



<b>Meeting Date</b>	<b>27 April 2021</b>	<b>Agenda Item</b>	<b>3.1</b>								
<b>Report Title</b>	Healthcare Acquired Infections Update Report										
<b>Report Author</b>	Lisa Hinton, Assistant Director of Nursing IPC										
<b>Report Sponsor</b>	Christine Williams, Interim Director of Nursing & Patient Experience										
<b>Presented by</b>	Lisa Hinton, Assistant Director of Nursing IPC										
<b>Freedom of Information</b>	Open										
<b>Purpose of the Report</b>	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.										
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>• The Health Board did not achieve the Welsh Government infection reduction expectations in relation to <i>Staph. aureus</i> bacteraemia, <i>C. difficile</i>, and <i>Klebsiella spp.</i> bacteraemia. In addition, there had been year-on-year increases in the number of cases of the latter two infections. The Health Board did achieve the Welsh Government infection reduction expectation in relation to both <i>E. coli</i> and <i>Pseudomonas aeruginosa</i> bacteraemia cases.</li> <li>• COVID-19 may have had an impact on <i>C. difficile</i> infections, which may relate to antimicrobial treatment for respiratory tract infections.</li> <li>• 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.</li> <li>• Lack of decant facilities compromises effectiveness of the '4D' cleaning/decontamination programme.</li> <li>• COVID-19 vaccination programmes are progressing well.</li> </ul>										
<b>Specific Action Required</b>	<table border="1"> <tr> <th>Information</th> <th>Discussion</th> <th>Assurance</th> <th>Approval</th> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>	Information	Discussion	Assurance	Approval	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Information	Discussion	Assurance	Approval								
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
<b>Recommendations</b>	Members are asked to: <ul style="list-style-type: none"> <li>• Note reported progress against HCAI priorities up to 31<sup>st</sup> March 2021 and agree actions.</li> </ul>										

# Infection Prevention and Control Report

<b>Agenda Item</b>	3.1
<b>Freedom of Information Status</b>	Open

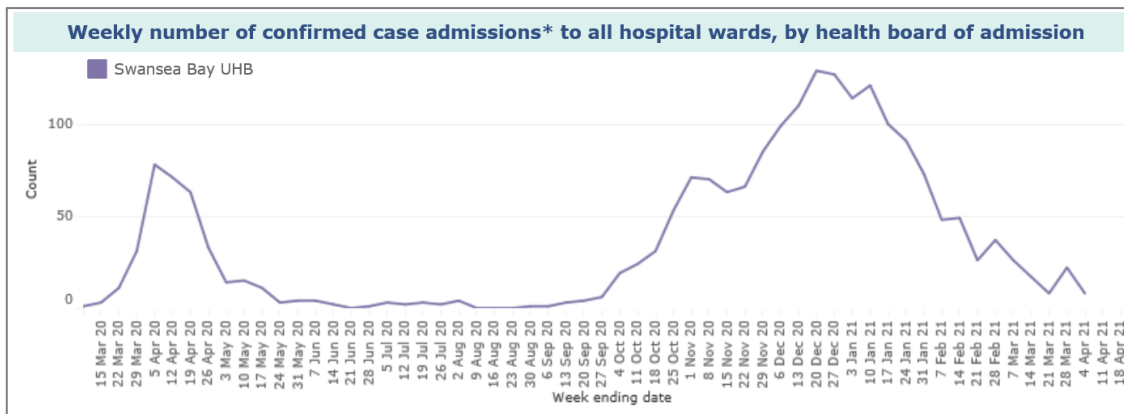
<b>Performance Area</b>	Healthcare Acquired Infections Update Report
<b>Author</b>	Delyth Davies, Head of Nursing Infection Prevention & Control
<b>Lead Executive Director</b>	<b>Christine Williams, Interim Director of Nursing &amp; Patient Experience</b>
<b>Reporting Period</b>	31 March 2021

## Summary of Current Position

The Health Board has continued to be under pressure during the second wave of the COVID-19 (SARS 2) pandemic.

### COVID-19 (SARS 2):

- From 1<sup>st</sup> March 2020 to 31<sup>st</sup> March 2021: there have been over 28,900 positive cases of COVID-19 (SARS 2) from approximately 216,000 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

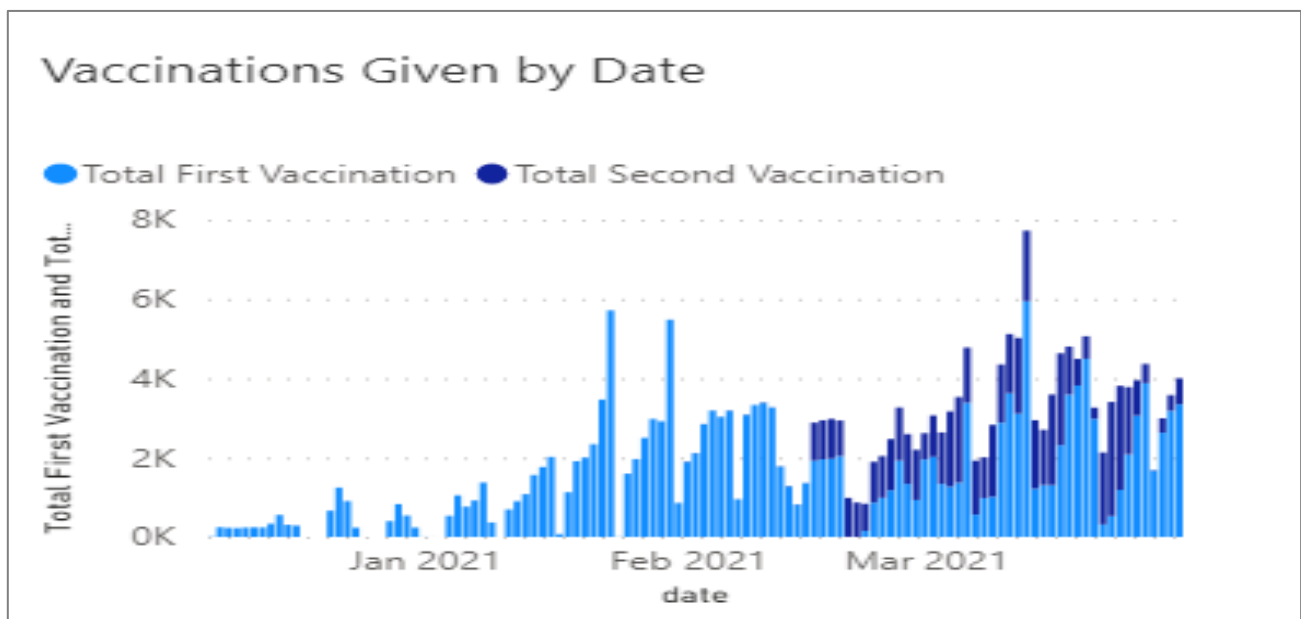
- Hospital transmission incidents have been managed in accordance with the Health Board’s Outbreak Protocol. Locally, these have been managed by Delivery Group Operational Outbreak Control Groups, which report to the over-arching Health Board Outbreak Control Group, chaired by the Executive Nurse Director of Nursing & Patient Experience. The Public Health Wales Consultant for Communicable Disease Control is a member of this Health Board group also. A Situation Update Report is sent daily to the Health Board Outbreak Control Group, Executive Directors, Delivery Group Directors, COVID IMT, and other relevant parties. An outbreak summary report is sent to Welsh Government daily.
- Although the incidence of COVID-19 in the community has been reducing, maintaining vigilance is critical to reduce the risk of transmission.
- Delivery Groups have undertaken outbreak debriefs, reviewing and sharing lessons learned.

### Influenza and Norovirus activity

Across SBU Health Board, from September 2020 to the end of March, there have been two cases of influenza detected from more than 20,500 tests. There have been five cases of Norovirus from more than 3,500 tests. These are significantly low numbers of Influenza and Norovirus activity compared with previous years, indicating that measures put in place for COVID-19 have had a positive impact on reducing these other Winter-associated viruses.

### COVID-19 Vaccination update

- The Immunisation team continues to support the COVID-19 mass vaccination team. To date the Immunisation team has trained 455 staff members, either via face-to-face, or via Teams.
- The Immunisation team has established an 'allergy pathway' for individuals who have had an allergic reaction to a first dose of the vaccine, or individuals who may be contraindicated a first dose of the vaccine, due to various allergies, including anaphylaxis. The team is working closely with staff at Morriston Hospital with a view to commencing the first clinic during the first week of April.
- Immbulance – the Immunisation team was central to the development of the mobile vaccination unit. The team was operational on the Immbulance to ensure correct staff modelling and vaccination procedures on board; this has since been handed over to the Programme Lead of the COVID vaccination programme. The Immbulance was instrumental for the programme to vaccinate the harder to reach population. To date, over 200 vaccines have been given to our homeless population across Swansea and NPT. The Immbulance has also visited the Mosque, and will visit Traveller communities in the near future. Over 700 vaccines have been administered on board the Immbulance to date.
- Audits – the Immunisation team has worked with pharmacy colleagues and undertaken audits in relation to vaccine storage, preparation and administration in the MVCs. Going forward these will continue to ensure standards are maintained.
- To 31<sup>st</sup> March 2021, over 8,200 vaccines had been delivered to hospital inpatients.
- To 31<sup>st</sup> March 2021, 179,048 first-dose, and 63,306 second-dose vaccines had been delivered.



- To 31<sup>st</sup> March 2021, 14,970 SBUHB staff had received the first dose, and 12,610 staff had received the second dose of either one of the available COVID-19 vaccines. More than 84% of SBUHB staff have received two doses of vaccine; the breakdown is shown in the following table.

Job Role Category	Cohort total	Total First Vaccination	Total Second Vaccination	% Vaccinated (1st Dose)	% Vaccinated (2 Doses)
Additional Clinical Services	159	126	92	79.25%	73.02%
Additional Prof Scientific and Technical	23	19	13	82.61%	68.42%
Administrative and Clerical	226	201	158	88.94%	78.61%
Allied Health Professionals	163	157	119	96.32%	75.80%
Estates and Ancillary	63	54	40	85.71%	74.07%
Healthcare Scientists	30	28	20	93.33%	71.43%
Medical and Dental	404	373	296	92.33%	79.36%
Nursing & Midwifery Registered	471	450	311	95.54%	69.11%
Other	962	939	704	97.61%	74.97%
Student	367	356	281	97.00%	78.93%
Unknown	14335	12267	10576	85.57%	86.22%
<b>Total</b>	<b>17203</b>	<b>14970</b>	<b>12610</b>	<b>87.02%</b>	<b>84.24%</b>

### Influenza Vaccination update

- The Welsh Government Target was 75% in patients >65 years, and 55% in at risk group >6 months to 64 years. Uptake in SBUHB was:
  - in patients aged 65 years and older: 75.4% (Wales – 76.5%);
  - in patients at risk aged 6 months to 64 years: 49.3% (Wales – 51.0%).
  - in children aged 2 to 3 years: 53.4%. An innovative approach to improving uptake in this age group is needed to reduce community transmission of influenza. Achieving a higher uptake in the 2 and 3 yr olds will strongly influence uptake in the school delivered programme. Once an Immunisation team is established, this will be a priority going forward.
  - in primary school children: 70.5% (Wales – 71.3%).
- The most recent Occupational Health update (16<sup>th</sup> February 2021) on the influenza vaccination campaign in staff reported that 8,243 staff (62.03%) staff have been vaccinated; this includes 5,806 (63.43%) frontline staff.

### **Targeted Intervention Infections**

- 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	Cumulative cases Apr 2020-March 2021	March 2021 Cases	Cases +/- Annual WG Expectation	WG Monthly Expectation
<i>C. difficile</i>	160	12	+64	<8 cases
<i>Staph aureus</i> BSI	122	11	+50	< 6 cases
<i>E. coli</i> BSI	241	28	-11	< 21 cases
<i>Klebsiella</i> BSI	102	10	+30	< 6 cases
<i>Ps. aeruginosa</i> BSI	19	1	-2	< 2 cases

Infection	2019/20 total to 31.03.20	Comparison 2020/21 Total to 31/03/21
<i>C. difficile</i>	138	160 (16% ↑)
<i>Staph aureus</i> BSI	133	122 (8% ↓)
<i>E. coli</i> BSI	317	241 (24% ↓)
<i>Klebsiella</i> BSI	82	102 (24% ↑)
<i>Ps. aeruginosa</i> BSI	28	19 (32% ↓)

### Antimicrobial Update on reducing incidence of *C. difficile* and Antimicrobial Resistance.

Detailed below are improvement programmes being implemented, or due to be implemented, in Primary and Secondary Care.

#### Primary Care Update

- *C. difficile* pilot - community cases are being reviewed by an antimicrobial pharmacist. Focus on prior antibiotics/ acid suppressive treatments and management of *C. difficile* infection. Learning points are collated and fed-back to practice and other stakeholders.
- Focus on 4C (broad-spectrum antibiotics) - cluster-based approach of in-practice audit and feedback by an antimicrobial pharmacist.
- Sore throat audit agreed as the pre-qualifier for access to the Prescribing Management Scheme. All 49 practices will be required to complete.
- Presentation to Cluster leads planned for May to discuss a proposal for a programme of practice-based antimicrobial quality improvement work.

#### Secondary Care

- Introduction of a programme of junior-doctor led antimicrobial quality improvement projects planned for this Spring.
- ARK 72-hour mandatory review incorporated into the e-prescribing system roll-out for all antimicrobials. Data from the System will also be utilised to monitor and target stewardship interventions.
- Focus on surgical prophylaxis. Audits undertaken in Theatre Recovery areas. Posters placed in theatres to highlight guidelines. Specialities targeted to begin evidence-based discussion around routine post-op prophylaxis.

The Consultant Antimicrobial Pharmacist will provide updates on progress in relation to the programmes above. This progress will be included in future reports.

## Achievements

- Health Board performance against all Tier 1 infection reduction goals for 2020/21 remains a challenge, although there has been improvement in relation to year-on-year comparisons (against April 2019 – March 2020 cases):
  - *Staph. aureus* bacteraemia – 8% decrease
  - *E. coli* bacteraemia – 24% decrease
  - *Pseudomonas aeruginosa* bacteraemia – 32% decrease.
- IPC support to Primary Care and Community Services, mental health and learning disabilities, continues, and there has been senior IPC support to Care Home and Domiciliary Care Incident Management Teams.
- Care home commissioners have jointly funded for 12 months an IPC post for Care Home and Domiciliary care. This post commences in April 2021, with an initial focus on reviewing and provision of IPC training. The post-holder will work with the Long Term Care Team, and with relevant Local Authority teams.
- 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 IPCT are visiting all inpatient areas that have cases of COVID-19 and are working closely with Delivery Group teams in undertaking regular assessments of risk.
- The Nosocomial Transmission Silver Group continues to meet during this second wave of COVID-19, and continues to review risks and mitigation.

## Challenges, Risks and Mitigation

- The Health Board did not achieve all infection reduction goals expected by Welsh Government.
- The Health Board has seen a 24% increase in *Klebsiella spp.* bacteraemia cases compared with the position April 2019 – March 2020. A number of these have had concurrent COVID-19, and it is uncertain whether this has contributed to the bacteraemia. The cases of *Klebsiella spp.* bacteraemia require further clinical review to understand the causes and contributory factors. This is being led by the Medical Microbiology team.
- The 16% increased incidence of *C. difficile* may be linked with COVID-19 in relation to antimicrobial prescribing practices in primary care (with an increase in telephone consultations with GPs as a consequence of the first wave of COVID-19).
- 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.
- The COVID-19 pandemic has highlighted increased transmission risks associated with frequent movement of patients between wards. During COVID-19 clusters and outbreaks, control measures were more successful when patient movement was restricted between wards. This is a lesson learned that should be considered by Delivery Groups when reviewing their action plans relating to reduction in *C. difficile* and other healthcare associated infections.
- Delivery Groups must review all lessons learned from the second wave of the COVID-19 pandemic and apply these lessons to their plans in anticipation of further waves of this infection.
- Historically, 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.



- There are continuing pressures and challenges which compromise the effectiveness of the '4D' cleaning/decontamination programme. The lack of decant facilities continues to be an issue for the Health Board.
- 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.** **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. Work has commenced on obtaining data feeds from the Laboratory Information System. **Target completion date:** The HCAI dashboard work stream is still progressing, but at a slower rate than previously due to COVID-19 pressures and the requirements to provide COVID-19 infection and, more recently, COVID-19 vaccination dashboards. Aim for improved progress during Quarter 1, 2021/22. **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.

#### **Clostridioides difficile infection**

- **Action:** Continued investigation into the increasing trend in *C. difficile* to identify possible contributory factors, with a specific focus on antimicrobial stewardship. **Target completion date:** Ongoing. **Lead:** Matron IPC, Delivery Unit Directors, and Consultant Antimicrobial Pharmacist. **Impact:** reduction in *C. difficile* cases.
- **Action:** Review placement of gentamicin within the Antimicrobial Guidelines, with an aim of further reducing broad-spectrum antibiotic usage. **Target completion date:** Quarter 1, 2021/22. **Lead:** Antimicrobial Advisory Group. **Impact:** Restrictions in use of broad-spectrum antibiotics resulting in less disruption of gut microbiome.

#### **Klebsiella spp. bacteraemia**

- **Action:** Identify feasibility of a study, to be undertaken by medical students, reviewing these bacteraemia cases to identify sources and contributory factors, and propose actions for quality improvement. Discussion with Medical Director to agree a process. **Target completion date:** Quarter 1, 2021/22. **Lead:** Assistant Director of Nursing IPC and Medical Director. **Impact:** reduction in *Klebsiella spp.* bacteraemia.

#### **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:** Solutions for dedicated decant to be identified for Morriston and Singleton. **Target completion date:** set back as a result of COVID-19 to Quarter 1, 2021/22. **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 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 Quarter 1, 2021/22. **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:** set back as a result of COVID-19 to Quarter 1, 2021/22. **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 *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 2020 – 31 March 2021 is as follows: *C. difficile* - £1,600,000; *Staph. aureus* bacteraemia - £854,000; *E. coli* bacteraemia - £284,000; therefore a total cost of **£2,738,000**.

### **Recommendations**

Members are asked to:

- Note reported progress against HCAI priorities up to 31<sup>st</sup> March 2021 and agree actions.