



Meeting Date	22 June 2021		Agenda Item	3.1
Report Title	Healthcare Acquired Infections Update Report			
Report Author	Delyth Davies, Head of Nursing, Infection Prevention & Control			
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 (HCAs) within Swansea Bay University Health Board for the reporting period.			
Key Issues	<ul style="list-style-type: none"> • 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 <i>C. difficile</i> 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 <i>C. difficile</i> to gain an improved understanding of the impact of COVID on the incidence of <i>C. difficile</i>. • 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 has been agreed and a 100-day plan developed. 			
Specific Action Required	Information <input type="checkbox"/>	Discussion <input type="checkbox"/>	Assurance <input checked="" type="checkbox"/>	Approval <input type="checkbox"/>
Recommendations	Members are asked to: <ul style="list-style-type: none"> • Note reported progress against HCAI priorities up to 31 May 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	Delyth Davies, Head of Nursing, Infection Prevention & Control
Lead Executive Director	Christine Williams, Interim Director of Nursing & Patient Experience
Reporting Period	31 May 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 May 2021: there have been over 29,300 positive cases of COVID-19 (SARS 2) from approximately 245,960 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.



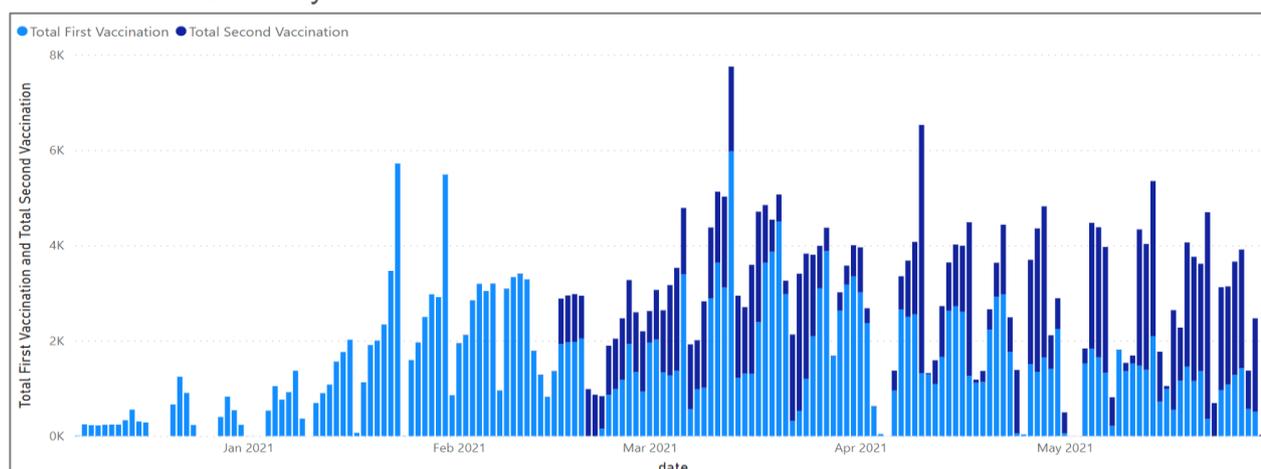
Source: Public Health Wales

- Outbreaks in Morrison Hospital continued into May, with the number of outbreaks reduced from five wards in April, to two wards by 31 May.
- Hospital transmission incidents have been managed in accordance with the Health Board’s Outbreak Protocol, and managed locally by Delivery Group Operational Outbreak Control Groups. The over-arching Health Board Outbreak Control Group, chaired by the Executive Nurse Director of Nursing & Patient Experience, has continued to meet during April, and daily Situation Update Reports are sent internally and an outbreak summary report is sent to Welsh Government daily.
- Although the incidence of COVID-19 in the community has been reducing, maintaining vigilance remains critical to reduce the risk of transmission. In May, cases of the Delta variant (Indian variant) of COVID-19 had been identified in Neath Port Talbot and Swansea Local Authorities.

COVID-19 Vaccination update

- To 31 May 2021, 259,173 first-dose, and 135,886 second-dose vaccines had been delivered.

Vaccinations Given by Date



- The 'Immbulance' has delivered vaccination to harder to reach populations, including the homeless, Traveller communities, and has visited the Mosque. This mobile unit had delivered 1498 vaccines by 31 May 2021.
- To 31 May 2021, 15,799 SBUHB staff had received the first dose, and 14,195 staff had received the second dose of either one of the available COVID-19 vaccines. More than 89% 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	159	132	120	83.02%	90.91%
Additional Prof Scientific and Technical	23	19	17	82.61%	89.47%
Administrative and Clerical	228	216	188	94.74%	87.04%
Allied Health Professionals	164	159	146	96.95%	91.82%
Estates and Ancillary	65	59	49	90.77%	83.05%
Healthcare Scientists	30	29	27	96.67%	93.10%
Medical and Dental	411	388	354	94.40%	91.24%
Nursing & Midwifery Registered	488	473	415	96.93%	87.74%
Other	1003	988	874	98.50%	88.46%
Student	372	368	337	98.92%	91.58%
Unknown	14421	12968	11668	89.92%	89.98%
Total	17364	15799	14195	90.99%	89.85%

Other vaccination programmes

Flu Planning 2021/22

- The Immunisation Lead is working with key partners to plan for the forthcoming influenza season. Welsh Government has directed 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 currently being worked through (such as workforce, storage, distribution of the vaccine and documentation). The Joint Committee on Vaccination and Immunisation is to advise whether the flu vaccines can be concomitantly administered alongside the COVID-19 vaccinations. In preparation for this announcement, different implementation options are being worked through in order to roll out this programme.

- In terms of staff flu vaccination, it is proposed that the Mass Vaccination Centres would 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.

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 endeavour to support strategies to improve vaccine uptake, especially that of the MMR vaccine.

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-May 2021	May 2021 Cases	Cases +/- Monthly WG Expectation	WG Monthly Expectation
<i>C. difficile</i>	32	12	+4	<8 cases
<i>Staph aureus</i> BSI	28	15	+9	< 6 cases
<i>E. coli</i> BSI	58	26	+5	< 21 cases
<i>Klebsiella</i> BSI	14	5	-1	< 6 cases
<i>Ps. aeruginosa</i> BSI	4	1	-1	< 2 cases

Infection	2020/21 total to 31/05/20	Comparison 2021/22 Total to 31/05/21
<i>C. difficile</i>	27	32 (18% ↑)
<i>Staph aureus</i> BSI	16	28 (75% ↑)
<i>E. coli</i> BSI	28	58 (107% ↑)
<i>Klebsiella</i> BSI	12	14 (17% ↑)
<i>Ps. aeruginosa</i> BSI	7	4 (43% ↓)

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 10 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. Transmission events in hospitals does not account for the increases seen. The pilot, involving an antimicrobial pharmacist review of *C. difficile* cases in a General Practice Cluster with a higher incidence, has not identified concerns relating to non-adherence to guidelines in the prescribing of antibiotics or acid suppression treatments. To gain an improved understanding of the impact of COVID on the incidence of other key infections, 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.

There has been a significant increase in the number of *E. coli* bacteraemia in April and May 2021, compared with the same period in 2020. 60% of the cases in April and May 2021 were community-

acquired infections. The urinary tract as a potential source for all *E. coli* bacteraemia has remained similar, despite there being a decrease in the proportion of hospital-acquired cases with a potential urinary cause.

There has been an increase, year-on-year, in the proportion of cases with the hepato-biliary tract as the potential source of *E. coli* bacteraemia (27% in Apr-May 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 is uncertain currently 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 as a consequence, 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. The number of admissions in the Health Board in the first two months of 2021/22 were approximately 64% higher than the same two-month period in 2020/21; midday bed occupancy had increased to an average of 85% Apr-May 2021 compared with an average of 68% for the same period in 2020.

Achievements

- The Health Board's performance against all Tier 1 infection reduction goals for 2021/22 remains a challenge.
- 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 Nosocomial Transmission Silver Group continues to meet during this second wave of COVID-19, and continues to review risks and mitigation.

Antimicrobial achievements:

- The *C. difficile* pilot has been centred in a GP cluster with a higher than average incidence of the infection. Seventeen cases have been reviewed to date. Initial findings have not identified inappropriate prescribing as an explanation for the incidence of *C. difficile*, indicating that these cases may not have been preventable. Main themes identified to date include appropriate treatment based on disease presentation, e.g. relapse/reinfection, and variability of regular follow-up in primary care. These initial findings form discussions within Primary Care and Community Services, Medicines Management and Infection Prevention & Control, and will be considered in light of the impending publication of the NICE guideline, *Clostridioides difficile* infection: antimicrobial prescribing.
- 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 proposal to review the management of acute and recurrent urinary tract infections (UTIs) as part of a standing agenda item at Cluster meetings was approved at the May meeting of Cluster Leads as a programme of antibiotic focused quality improvement work for practice staff.
- Improving surgical prophylaxis – proposed guidelines for thoracic surgery have been developed with the relevant clinical teams and will be ratified formally in June's Antimicrobial Advisory Group. Following the introduction of the guidelines, compliance will then be monitored and fed back.

Challenges, Risks and Mitigation

- The Health Board did not achieve the infection reduction goals expected by Welsh Government.
- The Health Board has seen increases in all Tier 1 key infections compared with the position April 2020. The majority of Welsh Health Boards have seen increases also. This may reflect

the change in position from April 2020, when routine services were suspended due to 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.
- The COVID-19 vaccination programme has had significant additional resource to deliver the targets. This has been a successful programme, but the Health Board must continue to focus on improving uptake of other vaccination programmes. The current Immunisation team has one WTE substantive Immunisation and Vaccination Lead, and since September 2020, and a temporary 1.0 WTE secondment into the position of an Immunisation coordinator (1.0 WTE). For the flu campaign, which ran alongside the COVID-19 vaccination campaign, there has also been a temporary staff flu immunisation coordinator. These temporary staff have supported the Immunisation and Vaccination Lead with the successful roll out of the COVID vaccination programme, whilst ensuring the existing immunisation programmes continue during the pandemic. A business case is in development for a permanent increase in the substantive immunisation team. Should the business case not be approved, the immunisation service, and achieving vaccination update targets, will be at considerable risk.
- 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.
- 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.

Define governance structures to support HCAI Quality Priority (HCAI Quality Priority 1, 100 Day Plan)

- **QP Action 1.1:** Review existing reporting sub-groups in order to map quality goals to them and establish reporting arrangements. **Target completion date:** 05.07.21. **Lead:** Assistant Director of Nursing IPC. **Impact:** enable oversight of key indicators at Ward, Specialty, Service Group, and Board level to enable early intervention and improve patient safety.
- **QP Action 1.2:** Identify named clinicians with responsibility for championing HCAI and antimicrobial resistance (AMR) across the organisation. **Target completion date:** 12.07.21. **Lead:** Service Group Directors. **Impact:** improved medical engagement in HCAI and AMR quality improvement programmes.

Development of ward dashboards key infections (HCAI Quality Priority 2, 100 Day Plan)

- **QP Action 2:** Development of a ward to board dashboard: develop clear timescales for project delivery plan. **Target completion date:** 12.07.21. **Lead:** Head of Nursing IPC, 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 3, 100 Day Plan)

- **Action 3.1:** Explore ESR solutions for staff self-reporting of competency-based training. **Target completion date:** 30.06.21. **Lead:** Assistant Director of Nursing IPC. **Impact:** Improve accuracy of training and competency performance data, reporting progress to ICC and QSSG.
- **Action 3.2:** Service Groups to develop improvement plans for IPC training compliance. **Target completion date:** 31.07.21. **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 4, 100 Day Plan) – dependent on confirmation of resources and recruitment processes.

- **Action 4.1:** Appointment of Band 6 for Decontamination **Target completion date:** 30.09.21. **Lead:** Assistant Director of Nursing IPC. **Impact:** Support programmes for ensuring robust processes for decontamination of medical devices, with appropriate governance framework.
- **Action 4.2:** Resourcing for General Practitioner sessions dedicated to AMR improvement. **Target completion date:** 01.08.21. **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.

Antimicrobial initiatives – 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:** Introduction of junior-doctor led antimicrobial quality improvement. Agreement via the medical director for inclusion as a priority audit within the new Audit plan for the HB. Package under development with assistance from Foundation training leads and quality improvement. **Target start date:** Quarter 3 2021/22 and then ongoing. **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:** Review of prolonged surgical prophylaxis. Engagement with surgical specialities is underway to identify priority groups. **Target completion date:** Ongoing. **Impact:** Where identified, surgical prophylaxis guidelines will be reviewed and published, with the intention of improving compliance with peri-operative dosing.

Clostridioides difficile infection

- **Action:** Develop a costed local research proposal to understand better the local epidemiology of *C. difficile*, including screening patients at the point of admission, to be submitted for approval. **Target completion date:** set back because of impending epidemiologist vacancy. **Lead:** Quality Improvement Matron IPC, Public Health Wales Infectious Diseases/Microbiology Consultant. **Impact:** An improved understanding of the local epidemiology of *C. difficile*, including at the point of admission, would 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.

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 May 2021 is as follows: *C. difficile* - £320,000; *Staph. aureus* bacteraemia - £196,000; *E. coli* bacteraemia - £68,900; therefore a total cost of **£584,900**.

Recommendations

Members are asked to:

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