Meeting Date	**25 January 2022**	**Agenda Item**	**2.1**
Report Title	Healthcare Acquired Infections Update Report		
Report Author	Delyth Davies, Head of Nursing, Infection Prevention & Control		
Report Sponsor	Gareth Howells, Executive 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 which 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 incidence in community and healthcare settings, and in social care, has risen sharply, as a result of the emergence of the Omicron variant. This has had an acute impact on staff absence. • Adherence to best practice in infection prevention and control (IPC) precautions is critical. Service 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. • Lack of decant facilities compromises effectiveness of the '4D' cleaning/decontamination programme. Provision of decant facilities also would enable plans to upgrade mechanical ventilation and single room accommodation to standards set in national guidance. • Incidents associated with multi-resistant bacteria have been identified in specialty services. • The Infection Prevention & Control team resource is acutely impacted by vacancies and sickness. There has been a suspension of the 7-day service since the end of December as there are not enough staff to cover the rota. Face-to-face training has been suspended temporarily. The service can be reactive only currently, and much of its focus is on supporting Board-wide services in responding to COVID.		
Specific Action Required	**Information**	**Discussion**	**Assurance**	**Approval**
	☐	☐	☒	☐
Recommendations	Members are asked to: Note reported progress against HCAI priorities to the end of December 2021 and agree actions.			

Infection Prevention and Control Report

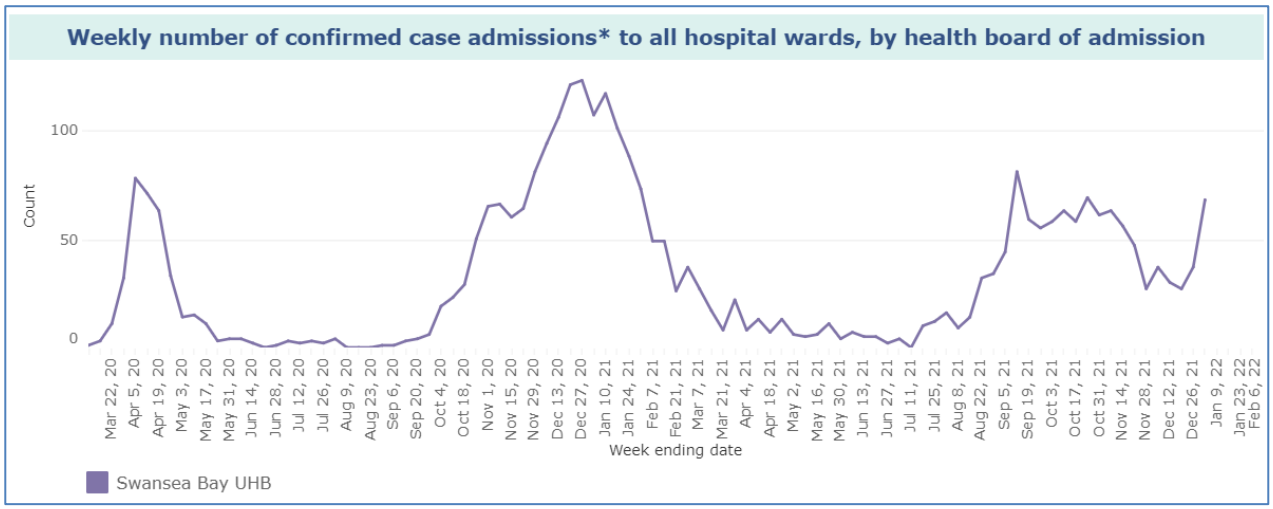
		Agenda Item	3.1
Freedom of Information Status		Open	
Performance Area	Healthcare Acquired Infections Update Report		
Author	Delyth Davies, Head of Nursing, Infection Prevention & Control		
Lead Executive Director	**Gareth Howells, Executive Director of Nursing & Patient Experience**		
Reporting Period	31 December 2021		

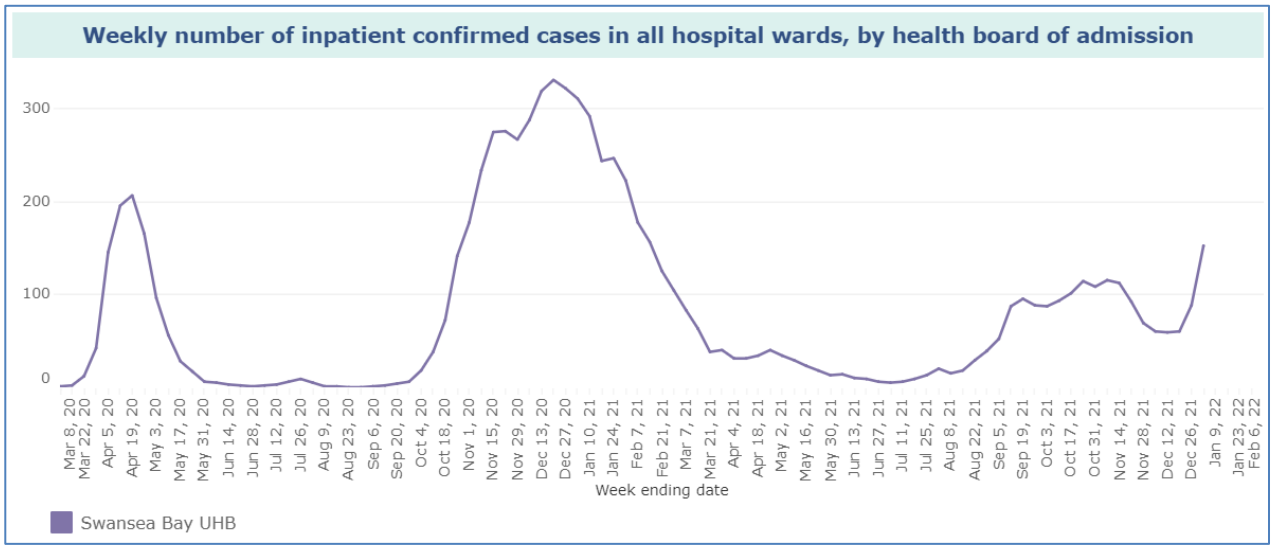
Summary of Current Position

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

COVID-19 (SARS 2):

- From 01 April 2020 to end of December 2021: there have been over 89,000 positive cases of COVID-19 (an increase of approximately 19,500 in one month) from over 534,600 testing episodes (an increase of approximately 53,600 tests in one month).
- The charts below show the weekly number of laboratory confirmed COVID-19 cases admitted to SBUHB hospitals, and the number of confirmed cases in our hospitals. These charts highlight the impact of the second wave of the pandemic.





Source: Public Health Wales, to 06/01/22

- In December, the outbreaks in SDMU, Ward S, SAU, Ward 8, Ward 16, Neuro Rehab and West Ward concluded.
- In December, there have been continuing and new localised outbreaks of COVID-19 in the following areas:
  - ***Morriston*** – **Ward R** (10 patients and 9 staff), **Cardigan Ward** (3 patients/ no staff), **Ward B** (8 patients/ 7 staff), **Anglesey Ward** (3 patients/ 6 staff), **Ward D/ AMAU** (5 patients/ 9 staff), **CCU** (no patients/ 1 staff), **Cyril Evans Ward** (2 patients/ 4 staff), **Ward C** (5 patients/ 2 staff), **Ward A** (11 patients/ 3 staff), **Liz Baker Renal Unit** (no patients/ 4 staff), and **Ward J** (7 patients/ 7 staff).
  - ***Singleton*** – **Ward 7** (9 patients/ 4 staff)
  - ***NPTH*** – **Ward E** (4 patient/ 5 staff)
  - ***Mental Health & Learning Disabilities*** – **Derwen Ward** (6 patients/ 11 staff), **Fendrod Ward** (2 patients/ 4 staff), **Rowan Ward** (no patients/ 7 staff), **Penarth Ward** (2 patients/ 8 staff), **Rowan House** (2 patients/ 8 staff), **NPTH Ward F** (4 patients/ 3 staff)**.**
- The emergence of the Omicron variant, particularly during the festive period, is having a major impact on community outbreaks, due to its high transmissibility. The Omicron variant is resulting also in ward outbreaks. Unscheduled care patients, initially testing negative on day of admission, are testing positive shortly after. Other patients who were exposed to these initially undetected patients (who were in the incubation period), subsequently have become positive. Staff absence is high, much of this being linked with community acquisition rather than exposure at work. The degree of staff shortages is likely to affect adversely infection risks.

COVID-19 Vaccination update

- A total of 299,973 first dose vaccines, and 276,038 second dose vaccinations, have been administered within the priority groups to the end of December 2021. There had been 6,478 third dose vaccinations administered by the end of December 2021.
- To the end of December 2021, 16,607 SBUHB staff had received the first dose, and 16,348 staff had received the second dose of either one of the available COVID-19 vaccines; 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	166	149	145	89.76%	97.32%
Additional Prof Scientific and Technical	24	21	20	87.50%	95.24%
Administrative and Clerical	245	237	235	96.73%	99.16%
Allied Health Professionals	176	173	170	98.30%	98.27%
Estates and Ancillary	67	62	60	92.54%	96.77%
Healthcare Scientists	31	29	29	93.55%	100.00%
Medical and Dental	439	420	414	95.67%	98.57%
Nursing & Midwifery Registered	507	499	489	98.42%	98.00%
Other	1014	1008	998	99.41%	99.01%
Student	370	368	361	99.46%	98.10%
Unknown	14506	13641	13427	94.04%	98.43%
Total	**17545**	**16607**	**16348**	**94.65%**	**98.44%**

- Third dose and booster dose COVID vaccination programmes continues.
- The Immunisation Lead and Immunisation Coordinators remain heavily involved in the COVID vaccination programme with the continuation of the non-registrant training programme, and the vaccination clinic at Morriston Hospital for high risk patients due to their allergies. In view of the recent changes to the scheduling of the booster doses, it is anticipated individuals requiring vaccination via this pathway will complete in January 2022, although recognising some ad-hoc clinics will be held in the coming months.
- Governance visits at the Mass Vaccination Centres and updating Patient Group Directions has continued to feature heavily in our work plan, with all PGD's in date for the routine immunisation programme.
- The secondment of the Band 7 Immunisation Co-ordinator has been extended.

Flu Planning 2021/22

- Welsh Government target for influenza vaccination of staff is 85%. To the 10th January 2022, approximately 52% of staff had been vaccinated; approximately 53% of front-line staff had been vaccinated. The table below shows the percentage details by staff group –

Staff Group	Vaccinated %	Not Vaccinated %	Vaccinated	Not Vaccinated	Grand Total	Number of Doses to Target
Add Prof Scientific and Technic	64.48%	35.52%	256	141	397	42
Additional Clinical Services	49.31%	50.69%	1357	1395	2752	707
Administrative and Clerical	51.70%	48.30%	1356	1267	2623	611
Allied Health Professionals	57.89%	42.11%	554	403	957	164
Estates and Ancillary	46.23%	53.77%	576	670	1246	359
Healthcare Scientists	58.31%	41.69%	193	138	331	55
Medical and Dental	52.75%	47.25%	499	447	946	211
Nursing and Midwifery Registered	52.53%	47.48%	2101	1899	4000	899
Grand Total	**52.01%**	**47.99%**	**6892**	**6360**	**13252**	**3047**
Front Line Staff Totals	**52.66%**	**47.34%**	**4767**	**4285**	**9052**	**2022**

Other Vaccination Programmes

- The flu vaccination programme continues, however, staff flu uptake is in the region of 52% which is a concern. The other area of concern remains to be in relation to the uptake of the intranasal flu vaccine in children aged 2-3 years, where uptake is below the National average. Further work is required in order to achieve the ambitions for the 2022/23 flu vaccination campaign with the recommendation of an Immunisation Coordinator focussing directly on the flu programme for the coming season.
- Going forward with the recent JCVI and WG announcements, it is anticipated the team will face additional pressures with the requirement to train and competency assess staff in order to implement the plan to complete the booster programme, with also the potential plan to vaccinate children. The JCVI announcement regarding the vaccination of children is awaited. Therefore, the Immunisation Lead is working closely with the Operations Lead with tentative plans in place to implement the plan when required.

Decontamination Update

Progress continues to strengthen the governance of decontamination processes across the Health Board.

- A request has been made for the Cardiac department to submit their updated local standard operating procedures (SOPs) at the next Decontamination Quality Priority Group. This will take current progress with the review and update of these local SOPs from 63% to 81%.
- Assurance audits have commenced throughout the Health Board. The Operational Decontamination Lead and Decontamination Coordinator are supporting departments with their Improvement plans.
- Training compliance continues to be monitored locally through individual performance review. Compliance figures for each department are reported into the Decontamination Quality Priority Group.
- As part of the IP&C framework, the development of Service Group decontamination of reusable medical devices groups is required. These groups will feed into the Service Group's IP&C Group, and the Health Board's Decontamination Quality Priority Group. This will help strengthen the governance of decontamination processes within the Service Groups and throughout the Health Board. The development of the Morriston Service Group's Decontamination of Reusable Medical Devices Group is outstanding.

Tier 1 Infections 2020/21

The tables below show Health Board progress against the Welsh Government HCAI Improvement Goals for 2021-22, published in WHC (2021)028 to the end of December 2021; the year-on-year cumulative comparison is shown also.

Infection	Cumulative cases Apr 2021-Dec 2021	December 2021 Cases	Cases +/- Monthly WG Expectation	WG Monthly Expectation
C. difficile	151	12	+4	< 8 cases
Staph aureus BSI	106	9	+3	< 6 cases
E. coli BSI	227	17	- 4	< 21 cases
Klebsiella BSI	78	9	+3	< 6 cases
Ps. aeruginosa BSI	18	4	+2	< 2 cases

Infection	2020/21 total to 31/12/20	Comparison 2021/22 Total to 31/12/21
C. difficile	134	151 (13% ↑)
Staph aureus BSI	93	106 (14% ↑)
E. coli BSI	178	227 (28% ↑)
Klebsiella BSI	73	78 (7% ↑)
Ps. aeruginosa BSI	16	18 (13% ↑)

The incidence (per 100,000 population) of the majority of the key Tier 1 infections in Swansea Bay University Health Board is the highest in Wales for *C. difficile*, *Staph. aureus* bacteraemia and *Klebsiella* bacteraemia. This is not an acceptable position. All major Health Boards in Wales appear to be facing similar challenges.

To provide context to the position in Wales, during the nine months of the financial year, NHS Wales has seen an average increase in all Tier 1 infections as shown below (with the range of increases across various Health Boards shown in brackets):

- *C. difficile*: +28% (range +11% to +97%);
- *Staph. aureus* bacteraemia: +10% (range -13% to +52%);
- *E.coli* bacteraemia: +16% (range +2% to +28%);
- *Klebsiella spp*. bacteraemia: +7% (range -21% to +35%); and
- *Pseudomonas aerugin*osa bacteraemia: +24% (range +4% to +50%).

The incidence of *C. difficile* is above the infection reduction monthly goals. The cumulative rate of increase, year-on-year, is 13%.

The cumulative incidence of *Staph. aureus* bacteraemia remains above the infection reduction average monthly goals. There has been a 14% increase in the cumulative total cases year-on-year. Hospital acquired infection (HAI) continues to account for 56% of all cases; 44% were community acquired infections (CAI). In the majority of HAI cases, the source was line-associated; in the majority of CAI cases, the source was skin and soft tissue.

The cumulative incidence of E*. coli* bacteraemia has increased by 28% year-on-year. In SBUHB, approximately 67% of the cases in April to December 2021 were community-acquired infections; 33% were considered hospital acquired. Of the community-acquired cases, the urinary tract was considered the source of infection in approximately 46% of cases, and the hepato-biliary tract considered the source in approximately 24% of cases. Of the hospital-acquired cases, 34% were considered to have a urinary source; 22% a hepato-biliary tract source.

Fifty-five percent of *Klebsiella spp*. bacteraemia cases between April and December 2021 were hospital-acquired cases; 45% were community-acquired. Of the hospital-acquired cases, 24% were considered to have a respiratory source; 19% a urinary source; 16% a hepato-biliary tract source. Of the community-acquired cases, 50% were considered to have a urinary source; 23% a hepato-biliary tract source.

The attribution of cases of *Pseudomonas aeruginosa* bacteraemia between April and December 2021 were considered to be: 67% hospital-acquired and 33% community-acquired. Sources of infection, where identified, were urinary, skin & soft tissue, abdominal, and hepato-biliary tract.
The third wave of the COVID-19 pandemic continues; the effect of the Omicron variant has exacerbated an already challenging position. This, in addition to the escalation of service pressures, and the impact of increasing staff shortages, is increasing safety risks for patients, including risks associated with healthcare-associated infections.

Other significant infection incidents/outbreaks:

Heterogeneous glycopeptide intermediate resistant *Staph. aureus* (hGISA) in Renal Unit

To date, there have been no further cases of hGISA associated with the Renal Unit. Surveillance continues to identify additional cases.

Glycopeptide Resistant *Entercococcus faecium* (GRE) in Trauma and Orthopaedics.

Public Health Wales Consultant Nurses have visited Morriston to review the patient pathways. A formal report is awaited, however, feedback received on the day of their visit did not identify what they described as 'red flags'. The investigation is continuing into the cases of surgical site infection caused by this GRE.

Achievements

- There has been a successful recruitment into a vacant Band 6 IP&C post; it is hoped that the successful applicant will commence before the end of February 2022.

Challenges, Risks and Mitigation

- The Immunisation Team comprises one substantive Immunisation and Vaccination Lead for the Health Board, one full-time temporary secondment Band 7 Immunisation Coordinator, and one part-time fixed term contract Band 7. Funding has been agreed to extend the secondment and the fixed-term contract to September 2022. The Infection Prevention & Control team will take on this substantive post so that the secondment may continue without an adverse impact on the Immunisation team.
- The need for a substantive specialist Immunisation team remains a priority, especially in view of the uptake rates with our existing immunisation programmes which potentially could lead to outbreaks of vaccine preventable diseases. An influencing factor to the formation of a HB Specialist Immunisation Team revolves around the uncertainty regarding the longevity of the COVID vaccination programme, however recognising stability and resilience is needed to ensure other programme ambitions are met in addition to high standards and governance procedures within all Immunisation programmes.
- The Infection Prevention & Control Team is currently very stretched across the Health Board. There is a current 133.5-hour vacancy. The Band 7 Senior IPCN on maternity leave will be covered by a 12-month secondment as a Band 6 IPCN. Currently, there is a 22.5-hour long-term sickness absence, which compounds the pressures on the team. The Band 6 IPCN post that was offered in November 2021 has not followed to commencement of the individual. This vacancy will be re-advertised in due course.
- The IP&C Team is having to prioritise its focus, currently dealing with the impact of COVID on wards and within community facilities. Face-to-face training has been suspended temporarily. The team hopes to maintain its focus on surveillance of infections of significance, such as *C. difficile* and extremely antibiotic-resistant organisms, but there is a risk to identifying all cases. The team is working closely with Public Health Microbiologists, who authorise these results, and have asked to be notified directly of any cases that they authorise. The team continues to support Service Groups in their efforts to safely manage and mitigate risks.
- The IP&C team reduced resource has resulted in a temporary suspension of the 7-day service, as there are insufficient staff to cover the rota.
- There is not a large pool of qualified and experienced Infection Prevention & Control Nurses nationally, and experience is that it may be a challenge to recruit the level of experience required for this Health Board, its complexities and the challenges it faces. Additionally, there are Band

6 and 7 Infection Prevention & Control posts being advertised currently by other organisations in Wales. Competition for these posts will be high.

- The Health Board is not achieving the infection reduction goals expected by Welsh Government.
- Service pressures on acute sites have precluded the decant of clinical areas affected by periods of increased incidence of *C. difficile*. Consequently, it has not been possible to undertake the level of 4D cleaning that is the standard within the Health Board. This particularly affects risks associated with those infections caused by extremely antibiotic-resistant infections and by *C. difficile*.
- Current pressures on Health Board services, both in the community and in hospitals, is extreme, as are the pressures on providing social care packages. The results of these pressures are that numbers of medically fit for discharge patients have increased, which results in increased length of stay for many patients. The demand for unscheduled acute care remains, leading to increased demand for inpatient beds. Surge capacity is being utilised on all inpatient sites. The increasing inpatient population occurs at a time of increased staff shortages, which an increasing patient-to-staff ratio. In addition, the number of COVID-19 admissions has been increasing, leading to provision of increased COVID beds across all sites. When such pressures exist within a healthcare system, patient safety risks are likely to increase, and this includes infection risks.
- COVID-19 cases within acute inpatient settings remains a challenge, with continuing evidence of transmission events.
- Bed spacing and ventilation within the majority of wards in inpatient settings poses an ongoing risk in relation to transmission of COVID-19 and other seasonal viral infections, including influenza, Respiratory Syncytial Virus, parainfluenza, and Norovirus. The risk assessment in relation to bed spacing has been completed and measures to mitigate risk have been implemented. The risk assessment in relation to ventilation risks will be undertaken by Estates colleagues, with recommendations made on measures to mitigate risk in the short-, medium- and long-term.
- COVID-19 community incidence has increased sharply with the Omicron variant, which is now the dominant variant. Symptoms may be minimal or absent in the doubly vaccinated population, who continue to be sources of infection to others, including within the hospital environment. The consequences to disruption of services are significant.
- Historically, infection reduction initiatives have been compromised by the following: staffing vacancies, or shortages caused by sickness absence, 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.

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. **This will be ongoing throughout the third wave, which has commenced. Lead:** Head of Nursing IP&C. **Impact:** Safe practices to protect the health of patients, staff and wider public.

Immunisation & Vaccination

- **Action**: Review by the Business Case Group of the business case for a sustainable Vaccination & Immunisation Service to improve the uptake of vaccinations against Influenza and other preventable communicable diseases. **Target completion date:** provisional outcome anticipated by **31/01/22. Lead:** Matron Immunisation, Vaccination & Assistant Director of Nursing**. Impact:** Reducing preventable communicable disease.
- **Action:** There will be the development of an action plan in line with the State of the Nation 2021: Social Mobility and the Pandemic July 2021 report. Target completion date: To be agreed. Lead - Executive Director of Nursing.

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

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

- **QP Action:** In collaboration with Digital Intelligence team, establish the data feed from LIMS, quality control and verify the accuracy of the data accessed. **Target completion date:** slippage due to COVID pressures to **31/03/22. 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, 100 Day Plan)

- **Action:** Service Groups to develop improvement plans for IPC training compliance. **Target completion date:** This is dependent on ESR functionality. **Lead:** Learning & Development Team. **Impact:** Improve compliance with IPC training for all Service Group staff.

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

Antimicrobial initiatives – Secondary Care

- **Action:** Education and training sessions to highlight the changes in the secondary care antimicrobial guidelines to minimise use of broad-spectrum antibiotics. **Target Completion Date**: Quarter 4, 2021/22. **Lead:** Consultant Antimicrobial Pharmacist. **Impact:** Decrease prescribing of broad-spectrum antibiotics that are high risk for *C. difficile* and antibiotic resistance.

Antimicrobial initiatives – Primary Care

- **Action:** Baseline audits complete for cluster-based antibiotic quality improvement projects in Afan and City Health Clusters. Focus on UTI and skin and soft tissue infections. Project plan approved by PCCS HCAI/ AMR group and first PDSA cycles are underway. **Target Completion Date**: Quarter 4, 2021/22. **Lead:** Antimicrobial Pharmacy team. **Impact:** Identify priority targets for QI interventions to improve compliance to guidelines and overall volumes of prescribing within the GP practice.

Antimicrobial initiatives – Health Board

- **Action:** A new Antimicrobial Stewardship Framework, governance structure and implementation plan has been agreed by the Clinical Outcome and Effectiveness Group. Reconvening the Antimicrobial Stewardship Group is critical to the implementation of the Framework and work to identify a new clinical chair is on-going. **Target completion date:** Quarter 4, 2021/22**. Impact:** Improve governance arrangements around antimicrobial stewardship with the health board and promote ownership and action at a service delivery group and cluster/speciality level.

***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. The electronic data collection tool is being piloted to investigate new cases of *C. difficile* infection identified in hospital. **Target completion date:** draft of first stage developed. Additional development required, and date extended to Quarter 4, 2021/22. **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 (Quality Priority - built environment for management and prevention of HCAI*)**

- **Action:** The feasibility including a decant facilities would enable work that is essential for reducing infection risks from respiratory infections, including COVID-19, improving mechanical ventilation in inpatient areas to standards set in national, and WHO, guidance documents. Decant facilities are essential for enabling upgrade inpatient areas to increase single room accommodation, to meet standards set in national Health Building Note guidance. **Target**

completion date: *currently deferred due to COVID and service pressures.* **Lead:** Assistant Director of Strategy Capital, Assistant Director of Strategy Estates.

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. Estimated costs related to healthcare associated infections, from 01 April 2021 to the end of December 2021 is as follows: *C. difficile* - £1,510,000; *Staph. aureus* bacteraemia - £742,000; *E. coli* bacteraemia - £265,000; therefore, a total cost of **£2,517,000**.

Recommendations

Members are asked to:

- Note reported progress against HCAI priorities to the end of December 2021 and agree actions.