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| Meeting Date | 19 November 2020 | | Agenda Item | 2.1 |
| Report Title | Healthcare Acquired Infections Update Report | | | |
| Report Author | Lisa Hinton, Assistant Director of Nursing IPC | | | |
| Report Sponsor | Christine Williams, Interim Director of Nursing & Patient Experience | | | |
| Presented by | Lisa Hinton, Assistant Director of Nursing IPC | | | |
| Freedom of Information | Open | | | |
| Purpose of the Report | This is an assurance report provides an update on prevalence, progress and actions for healthcare associated infections (HCAIs) within Swansea Bay University Health Board for the reporting period. | | | |
| Key Issues | <ul style="list-style-type: none"> Challenging to attain improvements in reduction of targeted infections. However, there has been year-on-year improvement in the following key infections: <i>Staph. aureus</i>, <i>E. coli</i>, <i>Klebsiella</i>, and <i>Pseudomonas aeruginosa</i> bacteraemia cases. Of concern, there has been an approximate 49% year-on-year increase in <i>C. difficile</i> cases. Adherence to best practice in infection prevention and control precautions is critical. Delivery Groups must focus on achieving compliance with staff training in this area and on auditing compliance. It is acknowledged that staffing shortages can present a challenge for staff accessing IPC training. Lack of decant facilities, when occupancy is at acceptable levels on acute sites, compromises effectiveness of the '4D' cleaning/decontamination programme. COVID-19 may have an impact on <i>C. difficile</i> infections, which may relate to antimicrobial treatment for respiratory tract infections. The second wave of COVID-19 began in mid-September and has increased sharply during October and November. Incidents are closely monitored, Delivery Groups are holding with Delivery Group Operational Outbreak Control Groups, which report to the Health Board Outbreak Control Group. Daily Situation Updates are sent to Welsh Government. | | | |
| Specific Action Required | Information | Discussion | Assurance | Approval |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Recommendations | <p>Members are asked to:</p> <ul style="list-style-type: none"> Note reported progress against HCAI priorities up to 7th November 2020 and agree actions. | | | |

Infection Prevention and Control Report

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|-------------------------------|----------------------------------------------------------------------------|-------------|-----|
| | | Agenda Item | 2.1 |
| Freedom of Information Status | | Open | |
| Performance Area | Healthcare Acquired Infections Update Report | | |
| Author | Lisa Hinton, Assistant Director of Nursing, Infection Prevention & Control | | |
| Lead Executive Director | Christine Williams, Interim Director of Nursing & Patient Experience | | |
| Reporting Period | 19 November 2020 | | |

Summary of Current Position

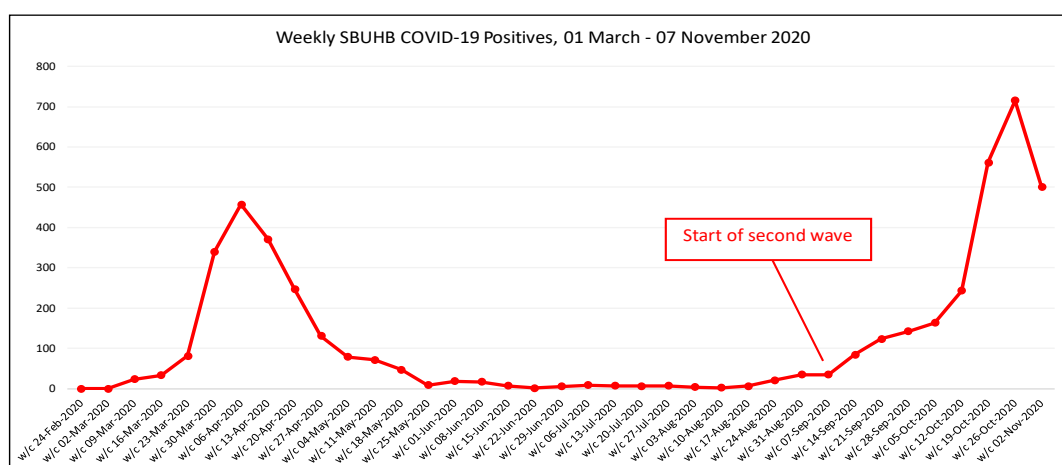
The Health Board is currently under pressure as a result of the second wave of the COVID-19 (SARS 2) pandemic. This is having an impact on the health of the Health Board's population and its staff. Maintaining inpatient services for non-COVID-19 patients is becoming increasingly challenging.

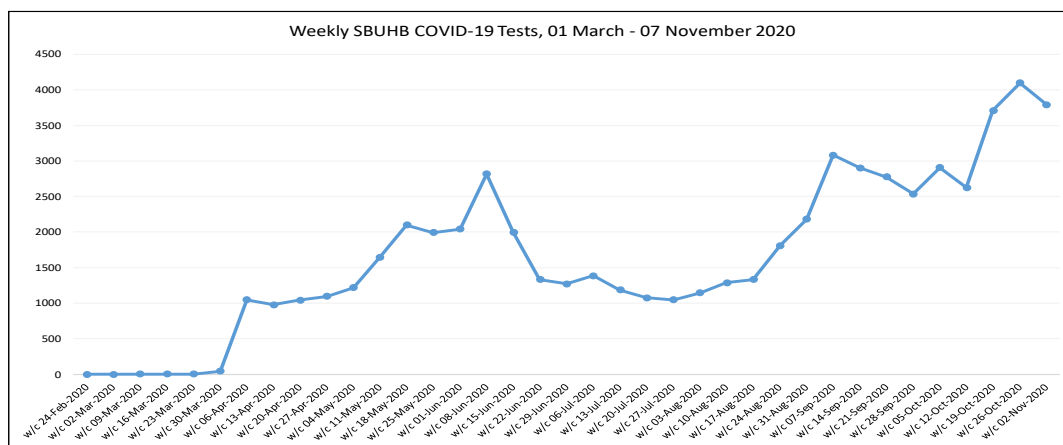
COVID-19 (SARS 2):

- From 1st March 2020 to 7th November 2020: **4,599** positive cases of COVID-19 (SARS 2) from **61,522** tests.

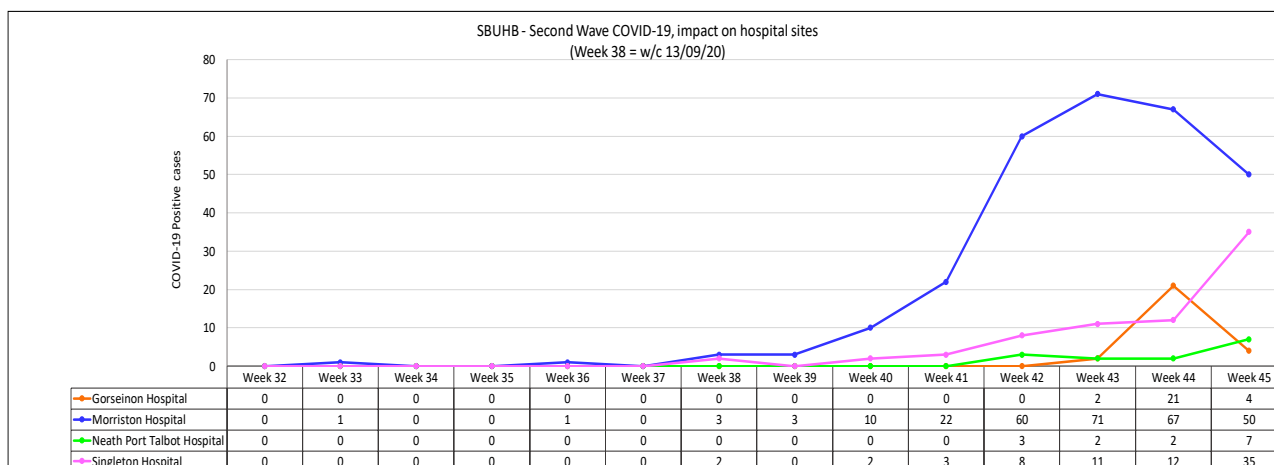
| Location | No. COVID-19 | Location | No. COVID-19 |
|-------------------|--------------|-------------|--------------|
| SB CTU Margam | 1,713 | Gorseinon | 40 |
| SB CTU Liberty | 1,825 | NPT CRT | 5 |
| Morrison | 686 | Swansea ACT | 1 |
| Singleton | 187 | HMP Swansea | 10 |
| Neath Port Talbot | 67 | GP | 31 |
| Cefn Coed | 30 | Other | 1 |
| LD | 3 | | |

- The number of cases in the table above identifies confirmed cases only. There have been cases of COVID-19, clinically confirmed by X-Ray, that have tested negative.

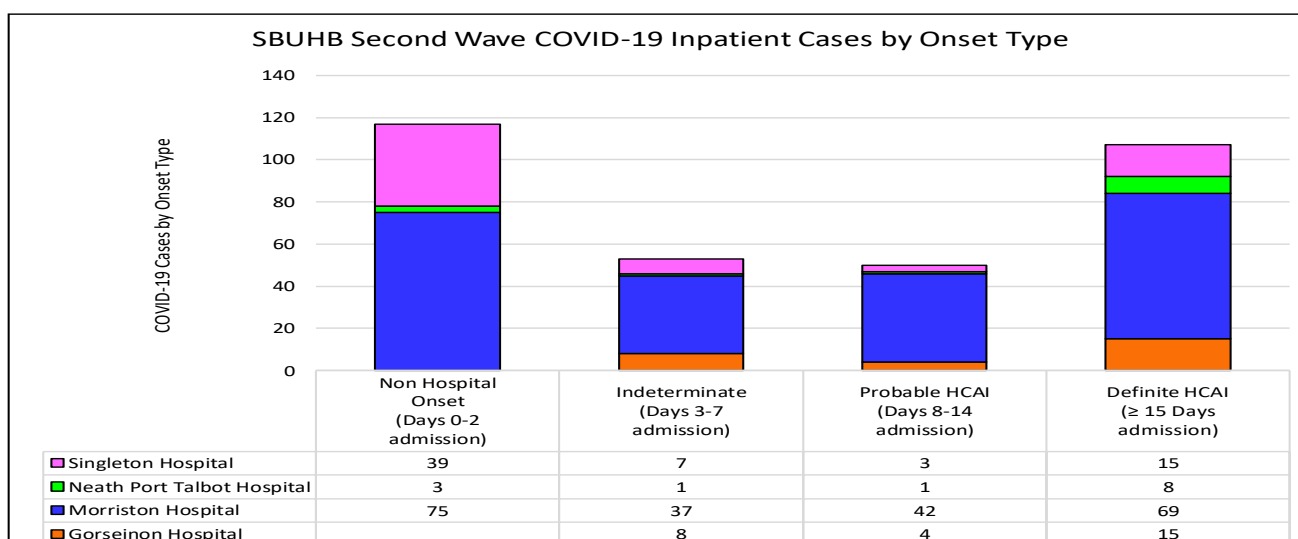




- The graphs above demonstrate the number of COVID-19 tests taken and number of positives. In general the number of tests taken has increased in the past few weeks and there has been an increase in the number of positive cases. There were 34 cases in July, 38 cases in August, 341 positive cases in September (average 11 cases/day); 1618 positive cases in October (average 52 cases/day); there have been 638 positive cases in the first 7 days of November (average 91 cases/day).
- The anticipated second wave of COVID-19 infection appears to have commenced locally in mid-September (approximately at Week 38 – week commencing 13th September 2020).
- The impact on hospital services has been significant, as shown in the chart below.



- During the second wave, there has been hospital transmission of COVID-19 infection. The breakdown of second wave cases by onset type is shown in the table below.



- These 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 to Welsh Government daily.
- The following are lessons learned during the early stages of the second wave, as shared by Dr Brendan Healy, Consultant in Infectious Diseases. These lessons are being shared across the organisation and wider and include the following (not exhaustive):
 - Strict compliance with PPE, with masks to be worn at all times. Also, staff advised to wear visor, mask, apron and gloves for all patient contact (non-aerosol generating procedures).
 - Staff breaks to be taken in spacious, well-ventilated areas, with social distancing to be maintained.
 - Social distancing to be maintained in offices and masks worn when that is not possible.
 - All patients and staff should be treated as if they could have COVID, as such, inpatient movement should be kept to an absolute minimum.
 - Some patients with COVID will be asymptomatic or minimally symptomatic and so all admissions need to be screened.
 - Even if a patient tests negative on admission they should be retested if they have any signs of COVID. The PCR test has a false negative rate in the region of 20%. All patients with a new fever should be swabbed at the moment as the prevalence of COVID is so high.
 - COVID symptoms can be very mild, as such, staff with symptoms should report to the Occupational Health Department and follow their advice.

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-Oct 2020 | Sept 2020 Cases | Oct Cases to 31/10/20 | WG Monthly Expectation |
|---------------------------|-------------------------------|-----------------|-----------------------|------------------------|
| <i>C. difficile</i> | 113 | 18 | 14 | <8 cases |
| <i>Staph aureus</i> BSI | 71 | 14 | 11 | < 6 cases |
| <i>E. coli</i> BSI | 149 | 23 | 24 | < 21 cases |
| <i>Klebsiella</i> BSI | 50 | 5 | 9 | < 8 cases |
| <i>Ps. aeruginosa</i> BSI | 13 | 0 | 2 | < 2 cases |

| Infection | 2019/20 total to 31.10.19 | Comparison 2020/21 Total to 31/10/20 |
|---------------------------|---------------------------|--------------------------------------|
| <i>C. difficile</i> | 76 | 113 (49% ↑) |
| <i>Staph aureus</i> BSI | 81 | 72 (11% ↓) |
| <i>E. coli</i> BSI | 183 | 150 (18% ↓) |
| <i>Klebsiella</i> BSI | 50 | 50 (≡) |
| <i>Ps. aeruginosa</i> BSI | 20 | 13 (35% ↓) |

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-October 2019 cases):
 - *Staph. aureus* bacteraemia – 11% decrease
 - *E. coli* bacteraemia – 18% decrease
 - *Klebsiella spp*, bacteraemia – equal to.
 - *Pseudomonas aeruginosa* bacteraemia – 35% decrease.
- The 4 weekly *C. difficile* scrutiny panel continues to meet to review local action plans from each Delivery Unit, which provide a focus on improvement.
- Progression towards an HPV decontamination contract has been delayed by COVID-19, and employment of such a technology is restricted by a lack of decant facilities as a result of COVID and other service pressures.
- IPC resource – the achievement of the full 7 day service prior to the planned October was well-timed for the start of the second wave of COVID-19.
- IPC nurses, who will work with Primary Care and Community Services, mental health and learning disabilities, are prioritising support in relation to the COVID response, and support for staff to maintain their own and patient safety.
- 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 education planner is on the SharePoint training link, and details the IPCT training programme available to specific staff groups and sessions accessible to all staff across SBU for the time period January- December 2020. Additional PPE Donning & Doffing sessions have been made available to increase PPE Donning & Doffing training capacity across all Delivery Groups. The dates of these sessions will be shared with, and opened to, long term care facilities across the Health Board.
- The installation of ClearScreen PVC curtains has progressed across the Health Board to mitigate physical distancing risks.
- The new Nosocomial Transmission Silver Group continues to meet during this second wave of COVID-19, and continues to review risks and mitigation.
- Delivery Groups have been holding frequent Incident/Outbreak Control Group meetings as relevant to their local pressures, and these groups report into a Health Board Outbreak Control Group.

Challenges, Risks and Mitigation

- The Health Board is not achieving the infection reduction goals expected by Welsh Government. The position in relation to *C. difficile* slightly improved in October, with the rate of increase slowed during the month. Consequently, the percentage increase had reduced from over 70% to a 49% year-on-year increase in *C. difficile* cases (against April-October 2019 cases). It may be challenging to hold or improve on this position with the impact of the second wave of COVID-19.
- PHW Epidemiologists have undertaken whole genetic sequencing of *C. difficile* isolates, which enables greater discrimination between isolates, including the ability to distinguish between strains of the same ribotype. From this information, PHW have identified that the majority of cases within the Health Board have not been as a result of transmission events. The final PHW epidemiological report will be presented at a future Infection Prevention & Control Committee.

This information supports the Health Board's decision to invest in additional cleaning hours and training as a means of preventing significant transmission incidents. There needs to be a continued emphasis on antimicrobial stewardship and for *C. difficile* to be seen as an iatrogenic colitis, requiring medical review of causation.

- However, there has been a small number of related *C. difficile* incidents in October 2020 identified through whole genome sequencing. These have occurred in Morriston and Singleton. These incidents are being investigated to identify learning.
- Historically, reduction initiatives have been compromised by over-crowding of wards as a result of increased activity and the use of pre-emptive beds, and where there are staffing vacancies, and reliance on temporary staff, and where activity levels are such that it is not possible to decant bays to effectively clean patient areas where there have been infections. This was less an issue at the height of the first wave of COVID-19, when normal services were reduced. However, the Health Board must continue to be mindful of these risks during the second wave of COVID-19, whilst it tries also to maintain services for non-COVID patients requiring hospital admission.
- The air exchange rates in clinical and non-clinical areas are likely to have an effect on infections that have airborne transmission, including Coronavirus, Influenza, Norovirus, etc. Maintaining air changes, and increasing natural ventilation by opening windows, will be important during this second wave. However, improving natural ventilation by opening windows may not be possible in all inpatient areas as temperatures fall during winter.
- The increasing pressures and challenges of the second wave of COVID-19, in addition to the normally anticipated winter pressures, will impact on decant opportunities. The lack of decant facilities, when occupancy is at acceptable levels on acute sites, compromises effectiveness of the '4D' cleaning/decontamination programme will continue to be a challenge.
- 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. A large advertising campaign has taken place to realign existing temporary and permanent staff and simultaneously a large external campaign is in place. The external campaign will look also for Support Service Assistant (SSA) staff and as many domestic staff that can be recruited for the Bank. This is an ongoing process as there continues to be turnover in this staff group.

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

Maintain infection Prevention & Control Support for COVID-19

- **Action:** Continue to provide support and advice in relation to COVID-19 for clinical and non-clinical staff across the Health Board, and Procurement, due to potential supply issues as a result of COVID-19. **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:** 31 December 2020. *There may be slippage in this date as the Digital Intelligence team and IPC team divert activities to COVID-19 related priorities.* **Lead:** ADN, IPC, Head of Nursing IPC, and Business Intelligence Information Manager. **Impact:** Provide timely information on infections at Ward, Specialty, Delivery Unit and Board level to facilitate early detection and early intervention to improve patient safety.

***Clostridium difficile* infection**

- **Action:** Further investigation into the increasing trend in *C. difficile* to identify possible contributory factors, with a specific focus on antimicrobial stewardship. **Target completion date:** December 2020, *with possible slippage due to COVID-19 second wave*. **Lead:** Matron IPC, Delivery Unit Directors, and Consultant Antimicrobial Pharmacist. **Impact:** reduction in *C. difficile* cases.
- **Action:** Delivery Units have requested that hospital acquired *C. difficile* cases be reported as cases per 1000 admissions. This request has been referred to the performance team to calculate and display within Delivery Unit reports. **Target completion date:** *set back as a result of COVID-19* to December 2020. **Lead:** Head of Performance. **Impact:** Comparability of *C. difficile* cases with similar acute sites.
- **Action:** Review of aetiology of *C. difficile* colitis, with input from gastroenterology and general surgery, to identify improvement actions. Medical representatives from both specialities to be invited as members of *C. difficile* Scrutiny Panel. **Target completion date:** December 2020, *with possible slippage due to COVID-19 second wave*. **Lead:** Matron, Quality Improvement Infection Control, with QI Medical Lead for IPC in Morriston. **Impact:** Improved understanding of medical factors that may reduce incidence of *C. difficile*.
- **Action:** Investigation of genetically linked cases of *C. difficile* by Morriston and Singleton Service Groups, with support from the IPC team. **Target completion date:** Delivery Groups will be expected to present findings at the Infection Prevention & Control Committee in December 2020. **Lead:** Delivery Unit Infection IPC Leads, with support from the site based IPC team. **Impact:** Improved understanding of contributory factors that resulted in these incidents and share learning wider to reduce incidence of *C. difficile*.

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 March 2021. **Lead:** Assistant Director of Nursing IPC, unit nurse directors and Service improvement capital planning. **Impact:** Solution for decant to be identified and proposals for a solution to be presented to SLT.

Procurement of Hydrogen Peroxide Vapour (HPV) Contracted Service

- **Action:** Undertake a procurement exercise to identify a safe and appropriate managed service for when ongoing transmission of an organism has occurred, despite implementation of existing control measures, and the environment and/or equipment is considered to be a persistent source of pathogens. Also, an annual programme of environmental decontamination, dependent on the ability to decant. **Target completion date:** *set back as a result of COVID-19* to March 2021. **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 December 2020. **Lead:** Head of Support Services and Head of Nursing IPC. **Impact:** Cost- and time-effective service of deep clean and decontamination.

Financial Implications

A Department of Health impact assessment report (IA No. 5014, 20/12/2010) stated that the best estimate of costs to the NHS associated with a case of *Clostridium difficile* infection is approximately **£10,000**. The estimated cost to the NHS of treating an individual cost of MRSA bacteraemia is **£7,000** (the cost of MSSA bacteraemia could be less due to the availability of a wider choice of antibiotics). In an NHS Improvement indicative tool, the estimated cost of an *E. coli* bacteraemia is between **£1,100** and **£1,400**, depending on whether the *E. coli* is antimicrobial resistant. (*Trust and CCG level impact of E.coli BSIs* accessed online at:

<https://improvement.nhs.uk/resources/preventing-gram-negative-bloodstream-infections/>).

Estimated costs related to healthcare associated infections, from 01 April 2020 – 07 November 2020 is as follows: *C. difficile* - £1,150,000; *Staph. aureus* bacteraemia - £504,000; *E. coli* bacteraemia - £183,400; therefore a total cost of **£1,837,400**.

Recommendations

Members are asked to:

- Note reported progress against HCAI priorities up to 7th November and agree actions.