Meeting Date	**24 August 2021**	**Agenda Item**	**3.1**
Report Title	Healthcare Acquired Infections Update Report		
Report Author	Joanne Walters, Matron Quality Improvement, Infection Prevention & Control		
Report Sponsor	Christine Williams, Interim Director of Nursing & Patient Experience		
Presented by	Delyth Davies, Head of Nursing, Infection Prevention & Control		
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	• The Health Board continues to have the highest incidence of infection for the majority of the Tier 1 key infections. • COVID-19 may have had an impact on *C. difficile* infections, which may relate to antimicrobial treatment for respiratory tract infections. The Health Board has agreed to participate in a Public Health Wales-led epidemiological review exploring the relationship between COVID-19, secondary bacterial infections and *C. difficile* to gain an improved understanding of the impact of COVID on the incidence of *C. difficile*. • Adherence to best practice in infection prevention and control (IPC) precautions is critical. Delivery Groups must focus on achieving compliance with staff training in this area and on auditing compliance. This is critical in relation to all nosocomial infections; COVID-19 has heightened awareness of the importance of IPC, and all staff must maintain vigilance going forward. • COVID-19 vaccination programmes are progressing well. • The Quality Priority programme for healthcare associated infection improvement 100-day plan is progressing.		
Specific Action Required	**Information** ☐	**Discussion** ☐	**Assurance** ☒	**Approval** ☐
Recommendations	Members are asked to: • Note reported progress against HCAI priorities up to 31 July 2021 and agree actions.			

Infection Prevention and Control Report

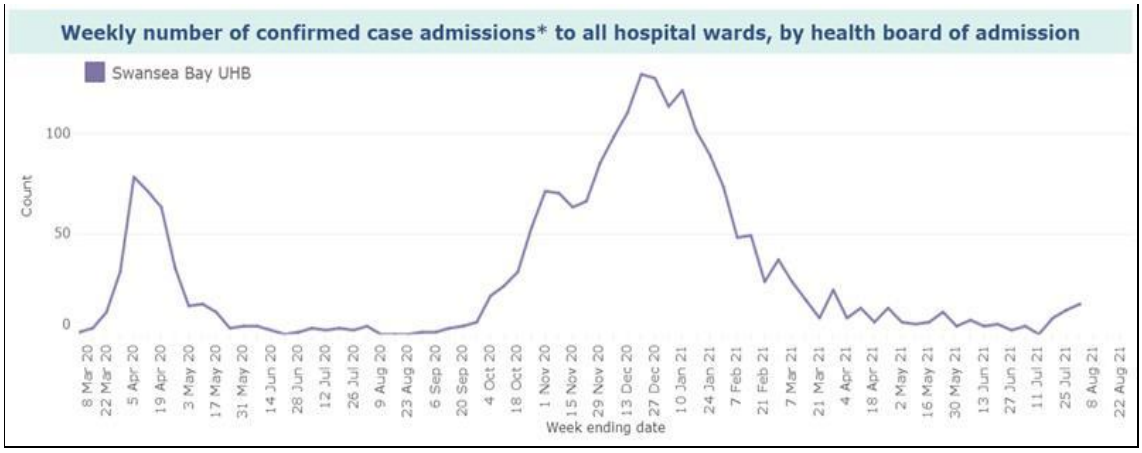
		Agenda Item	3.1
Freedom of Information Status		Open	
Performance Area	Healthcare Acquired Infections Update Report		
Author	Joanne Walters Matron Quality Improvement, Infection Prevention & Control		
Lead Executive Director	**Christine Williams, Interim Director of Nursing & Patient Experience**		
Reporting Period	31 July 2021		

Summary of Current Position

The Health Board has continued with its response to COVID-19 (SARS 2) pandemic.

COVID-19 (SARS 2):

- From 01 March 2020 to 31 July 2021: there have been over 32,327 positive cases of COVID-19 (SARS 2) from approximately 295,587 testing episodes.
- The chart below shows the weekly number of laboratory confirmed COVID-19 cases admitted to SBUHB hospitals, and highlights the impact of the second wave of the pandemic.



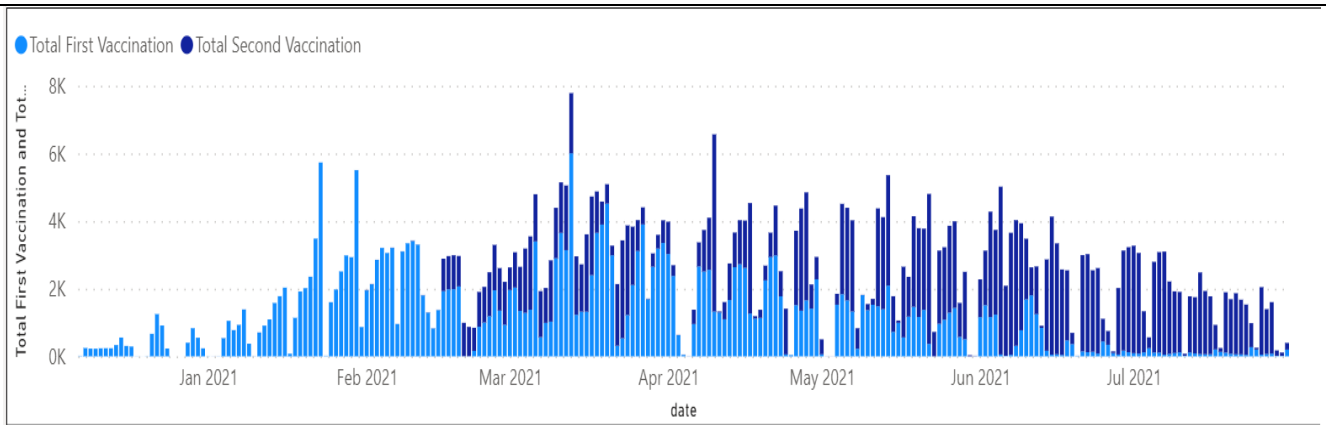
- Source: Public Health Wales, to 09/08/21

- There has been one outbreak of Covid-19 identified since the last report. This was localised to one surgical ward in Morriston Hospital. The ward was closed to admissions & transfers; there have been no new cases reported since 31/07/21. The outbreak has been managed locally, with Service Group Outbreak Control Group meetings in place to monitor control measure. Daily situation updates have been sent internally and to Welsh Government.
- Although the incidence of COVID-19 in the community has been reducing, maintaining vigilance remains critical to reduce the risk of transmission and maintaining service provision.

<u>COVID-19 Vaccination update</u>

- A total of 278,255 first dose vaccines and 249,439 second dose vaccinations have been administered within the priority groups.

Vaccinations Given by Date



Source Power BI SBIHB Digital intelligence 09/08/21

- By 31 July 2021, the mobile unit 'Immbulance' had successfully delivered 1,687 community and the service has visited the Mosque.
- To 31 July 2021, 16,056 SBUHB staff had received the first dose, and 15,581 staff had received the second dose of either one of the available COVID-19 vaccines. More than 97% of SBUHB staff have received two doses of vaccine; the breakdown is shown in the following table.

Vaccinations by Job Role, Frontline Status and Priority Group

Job Role Category	Cohort total	Total First Vaccination	Total Second Vaccination	% Vaccinated (1st Dose)	% Vaccinated (2 Doses)
⊞ Additional Clinical Services	157	136	130	86.62%	95.59%
⊞ Additional Prof Scientific and Technical	23	19	19	82.61%	100.00%
⊞ Administrative and Clerical	229	220	214	96.07%	97.27%
⊞ Allied Health Professionals	164	159	156	96.95%	98.11%
⊞ Estates and Ancillary	65	59	56	90.77%	94.92%
⊞ Healthcare Scientists	30	29	29	96.67%	100.00%
⊞ Medical and Dental	408	390	378	95.59%	96.92%
⊞ Nursing & Midwifery Registered	485	475	459	97.94%	96.63%
⊞ Other	1005	994	972	98.91%	97.79%
⊞ Student	372	370	358	99.46%	96.76%
⊞ Unknown	14355	13205	12810	91.99%	97.01%
Total	**17293**	**16056**	**15581**	**92.85%**	**97.04%**

- Joint work between Immunisation and Pharmacy team continues undertaking assurance visits to the mass vaccination clinics (MVCs).
- Primary Care and Community Service Group has supported an extension of a secondment into the Immunisation Coordinator role, until the 31st December 2021.
- A business case is in development to provide a substantive and sustainable core immunisation and vaccination team service, which is required to meet national immunisation and vaccination goals, methods and outcomes as outlined in the Health Board's Annual Plan 2021-22 is being finalised.
- Training and support for non-registrant vaccinators, peer vaccinators, practice nurses and MVC vaccinators will be a priority in the coming months. This will ensure a competent and

skilled workforce will be available to deliver both a COVID booster programme and the expanded flu programme.

- The Nursing and Midwifery Board has supported a proposal to recruit a non-registrant workforce to support the implementation of phase 3 of the COVID vaccination programme. There are concerns that this may impact on Primary and Secondary Care by creating recruitment challenges.
- The Allergy Clinic for COVID vaccination continues to be supported by the Immunisation co-ordination team.

Other vaccination programmes

Flu Planning 2021/22

- In terms of staff flu vaccination, the Mass Vaccination Centres will continue to be utilised to support the administration of the vaccines to Health Board staff this year. As in previous years, the Health Board will work closely with Community Pharmacies and GP practices to support flu vaccination in other eligible groups.
- The Immunisation Lead continues to work with key partners to plan for the forthcoming influenza season, including an extension to the children's flu programme this year, as all children in primary and secondary schools will be invited to receive the influenza vaccine. The implementation of this programme will bring many challenges, which are being worked through currently (such as workforce, storage, distribution of the vaccine and documentation). Final advice is anticipated from the Joint Committee on Vaccination and Immunisation in relation to the co-administration of flu and COVID-19 vaccinations. In preparation for this announcement, different implementation options are being worked through in order to roll out this programme.
- An inactivated Shingles vaccine will be available to those for whom the live vaccine is contraindicated. Work to roll out this programme will require the support from GPs in Primary Care.

Children's Immunisation Programme.

- There are no significant changes to uptake rates in the routine childhood immunisation programme during the COVID-19 pandemic. The Immunisation Lead will support strategies to improve vaccine uptake, especially that of the MMR vaccine.

Decontamination Update

Progress is being made to strengthen the governance of decontamination processes across the Health Board, including standardisation of processes, auditing and delivery of training to provide a robust service. Funding has been approved for a Band 6 post to support the Decontamination Lead and service.

- Best practice guidelines for the decontamination of ultra-sound transducers and probes have been developed and submitted to ICC for approval.
- All areas involved in decontamination have been advised to review and update contingency plans to ensure service delivery in the event of testing and machinery failure.
- Annual refresher training is required by for all members of staff involved with the use and subsequent decontamination of endoscopes. Due to the pandemic, sessions have been postponed; however, large numbers of staff have attended training updates on the safe

use, decontamination, handling and storage of endoscopes. Compliance with annual training will be monitored locally through individual performance review.

- To reduce the risk associated with surgical instruments used in high risk interventions, all theatre trays used on CJD cases have all been tagged in HSDU information systems. This will provide additional assurance that risks from CJD are reduced, with additional annual decontamination of these trays taking place.

Targeted Intervention Infections 2020/21

The Tier 1 infection reduction goals for 2021/22 have yet to be published. Until their publication, Health Board progress will be shown in comparison with the last published monthly targets (2019/20).

Infection	Cumulative cases Apr 2021- July 2021	July 2021 Cases	Cases +/- Monthly WG Expectation	WG Monthly Expectation
C. difficile	68	23	+15	< 8 cases
Staph aureus BSI	47	11	+5	< 6 cases
E. coli BSI	114	27	+6	< 21 cases
Klebsiella BSI	29	3	-3	< 6 cases
Ps. aeruginosa BSI	7	1	-1	< 2 cases

Infection	2020/21 total to 31/07/20	Comparison 2021/22 Total to 31/07/21
C. difficile	58	68 (17%↑)
Staph aureus BSI	34	47 (38% ↑)
E. coli BSI	70	114 (63% ↑)
Klebsiella BSI	26	29 (12% ↑)
Ps. aeruginosa BSI	8	7 (13% ↓)

The incidence of the majority of the key Tier 1 infections in Swansea Bay University Health Board is the highest in Wales. This is not an acceptable position to be in and Service Groups must prioritise reducing these over the next 8 months.

All Health Boards have seen an increase in the majority of the Tier 1 healthcare associated infections.

- The increase in *C. difficile* cases continues to be a cause of significant concern, and this remains the position across NHS Wales. SBUHB continues to have the highest incidence rate per 100,000 population in Wales (52.12) when compared to other Welsh HB.
- Whole Genome Sequencing (WGS) of positive samples allows for greater discrimination between individual cases of *C. difficile* infection (CDI). This genomic data can help to determine if isolates are genetically related which may indicate a possible transmission event has occurred. To date, the genomic data received indicates that the majority of cases are genetically unrelated and although a small number of clusters have been reported, the high incidence of CDI within the Health board population is not secondary to transmission events in the healthcare setting.
- In response to an increasing trend in *C. difficile* in Wales, an All Wales *C. difficile* Infection Focus Group was established this July. The group will meet quarterly so that focus sub-groups can discuss and review work streams, including, but not limited to, diagnosis, management, IPC, epidemiology, RCA Investigation and research. Public Health Wales has yet to establish work streams and timeframes.

The Health Board will participate in a Public Health Wales-led review exploring the relationship between COVID-19, secondary bacterial infections, and *C. difficile*. The Health Board awaits confirmation from PHW regarding the commencement of this review. Currently, other Health Boards are being recruited to participate in the review, as there is benefit in having a large-scale dataset to enable statistically valid conclusions to be drawn. Time frames have yet to be agreed by Public Health Wales.

E. coli bacteraemia rates attributable to SBUHB continue to be of concern. During April to July 2021, a 63 % increase in positive cultures has been reported compared with the same period in 2020. The incidence of *E. coli* bacteraemia has also continued to increase across NHS Wales. In SBUHB, 63% of the cases in April to July 2021 were community-acquired infections with the urinary tract featuring as the source for *E. coli* bacteraemia.

The proportion of cases with the Hepato-biliary tract as the potential source of *E. coli* bacteraemia continues to increase (23% in Apr-July 2021, compared with 11% in 2020). Hepato-biliary disease is a known risk for bacteraemia caused by Gram negative bacteria, including *E. coli* and *Klebsiella spp*. It remains unclear whether the reduction of elective surgery caused by the COVID-19 pandemic may have influenced the number of patients waiting to have gallstone surgery, in particular, and whether consequently this has led to an increased number of patients with gallstone disease presenting with Gram negative bacteraemia.

Increased activity, as the NHS moves to recovery following the second wave of COVID-19, also may influence the incidence of healthcare associated infections year-on-year.

Achievements

- Progress with the COVID-19 vaccination programme continues on target.
- The IPC service continues to provide support, advice and training to clinical and non-clinical staff across all Health Board services in all issues relating to COVID-19 and other infections. The IPC team continues to emphasise to staff the need for sustained vigilance.
- The Nosocomial Transmission Silver Group continued to meet during the second wave of COVID-19, and continues to review risks and mitigation.
- The care home IPCN project aims to establish a programme of work for infection and prevention control (IPC) support to care homes within the Health Board boundaries, which will enable better sharing of issues, problem-solving, best practise and learning for all the various partners involved in infection prevention and control for care homes, including the care homes themselves.

Antimicrobial achievements:

- The overall usage of the 4C antibiotics in primary care has reduced. However, it is considered that further improvement can be achieved. As such, audit of usage, with feedback to practices, will continue.
- The Health Board has been successful in receiving funding for the implementation of electronic prescribing at Morriston Hospital. Implementation time frames are likely to be affected by the service changes proposed in Morriston & Singleton.
- It has been agreed that Antimicrobial Stewardship will be a standing agenda item on the Clinical Outcomes & Effectiveness Group. A draft Antimicrobial Stewardship framework will be presented at this group in August.

Challenges, Risks and Mitigation

- The Health Board did not achieve the infection reduction goals expected by Welsh Government.
- It is unknown currently what the Welsh Government infection reduction expectations will be for 2021/22. The increases seen for a number of these infections over the last financial year will present a significant challenge for the Health Board in achieving sustained infection reduction, when the impact of COVID-19, and a potential third wave, is uncertain.
- Covid continues to circulate within the Community. Symptoms may be minimal or absent in the doubly vaccinated population who may continue to be sources of infection to others, including within the hospital environment. The potential consequences to disruption of services may be significant.
- Frequent movement of patients within the hospital settings Increases infection risks.
- The current Immunisation team has one WTE substantive Immunisation and Vaccination Lead. The current secondment post has been extended to the end of December, whilst a business case for additional resources is developed further.
- Historically, infection reduction initiatives have been compromised by the following: staffing vacancies, with reliance on temporary staff; over-occupancy because of increased activity; use of pre-emptive beds; and increased activity such that it is not possible to decant bays to clean effectively patient areas where there have been infections.
- Cleaning staff recruitment continues in order to meet the agreed increase staffing to meet the agreed uplift to meet the National Minimum Standards of Cleanliness. Ongoing recruitment into domestic vacancies and additional funded hours continues. 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. **This will be ongoing throughout this second wave and the anticipated third wave. Lead:** Head of Nursing IP&C. **Impact:** Safe practices to protect the health of patients, staff and wider public.

Immunisation & vaccination.

- Action to develop a business case for a sustainable Vaccination & Immunisation Service to improve the uptake of vaccinations against Influenza and other preventable communicable diseases. **Target compete ion date 30/09/21. Lead:** Matron Immunisation, vaccination & Assistant Director of Nursing**. Impact;** reducing preventable communicable disease.

Development of ward dashboards key infections (HCAI Quality Priority 1, 100 Day Plan)

Working with Digital intelligence to identify specification for the infection dashboard.

- **QP Action 1:** In collaboration with Digital Intelligence team, identify the specification for infection information acquisition from Laboratory information System. **Target completion date: 31/10/21. Lead:** Head of Nursing Infection Prevention & Control, and Business Intelligence Information Manager. **Impact:** enable oversight of key indicators at Ward, Specialty, and Delivery Unit and Board level to enable early intervention and improve patient safety.

Achieve compliance with Infection Prevention-related training (HCAI Quality Priority 2, 100 Day Plan)

- **Action 2.1:** Meet with ESR to explore solutions for staff self-reporting of competency-based training. **Target completion date:** 30.08.21. **Lead:** Head of Nursing IP&C **Impact:** Improve accuracy of training and competency performance data, reporting progress to ICC and QSSG.

- **Action 2.2:** Service Groups to develop improvement plans for IPC training compliance. **Target completion date:** 31.11.21. **Lead:** Service Group Directors. **Impact:** Improve compliance with IPC training for all Service Group staff.

Recruitment of key personnel to support delivery of Decontamination and AMR improvement programmes (HCAI Quality Priority 3, 100 Day Plan) – dependent on confirmation of resources and recruitment processes.

- **Action 3.1:** Appointment of Band 6 for Decontamination **Target completion date:** 30.09.21. **Lead:** Decontamination Lead IP&C. **Impact:** Support programmes for ensuring robust processes for decontamination of medical devices, with appropriate governance framework.
- **Action 3.5:** Resourcing for General Practitioner sessions dedicated to antimicrobial stewardship improvement. **Target completion date: 30/09/21**. **Lead:** Medical Director Primary Care and Community. **Impact:** Drive forward antimicrobial stewardship improvement programmes in Primary Care, and improve compliance with key antimicrobial stewardship indicators.

Drive Improvements in Prudent Antimicrobial prescribing *(HCAI Quality Priority 6 & 7, 100 Day Plan)*

Primary Care

- **Action**: Cluster-based focus on 4C (broad-spectrum antibiotics) - reviews and practice level feedback ongoing. **Target Completion date:** set back to Quarter 3, 2021/22 whilst work is undertaken to move from the current online antimicrobial guidelines system, *RxGuidelines,* to the new *MicroGuide* system. **Impact:** Gaps in primary care antimicrobial guidelines identified and added to work plan for guideline development.

Antimicrobial initiatives – Secondary Care

- **Action 6. Action:** Junior-doctor led antimicrobial quality improvement projects have been launched. Large number of trainees recruited via inductions sessions. Training on the audit tool and quality improvement methodology arranged and support will be provided for the projects over the next 4 months. **Target Completion date:** Quarter 3 2021/22. **Impact:** Increase awareness amongst junior doctors around “Start smart then focus”, the gold standard approach to antibiotic prescribing and directly involve prescribers in the improvement work.

- **Action 7. Action:** Updates of the secondary care antimicrobial guidelines to minimise use of broad-spectrum antibiotics. The change to the renal threshold for use of gentamicin has been implemented. Empirical oral switches for all sepsis indications agreed by the Antimicrobial Advisory Group and are ready for implementation. This will support prescribers in switching from broad-spectrum as soon as clinically possible. **Target completion date:** August 2021. **Impact:** Decrease prescribing of broad-spectrum antibiotics that are high risk for *C.difficile* and antibiotic resistance.

***Clostridioides difficile* infection**

- **Action:** Digital Intelligence are developing an electronic investigation tool to allow MDT input and improve scrutiny and identification of themes by HB *C. difficile* Scrutiny Panel. **Target completion date:** 30/09/21 **Lead:** Quality Improvement Matron IPC, Public Health Wales Infectious Diseases/Microbiology Consultant. **Impact:** More robust system to collate themes and shared learning to improve the focus of prevention and management initiatives, leading to a reduction in *C. difficile* infection.

Bacteraemia improvement

- **Action:** Morriston Service Group's Medical Director has established a Consultant-led bacteraemia group, with multi-disciplinary representation, including a Public Health Wales Microbiologist, to review investigations of significant bloodstream infections and share lessons learned. **Target completion date:** group meeting dates set through 2021/22. **Lead:** Morriston Hospital Service Group Directors. **Impact:** reduction in significant bloodstream infections and share methodologies across the Health Board.

Domestic staff recruitment

- **Action:** Recruitment process for additional cleaning staff progressing. **Target completion date:** Recruitment is ongoing process to meet possible shortfalls that occur through vacancies caused by retirement or staff leaving for alternative job opportunities. **Lead:** Support services manager. **Impact:** Increased domestic staffing to provide cleaning hours required.

Decant

- **Action:** The feasibility including a decant facility in Morriston will form part of a capital plan for Morriston, aimed at minimising infection prevention & control risks. **Target completion date:** *to be confirmed following development of plan*. **Lead:** Assistant Director of Strategy Capital, Service Director Morriston.

Financial Implications

A Department of Health impact assessment report (IA No. 5014, 20/12/2010) stated that the best estimate of costs to the NHS associated with a case of *Clostridioides difficile* infection is approximately **£10,000**. The estimated cost to the NHS of treating an individual cost of MRSA bacteraemia is **£7,000** (the cost of MSSA bacteraemia could be less due to the availability of a wider choice of antibiotics). In an NHS Improvement indicative tool, the estimated cost of an *E. coli* bacteraemia is between **£1,100** and **£1,400**, depending on whether the *E. coli* is antimicrobial resistant. (*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 2021 – 31 July 2021 is as follows: *C. difficile* - £680,000; *Staph. aureus* bacteraemia - £329,000; *E. coli* bacteraemia - £134,400; therefore a total cost of £1,143,400.

Recommendations

Members are asked to:

- Note reported progress against HCAI priorities up to 31 July 2021 and agree actions.