Introduction

Bed allocation or patient flow for patients with a known or suspected communicable disease or a multidrug-resistant organism (e.g., COVID-19, Influenza, Tuberculosis, Varicella zoster, Carbapenemase-producing Enterobacterales) can be complex, requiring careful planning to ensure the most suitable ward and bed placement. To ensure the safe and timely placement of a patient, decisions should be made in conjunction with the patient flow team and local Infection Prevention and Control (IPAC) service wherever possible in business hours, with local procedures for after hours.

Reducing unnecessary movement of patients within a hospital can help to reduce:

- the number of high-risk contacts when a patient tests positive for an infectious disease
- the risk of patient disorientation, and adverse outcomes

Risk assessment and risk mitigation process

Patient placement needs to consider the principles of IPAC hierarchy of controls as part of any risk mitigation process. Prioritisation of single rooms for isolation or for other important uses beyond the management of infectious diseases, such as providing end-of-life care, falls risk, patient vulnerability to communicable diseases (e.g., immunocompromised) or ensuring appropriate patient security and safety should be embedded in the decision-making process. Where possible, patient rooms including isolation rooms need to be allocated to minimise any additional unnecessary movement of patients during their admission.

Patients must be promptly assessed for infection risk on arrival at the care area (if possible, prior to accepting a patient from another care area) and this should be continuously reviewed throughout their stay. Patient placement decisions should be based on risk assessment which should consider the route of transmission of the organism or infection, alongside patient factors and symptoms that increase the risk of cross transmission. These principles should be applied in emergency department (ED) and ward areas including outpatient areas. Assessment should include the potential infection, route of infection transmission and potential spread of infection, risk factors associated with exposure to blood and body fluids, and spatial considerations.

Prioritisation of single rooms or isolation rooms

A single-bed room should be considered as a minimum for patients on airborne precautions and is preferred for patients on droplet and contact precautions. The ongoing need for isolation should be reassessed based on transmission or infectious period and patients’ clinical signs and symptoms.

Local risk assessment should determine the appropriate room placement considering any other patient safety risks (e.g., falls risk, other co-morbidities, mental health).

When single-bed rooms are limited, prioritisation for single-bed rooms should be for patients who have conditions that increase the risk of infection transmission to other patients (e.g., draining wounds, stool incontinence, uncontained secretions) and those who are at increased risk of acquisition and adverse outcomes resulting from HAI (e.g.,...
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immunosuppression, open wounds, invasive devices, anticipated prolonged length of stay, total dependence onHWs for activities of daily living).

Placing a patient in isolation may increase the risk of stress, depression, or anxiety. Where isolation is required, the reason for isolation should be clearly explained to the patient and their carers to minimise these risks.

A decision to isolate the patient should be made carefully after consultation with treating clinicians and the IPAC service and/or an infectious diseases (ID) team. Extended periods of isolation require regular assessment by teams involved in patient care. The reason for isolation must be documented in the patient’s healthcare records and reviewed by the IPAC service.

The following order of prioritisation should be considered with all patient allocations:

- **FIRST:** Airborne precautions – priority access to negative pressure room with or without anteroom, followed by isolation rooms that may be 100% exhaust or negative airflow. Where these category of isolation rooms are not available use a single room with door closed and dedicated bathroom facilities

- **SECOND:** Droplet Precautions – All acute respiratory infections (ARIs)

- **THIRD:** Contact Precautions – transmission risk assessment to be conducted.

**Patient placement in a cohort or mixed inpatient area**

Where single rooms are not available or where the demand for single rooms for management of patients with same communicable pathogens is unable to be met, cohorting patients with the same confirmed infectious agent may need to occur.

A cohort area is a bay or a ward in which a group of patients (cohort) with the same infection are placed together. Cohorts are created based on clinical diagnosis, microbiological confirmation when available, epidemiology, and mode of transmission of the infectious agent.

A decision to cohort patients should be made based on IPAC principles and where possible in consultation with treating clinicians and the IPAC service and/or an ID physician. If placement in mixed gender accommodation is being considered, refer to the NSW Health Policy Directive: Same Gender Accommodation.

In lower risk areas such as rehabilitation units, long term care settings, outpatient day treatment settings or patient transport services, a risk assessment should be undertaken to establish the level of risk and benefit to patient treatment.

Patients with suspected and confirmed infections should not be cohorted together. Patients that are screened for respiratory viruses, viral/infective gastroenteritis or airborne diseases need to be isolated immediately until negative test results are available.

Patients screened for multi-resistant organisms can remain in their allocated bed with appropriate precautions applied at the patient bedspace until results are available.

Where a patient’s presentation involves acute gastrointestinal symptoms/infection (vomiting, diarrhoea); acute respiratory infection, acute skin infection or infestation in the absence of a proven non-infective process should be considered for an isolation room with dedicated bathroom facilities as priority. For more information on the Risk assessment considerations refer to CEC Infection Prevention and Control Practice Handbook, Chapter 6 Risk Mitigation:patient placement.
When single rooms with dedicated toilets are not available, a dedicated commode should be assigned. Cleaning and disinfection of patient care items and surfaces is essential where shared equipment or environments are used.

**Key considerations when allocating a bed space or moving a patient with suspected or confirmed communicable diseases:**

- Refer to local guidelines or procedure when allocating beds
- Isolation should not compromise care. Consider the patient acuity and care needs including wandering, cognitive impairment, or other risk factors for patients requiring isolation
- Risk assessments should consider patient factors and bed availability and done in consultation with the Patient Flow Team and local IPAC/ID. Navigate patients through the health systems to prevent delays.
- Does the patient move create additional bed capacity or reduce capacity temporarily “closing” beds”?
- The decision needs to consider other important uses beyond the management of infectious diseases, such as providing end-of-life care, or ensuring appropriate patient security and safety
- Conversations with patients, families and carers about the risks and benefits of the bed move. Placement into an isolation or cohorting area should occur early, be ongoing and documented in the clinical record.

**Zoning**

During a COVID-19 or any other communicable disease outbreak designated areas or zones may be considered and are divided into different patient zones. An example of managing COVID-19 in a health facility may include:

1. **Red zone** - COVID-19 positive cases
2. **Amber zone** - COVID-19 high risk contacts or suspected cases
3. **Green zone** – patients/clients that have been cleared of being COVID-19 cases or contacts
4. **Blue zone** – areas only accessed by staff.

The organisation of zones depends on factors such as:

- physical building space
- availability of single or shared rooms in a specific area
- ability of patients to be relocated
- staffing capacity
- number of suspected or confirmed COVID-19 or other infectious cases
- acuity of COVID-19 positive cases
- number of contacts
- clinical condition and vulnerability of patients
- access to bathrooms and toilets.
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Staffing

Risk assessment should consider the appropriate allocation of HWs. This may involve dedicating HWs to specific patients or cohort groups.

Where this is not possible, adherence to hand hygiene, standard and transmission-based precautions is essential to reduce the risk of transmission of infection.

All HWs need to be vigilant for symptoms suggestive of COVID-19 or other transmissible infections. If symptoms occur, staff need to notify their manager as soon as practicable and follow local procedures.

Discontinuing isolation

Individual patient risk factors should be considered (e.g., there may be prolonged shedding of certain microorganisms in immunocompromised patients) along with clinical judgement before discontinuing isolation. Clinical and molecular tests to show the absence of microorganisms may also be considered and consultation of HWs involved in the patient care and IPAC team before making the decision regarding isolation discontinuation.

Vulnerable patients and protective isolation

Vulnerable patients requiring protective precautions may need to move to a priority for isolation.

There are specific patient groups for whom isolation may provide protection from infection. The following groups of patients can be identified as vulnerable and may require protective isolation:

- Any patient whose blood neutrophil count falls below, or is expected to fall below 0.5 x10^9/L
- Patients receiving haematopoietic stem cell transplant, particularly allogeneic transplants
- Patients with extensive skin loss due to burns or trauma
- Patients within 6 months of a solid organ transplant
- Preterm babies.
### Table 1: Patient Placement Priority Guide

<table>
<thead>
<tr>
<th>Type of Precaution</th>
<th>Priority Level for Single Room Allocation</th>
<th>Isolation Management</th>
<th>Examples</th>
</tr>
</thead>
</table>
| **Airborne** | Highest | Negative pressure room or single room with doors closed. Own bathroom | ➢ Measles  
➢ Pulmonary tuberculosis  
➢ Varicella (Chickenpox)  
➢ Disseminated shingles in immunocompromised  
➢ COVID-19 suspected or confirmed |
| **Protective isolation** | High | Place in single room with own bathroom  
**Note:** neutropenic patients usually placed in positive pressure rooms: assess infectious status | Patients with significant neutropenia and transplant recipients may require protective isolation  
Utilisation of high-risk ward environment e.g., oncology, transplant |
| **Droplet** | High | Single room | ➢ ARIs (COVID-19 or Influenza)  
➢ Pertussis (Whooping cough)  
➢ Meningococcal disease (only for the first 24 hours of antibiotics)  
➢ Mumps |
| **Droplet** | Moderate | Single room where available | Other respiratory viral illnesses such as human metapneumovirus, parainfluenza, RSV |
| **Contact** | High | Single room with ensuite or dedicated bathroom facility | Order of priority for single room allocation:  
➢ Candida auris  
➢ CPE  
➢ Acute diarrhoea (3 or more loose stools within 24 hours. Risk assess clinical symptoms for the duration of isolation) |
| **Contact** | Moderate | Single room where available with ensuite. For cohorting: dedicated bathroom or designated commode. Cohorting can occur in this category (VRE, MRSA). | ➢ MRSA  
➢ VRE  
➢ Varicella Zoster (Shingles) if localised |
## Table 2: Suggested Prioritisation of Resources Based on Infection Risk

<table>
<thead>
<tr>
<th>Priority</th>
<th>Disease or presentation (in alphabetical order)</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRST</td>
<td>Chickenpox/disseminated varicella zoster virus</td>
<td>Airborne + contact</td>
</tr>
<tr>
<td></td>
<td>Candida auris</td>
<td>Contact</td>
</tr>
<tr>
<td></td>
<td>Measles</td>
<td>Airborne</td>
</tr>
<tr>
<td></td>
<td>Pulmonary tuberculosis</td>
<td>Airborne</td>
</tr>
<tr>
<td></td>
<td>Respiratory viruses of concern e.g., Middle East respiratory syndrome coronavirus (MERS-CoV), COVID-19</td>
<td>Airborne + contact + droplet</td>
</tr>
<tr>
<td></td>
<td>Viral haemorrhagic fever</td>
<td>Airborne + contact + droplet</td>
</tr>
<tr>
<td>SECOND</td>
<td>C. difficile infection</td>
<td>Contact</td>
</tr>
<tr>
<td></td>
<td>Carbapenem-resistant organisms (e.g., carbapenem-resistant Enterobacterales)</td>
<td>Contact</td>
</tr>
<tr>
<td></td>
<td>Infectious diarrhoea‡, vomiting including norovirus</td>
<td>Contact + droplet</td>
</tr>
<tr>
<td></td>
<td>Influenza</td>
<td>Contact + droplet</td>
</tr>
<tr>
<td></td>
<td>Meningococcal disease</td>
<td>Droplet</td>
</tr>
<tr>
<td></td>
<td>Mumps</td>
<td>Droplet</td>
</tr>
<tr>
<td></td>
<td>Pertussis</td>
<td>Droplet</td>
</tr>
<tr>
<td></td>
<td>Respiratory syncytial virus (RSV)</td>
<td>Droplet</td>
</tr>
<tr>
<td>THIRD</td>
<td>Other multi-resistant organisms as designated by your facility (e.g., MRSA, VRE)</td>
<td>Contact</td>
</tr>
<tr>
<td></td>
<td>Scabies</td>
<td>Contact</td>
</tr>
<tr>
<td></td>
<td>Varicella Zoster (localised &amp; uncovered)</td>
<td>Contact</td>
</tr>
</tbody>
</table>

‡ Some types of infectious diarrhoea only require contact precautions.

**Note:** protective precautions may apply to vulnerable patients
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**TABLE 3: IPAC GUIDANCE FOR ASSESSMENT AND MANAGEMENT OF ACUTE RESPIRATORY INFECTION**

Any patient presenting with or undergoing investigation for an acute respiratory infection/illness during PEAK INFLUENZA SEASONAL PERIODS and COVID-19 pandemic should be Managed using the framework below.

**HAND HYGIENE COMPLIANCE REMAINS ESSENTIAL TO PREVENT HEALTHCARE TRANSMISSION**

Category A High Risk workers MUST be vaccinated – Unvaccinated workers (due to medical conditions) in Category A High Risk roles must always wear a surgical mask while providing care.

**MANAGEMENT GUIDE ED/CLINIC**
- Risk screening of all patients for symptoms and epidemiological factors
- All patients with an Acute respiratory infection (ARI) to wear a mask on presentation and transit if able or tolerated
- Rapid clinical assessment and testing (consider COVID-19*) with decision to admit or discharge after clinical assessment
- Use testing strategies for early diagnosis and treatment
- Implement respiratory precautions, to be worn by HW for patients with an ARI
- Patients with ARI should be isolated in a single room if available OR cohorted
- Spacers are the preferred method for the safe delivery of inhaled medications
- Communicate acute respiratory virus** risk with relevant department for admitted patients

**Testing strategy:**
1. RAT for COVID-19
2. Respiratory viral triplex test (COVID-19, flu A/B and RSV)
3. COVID PCR

Respiratory PCR panel (Flu A/B, rhinovirus, adenovirus, enterovirus, parainfluenza & HMPV or as recommended by the laboratory)

**MANAGEMENT GUIDE WARD AREAS**
- Implement respiratory precautions for all ARI
- Patients with suspected or confirmed COVID-19 prioritised for a single room/ensuite
- Spacers are the preferred method for the safe delivery of inhaled medications
- Patients with ARI- if nebulisers are used, use in a designated room or location where patients & visitors have limited access or draw curtain during nebulisation – HWs are to wear P2/N95 respirator during nebulisation if in patient zone
- Patient to wear surgical mask when outside their designated patient zone if able or tolerated
- Cohorting should only occur based on known results (same respiratory pathogen), risk assessment and as directed by IPAC or Infectious Diseases (ID) team
- Encourage patients to perform hand hygiene, respiratory hygiene and cough etiquette
- Implement enhanced cleaning of the environment and patient equipment
- Communicate acute respiratory virus** risk with relevant department during intra and inter hospital transfer

**PRECAUTIONS & ISOLATION PERIOD**

**ENDING CONTACT & DROPLET PRECAUTIONS**

**Influenza**
3 days after commencement of anti-influenza medication AND resolution of ARI symptoms for ≥24 hours

**OR**
5 days after commencement of respiratory symptoms if patient not treated with anti-influenza medication AND afebrile /asymptomatic for ≥24 hours

**CDNA National Guidelines**

**IF PREGNANT WOMAN DELIVERS WITHIN THE ABOVE TIME FRAMES:**
- Baby to be isolated with mum
- Mum to be instructed on contact & droplet precautions
- Clean and disinfect shared equipment & room with a TGA approved disinfectant

**COVID-19**
De-isolate according to current CEC IPAC manual

**Acute respiratory viruses**
Check with your IPAC service for precautions and isolation period

**IPAC SERVICE MONITORING AND CONSULTATION**
- Where possible and practical IPAC service to be directly notified of patient admission by ED/Patient Flow/ AHM** via phone OR email
- Team may contact ID for ongoing advice as per current process for ID referral at their site
- Notify IPAC team if new cases of HAI ARI or COVID occur during admission that were not present at time of admission and/or if 2 or more HW are identified with an ARI (in relation to cross infection/ outbreak risk) and all new Cases of COVID
- Clinical rounds through ED and clinical areas by IPAC liaising with clinical team alternatively via patient notes or phone
- Attendance at patient flow huddles/meetings
- Patient reports & lab results reviewed by IPAC
- Influenza and COVID-19 activity report to patient flow & executive teams
- Escalate risks/outbreaks as per CEC Triggers for escalation
- Site IPAC Contact:
- District IPAC contact (if available):

**Notes:**
- Influenza and COVID-19 Vaccination Compliance: Category A High Risk HWs MUST vaccinated against Influenza (annual) and COVID-19 recommended doses
- All unvaccinated workers (due to medical condition) in Category A High Risk roles must always wear a surgical mask while providing care
- (Vaccination takes approx. 2 weeks for antibodies to develop and provide protection so if the 2-week period is not reached by the 1 June staff are required to wear a mask until this period is reached).

**IPAC** – Acute Respiratory Infection **AGP**- Aerosol generating procedure

* Risk assessment of cases and community transmission will be determined by the Risk Escalation Review Panel. HWs to comply with mask wearing as per the risk level

**Acute respiratory viruses include respiratory syncytial virus, parainfluenza, rhinovirus, metapneumovirus, adenoviruses etc.

**AHM** = After Hours Manager