed unit-specific *C. difficile* Improvement Plans, which have been submitted to, and will be monitored by, the *C. difficile* scrutiny panel.
- The short-term 3 month contract for a proactive hydrogen peroxide vapour (HPV) service will conclude on 29th September. To date, there have been 412 successful HPV processes undertaken across the three acute sites. As inpatient activity increases across sites, there may be challenges in being able to decant areas to facilitate HPV, and the pace of HPV processes may reduce.
- The pilot of SSAs undertaking the cleaning of items generally undertaken by nursing staff, following training by the IPC Team on how to effectively clean patient care equipment is underway in line with the HPV programme. This pilot has been very well received by nursing teams on all sites and has allowed them to focus on direct patient care activities. The pilot is being monitored in relation to cleaning outcome, and time taken to effectively clean patient care items and equipment to produce the desired outcome.
- IPC resource – a 7 day service is mostly in place with full cover from October 2020. All new recruits into the IPCN team have commenced their posts. As these new staff are signed off as competent to undertake unsupervised weekend work.
- IPC nurses, who will work with Primary Care and Community Services, mental health and learning disabilities, are coming to the end of their induction programme, and have commenced targeted activities in line with the planned service reset in Primary Care, and are supporting Physical Distancing Risk Assessments.
- The proposed Health Board Infection Prevention & Control Framework was presented at the Infection Prevention & Control Committee in August 2020, and generally was supported. Delivery Units are providing feedback which will be discussed, with a view to final sign-off, at the Infection Prevention & Control Committee in October 2020.
- Morriston delivery unit have an identified decant facility for the site.

COVID

- The IPC service continues to provide support and advice to clinical and non-clinical staff across all Health Board services in all issues relating to COVID-19 and other infections. The IPCT are utilising the learning from COVID to prepare for a potential second wave of COVID.
- Audits of PPE, hand hygiene and the care environment have been undertaken by the IPC team in collaboration with Nursing and Medical students from Swansea University. Whilst data from the audits is still being analysed, feedback from those involved was that this was a positive experience, which made them think more carefully about their own practice and that of their colleagues. A briefing paper on the findings was presented to the Infection Prevention & Control Committee in August. Overall, the students reported that staff on the wards were very

welcoming, receptive to feedback and there was clear communication between staff groups. Compliance with bare below the elbows was very good in the majority of areas across the sites. Students reported that there was not clear signage regarding which PPE was required in all departments and that the increased use of gloves appeared to be resulting in a reduction in hand hygiene being performed in line with the WHO 'My 5 moments'.

- The education planner is on the SharePoint training link, and details the IPCT training programme available to specific staff groups and sessions accessible to all staff across SBU for the time period January- December 2020. Additional PPE Donning & Doffing sessions have been made available to increase PPE Donning & Doffing training capacity across all Delivery Units.
- The IPCT are working with the Physical Distancing Cell to assist in the risk assessment process. A corresponding paper, with RAG status and options, has been presented for consideration to the Cell. Further assessments will be undertaken to confirm physical distancing measurements, and this will feed back to the Physical Distancing Cell.

Challenges, Risks and Mitigation

- The Health Board is not achieving the infection reduction goals expected by Welsh Government. The position in relation to *C. difficile* has deteriorated further. There has been a 72% year-on-year increase in *C. difficile* cases (against April-August 2019 cases). Two cases in August, that have been included in SBUHB numbers, were cases considered to have been acquired in another Health Board. There will be discussion with Public Health Wales regarding these cases.
- PHW Epidemiologists have undertaken whole genetic sequencing of *C. difficile* isolates, which enables greater discrimination between isolates, including the ability to distinguish between strains of the same ribotype. From this information, PHW have identified that the majority of cases within the Health Board have not been as a result of transmission events. The final PHW epidemiological report will be presented at a future Infection Prevention & Control Committee. This information supports the Health Board's decision to invest in additional cleaning hours and training as a means of preventing significant transmission incidents. There needs to be a continued emphasis on antimicrobial stewardship and for *C. difficile* to be seen as an iatrogenic colitis, requiring medical review of causation.
- Historically, reduction initiatives historically have been compromised by over-crowding of wards as a result of increased activity and the use of pre-emptive beds, and where there are staffing vacancies, and reliance on temporary staff, and where activity levels are such that it is not possible to decant bays to effectively clean patient areas where there have been infections. Whilst this has been less an issue at the height of COVID-19 activity, the Health Board must continue to be mindful of these risks once there is a return to normal service provision.
- The level of air changes at general ward level will be reviewed as a result of COVID-19. General wards should have an air change rate of 6 air changes per hour. This is likely to impact Singleton Hospital, which may have a higher dependence on natural ventilation rather than mechanical ventilation, and in other acute sites. The air exchange rate could have an effect on infections that have airborne transmission, including Coronavirus, Influenza, Norovirus, etc.
- The COVID situation has provided an opportunity for decanting areas to be able to undertake a proactive deep cleaning programme. When full service resumes, the lack of decant facilities, when occupancy is at acceptable levels on acute sites, compromises effectiveness of the '4D' cleaning/decontamination programme will continue to be a challenge.
- There is an improved position in domestic hours in that there are no historical vacancies for Singleton or Morriston. Recruitment continues to meet the agreed increase staffing to meet the agreed uplift to meet the National Minimum Standards of Cleanliness. This is an ongoing process as there continues to be turnover in this staff group.

Action Being Taken (what, by when, by who and expected impact)

Maintain infection Prevention & Control Support for COVID-19

- **Action:** Continue to provide support and advice in relation to COVID-19 for clinical and non-clinical staff across the Health Board, and Procurement, due to supply issues as a result of COVID-19; also prepare for a potential second wave of infection. **This will be ongoing during winter months and in anticipation of a second wave.** **Lead:** Assistant Director of Nursing IPC. **Impact:** Safe practices to protect the health of patients, staff and wider public.

Development of ward dashboards key infections

- **Action:** Collaboration with Digital Intelligence Team and Infection Prevention & Control Team. Surveillance of healthcare associated infections will resume, with update reports prepared for Senior Leadership Team and Quality & Safety. A paper is being developed for the Modelling Cell of Business Intelligence. **Target completion date:** 31 December 2020. **Lead:** ADN, IPC, Head of Nursing IPC, and Business Intelligence Information Manager. **Impact:** Provide timely information on infections at Ward, Specialty, Delivery Unit and Board level to facilitate early detection and early intervention to improve patient safety.

Clostridium difficile infection

- **Action:** Further investigation into the increasing trend in *C. difficile* to identify possible contributory factors, with a specific focus on antimicrobial stewardship. **Target completion date:** September 2020. **Lead:** Matron IPC, Delivery Unit Directors, and Consultant Antimicrobial Pharmacist. **Impact:** reduction in *C. difficile* cases.
- **Action:** Delivery Units have requested that hospital acquired *C. difficile* cases be reported as cases per 1000 admissions. This request has been referred to the performance team to calculate and display within Delivery Unit reports. **Target completion date:** November 2020. **Lead:** Head of Performance. **Impact:** Comparability of *C. difficile* cases with similar acute sites.
- **Action:** Review of aetiology of *C. difficile* colitis, with input from gastroenterology and general surgery, to identify improvement actions. Medical representatives from both specialities to be invited as members of *C. difficile* Scrutiny Panel. **Target completion date:** November 2020. **Lead:** Matron, Quality Improvement Infection Control. **Impact:** Improved understanding of medical factors that may reduce incidence of *C. difficile*.

Review of Infection Prevention & Control Service

- **Action:** Following Health Board investment in the Corporate IPC service, undertake a service redesign to provide a Health Board-wide integrated service, which will extend to Primary & Community Care. **Target completion date:** end of September 2020. **Lead:** Assistant Director of Nursing IPC. **Impact:** Corporate IPC service will provide appropriate expertise, guidance and advice to all Delivery Units to support their compliance with Standard 2.4, Health and Care Standards for Wales, that *“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”*.

Domestic staff recruitment

- **Action:** Recruitment process for additional cleaning staff progressing. **Target completion date:** September 2020. **Lead:** Support services manager. **Impact:** Increased domestic staffing to provide cleaning hours required.

Meeting national minimal standards of cleanliness

- **Action:** Following the presentation to SLT on 5th February 2020, there was agreement to fund additional cleaning hours. The next steps will determine the staging of funding and recruitment of additional staff. **Target completion date:** March 2021, as recruitment is an ongoing process, including replacing staff who retire or leave the service. **Lead:** Support services manager.

Impact: Agreed staged approach to increasing funding for increased domestic staffing to provide cleaning hours required to meet national minimum standards.

Decant

- **Action:** Solutions for dedicated decant to be identified for Morriston and Singleton. **Target completion date:** *set back as a result of COVID-19* to October 2020. **Lead:** Assistant Director of Nursing IPC, unit nurse directors and Service improvement capital planning. **Impact:** Solution for decant to be identified and proposals for a solution to be presented to SLT.

Procurement of Hydrogen Peroxide Vapour (HPV) Contracted Service

- **Action:** Undertake a procurement exercise to identify a safe and appropriate managed service for when ongoing transmission of an organism has occurred, despite implementation of existing control measures, and the environment and/or equipment is considered to be a persistent source of pathogens. Also, an annual programme of environmental decontamination, dependent on the ability to decant. **Target completion date:** *set back as a result of COVID-19* to September 2020. **Lead:** Assistant Director of Nursing IPC, Support Services, and Procurement. **Impact:** Environmental decontamination in line with the '4D' programme: Declutter, Decant, Deep-clean and Disinfect, and the Outbreak Management Protocol, and an annual Deep Clean Programme.
- **Action:** Review the pilot of Support Service Assistants undertaking the whole deep clean of patient care areas, to include items historically cleaned by nurses, and determine efficacy and propose a long-term solution. **Target completion date:** 30 November 2020. **Lead:** Head of Support Services and Head of Nursing IPC. **Impact:** Cost- and time-effective service of deep clean and decontamination.

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/>).

Estimated costs related to healthcare associated infections, from 01 April 2020 – 31 August 2020 is as follows: *C. difficile* - £810,000; *Staph. aureus* bacteraemia - £322,000; *E. coli* bacteraemia - £121,000; therefore a total cost of **£1,254,100**.

Recommendations

Members are asked to:

- Note reported progress against HCAI priorities up to 31st August and agree actions.