

Patient cluster/ outbreak review report

Instructions

To be completed for a patient cluster/ outbreak in a healthcare setting. An epidemiological approach to identify environmental and other factors contributing to increased infection risk is taken.

For any patient case/s that meet the definition of a Harm Score 1 as per Appendix D of the NSW Health *Incident Management Policy* ([PD2020_047](#)), a serious adverse event review (SAER) must be undertaken for each patient.

References

[Infection Prevention and Control in Healthcare Settings NSW Health PD2023_025](#)

[Triggers for Escalation Following Detection of Infection Outbreaks or Clusters NSW Health GL2024_013](#)

| | | | |
|--|-------------------------------------|--------------------------|-------------------------|
| Incident number <i>facility outbreak cluster</i> | INC1341852 | Notification date | 24/12/2025 |
| Facility | Royal Prince Alfred Hospital (RPAH) | Ward/Unit | 9 East Transplant (9ET) |
| Confirmed Harm Score | 3 | | |

Incident numbers

| INC number | Classification (patient, worker or relative/visitor) |
|------------|--|
| INC1341803 | Patient (Case 1) |
| INC1342022 | Patient (Case 2) |
| INC1342019 | Patient (Case 3) |
| INC1341836 | Patient (Case 4) |
| INC1342031 | Patient (Case 5) |
| INC1342026 | Patient (Case 6) |

Review details

| | |
|---|---|
| Referral to Agencies or Committees | Clinical Excellence Commission/Ministry of Health |
| Contact person | Dr Kerry Chant AO PSM, Chief Health Officer, Deputy Secretary, Population and Public Health |

Investigating Team

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|--|
| Director Clinical Governance and Risk, RPAH |
| Nurse Manager, Infection Prevention and Control, SLHD |
| Clinical Nurse Consultant, Infection Prevention Control, RPAH |
| Senior Staff Specialist Hepatology and Liver Transplant, RPAH |
| Senior Staff Specialist Infectious Diseases and Clinical Microbiology, RPAH |
| Senior Project Director, Central Region Health Infrastructure (Construction Subject Matter Expert) |
| Clinical Investigations and Incident Monitoring System Manager, SLHD |

Organism

Aspergillus, noting that although the isolate for Case 6 was resistant to voriconazole, this resistance mechanism is not associated with risk of transmission from patient to patient.

MRO Yes No

Mode of Transmission

- Person to Person
 Environmental
 Other "[If Other Selected, Click here & Specify Details]"

Established source of outbreak

- | | |
|---|---|
| <input type="checkbox"/> Staff member | <input checked="" type="checkbox"/> Unknown |
| <input type="checkbox"/> Visitor | <input type="checkbox"/> Other |
| <input type="checkbox"/> Patient to patient | |

Initial Case

| | |
|--|------------|
| Date of admission | 27/09/2025 |
| Reported date of incident in ims+ | 24/12/2025 |
| Confirmed Harm Score | 1 |
| Initial case date of test with positive result | 10/10/2025 |
| Day of admission that positive specimen was obtained | Day 13 |

Cluster/Outbreak

| | | |
|--|------------------|---|
| Total number of cases in outbreak | Patients | 6 |
| | Workers | 0 |
| | Relative/Visitor | 0 |
| Patient outcomes <i>Number of patients per harm score</i> | Harm Score 1 | 2 |
| | Harm Score 2 | 1 |
| | Harm Score 3 | 3 |

| Cluster/Outbreak | | |
|--|--|---|
| | Harm Score 4 | 0 |
| Location/positioning What type of room was the initial case in when they developed symptoms? | <input type="checkbox"/> Standard single room <input type="checkbox"/> Isolation single room <input type="checkbox"/> Negative pressure room <input type="checkbox"/> Positive pressure room <input checked="" type="checkbox"/> Shared room - 4 bed bay 3-6 (30/9/25 to 10/10/25) neutral pressure room | |
| If an infection transmitted person to person, was the initial case patient on appropriate transmission-based precautions for the infectious period? | <input type="checkbox"/> Yes, date precautions ended: <input type="checkbox"/> Part of the time <input type="checkbox"/> No <input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> Unable to be determined | |
| What transmission -based precautions were in place with the initial case patient? | <input type="checkbox"/> Contact <input type="checkbox"/> Droplet <input type="checkbox"/> Airborne <input type="checkbox"/> Combined (contact, droplet, airborne) <input checked="" type="checkbox"/> Standard whilst on 9ET | |

| Controls | |
|---|--|
| Engineering controls <i>Airborne organism only</i> | <p>Is the ventilation suitable? Is it properly maintained and functioning?</p> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <p>The following preventive maintenance program is scheduled in the Asset and Facilities Management (AFM)</p> <p>Isolation Room Air & HEPA Filter Check Building 89 Level 9 – Yearly HVAC - FCU Filter Replacement Building 89 Level 9 – Yearly Hepa Filter Replacement Building 89 Level 9 - 24 Monthly</p> <hr/> <p>Is the air conditioning suitable? Is it properly maintained and functioning?</p> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Organisational factors | <p>Were there single rooms available to admit patients as per transmission-based precautions?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not applicable for this cluster outbreak |

| Operational | |
|---|--|
| Number of staff <i>confirmed by positive result</i> during this cluster/ outbreak | <input checked="" type="checkbox"/> Not applicable for this cluster type |
| Number of staff unable to attend work due to outbreak related illness | N/A |
| Operational impacts | The 9 East Transplant ward (9ET) ward was closed to patients effective 5 January 2026 (redevelopment works resumed following the Christmas period). The ward re-opened on 6 February 2026. |

| Documentation at time of review | |
|---------------------------------|--|
| Policies | Infection Prevention and Control in Healthcare Settings NSW Health PD2023_025 Cleaning of the Healthcare Environment NSW Health PD2023_018 Infection Control Policy: Environmental Cleaning (LHD/Facility Policy Directive) PD2021_009 |
| Guidelines | Part D: Infection Prevention and Control AUSHFG 2025 Australasian Health Facility Guideline (AusHFG) |
| Handbooks | IPAC Handbook Version 3 and IPAC Handbook v.4 Infection Prevention and Control Practice Handbook V4.0 Nov 25. |
| Other | Infection Control Management Plan, CPB Contractors, 28 Mar 2023. Filamentous Fungi Background Testing and Inspection Report, Royal Prince Alfred Hospital, Camperdown NSW, McCaskill Parry Consulting, 28 January 2026. |

| Context at time of review |
|---------------------------|
| N/A |

| Areas considered in the review | | | |
|---|-------------------------------------|---|--|
| Area | Reviewed | Care delivery problem identified | What was the care delivery problem? <i>eg: low or non-compliance with policy reference number. Must be discussed in the analysis</i> |
| Hand hygiene | <input checked="" type="checkbox"/> | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | National benchmark for compliance (80%) met. Sep 25 88.1%, Oct 25 92.3%, Nov 25 96%, Dec 25 96% |
| Environmental ventilation | <input checked="" type="checkbox"/> | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | The preventative maintenance program includes an annual review of all HEPA filters. Filter changes are undertaken on an as required basis. The preventative maintenance program indicates a two-year replacement cycle. Air handling units undergo monthly visual inspections and are cleaned as required. Cleaning requires shutdown of the air conditioning system, making scheduling challenging, particularly during periods of high activity. The Review Team reviewed records of completion from the preventative maintenance schedule. |
| Environment layout | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Ward 9ET Balcony – the balcony was accessible to patients on this ward until 20/11/2025. CPB focuses on the boundary of the construction site and the hospital to minimise risks and does not risk assess access to balconies adjacent to or above construction works (as in this case). Discussed further in Analysis/Lessons Learned on pages 10-12. |
| Environmental cleaning audits meet NSW Health Benchmark | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Ward 9ET is considered an Extreme Risk Area (benchmark >90% compliance) Sep 25 N/A, Oct 25 89%, Nov 25 92%, Dec 25 92% Benchmark not met in October 25. This score can be broken down into four main components based on responsibility. The Engineering component of this score was 71%, Environmental Services/Cleaner, nursing staff and support staff scored above the 90% benchmark. Discussed further in Analysis/Lessons Learned on pages 10-12. |
| Environmental testing – compliance, timing and actions | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Fungi monitoring – the fungi monitoring program was not implemented in accordance with CPB Contractor Infection Control Management Plan (ICMP) reviewed by facility clinical staff in 2023. The ICMP states that <i>cumulative data will be used to establish indoor and outdoor background levels of filamentous fungi for the Facility.</i> Dust monitoring - there are two dust monitors on the project, located within the vicinity of the East Tower & East Extension. To date there have been no breaches reported attributable to construction work. Discussed further in Analysis/Lessons Learned on pages 10-12. |

| Areas considered in the review | | | |
|---|-------------------------------------|---|--|
| Facility redevelopment works | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | CPB takes full responsibility for all work undertaken within their defined site boundaries. The Facility redevelopment is considered a complex redevelopment given the age of the existing buildings and the works scope adjoining existing buildings / hospital and the multitude of internal refurbishments required. On 5/03/2025, the new east tower excavation commenced. External and internal work between September 2025 and December 2025 are considered as low construction risk works. Hoardings are selected as prescribed in CPB's ICMP which include impermeable barriers for Class III and IV areas (risk level). Hoarding inspections were undertaken by CPB but not documented prior to 25/12/2025. Discussed further in Analysis/Lessons Learned on pages 10-12. |
| Cleaning of shared patient equipment | <input checked="" type="checkbox"/> | <input type="checkbox"/> Yes <input type="checkbox"/> No | Not required for this cluster outbreak |
| Staff orientation | <input checked="" type="checkbox"/> | <input type="checkbox"/> Yes <input type="checkbox"/> No | Not required for this cluster outbreak |
| Training in personal protective equipment (PPE) | <input checked="" type="checkbox"/> | <input type="checkbox"/> Yes <input type="checkbox"/> No | Not required for this cluster outbreak |
| Transmission-based precautions compliance | <input checked="" type="checkbox"/> | <input type="checkbox"/> Yes <input type="checkbox"/> No | Not required for this cluster outbreak |
| Access to and appropriateness of PPE | <input checked="" type="checkbox"/> | <input type="checkbox"/> Yes <input type="checkbox"/> No | Not required for this cluster outbreak |
| Appropriate identification of symptoms | <input checked="" type="checkbox"/> | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Refer to Appendix 1 |
| Appropriate, timely specimen(s) obtained and sent to the laboratory | <input checked="" type="checkbox"/> | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Refer to Appendix 1 Noting galactomannan and PCR tests are sent off site and took 6-14 days for results to be finalised. |
| Appropriate, early identification of positive result | <input checked="" type="checkbox"/> | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Refer to Appendix 1 |
| Appropriate referrals when positive result identified | <input checked="" type="checkbox"/> | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Refer to Appendix 1 |
| Appropriate treatment initiated when positive result identified | <input checked="" type="checkbox"/> | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Refer to Appendix 1 |

| Areas considered in the review | | | |
|--|-------------------------------------|---|--|
| Appropriate management of patient factors, for example, wandering patient. | <input checked="" type="checkbox"/> | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Refer to Appendix 1 |
| MRO screening policy – compliance with | <input checked="" type="checkbox"/> | <input type="checkbox"/> Yes <input type="checkbox"/> No | Not required for this cluster outbreak |
| Other – specify: Preventative Maintenance and Engineering | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <p>On 11/09/2025, escalation from 9ET Nurse Unit Manager (NUM) to Infection Prevention and Control (IPAC) Clinical Nurse Consultants (CNC), Operational Nurse Manager (ONM) and Director of Nursing (DON) re: increased environmental concerns across the ward including evidence of mould growth and water damage in patient rooms with degradation of ward infrastructure. This was in response to a request to review ward environments for any damage following a storm event. That same day an inspection was undertaken which identified water ingress into three 4-bedded bays (3-6, 7-10, 11-14) following this storm event damaging the ceiling. Additional issues identified included mould in bathroom silicone, leaking taps and water damaged paint.</p> <p>Previous Asset and Facilities Management (AFM) requests had been entered without a clear plan to rectify. AFMs are triaged internally by Engineering without consultation from external clinicians.</p> <p>On 16/09/2025, a further inspection and assessment of the necessary remedial works occurred with the General Manager, 9ET NUM, Engineering and IPAC nursing staff. The works required closure of the effected 4 bed bays and bathrooms.</p> <p>On 14/10/2025, remedial work on Ward 9ET was commenced facilitated by Engineering. Risk mitigation activities included decanting of 4 bed bays, zip wall hoarding, portable HEPA filters + HEPA filtered equipment and isolation of Heating Ventilation Air Conditioning systems and additional cleaning. Discussed further in Analysis/Lessons Learned on pages 10-12.</p> |

Description - Incident Summary

Invasive Fungal Infections (IFIs) occur when fungi infiltrate tissue or organs establishing tissue-invasive infections. IFIs are a major cause of mortality and morbidity in Solid Organ Transplant (SOT) patients due to medication regimens such as the immunosuppressants prescribed to help prevent organ rejection. IFIs can also occur in patients with liver failure who may have a degree of immunosuppression due to their liver disease or medications such as corticosteroids which are sometimes used to treat the disease. The facility liver transplant service has a standard immunosuppression protocol that has not been changed in the last 12 months and is reviewed annually. IFIs are considered likely if the fungus is identified from bronchoalveolar lavage fluid or sputum when clinical features and host factors are present.

Aspergillus species are a spore forming mould (or fungus) and they are ubiquitous in the environment. They are commonly found in soil, water, organically enriched debris, decaying vegetation and within the fabric of buildings. The concentration of Aspergillus in the air commonly increases during construction works. Aspergillus is not spread person to person.

Four Infectious Disease Staff Specialists are dedicated to the Immunology, Haematology, Oncology and Transplant Infectious Diseases (iHOT-ID) consult service. On 10/12/2025, one of these Infectious Diseases Staff Specialists sought advice from the Senior Infectious Disease Staff Specialist who oversees the infection prevention and control portfolio. The increasing number of cases of IFI in SOT cases was noted, raising a signal for broader concern, however acknowledging each individual case is not considered unexpected (e.g. single cases many months apart would not be above the level expected in this cohort of patients).

On 12/12/2025, the Facility Executive received notification via email of a potential increase in the number of patients with IFI due to Aspergillus species in SOT recipients in the last 2 months and that a preliminary systematic clinical review of cases was in progress. As part of the preliminary systematic clinical review, information was requested from the Redevelopment Team and Engineering in relation to redevelopment milestones and ventilation and airflow for Ward 9ET. On 15/12/2025, a multidisciplinary team inspected the ward and reviewed the locations of the air intake on the ward. Additional information from stakeholders was requested including internal preventative maintenance records and availability of independent air sampling for filamentous fungi. On 18/12/2025, a review of bed occupancy of the IFI cases across the facility was completed to identify any themes or trends based on physical location. An Antifungal Prophylaxis protocol was developed and disseminated to Transplant leads and Infectious Diseases for review. This prophylaxis protocol used a different drug (posaconazole) which has activity against moulds, including Aspergillus species, and was targeted to patients deemed at increased risk of IFI based on the review of cases associated with the cluster. On 22/12/2025, key information provided by the Redevelopment Team indicated that no air sampling for filamentous fungi had been collected since construction commenced.

On 23/12/2025, a meeting was held with key Facility stakeholders to discuss the outcomes of the review. The meeting included a review of the mitigation strategies such as engineering controls, antifungal prophylaxis for patients and the feasibility of relocating SOT patients off Ward 9ET. A summary of cases is presented below (boxed information deidentifies each case in the event this report is released). *Please refer to TAB A for a cluster and Appendix 2 for Ward 9ET floorplan.

**Tab A and Appendix 1 are removed from this version due to privacy considerations.*

Case 1. Underwent a Liver Transplant in October 2025 and was diagnosed with Pulmonary Aspergillosis in October 2025. Case 1 is subject to a SAER process for further learnings. There are no additional recommendations relevant to environmental monitoring.

Case 2. Underwent a Liver Transplant in October 2025. In October 2025, Case 2 was diagnosed with Pulmonary Aspergillosis prior to transplant. In December 2025, Case 2 was transferred to a Regional Facility for rehabilitation and ongoing care. In January 2026, Case 2 was discharged home.

Case 3. Underwent a Liver Transplant in October 2024. Case 3 had prolonged and recurrent admissions to the facility since transplant with approximately 86 days spent in hospital. In September 2025, Case 3 was admitted with fevers and worsening mouth ulcers. In October 2025, Case 3 was diagnosed with Pulmonary Aspergillosis. In November 2025, Case 3 died from multi-organ failure due to sepsis associated with a skin condition (unrelated to the fungal infection) in the context of liver failure post-transplant following a decision to transition to comfort care.

Case 4. Underwent a Liver Transplant in December 2023 and was diagnosed with Disseminated Aspergillosis November 2025. Case 4 is subject to a SAER process for further learnings. There are no additional recommendations relevant to environmental monitoring.

Case 5. Underwent a Kidney Transplant in June 2025. Between June and October 2025, Case 5 had recurrent admissions with approximately 90 days spent in hospital. In December 2025, Case 5 was diagnosed with Pulmonary Aspergillosis. In December 2025, Case 5 was discharged home.

Case 6. Underwent a Liver Transplant in November 2025. Between July and November 2025, Case 6 had recurrent admissions to the facility with approximately 150 days spent in hospital. In December 2025, Case 6 was diagnosed with Disseminated Aspergillosis. Case 6 remains in the Intensive care unit (ICU).

Analysis - Lessons learned

The Review Team was unable to identify the exact source of the *Aspergillus* associated with the infections of six solid organ transplant (SOT) patients. However, the Review Team was able to identify environmental factors that may have led to an increase in exposure to *Aspergillus* for patients admitted to Ward 9ET during September to December 2025.

Redevelopment Construction Works and Governance of CPB ICMP

On 26/10/2023, facility IPAC CNCs reviewed the CPB ICMP (which identifies the contractor CPBs roles and responsibilities in relation to infection control). The plan provided for facility staff to review included "*Air sampling is part of CPB's risk management program. Cumulative data will be used to establish indoor and outdoor background levels of filamentous fungi for the Facility. This will enable establishment of risk profiles for particular locations close to construction works.*" The document was referred to an Infectious Disease (ID) Staff Specialist for further commentary regarding air sampling in accordance with [Infection Prevention and Control in Healthcare Settings](#).

On 5/11/2023 feedback on the ICMP was provided to the Redevelopment Manager to handover to CPB including specifics around air sampling and the reference to a different Tertiary Facility in the document introduction.

The District and Facility undertook internal indoor air sampling in high-risk clinical areas on 30/12/2025 (four samples on Ward 9ET, one in ICU, one in the main foyer and one each on 7W1 Haematology Inpatient Unit and 7W2 Urology/Gynaecology Short Stay Surgical Unit where SOT patients were accommodated during 9ET closure). Further internal sampling occurred on 14/1/2026, with five samples on 9ET and one each on 7W1 and 7W2.

The Review Team identified that the redevelopment fungi monitoring program was not implemented in accordance with the CPB ICMP, nor does the ICMP include the governance processes to support and measure compliance with the plan's stated requirements. In the absence of baseline or ongoing surveillance testing, the Review Team were unable to quantify the exact risk posed to the patients by the construction works. The documentation of the governance processes and subsequently the compliance with the ICMP is considered a **system improvement opportunity**.

The Review Team note following the escalation of the cluster of cases, closure of Ward 9ET, and consultation with District and Facility IPAC staff, a Hygienist appointed by CPB conducted independent air sampling in 50 locations (clinical areas adjoining redevelopment construction areas or high-risk patient wards). A total of eight (8) surface samples and a total of 59 air samples were collected and transported to a NATA accredited laboratory under Chain of Custody conditions for sample analysis. A total of six (6) independent outdoor control air samples were collected from the exterior of the property to allow for a comparison between the independent indoor and the average outdoor filamentous fungi total spore concentrations. This testing was completed on 19/1/2026. The CPB Filamentous Fungi background testing and inspection report does not differentiate between *Aspergillus*/*Penicillium*-like organisms. Despite this, no *Aspergillus* like organisms were found within high-risk patient environments.

Results consistently indicated that the air quality inside the hospital is better than outside air, with significantly lower mould counts. *Aspergillus* was not detected at any internal sampled hospital sites however the Review Team acknowledge that risk mitigation actions had taken place prior to testing. The air sampling surveillance plan will continue with monthly testing for the next three months after which it will be reassessed in consultation with the Facility Infection Control and Infectious Diseases teams. Future independent outdoor testing and surveillance (by CPB) and internal testing is currently being reviewed with the District to ensure a mutually agreed testing methodology, appropriate testing of construction and ward locations, as well as NATA laboratory testing requirements and benchmarking. The aim is to establish trends across the outdoor and indoor work areas and maintain the safety of patients, staff, public and works contractors. In addition, a Clinical Advisory Group (CAG) has been established to provide clinical input and overview for construction activities and risk. The Review Team note

than an inaugural meeting of the CAG was held on 20/2/2026. Since the escalation of the cluster of cases the Facility IPAC CNC also attends the monthly Person Conducting a Business or Undertaking (PCBU) Operational Committee.

The Review Team acknowledge that CPB takes full responsibility for all work undertaken within their defined site boundaries. It is recognised that the Facility redevelopment is considered a complex redevelopment given the age of the existing buildings and the works scope adjoining existing buildings / hospital as well as the multitude of internal refurbishments.

The Review Team note that works adjacent to Ward 9ET commenced on 5/03/2025, when the new East Tower excavation commenced. This was approximately seven months prior to the index IFI case (three (3) cases diagnosed in October, one (1) in November and two (2) in December 2025 respectively). The Review Team learnt that the external and internal construction work between September 2025 and December 2025 is considered low construction risk works by CPB, noting there are two dust monitors on the work site and located within the vicinity of the East Tower & East Extension. Construction dust monitoring has identified no breaches to date (dust particles 10 micrometers no greater than 50 micrograms per cubic meter and dust particles 2.5 micrometres no greater than 25 micrograms per cubic meter in accordance with Department of the Environment's National Environment Protection (Ambient Air Quality) Measure and NSW Environmental Protection Authority's (EPA) air quality categories). It is noted however that no definitive association exists between measured dust levels and the clinical risk of Invasive Fungal Infection.

Hoarding, temporary physical barriers that surround the perimeter of a construction site, are required for construction activity on site in the facility in accordance with IPAC Handbook v.3 (prior to Nov 2025) and [IPAC Handbook v.4](#) (from Nov 2025). The ICMP includes a Daily Environmental and Safety Site Checklist which specifies a check of the required hoardings in place as defined by the risk assessment, as well as hoardings being signed off prior to works commencing. Hoardings are selected as prescribed in the ICMP which include impermeable barriers for Class III and IV areas (with IV being the highest risk level). The Review Team learnt that hoarding inspections were undertaken by CPB staff however not documented prior to 25/12/2025. The Review Team were advised that hoarding inspections are now undertaken daily and documented using the inspection checklist included in the ICMP.

Open Areas Adjacent to Construction

Ward 9ET has direct access to a recessed balcony which has clear panels to largely enclose the area however these panels are spaced so the area is open to the outside environment (please refer to Appendix 3 for picture). The balcony can be accessed from inside the ward by a connecting metal frame double glass door. The balcony is adjacent to the new East Tower Construction area. The Review Team confirmed that CPB focuses on the boundary of the construction site and the hospital to minimise risks and does not risk assess access to balconies adjacent to construction works (as in this case).

The balcony was accessible to all patients on this ward until 20/11/2025 when the balcony was handed over to CPB in preparation for the space to abut the new build. This area was handed over to CPB via a formal Disruptive Works Notice (CPB-MW-000360) and approved by the District. The proposed works were escalated by the Facility Redevelopment team to IPC to provide dust mitigation advice prior to handover. The works were defined by IPC as class IV (Group 4, Type D work). This required CPB to provide airtight zip wall hoarding with an ante room to create an air lock in the corridor (in addition to the existing glass doors), HEPA filtration for negative pressure gradient, HEPA attachments for all equipment, provide internal and external sticky mats, a noise test was to be scheduled, and noted surgical masks were to be worn inside the ward by all tradespeople to mitigate risks for acute respiratory infection to patients. Advice was also given around transiting through Ward 9ET and enhanced cleaning of the environment. Infectious Disease staff advised that no transplant patients were to be admitted into the single rooms closest to the hoarded area. The formal handover and inspection from Facility Redevelopment to CPB was completed on 20/11/2025.

Following a review of the medical records of each of the four cases (not subject to SAER review), one of the cases had a documented reference to balcony use. The Review Team acknowledge that the absence of such documentation does not mean that a patient did not utilise the balcony. The Review Team was unable to determine if or when the balcony door was kept open at any time during September to December 2025 and is therefore unable to quantify the exact risk posed to the patients on the ward. The need to clearly define the responsibility for risk assessing open areas adjacent to construction work or in the proximity of clinical areas is considered a **system improvement opportunity**.

The Review Team learnt that following the escalation of the cluster of cases, the IPAC CNCs have commenced a review of the risk assessments drafted by the Facility Redevelopment team for any construction works being undertaken in the proximity of clinical areas or where there is a clinical interface at the facility.

Triage of Preventative Maintenance and Engineering

The Review Team learnt that on 11/09/2025, the NUM of Ward 9ET escalated increased environmental concerns on the ward including evidence of mould growth and water damage with degradation of ward infrastructure in patient rooms and bathrooms following the submission of maintenance requests, without receiving a clear rectification plan in response. This was in response to a request to review ward environments for any damage following a storm event. These concerns were escalated to the Facility IPAC CNCs, ONM and DON&M. That same day an inspection was undertaken which identified water ingress into three 4-bedded bays (3-6, 7-10, 11-14) following this storm event damaging the ceiling. Additional issues identified included mould in bathroom silicone, leaking taps and water damaged paint. On 16/09/2025, a further inspection and assessment of the necessary remedial works occurred with the General Manager, 9ET NUM, Engineering and IPAC nursing staff. The works required closure of the effected 4 bed bays and bathrooms.

A review of the AFM portal (platform used to request engineering and maintenance tasks) identified at least two requests for water/mould damage in Ward 9ET in bed bay 11-14, submitted on or before 11/09/2025. The Review Team learnt that three of the six cases had been accommodated in this bay prior to diagnosis with the last exposure being in July 2025, approximately 2 months prior to the reported mould in AFM and also before any rectification works. The Review Team were unable to quantify the exact risk posed to the patients on the ward by the reported degradation of ward infrastructure and on balance, considered the open balcony and construction activities to pose the greater exposure risk, given cases were not exclusively located in the three 4-bedded bays with environmental concerns noted above, the timing of the construction activities in proximity to the balcony and well-recognised links between construction activity and outbreaks of IFIs.

The Review Team learnt that AFMs are triaged internally by Engineering without consultation from clinical managers or clinicians. The escalation of urgent issues occurs directly to Engineering via phone or through the Facility Executive team. There is no formal KPI for AFM response times, although the expectation is resolution as soon as reasonably possible. The clinical triage and a defined process for formal escalation of maintenance requests within both high and extreme risk clinical areas is considered a **system improvement opportunity**.

The Review Team note Ward 9ET is considered an Extreme risk area requiring a minimum cleaning compliance score of 90% in accordance with [Infection Control Policy: Environmental Cleaning](#) and [Cleaning of the Healthcare Environment](#). The required timeframe for rectification of any failed cleaning elements is within 24 hours. During October 2025 this benchmark was not met with a score of 89%. In September 2025 the IPAC CNCs worked with the Environmental Services Manager to establish a process to further analyse environmental cleaning compliance. It was agreed that, effective from the October 2025 reporting period, the cleaning compliance score would be broken down into four main components, aligned with areas of responsibility: engineering, environmental services, nursing, and support staff. In October 25 all areas scored above the 90% benchmark except engineering with a score of 71%. This score is likely a reflection of the maintenance requests submitted by the ward during September 2025.

The Review Team note that on 9/10/2025 Disruption Notice 09102025 was submitted and approved the next day. On 14/10/2025 remedial work facilitated by Engineering commenced on Ward 9ET. Dust mitigation activities for the works included decanting of four bed bays, zip wall hoarding, portable HEPA filters + HEPA filtered equipment, dust trapping sticky mats at the entrance to the remedial zone, isolation of the Heating Ventilation Air Conditioning system and enhanced cleaning of the environment. The Review Team considered these risk mitigation strategies to be appropriate and consistent with infection prevention and control risk assessment within [IPAC Handbook v.4](#).

The Review Team acknowledge that SAERS have been undertaken for Cases 1 and 4. While these have made system improvement recommendations there were no additional recommendations relating to reducing the risk of Aspergillus within high-risk clinical environments.


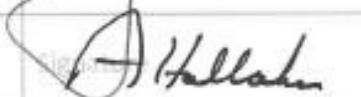
The Review Team acknowledge that IFI diagnosis can be challenging. IFI rates will vary depending on the population at risk which may change over time. Attribution of an IFI to the healthcare facility versus external environmental exposures is difficult and a robust surveillance program would be highly resource intensive. These factors contribute to the limited utility and feasibility of routine long-term surveillance for IFIs and the Review Team note that routine IFI surveillance is not a current requirement of NSW healthcare facilities. The Review Team learnt that given the increased number of IFIs noted since late 2025 and ongoing construction activity, the facility Infectious Diseases Department have begun to systematically, prospectively monitor for IFIs in the highest risk patient populations at the Facility (Solid Organ Transplant and Haematology services). The Facility Redevelopment Fungal Surveillance and Management Working Group has been established to oversee surveillance during the period of construction to ensure prompt identification of new cases and real-time assessment of potential ongoing exposure risk at the Facility. The Review Team agreed that a formal surveillance program to monitor for IFI during constructions works may assist in timely prospective identification of any increase in IFI numbers and is considered a **systems improvement opportunity**.

Recommendations arising out of cluster/ outbreak review

| | Recommendation | Relevant Factor/s | Outcome Measure | Timeframe | Oversight committee | Person Responsible | Management Agrees? |
|----------|--|--|---|------------------|--|---|---------------------------|
| 1 | Update the Infection Control Management Plan (ICMP) to include the governance pathway for monitoring and reporting including but not limited to - the tabling of air sampling reports at the Facility Infection Prevention and Control Committee - decisions relating to the frequency of the surveillance programs - Actions required/taken in the event of a pathogenic mould and/or increase in mould counts detected on fungal testing results, including escalation and risk mitigation strategies, tabling testing and timeframes for testing, and retests to measure effectiveness of actions. | The ICMP does not outline the governance processes for monitoring which may have contributed to the redevelopment fungi monitoring program not being implemented in accordance with the ICMP. | Updated ICMP | 30 April 2026 | Redevelopment PCG PCBU Interface Management Committee Meeting | Senior Project Director Central Region Health Infrastructure | Yes |
| 2 | Disruptive Works Notices (DWN) to capture all known impacted operational and clinical areas (air intakes, windows, balconies etc.) including proposed risk and mitigation measures | The responsibility for risk assessing open areas adjacent to construction work or in the proximity of clinical areas was not clearly defined which resulted in Ward 9ET patients having access to the balcony during construction works. | Evidence of consultation with appropriate SLHD engineering and Infection Prevention and Control teams for review, comment and approvals of DWN prior to work commencing | 30 March 2026 | Redevelopment PCG Redevelopment Construction Impact Working Group | Senior Project Director Central Region Health Infrastructure | Yes |

| | Recommendation | Relevant Factor/s | Outcome Measure | Timeframe | Oversight committee | Person Responsible | Management Agrees? |
|----------|---|---|--|------------------|--|--|---------------------------|
| 3 | Establish a District wide process to risk stratify maintenance requests within high and extreme risk clinical areas at each facility/service. | The absence of a clinical triage and defined process for formal escalation of maintenance requests in high and extreme risk clinical areas led to a possible delay in completing remedial work. | Documented process | 30 March 2026 | Combined Services Infection Control Committee and District IPAC Committee. | Operations Manager, Capital Infrastructure & Engineering | Yes |
| 4 | Establish a formal governance process to monitor and respond to any increase in for IFIs for the duration of construction works. | A formal surveillance program to monitor for IFI during constructions works may assist in timely prospective identification of any increase in IFI numbers. | Endorsed Terms of Reference for the Redevelopment Fungal Surveillance and Management Working Group | 30 March 2026 | Facility Executive Committee | Head of Department, Infectious Diseases | Yes |

Recommendations Report sign-off

| | Name | Title | Signature | Date |
|---|-----------------|---|---|--------------|
| 1 | Kiel Harvey | General Manager |  | 17/3/26 |
| 2 | Andrew Hallahan | Executive Director Medical Services, Clinical Governance and Risk SLHD |  | Da 17.3.2026 |

Appendix 1: Case Summaries (excluding two Harm Score 1 cases undergoing Serious Adverse Event Review – Cases 1 and 4)

Appendix 1 is removed from this version due to privacy considerations.

Patient cluster/outbreak review report

Appendix 2: Ward 9ET Floorplan

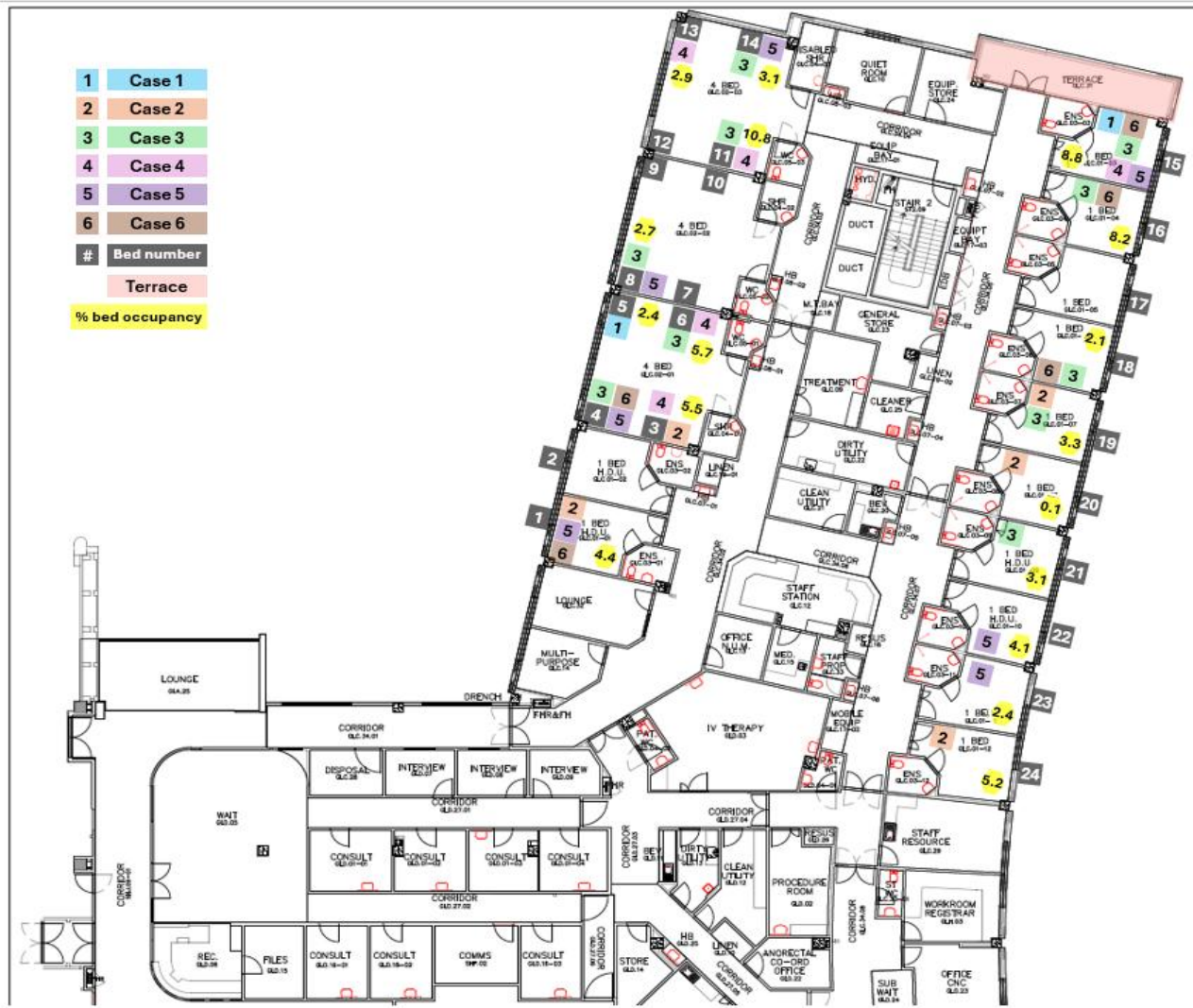


Figure 1. Percentage bed occupancy identifies the time burden spent in specific bed locations at the facility divided by total admission hours. This included all admissions in 2025 associated with each patient case preceding diagnosis of IFI. I.e. Number of hours individual bedspace occupied/total admission hours. This was used as a surrogate to identify specific beds or hotspots that cases occupied as part of IFI investigations, to try and identify areas of increased concern.

Patient cluster/outbreak review report

Appendix 3: Balcony pictures

