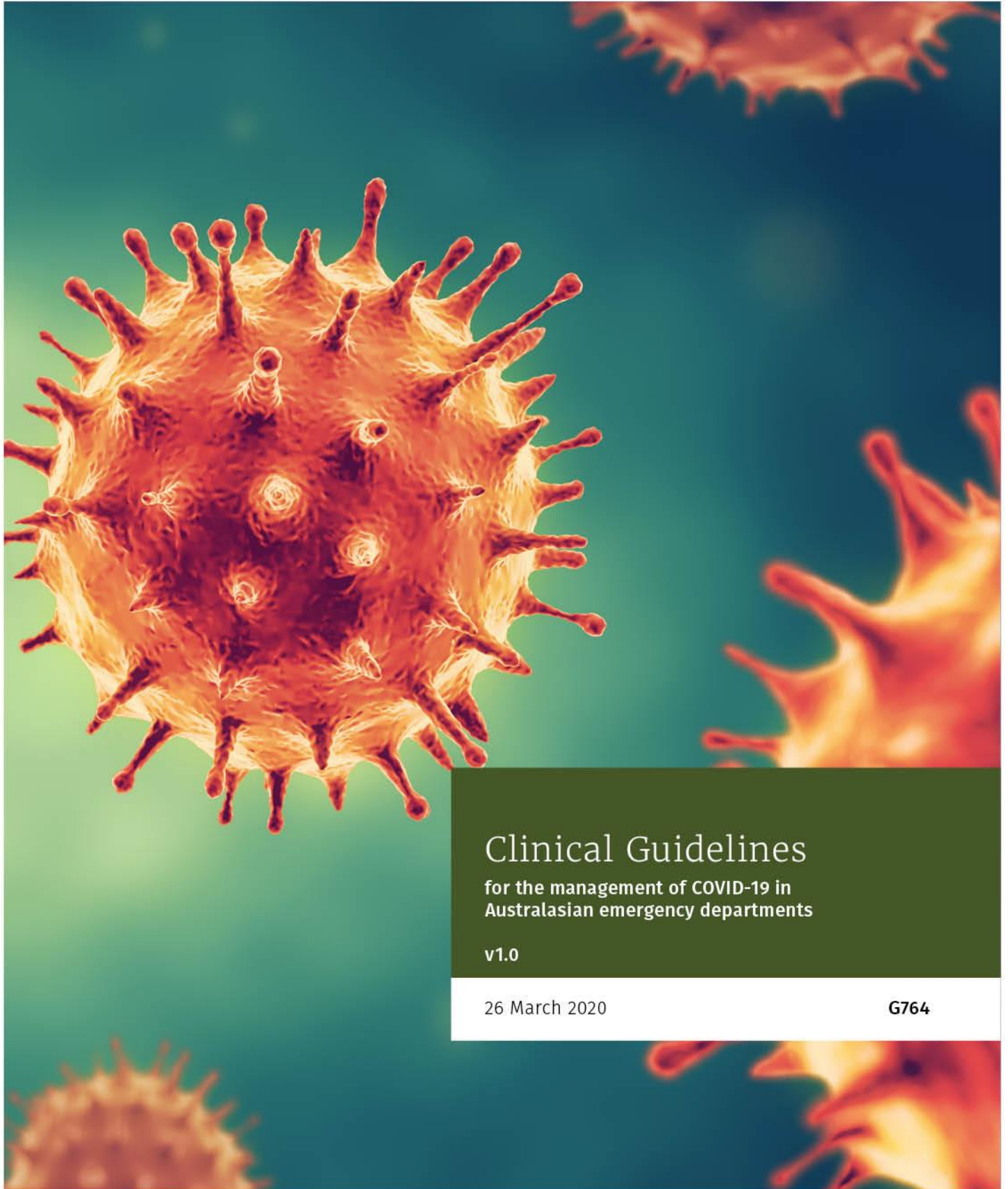




Australasian College for Emergency Medicine

acem.org.au



Clinical Guidelines

for the management of COVID-19 in
Australasian emergency departments

v1.0

26 March 2020

G764

ABOUT

This guide

The COVID-19 pandemic will stretch hospital resources all over the world. This guideline is a framework for all Emergency Departments to work from as we plan and respond to the pandemic.

With our states, countries, metropolitan, rural and regional emergency care facilities all at different stages of community impact, and with markedly different workforce, infrastructure and resources available, local implementation of these guidelines will differ.

However, there are general principles of COVID-19 and non-COVID-19 emergency care that will apply to all workplaces:

- There is no patient emergency more important than the safety of our healthcare workforce.
- Appropriate, judicious use of personal protective equipment (PPE) is paramount.
- Planning for the increased numbers of patients requiring critical care services is important.
- Special consideration should be given to vulnerable people, both patients and staff, such as those who are older or have comorbidities, as well as Indigenous populations.

The Australasian College for Emergency Medicine

The Australasian College for Emergency Medicine (ACEM) is the not-for-profit organisation responsible for training emergency physicians and advancement of professional standards in emergency medicine in Australia and New Zealand.

Our vision is to be the trusted authority for ensuring clinical, professional and training standards in the provision of quality, patient-focused emergency care.

Our mission is to promote excellence in the delivery of quality emergency care to all of our communities through our committed and expert members.

Acknowledgements

ACEM would like to thank **Safer Care Victoria** for their collaborative efforts in the development of this document.

In addition, the College would like to extend its thanks to ACEM Fellows **Peter Cameron, John Bonning, Simon Judkins, Sally McCarthy, Amanda Rojek, Mya Cubitt, Kim Hansen, Lai Heng Foong, Joanne Grindlay, Rob Mitchell, Simon Craig, Andrew Pearce, Stefan Mazur, Neil Ballard, Ashish Jaison, Glenn Arendts, Ellen Burkett, Carolyn Hullick, Peter Roberts, Guruprasad Nagaraj, Ryan Hodges, Andrew Tagg, Gabriel Blecher** and **Tim Baker** for generously providing input. Additionally, ACEM would like to thank Associate Professor **Sarah Winch**, healthcare ethicist from the University of Queensland, for contributing to the development of this document.

Disclaimer

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Executive summary

Pandemic modelling for COVID-19 has governments and communities working towards a common goal of 'flattening the curve' in order to give healthcare services the best opportunity to meet the coming acute demand of COVID-19 infected patients. Whilst the usual medical, mental health and trauma presentations may reduce, they will continue. This requires workforce planning that includes consideration of long-term sustainability, as well as a significant and unprecedented period of surge.

Emergency Departments (EDs), already operating over capacity, have the potential to be overwhelmed by both sheer numbers of mild to moderately unwell patients, as well as resource-intensive critical patients (who may or may not benefit from critical interventions) and staff shortages due to quarantine requirements when exposed to COVID-19 infected patients.

This Guideline is a framework for all in EDs to work from as we plan and respond to the pandemic. With our states, countries, metropolitan, rural and regional emergency care facilities all at different stages of community impact, and with markedly different workforce, infrastructure and resources available, local implementation of these guidelines will differ.

However, there are general principles of COVID-19 and non-COVID-19 emergency care that will apply to all workplaces:

- There is no patient emergency more important than the safety of our healthcare workforce.
- Appropriate, judicious use of personal protective equipment (PPE) is paramount.
- Planning for the increased numbers of patients requiring critical care services is important.
- Special consideration should be given to vulnerable people, both patients and staff, such as those who are older or have comorbidities as well as Indigenous populations.

In this COVID-19 healthcare response, we must use the challenges of delivering equitable, safe, timely, rational, effective, patient-centred healthcare, to create opportunities in healthcare community building, communication and system reform. Our goal is to create a 'living' document for the generic planning and implementation that is occurring in duplication across multiple sites concurrently. To enable continual refinement of the document we hope you will share your feedback, resources, challenges, wins and local solutions here:

- COVID19.clinicalguidelines@acem.org.au

The next six months are going to be tough, but our skills, expertise, humanity, compassion, training, unity and strength will get us through it. Amid all of this, maintaining our wellbeing, both physical and psychological, remains more important than ever.

Please continue to look after yourselves and each other, our precious emergency healthcare resource.

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1. Pandemic planning

All hospitals and health services should have a pandemic plan, which includes all aspects of the health service including EDs and critical care areas. The Australian Health Sector Emergency Response Plan for Novel Coronavirus COVID-19, and the New Zealand Pandemic Action Plan contain the essential aspects of pandemic planning to guide hospitals in managing the COVID-19 Pandemic (links below). Pandemics require whole-of-hospital and whole-of-healthcare responses with integration of ED plans into both of these.

We **recommend** the following:

1. That the ED leadership are actively involved with the Hospital Incident Management Team (HIMT), or equivalent, which should have been activated during the *Preparedness/ Standby (Aus) / Keep it out/ Stamp it Out (NZ)* phases of pandemic planning. Active involvement of the ED in the HIMT and broader hospital planning, through direct membership or consultation, will facilitate collaboration with all areas of the hospital, which is essential for the complete and integrated, whole-of-hospital response to a pandemic.
2. That the hospital pandemic plan is consistent with state and federal guidelines and that, where possible, these plans are used without modification.
3. That the hospital pandemic plan should include all aspects of the standard Health Incident Management Plan. These will have differing titles in different jurisdictions but should include:
 - a. Command, Coordination, Control.
 - b. Planning, including structural elements and staffing required for different stages of pandemic response.
 - c. Recovery.
 - d. Communications (both external and internal).
 - e. Operations (business as usual plus pandemic response including clinical protocols, infection control).
 - f. Logistics (supplies and workforce).
 - g. Intelligence (data gathering).
 - h. Investigation.
 - i. Finance.
4. The ED should not duplicate activities undertaken by the HIMT, but should provide input to ensure the plan fulfils the needs of the ED and its patients, whilst supporting the rest of the healthcare sector in managing the pandemic.
5. FACEMs should develop clinical guidelines in conjunction with relevant colleagues, including infection control, to ensure a consistent approach to patient care.
6. Code Brown should **not** be the primary response to a pandemic. Unlike a mass casualty event, time is available and should be used for planning and preparation, in order to avoid or delay the need for a Code Brown response. If Code Brown is used, there should be a clear, defined benefit over and above that of the hospital's pandemic plan.

We **align** with the following resources:

1. Australian Health Sector Emergency Response Plan for Novel Coronavirus COVID-19 [[Link](#)]
2. Australian Government, Emergency Response Plan for Communicable Disease Incidents of National Significance: National Arrangements [[Link](#)]
3. New Zealand Pandemic Action Plan [[Link](#)]
4. Australian Department of Health National Communicable Diseases Plan [[Link](#)]
5. ACEM, Management of Respiratory Disease Outbreaks: including Severe Influenza, Pandemic Influenza and Emerging Respiratory Illness [[Link](#)]
6. United States CDC Checklist for Health Services [[Link](#)]

This document should be read in conjunction with State and Territory Plans:

- Victoria [[Link](#)]
- New South Wales [[Link](#)]
- Western Australia [[Link](#)]
- Tasmania [[Link](#)]
- Queensland [[Link](#)]
- Northern Territory [[Link](#)]
- ACT [[Link](#)]

This document should be read in conjunction with relevant [ACEM standards](#) including:

- G26 Guidelines for Infectious Disease and Biohazard Exposure in the Emergency Department [[Link](#)]

1.1 Measures to decrease ED demand

We **recommend**:

1. Health services develop clear agreement with external stakeholders and ambulance services regarding transport and reception of patients (especially special populations such as frail older persons).
2. Hospitals develop procedures to defer patients to alternative health services (e.g. private hospitals) or defer time of presentation (e.g. electives).
3. Hospitals redeploy non-ED staff (within their scope of practice) to assess acute, low risk COVID-19 patients outside the ED (e.g. in clinics, in the community or on wards).
4. Hospitals support early redirection of patients seeking public health screening with mild respiratory symptoms to screening clinics (see below).
5. Hospitals improve telehealth support for a range of clinical services.
6. Use of pre-existing social and traditional media avenues (e.g. mobile apps) to inform patients of appropriate use of emergency services.
7. Other specialties urgently develop processes for patients to be reviewed without transit through the ED.
8. Algorithms of pre-hospital services are redirected away from the ED (e.g.13 Health).

We **advocate** for clinical care to occur in the most suitable setting - including residential aged care facilities (RACFs) - where safe and appropriate.

1.2 Measures to increase ED capacity

Optimising patient flow through the ED to inpatient service or to discharge will increase the ED capacity and ability to cope through the pandemic. With the bushfire crisis and now COVID-19, maldistribution of the emergency workforce to rural and regional centres has been problematic.

We **recommend**:

1. Urgent measures are required to increase ED staff, equipment and treatment spaces in the short term.
2. Health services actively increase work hours of existing staff for those willing to do so who are not full time and recruit additional healthcare staff in the short term.
3. Health services utilise other non-ED staff in the low risk COVID-ED for suitable cases (for example, orthopaedic registrars for limb injuries, gynaecology registrars for early pregnancy bleeding).
4. Health services consider changing or increasing the footprint of EDs and short stay units to meet demand.
5. Health services optimise patient flow in preparation for increased presentations. This is especially important for ICU and respiratory cases.
6. Tertiary paediatric hospitals take paediatric presentations away from other hospitals in order to increase capacity to treat unwell adults in those hospitals.

1.3 Measures to maintain healthcare system flow

The response to COVID-19 must be considered a health system response with a shared responsibility to staff, patients and risk. As such, guidelines and protocols should consider colleagues in other professions, departments, networks, societies, and colleges.

We **recommend**:

1. That 'hub' hospitals maintain their support of, and accountability to, surrounding smaller facilities although specifics of that support will change with each pandemic phase.
2. There are agreed methods of medical evacuation of COVID-19 and non-COVID-19 patients from hub hospitals back to smaller facilities or community services.
3. Improved communication between hospitals and health services and key community services including RACFs and primary care.
4. Collaboration with private hospitals and other healthcare facilities.
5. Non-essential education and clinical support time is re-purposed to contribute to the pandemic response.
6. That health services assess their capacity to provide non-critical elective surgery during the pandemic.
7. That health services assess their capacity to provide non-critical outpatient clinics during the pandemic.

8. Escalation to hospital management or public health unit if there are obstacles to transfer of care on the basis of infection-control concerns.

1.4 Measures to improve communication

We **advocate** for the following:

1. A single 'point of truth' for rapid communication and dissemination of reliable clinical information that applies at state and national levels.
2. Coordination and clear lines of communication in critical care networks at a local, regional, state-wide and national level.
3. Agreed clinical pathways and thresholds for intervention are shared between all critical care services.
4. Agreed referral and communication (including telehealth) pathways between rural, regional and larger metropolitan sites.
5. Agreed communication pathways between frontline clinicians and governance networks to inform of rapidly changing policy.
6. Agreed public and private healthcare network communication strategies to coordinate response.

1.5 Section disclaimer

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1.6 Section revision history

Version	Date	Pages revised / Brief Explanation of Revision
V1	25 March 2020	Approved by ACEM

2. Maintaining business as usual

Controlling public anxiety and engendering trust in the healthcare profession is key to maintaining 'business as usual'. Public messages from healthcare professionals should aim to reinforce public trust in medical care, resource capability, capacity and collaborative efforts with colleagues and government in reaching solutions.

We **recommend** that concerns from healthcare professionals to healthcare governance, including State and Federal Governments, are separated from public messaging (including social media) and given appropriate directed communication platforms.

2.1 Community support for business as usual

We **advocate** for the following:

1. Increased access to community-based care for chronic disease management.
2. Increased access to community-based care for minor illness and injury presentations.
3. Maintaining access to essential emergency services, such as emergency theatre, for those that require it.
4. Reviewing trauma networks to rapidly establish COVID-19 appropriate capability, triage and transfer guidelines.
5. A community solution for care, housing and 'home' isolation for the homeless.
6. A community strategy for care of vulnerable patients including older patients, those with mental health issues, those with disabilities who are reliant on home carers to access healthcare, while supporting as much as possible the goal of people to safely remain in their own homes.
7. Providing support and creating accountability in healthcare networks 'hub and spoke' model for either telehealth advice or retrieval services.

2.2 Hospital support for business as usual

We **recommend**:

1. Rapid movement of non-COVID patients with clear alternative pathology to areas staffed with appropriate personnel. This may include, but is not limited to, orthopaedic, gynaecology and plastic surgical patients.
2. Maintenance of efficient utilisation of existing rapid pathways of care (stroke, ST-Elevation Myocardial Infarction (STEMI), febrile oncology patients).
3. Expediting of inpatient admissions, with ED Consultants having admitting rights for all inpatient areas, and inpatient teams doing admissions on the wards.

2.3 Section disclaimer

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2.4 Section revision history

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3. Emergency Department design layout

The COVID-19 pandemic will mandate changes to ED layout and flow. This clinical redesign process is necessary to mitigate the risk of disease transmission.

We **recommend** that EDs develop clear processes to identify and isolate patients who may be a source of disease transmission (see also triage section below). The likelihood of a positive diagnosis is increased in patients with clinically compatible symptoms (e.g. fever and cough) and/or epidemiological risk factors (e.g. contact with a confirmed case). Patients with severe acute respiratory illness are likely to have a higher viral load and pose a higher risk of disease transmission. An example of a simple risk stratification system linked to infection prevention and control procedures is provided below in **Figure 1**.

As a general principle, all patients should be considered as potentially infectious. Some will present with atypical symptoms (especially children and older persons), such that they fall outside of case definition criteria. For this reason, clinicians should exercise a high degree of suspicion and vigilance at all times.

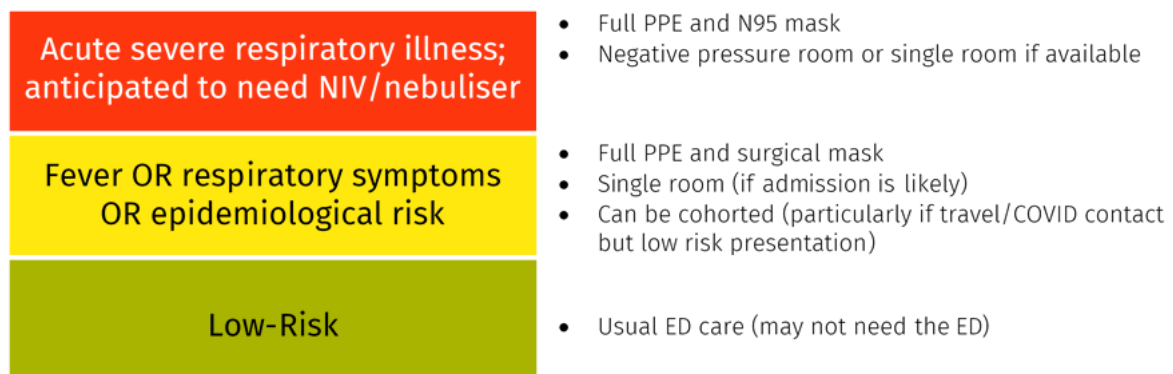


Figure 1. Example of a simple risk stratification system

Note that risk stratification may change as the pandemic progresses

3.1 Zoning

Patients meeting case definition criteria should be streamed into a dedicated ‘high-risk’ treatment zone within the ED.

We **recommend** that any high-risk zone is:

1. Clearly demarcated, with a minimum number of entry and exit points.
2. Described using neutral language, such as a ‘hot’ or ‘red’ zone.
3. Staffed by a team of dedicated clinicians separate from those looking after low-risk patients.

We **recommend** that staff working in this high-risk zone:

1. Wear appropriate PPE at all times (see specific recommendations in **Section 6**).
2. Are not permitted to bring food into the area.
3. Take regular, planned breaks to preserve health and wellbeing, especially in the setting of continuous PPE use.

Design of the high-risk zone will depend on the available infrastructure and layout of the ED. An example of a flow diagram incorporating risk assessment and zoning appears in **Figure 2** below:

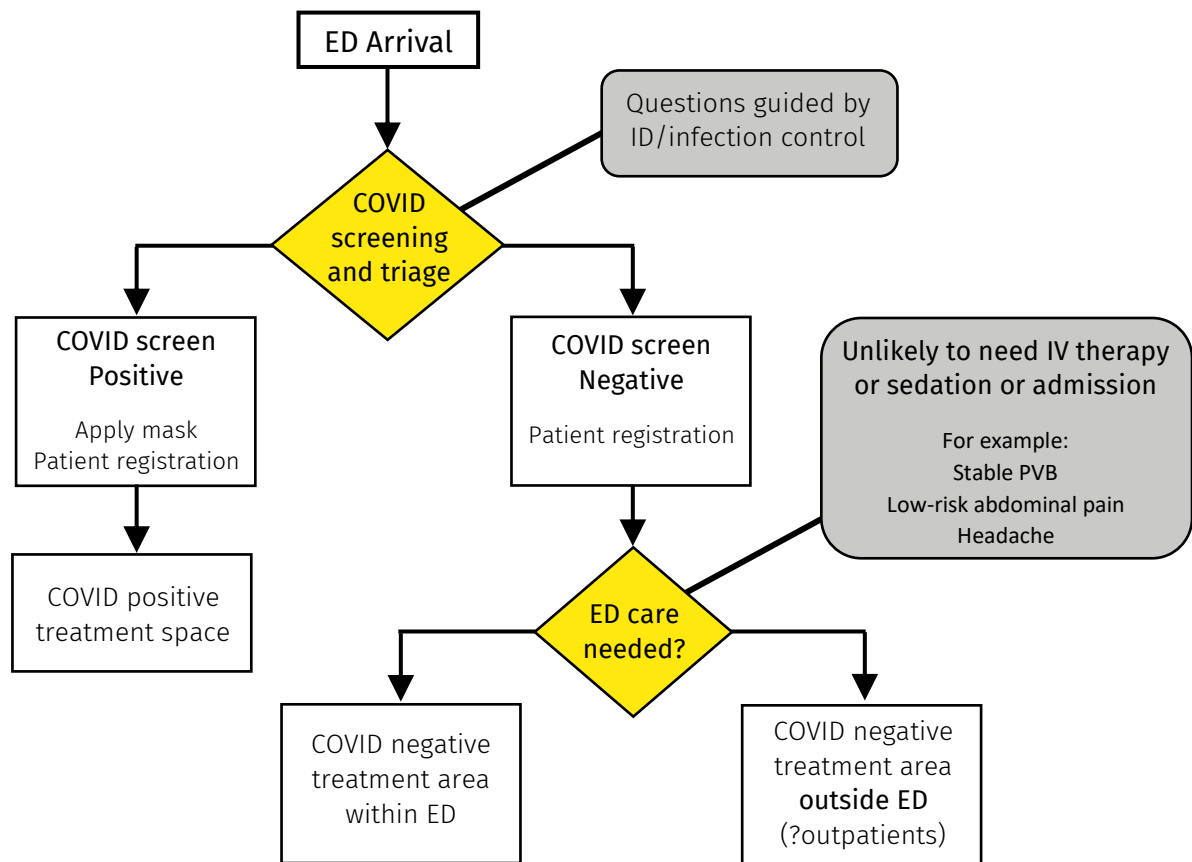


Figure 2. Example of a flow diagram incorporating risk assessment and zoning.

3.2 Selection of specific treatment spaces

We **recommend** that all patients with suspected COVID-19 are treated in a space that:

1. Is equipped to meet their specific care needs, as determined by the acuity of their presentation, goals of care and likelihood to benefit from treatment.
2. Offers the highest standard of infection prevention and control within the available resources.

Wherever possible, patients with suspected COVID-19 should be separated from those with confirmed infection. This requires a dynamic approach to flow and bed management.

3.3 Prioritisation of treatment spaces based on infection prevention and control needs

The hierarchy of isolated treatment spaces is summarised in **Figure 3** below. While patients with suspected or confirmed COVID-19 should ideally be managed in a negative pressure room, this may not be feasible as patient numbers escalate.

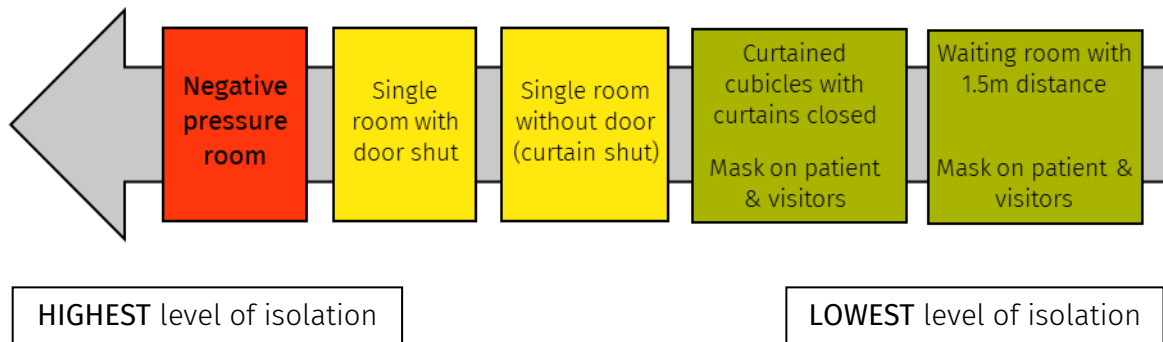


Figure 3. Hierarchy of isolated treatment spaces

We **recommend** that, in the setting of a mismatch between the supply and demand for isolated treatment spaces, clinicians:

1. Assess the infection control risks posed by a particular patient.
2. Prioritise treatment spaces with a higher level of isolation for patients who pose the greatest risk of virus aerosolisation.

We **recommend** that, in order of priority, preference for treatment spaces with a high level of isolation is given to:

1. Patients with suspected or confirmed COVID-19 who are undergoing, or are likely to undergo, an aerosol generating procedure or event (as listed in **Table 1**).
2. Patients with suspected COVID-19 receiving supplemental oxygen.
3. Other patients with confirmed COVID-19.
4. Other patients with suspected COVID-19.

We **align** with the following resources:

1. ASID Interim Guidelines for the Clinical Management of COVID-19 in Adults [[Link](#)]
2. WHO Coronavirus disease (COVID-19) technical guidance: Infection prevention and control [[Link](#)]
3. WHO Guidance on Natural Ventilation for Infection Control in Healthcare Settings [[Link](#)]

Table 1. Examples of aerosol generating events and procedures

Note: adapted from SAS guidelines [\[Link\]](#).

Aerosol Generating Events

- Coughing/sneezing - spontaneous or induced (e.g. nasogastric insertion)
- Non-invasive ventilation
- Positive pressure ventilation with inadequate seal
- High flow nasal oxygen
- Delivery of nebulised/atomised medications via simple face mask
- Cardiopulmonary resuscitation (prior to intubation)
- Tracheal suction (without a closed system)
- Tracheal extubation

Aerosol Generating Procedures

- Laryngoscopy
- Tracheal intubation
- Bronchoscopy
- Gastroscopy
- Front-of-neck airway procedures (including tracheostomy, cricothyroidotomy)

It is very likely that demand for single and negative pressure rooms will be greater than their availability. Therefore, allocation to the highest level of isolation requires consideration of the risk of transmission of COVID-19 for an individual patient. For example:

- A 60-year-old patient with severe acute respiratory distress and fever is high risk and should be placed in the highest level of isolation.
- A 24-year-old patient with a limb injury who has contact with a confirmed COVID-19 positive case would also be appropriate for a single room, but is much lower risk of transmitting the virus.

The following flow-chart at **Figure 4** outlines an approach which balances risk of virus transmission and level of isolation required.

3.4 Patient cohorting

In the event of overwhelming patient demand, it may be necessary to cohort patients with suspected and/or confirmed COVID-19 in an open or shared area of the ED (within the 'high risk' zone).

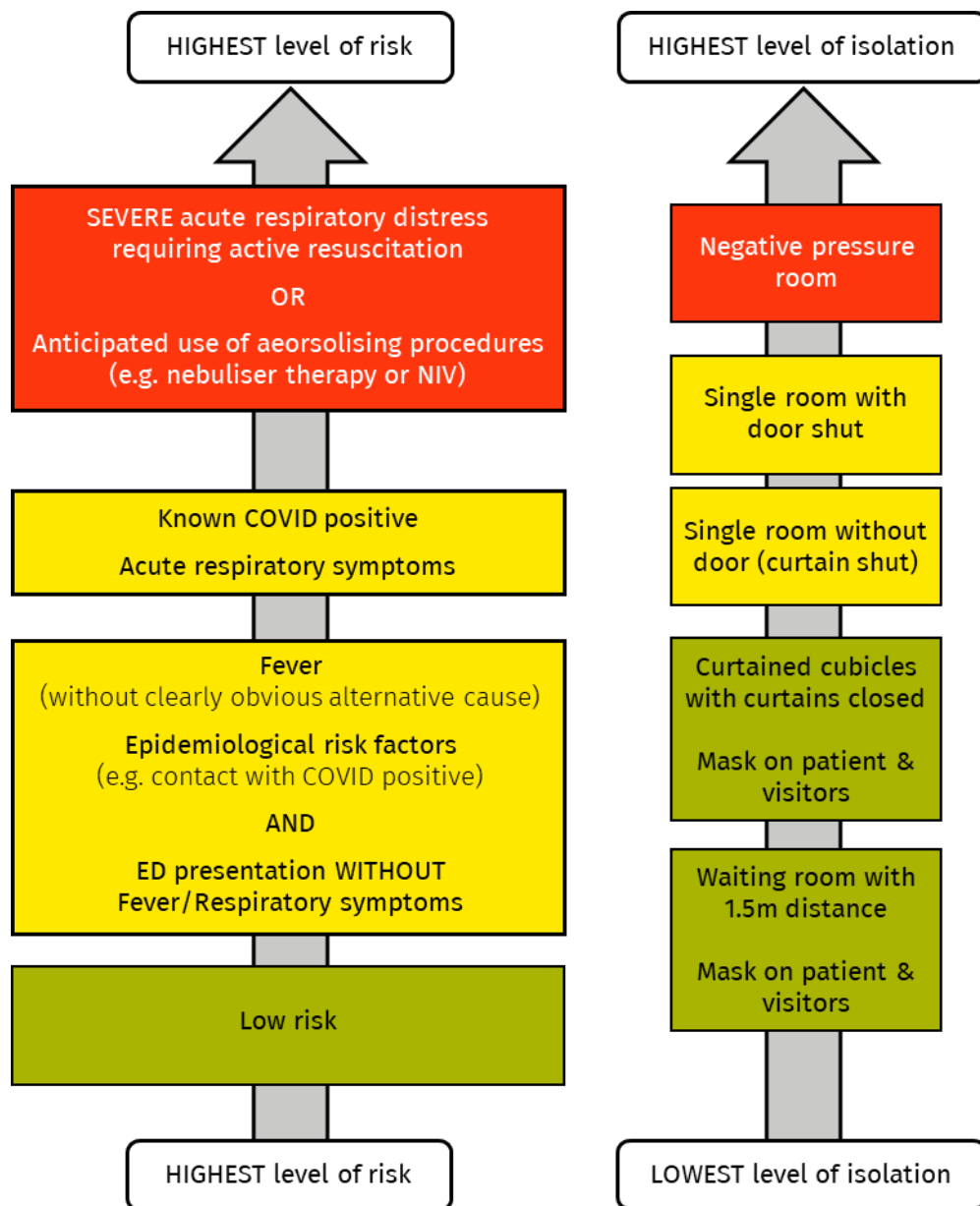


Figure 4. Example of treatment space allocation based on transmission and clinical risk. Note that risk stratification may change as the pandemic progresses

We **recommend** that, if cohorting is required, EDs implement the following strategies to optimise patient and staff safety:

1. Ensure the area is clearly demarcated.
2. Decrease passage by minimising entry and exit points and limiting the presence of non-essential personnel.
3. Physically separate patients to the extent that is possible, aiming for a distance of at least 1.5m between individuals.
4. Ensure all patients, where it is clinically safe to do so, are wearing a surgical mask

5. Educate staff regarding standards and strategies for optimal PPE and infection prevention and control.
6. Arrange for this area to be cleaned regularly, in light of the virus' capacity to remain on surfaces for an extended period of time.
7. Investigate whether it is possible to adjust air-conditioning and ventilation flows to decrease the risk of aerosol transmission.

As discussed above, patients with suspected COVID-19 should ideally be cohorted separately from those with confirmed infection. When all patients in a shared treatment space have confirmed infection, they may be cohorted together without the same physical distancing requirements.

We **recommend** that staff working in high-risk zones or with cohorted patients practice robust but rational use of PPE. Although PPE should ideally be exchanged between each patient encounter, this may not be feasible in the context of limited resources and overwhelming demands for care (see specific recommendations in **Section 6**).

3.5 Temporary treatment spaces

It may be necessary for the ED to utilise temporary spaces for the care of patients. This is not an ideal solution, but is a safer option than crowding within the ED.

We **recommend** that, if an expansion of the ED footprint is required, EDs select an area that is in close proximity to the main department and can be rapidly fitted out to meet ED design standards (to the extent that is possible). Outpatient clinics and day treatment areas often represent a good option.

In exceptional circumstances, the use of temporary structures (such as tents and marquees) may be required. These areas should be set up using the same design and infection control principles discussed above.

3.6 References

The following resources were used in the preparation of this section:

- van Doremalen, N, Bushmaker, T, Morris, DH et al. Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1. Letter to Editor. New England Journal of Medicine. March 17, 2020. DOI: 10.1056/NEJMc2004973 [[Link](#)].
- ACEM ED Design Guidelines [[Link](#)]
- Jefferson T, DelMar CB, Dooley L, Ferroni E, Al-Ansary LA, Bawazeer GA et al. Physical interventions to interrupt or reduce the spread of respiratory viruses. Cochrane Database Syst. Rev. 2011, 7:CD006207 [[Link](#)]

3.7 Section disclaimer

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3.8 Section revision history

Version	Date	Pages revised / Brief Explanation of Revision
V1	25 March 2020	Approved by ACEM

4. Assessment clinics

Risk assessment and consideration of testing for COVID-19 is not emergency care. Assessment clinics for community members concerned about the possibility of COVID-19 should be located away from the ED. These clinics are known by various names (such as fever, respiratory, COVID-19 or screening clinics) and are utilised for screening patients who are well and for assessing patients with mild respiratory symptoms.

Hospital based COVID-19 clinics are an interim model of care designed to:

- a. Provide a safe and streamlined approach to caring for patients with suspected COVID-19.
- b. Minimise infection risk to patients presenting for other reasons.

We **recommend**:

1. That hospital based respiratory assessment clinics are used only as an interim measure to manage patient surge.
2. Where a COVID-19 clinic is on the hospital campus, the staffing and resources should be separate from the ED, and ideally derived from other hospital services (such as outpatients).

We **advocate** for:

1. Urgent increases in community-based approaches to screen well and mildly unwell patients.

4.1 Best practice in clinic location and design, when this approach is required

We **recommend**:

1. Clinics are located with access to EDs and only inside existing EDs where a separate waiting and treatment area can be clearly defined.
2. Clinics have a separate entrance that minimises patient transit through hospital areas.
3. Patients are physically separated according to social distancing recommendations, with special provision for paediatric patients who cannot be separated from carers.
4. Resuscitation equipment is available within clinics, and rapid activation/communication/transport to another appropriate resuscitation space is available.
5. Existing infrastructure is used as a preference, where well-ventilated and secure sites are available.
6. Facilities adopt their relevant State or Territory guidelines for PPE and Infection Prevention and Control inside clinics in line with local state guidance.
7. Staff entry and exit is maintained using a logbook.

4.2 Alignment with detailed guidelines

We **align** with the following regional guidelines:

1. Victorian Department of Health and Human Services Guidance on Acute Respiratory Assessment Clinics.

4.3 References

The following resources were used in the preparation of this section:

- Rojek, A, et al. Early clinical response to a high consequence infectious disease outbreak at the Royal Melbourne Hospital Emergency Department – insights from COVID-19. Med J Aust. 16 March 2020. [\[Link\]](#)

4.4 Section disclaimer

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4.5 Section revision history

Version	Date	Pages revised / Brief Explanation of Revision
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5. Triage and reception of patients

When done properly, triage results in the best outcome for the greatest number of people. Without a triage plan in place, resources are likely to be wasted—and more people are likely to die.

- Pan American Health Organisation (PAHO)

Given the highly infectious nature of COVID-19 it is imperative to ensure transmission of the virus is reduced as much as possible. Emergency Departments (EDs) are the first point of contact for many patients with suspected COVID-19 symptoms or disease.

During a pandemic, principles of triage include a triage system that:

- a. Is simple and easy to use and facilitates rapid processing of patients presenting to the ED.
- b. Will identify and isolate those at increased risk of disease, thus reducing potential for transmission to other patients and health staff.
- c. Can be easily taught and reliably applied by credentialed staff.

A pandemic is not a surge over a few days like a Mass Casualty Incident (e.g. plane crash) but an initial slow increase, then an exponential increase. Triage processes will thus need to be fluid and adaptable. There should be agreed trigger points when your ED will switch to disaster triage, and the Hospital Incident Management Team should have predetermined responses to a graded whole-of-hospital response when this occurs (also see *Pandemic planning* recommendations in **Section 1**).

Planning should include discussions regarding funding implications of changing from Australasian Triage Scale (usual) triage to disaster triage, and the development of hospital electronic information systems that are compatible with this change.

A 'whole of health service' approach, balancing capacity and safety, will be necessary to identify optimal ED configuration and direct streaming to inpatient areas. ED zoning will allow for the creation of high risk and lower risk areas within ED, according to risk factors and clinical features identified during patient screening (also see *ED design layout* recommendations in **Section 3**).

5.1 Triage – practical considerations

We **recommend**:

1. Staff comply with PPE recommendations according to current published guidance from relevant health jurisdictions, WHO and CDC (see PPE section).
2. Staff must be fully attired in appropriate level PPE prior to triaging any patient.
3. Well persons presenting from the community due to concern regarding COVID-19 risk, or requesting COVID-19 screening, should ideally be referred to community-based testing (also see *Assessment clinic* recommendations in **Section 4**).
4. Triage for ambulatory patients and those arriving by ambulance will follow the same process.

5. Identification of patient cohorts should occur consistent with the COVID-19 risk groups identified by features and testing as illustrated below (Figure 5 and 6).
6. Geographical re-configuration of EDs will be required to safely accommodate arriving patients according to both their COVID-19 risk status, and clinical priority:
 - a. The movement of people shall follow the principle of establishing a contaminated zone, a potentially contaminated zone and a clean zone which are clearly demarcated, with buffer zones between the zones.
 - b. Planning may include capacity to immediately stream higher dependency and critical COVID-19 high risk patients to negative pressure rooms within the hospital, with a COVID rapid response call to the facility Critical Care/Intubation team.
 - c. Streaming out of the ED for specific patient groups who are clinically stable and have no or low identified COVID-19 risk may also be a component of the ED zone planning.
 - d. Consideration of transport of patients and equipment from each zone should be part of the design.
 - e. Procedures for clinical staff to don and doff their protective equipment should be standardised and observed.
 - f. Flowcharts of different zones, donning and doffing areas, and staff walking routes should be displayed and communicated widely.
 - g. A front of house pre-examination and triage area may be separately established to perform preliminary screening of patients, depending on the volume of attendances to the ED; otherwise, this function may be performed by the existing Triage. Provision to upscale to a separate front of house screening triage station should be planned and trigger points communicated.
 - h. Flow of patients to zones within the ED will align with assessment of their likely COVID-19 status and clinical presentation, for example Australasian Triage Scale category, until a trigger point to commence disaster triage has been reached (see below).
7. It is noted that with significant progression of the pandemic and high community transmission, all arriving patients will need to be considered to be at risk for COVID-19.

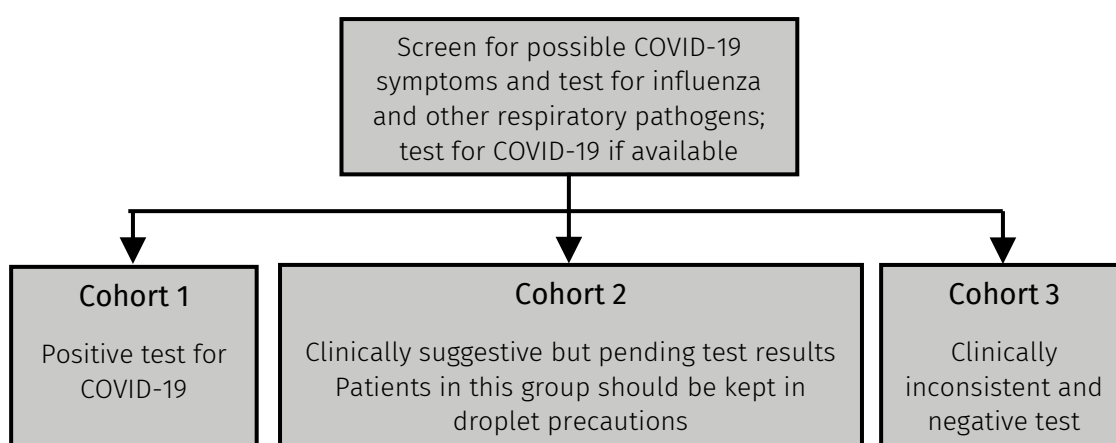


Figure 5. Adapted from What US Hospitals Should Do Now to Prepare for a COVID-19 Pandemic

Note: see [\[Link\]](#) for more details

The triage process is based on COVID-19 infectious risk and clinical priority.

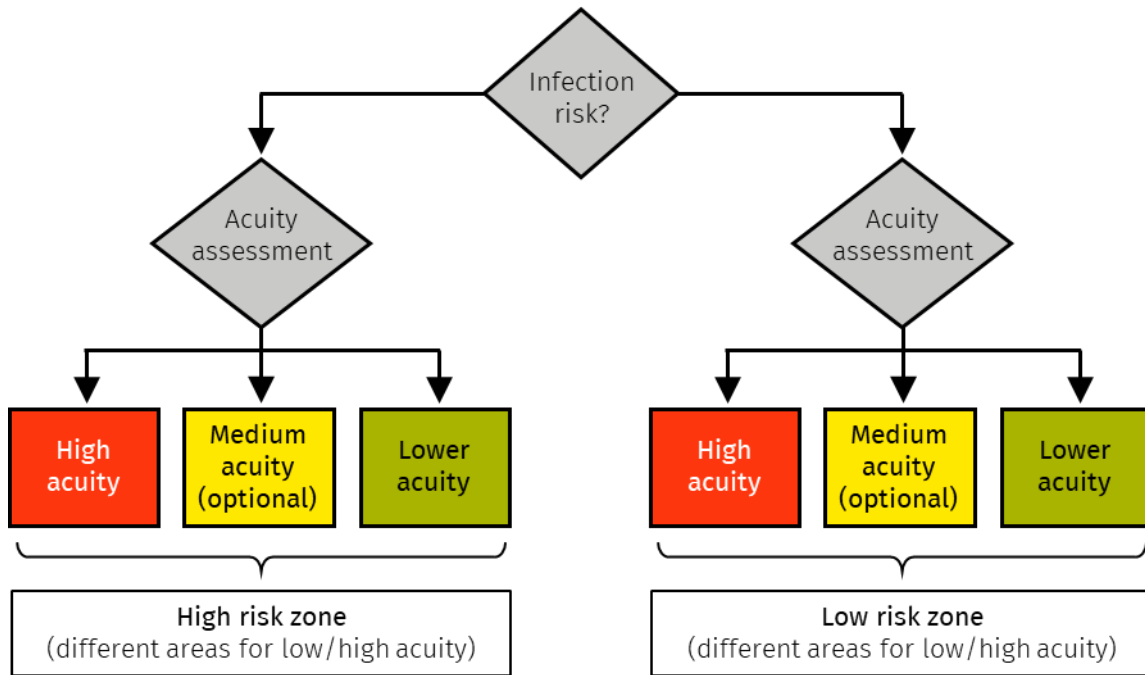


Figure 6. COVID-19 infectious risk and clinical priority.

5.2 The role of disaster triage

A disaster from a Pandemic is different from a Mass Casualty Incident (MCI) where an event results in a number of casualties vastly exceeding local resources and capabilities in a short period of time.

A pandemic follows a bell curve, reaching the peak number of patients halfway through (usually in 5 to 6 weeks), whereas an MCI tapers off quickly. In terms of resource allocation, an ED needs to prepare differently in a Pandemic. This involves an increasing response over a few weeks, keeping in mind that staff and resources may become less available as the situation continues.

A schema for thinking about ramping up to disaster triage and response is illustrated below in Figure 7:

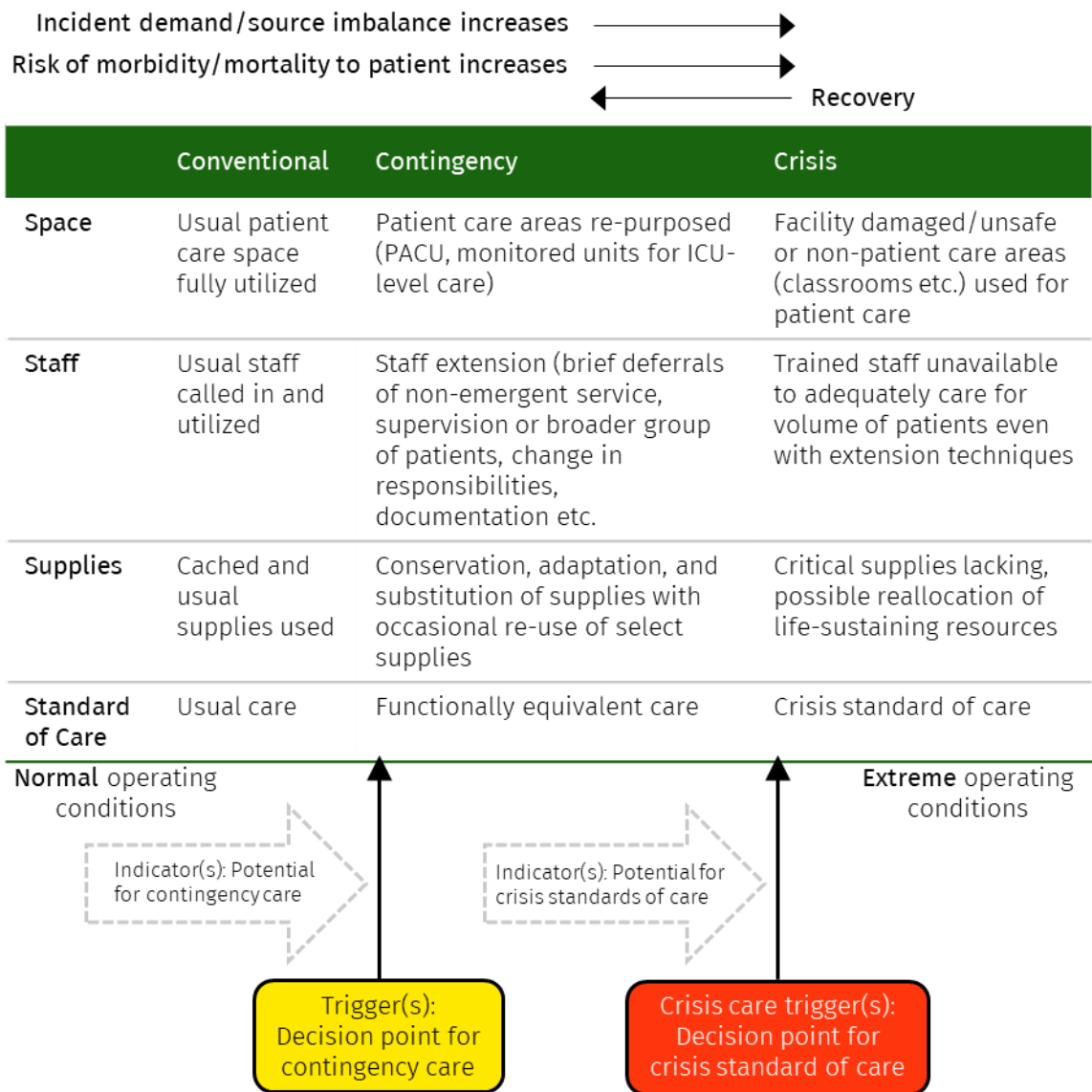


Figure 7. Adapted from: Institute of Medicine. 2013. Crisis Standards of Care: A Toolkit for Indicators and Triggers. Washington, DC: The National Academies Press. <https://doi.org/10.17226/18338>.[\[Link\]](#)

This requires an ED and whole of health service plan to identify capacity at each stage and trigger points for moving to the next. For example, stages of disaster triage activation may include consideration of:

- Conventional service levels, where a service has suitable space, staff, resources sufficient to deliver usual care;
- Contingency service levels where a service has adapted by enhancing space, staff and resources and engaging with other hospital and community services to enhance capacity.
- Crisis service levels where enhanced resources are overwhelmed and agreed crisis standards of care must be applied. This will necessitate the commencement of Disaster Triage.

5.3 Stages in disaster/crisis care

Phase 1	Definition	Planning and preparedness - implementation of screening, enhanced PPE availability and training
	Purpose	To ensure that the hospital has the capacity to manage the increase in patients in staff/space/equipment
	Minimum standard	<ul style="list-style-type: none"> • Rapid diagnosis according to WHO guidelines. • Protocols for diagnosis and criteria for lab testing. • Availability of special protection measures for staff. • Isolation capacity available.

Phase 2	Definition	Facility contingency and disaster plans have been activated - demand on ED significantly increased and at risk of overwhelming resources despite additional capacity
	Purpose	To ensure that critical resources are appropriately redirected to manage surge of patients
	Minimum standard	<ul style="list-style-type: none"> • Define contingency standards of care. • Activate disaster triage. • Reallocation of staff, equipment and materials. • Decide on level of services to be continued. • Staff support and backup cover for vital staff functions. • Ensure supplies.

Phase 3	Definition	ED and facility capacity completely overwhelmed - extreme operating conditions, unable to maintain safe patient care to an acceptable standard, unable to restore capacity
	Purpose	To ensure that critical resources are appropriately redirected to manage ongoing surge of patients and provide greatest benefit to greatest number of patients (see Ethics section)

	Minimum standard	<ul style="list-style-type: none"> • Define crisis standards of care. • Continue disaster triage. • Decide on level of services to be continued. • Defined criteria for access to intensive care and ventilation. • Staff support and backup cover for vital staff functions. • Ensure supplies, obtain additional staff and capacity.
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When the hospital is overwhelmed and reverts to Disaster Triage, then all models of care previously described are subsumed in favour of Disaster Triage and crisis care models.

We **recommend**:

1. Triage during the COVID-19 pandemic should adopt the key principles of:
 - a. Reducing the transmission of infection to healthcare staff and other patients.
 - b. Ensuring adaptability in response, and anticipate the need to transition to disaster triage.
 - c. Simplicity and reproducibility to facilitate training.
2. Alignment of Triage with geographical re-configuration of EDs (zoning) to safely accommodate arriving patients according to both their COVID-19 risk status, and clinical priority.
3. EDs and Health Services should plan for and identify disaster phases and responses to surges in ED and facility demand, such that appropriate care is provided to patients for as long as possible. Implementation of disaster triage and crisis care models should align with the principles of decision making described in accepted ethical frameworks (see Ethics in ED Decision Making section).

We **do not recommend**:

1. Ramping of ambulance patients, or queuing of waiting patients at close proximity to each other, within any area of the ED. Priority should be given to enhanced patient flow out of the ED, or bypassing ED, to reduce the risk of crowding and the spread of infection.

We **advocate** for:

1. Early consideration of Triage Models of Care to divide your ED into Infectious/noninfectious areas (or COVID-19 and non COVID-19 zones).
2. Mobilisation of resources to staff these areas, with consideration of staff that are older than 60 and those with pre-existing medical conditions that puts them at higher risk of acquiring COVID-19 infection and developing respiratory and other complications. (Guan, W, et al. Clinical Characteristics of Coronavirus Disease 2019 in China. New England Journal of Medicine. 28 Feb 2020. DOI: 10.1056/NEJMoa2002032 [\[Link\]](#))

3. Ensuring higher risk and lower risk zones within the ED have separate access to radiology/pathology, clearly defined entry and exit paths for safe transfer to inpatient areas, and for discharge home, to minimise risk to staff and patients.

We **align** with:

1. Institute of Medicine. 2013. Crisis Standards of Care: A Toolkit for Indicators and Triggers. Washington, DC: The National Academies Press. <https://doi.org/10.17226/18338>.[\[Link\]](#)
2. European Centre for Disease Prevention and Control, Technical report: Pandemic influenza preparedness in the EU, 2007 [\[Link\]](#)
3. Hick, J. L., D. Hanfling, M. K. Wynia, and A. T. Pavia. 2020. Duty to Plan: Health Care, Crisis Standards of Care, and Novel Coronavirus SARS-CoV-2. NAM Perspectives. Discussion paper. National Academy of Medicine. Washington, DC. <https://doi.org/10.31478/202003b> [\[Link\]](#)
4. Institute of Medicine. 2009. Guidance for Establishing Crisis Standards of Care for Use in Disaster Situations: A Letter Report. Washington, DC: The National Academies Press. <https://doi.org/10.17226/12749>. [\[Link\]](#)
5. The Australian Health Sector Emergency Response Plan for Novel Coronavirus COVID-19. [\[Link\]](#)
6. Emergency Response Plan for Communicable Disease Incidents of National Significance: National Arrangements [\[Link\]](#)
7. New Zealand Pandemic Action Plan [\[Link\]](#)
8. Communicable Diseases Network Australia (CDNA) National Guidelines for the Prevention, Control and Public Health Management of COVID-19 Outbreaks in Residential Care Facilities in Australia [\[Link\]](#)

5.3 References

The following resources were used in the preparation of this section:

- AHRQ (Agency for Healthcare Research and Quality). 2005. Altered standards of care in mass casualty events. Prepared by Health Systems Research, Inc. under contract no. 290-04-0010. AHRQ Publication No. 05-0043. Rockville, MD: AHRQ. [\[Link\]](#)

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5.5 Section revision history

Version	Date	Pages revised / Brief Explanation of Revision
V1	25 March 2020	Approved by ACEM

6. Personal protective equipment (PPE)

We **recommend** that all relevant staff are provided:

1. Adequate and ongoing training in PPE use, and broader infection prevention and control procedures.
2. Opportunities to be fit tested for N95 masks.
3. Clearly demarcated donning and doffing areas before entering a room, high-risk zone or cohorted area.
4. Clear pathways for notification and management of breaches in PPE.
5. A trained PPE observer or buddy to check correct technique.

6.1 PPE use in high-risk zones

We **recommend** that staff working in high-risk zones or with cohorted patients practice robust but rational use of PPE. Although PPE should ideally be exchanged between each patient encounter, this may not be feasible in the context of limited resources and overwhelming demands for care.

We **recommend** that clinicians observe the following principles in relation to the extended use of face masks:

- Practice 'extended use' rather than 'reuse' of N95 masks wherever possible.
- Discard N95 masks following use during aerosol generating procedures (see **Table 1**).
- Discard N95 masks contaminated with blood, respiratory secretions or other bodily fluids from patients.
- Discard N95 masks following close contact with, or exit from, the care area of any patient co-infected with an infectious disease requiring contact precautions.
- Consider use of a cleanable face shield over an N95 mask and/or other steps (e.g. masking patients, use of engineering controls) to reduce surface contamination.
- Perform hand hygiene with soap and water or an alcohol-based hand sanitiser before and after touching or adjusting the mask (if necessary, for comfort or to maintain fit).
- Discard any mask that is obviously damaged or damp or becomes hard to breathe through.
- Observe strict adherence to hand hygiene practices, and proper PPE donning and doffing technique.

6.2 International experience on PPE

Experience from countries ahead in their pandemic phase in our region is that, in addition to meticulous hand hygiene, social distancing in clinics, and cohorting higher and lower risk patient groups, the use of basic PPE for every patient interaction is practiced.

This includes:

1. All staff at healthcare facilities wear surgical masks.
2. In Hong Kong, all patients in healthcare facilities inpatient areas and attending outpatient clinics are provided surgical masks for daily use.

3. In China, all staff working in the emergency department, outpatient departments of infectious diseases, respiratory care, endoscopic proceduralists must upgrade their surgical masks to medical protective masks (N95).
4. Staff must wear a protective face screen while collecting respiratory specimens from suspected/confirmed patients.

For further information see:

- Hong Kong Hospital Authority Communication Kit - 27 February 2020, via IFEM website [\[Link\]](#)
- Ministry of Health, Singapore, The National Infection Prevention and Control Guidelines for Acute Healthcare Facilities 2017 [\[Link\]](#)
- Handbook of COVID-19 Prevention and Treatment. The First Affiliated Hospital, Zhejiang University School of Medicine. March 2020, via IFEM website [\[Link\]](#)

6.3 Alignment with regional guidance

We **recommend** that EDs align their internal PPE procedures with guidance from the relevant government authorities for the following:

1. Patient PPE.
2. Staff clothing and personal items.
3. PPE for aerosol generating procedures.
4. PPE for clinical encounters.
5. Cleaning of rooms.
6. Cleaning and reuse of disposable equipment.
7. PPE following patient death.
8. IPC in non-clinical areas (lunchrooms).

We **align** our recommendations with:

1. Selection, use and maintenance of respiratory protective equipment standard AS/NZS 1715: 2009.
2. The NHMRC Australian Guidelines for the Prevention and Control of Infection in Healthcare, 2019 [\[Link\]](#)
3. NSW Health Clinical Excellence Commission, Application of PPE in Response to COVID-19 Pandemic [\[Link\]](#)
4. World Health Organisation (WHO). Clinical management of severe acute respiratory infection when novel coronavirus (nCoV) infection is suspected: Interim guidance. 13 March 2020. [\[Link\]](#)
5. Australian Department of Health Coronavirus (COVID-19) isolation guidance [\[Link\]](#)
6. New Zealand Ministry of Health, COVID-19 (novel coronavirus) [\[Link\]](#)
7. NSW Health, COVID-19 (Coronavirus) testing advice [\[Link\]](#)

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6.5 Section revision history

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7. Transport of patients

Transport of patients with suspected or confirmed COVID-19 exposes patients to the usual risks associated with transport and clinicians to additional infective risks. During a pandemic, limited clinical resources, transport assets and intensive care resources at receiving facilities may impact responses to requests for aeromedical patient transport. Mission planning will need to account for extra time in preparation, don and doffing, cleaning of the clinical gear and decontaminating air assets.

We **recommend**:

1. The health and safety of all aeromedical staff as well as the service providers is paramount. All operational staff must be current and competent in infection control procedures and able to safely don and doff following their respective service guidelines.
2. Where possible do not use air assets and travel by road.
3. Central clinical coordination staffed with senior clinician decision makers to discuss the requirement for patient transport.
4. Multi-party teleconferences between retrieval services and key stakeholders, to enable senior clinicians to discuss cases in a timely fashion providing support, advice and guidance as well as retrieval team if required.
5. Prior to transport of suspected or confirmed COVID-19 cases, clear agreement between referring and receiving facilities that transfer is clinically indicated and appropriate.
6. Communication of patient arrival times via well-established channels to receiving hospitals to ensure team is met and escorted.
7. Where possible, transported patients should be taken directly to inpatient bed locations bypassing the ED and limiting exposure and number of transfers.
8. Where a decision is made not to transport patients, that clear communication, advice and support channels are provided for the treating clinical team.
9. All patient transfers (pre, inter and intra-hospital) should be undertaken by clinicians with:
 - a. current pre-hospital and retrieval medicine training (Pre, inter-hospital);
 - b. experience in managing the patient's clinical condition; and
 - c. the ability to set-up, operate, troubleshoot and maintain the specialist medical equipment utilised for critical care transports.
10. As per ANZICS/MJA guidelines, patients should not be transferred on NIV or HFNO. Aerosolising procedures should not be undertaken during transport including intra-hospital transport.
11. Patients receiving supplemental oxygen should have a surgical mask placed over their oxygen delivery device.
12. Where possible, transporting clinicians should not walk or be seated in front of the patient.
13. During intra-hospital transport a designated 'clean' staff member is required to open doors, push lift buttons and to watch the team and patient to ensure they do not contaminate surfaces within the health facility.

14. To minimise requirements for intra-hospital transport to radiology, consideration should be given to the utility of bedside point of care ultrasound (POCUS) for chest investigation where the skill set is available.

We **advocate** that:

1. Advance care plans are in place and up to date especially for residential aged care facilities.

We **align** with:

1. NSW Air Ambulance Aeromedical Transport of a COVID-19 Patient.
2. MedSTAR CPG Advanced Airway Management.
3. Australian Government Department of Health, Coronavirus (COVID-19) information for aeromedical retrieval of patients. [\[Link\]](#)

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7.2 Section revision history

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8. Treatment

Treatment should be provided and escalated in accordance with patients' needs and wishes, anticipated progress, prognosis and goals of care.

8.1 Indications for oxygen supplementation

We recommend:

1. Supplemental oxygen therapy is provided to patients with severe acute respiratory infection and respiratory distress, hypoxaemia or shock with a target SpO₂ > 94%.
2. Lower SpO₂ (88-92%) can be targeted in patients with pre-existing lung disease, for example chronic obstructive pulmonary disease (COPD) or pulmonary fibrosis.

Providers are alert to appropriate infection prevention and control procedures for aerosol-generating procedures (described in **Table 1**).

We recommend the following escalation of oxygen therapy:

1. Nasal oxygen: titrated to response.
2. Mask: if nasal oxygen supplementation does not maintain adequate oxygenation (SpO₂ > 94%), we recommend applying oxygen via face mask with a reservoir bag with flow rates of 10-15L/min.
3. Use high flow nasal oxygen (HFNO) therapy (at lowest FiO₂ possible) for hypoxia associated with COVID-19 disease unresponsive to above methods, as long as staff are wearing optimal airborne PPE.

8.2 Use of Non-Invasive Ventilation (NIV)

Use of NIV has significant risk of cross-infection and evidence on its effectiveness in COVID-19 infection is controversial. Current experience suggests that NIV for COVID-19 hypoxic respiratory failure is associated with a high failure rate, delayed intubation, and possibly increased risk of aerosolisation with poor mask fit. However, there may be circumstances where its use is considered appropriate, for example, patients with comorbidities or in situations where resources are limited.

We **recommend**:

1. That patients with suspected or confirmed COVID-19 infection failing standard oxygen therapy are considered for early endotracheal intubation and invasive mechanical ventilation.
2. That where clinicians decide to use NIV, COVID-19 infection should be assumed and NIV provided using similar precautions as for HFNO.

8.3 Management of ventilation

We align with the Australian and New Zealand Intensive Care Society (ANZICS) COVID-19 Guidelines.

Patients with worsening hypercapnia, acidaemia, respiratory fatigue, haemodynamic instability or those with altered mental state will need ventilation.

We **recommend** lung-protective mechanical ventilation should be employed using the following principles:

1. Low tidal volume strategy (4-8ml/kg predicted body weight).
2. Limiting plateau pressures to less than 30cm H₂O.
3. Permissive hypercapnia is usually well-tolerated and may reduce volutrauma.
4. Higher levels of positive end-expiratory pressure (PEEP) (greater than 15cm H₂O) may be needed.
5. Alternate modes of ventilation such as airway pressure release ventilation (APRV) may be considered based on clinician preference and local experience.

We **recommend** the following practices when mechanical ventilation is employed:

1. Viral (rather than heat and moisture exchanger (HME)) filters should be utilised, and circuits should be maintained for as long as allowable (as opposed to routine changes).
2. Use of closed inline suction catheters. Any disconnection of the patient from the ventilator should be avoided to prevent lung decruitment and aerosolisation. If necessary, the endotracheal tube should be clamped and the ventilator disabled (to prevent aerosolisation).

Neuromuscular blockade (NMB): NMB may be considered in the setting of worsening hypoxia or hypercapnia, and in situations where the patient's respiratory drive cannot be managed with sedation alone resulting in ventilator dys-synchrony and lung decruitment.

8.4 Supportive care

We **recommend**:

1. Anticipating and addressing complications, which include arrhythmias, cardiac impairment, sepsis and multi-organ dysfunction, using existing standards of care.
2. A restrictive fluid management strategy, aiming to reduce extravascular lung water. Where possible avoid 'maintenance' intravenous fluids, high volume enteral nutrition, and fluid bolus for hypotension.
3. Preferential use of metered dose inhalers with avoidance of nebulisers wherever possible.

8.5 References

The following resources were used in the preparation of this section:

- Australian and New Zealand Intensive Care Society (ANZICS). ANZICS COVID-19 Guidelines. 16 March 2020; Version 1. [\[Link\]](#)
- Beasley R, Chien J, Douglas J, et al. Thoracic Society of Australia and New Zealand oxygen guidelines for acute oxygen use in adults: 'Swimming between the flags'. *Respirology*. 2015;20(8):1182–1191. doi:10.1111/resp.12620 [\[Link\]](#)
- Clerkin et al. COVID-19 and Cardiovascular Disease. 24 March 2020. [\[Link\]](#)

- Rhodes, A, et al. Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016. Critical Care Medicine: March 2017 - Volume 45 - Issue 3: 486-552. doi: 10.1097/CCM.0000000000002255. [\[Link\]](#)
- World Health Organisation (WHO). Clinical management of severe acute respiratory infection when novel coronavirus (nCoV) infection is suspected: Interim guidance. 13 March 2020. [\[Link\]](#)

8.6 Section disclaimer

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8.7 Section revision history

Version	Date	Pages revised / Brief Explanation of Revision
V1	25 March 2020	Approved by ACEM

9. Experimental treatment

There are no specific treatments available for COVID-19 at this stage.

We **recommend**:

1. That specific treatments are only offered in the setting of a registered clinical trial.

We **do not recommend**:

1. The use of corticosteroids where the only indication is routine use for acute respiratory failure with COVID-19.
2. The use of antiviral agents where the only indication is treatment for COVID-19.
3. The use of antibiotics in asymptomatic or mildly symptomatic patients with COVID-19.

We advocate for clinician judgement:

1. When using empiric antibiotic therapy for suspected secondary bacterial infection.

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9.2 Section revision history

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10. Clinical research

We **recommend**:

1. EDs lead and are actively involved in COVID-19 clinical research. This research will include but not be limited to:
 - a. Biological sampling of COVID-19 patients to understand the pathophysiology of differential mortality in patient groups;
 - b. Clinical registries for epidemiology and prognostic prediction;
 - c. Clinical trials of pharmacological and non-pharmacological treatments; and
 - d. Qualitative evaluations of individual and systems responses to a pandemic.
2. Clinical research aligns and integrates with international efforts for harmonisation and coordination of research (such as the International Severe Acute Respiratory and Emerging Infections Consortium COVID-19 Case Record Form [\[Link\]](#), and the World Health Organisation Research and Development Framework [\[Link\]](#)).

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11. Imaging

At present, we **do not recommend** chest radiography (CXR), computed tomography (CT) or lung ultrasound (USS) to diagnose COVID-19.

Chest radiographic (CXR) findings include bilateral patchy opacities, though CXR is considered unreliable in detecting the early phase of the pneumonia. CT findings are bilateral and peripheral ground-glass and consolidative pulmonary opacities.

We **recommend**:

1. The use of imaging when required for exclusion of other pathology from the differential diagnosis.
2. The use of imaging when required to identify the cause of sudden deterioration in a patient (e.g. tension pneumothorax).
3. Portable CXR preferentially over patient movement to radiology where possible.

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11.2 Section revision history

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12. Geriatric specific recommendations

Physiologic changes of aging, associated reduced immunity and common comorbidities all place older persons at higher risk of COVID-19 and increase the probability of severe disease in this cohort. However, even in those aged over 80 years where the crude mortality rate is approximately 22%, survival is more likely than death.

In all older persons, we **recommend**:

1. Beyond standard case-definitions, emergency clinicians should also consider the following in screening of older persons for potential COVID-19:
 - a. Acute respiratory illness (ARI) may present with atypical symptoms in older persons, including functional decline, delirium, exacerbation of underlying chronic respiratory conditions and loss of appetite. Emergency Department triage screening tools should flag the potential for atypical symptoms in older persons.
 - b. Although fever is the most common sign in the population overall, it is not a sensitive sign in older persons, particularly when using standard definitions of fever. Fever in older persons is defined as one of:
 - A single oral temperature > 37.8 °C
 - Two oral repeated temperatures > 37.2 °C
 - An increase in temperature of > 1.1 °C over the baseline temperature.
 - c. Emergency clinicians should take care to avoid anchoring onto a diagnosis of COVID-19 and consider the broad differential diagnoses where older persons present with atypical symptoms.
2. Prediction of mortality in all persons (irrespective of age) should incorporate use of objective evidence-based multi-dimensional tools.
3. Where feasible, Emergency Departments prioritise flow of older persons to inpatient wards when admission is indicated.
4. Emergency physicians recognise and provide support to older persons and their carers for psychological distress and stress that is likely to result from the pandemic situation.

We **do not recommend** limitations on treatment based solely on age or place of residence.

For RACFs and RACF residents **we recommend**:

1. All RACFs adhere to the Communicable Diseases Network Australia (CDNA) National Guidelines for the Prevention, Control and Public Health Management of COVID-19 Outbreaks in Residential Care Facilities in Australia [[Link](#)], and undertake stringent infection control processes recommended in Australian Guidelines for the Prevention and Control of Infection in Healthcare (2019) [[Link](#)].
2. Disaster plans to incorporate cross-sector support for RACFs and General Practitioners (GPs).
3. Community-based forward triage of RACF residents (with COVID-19 and with non-COVID-19 presentations) during this pandemic response is critical to minimizing harm to residents and achieving sustainability of acute health service delivery. Decisions to transfer RACF residents to hospital should include assessment of:

- Advance care planning wishes.
- Frailty and comorbid illness.
- Risks of transfer and potential benefits.
- RACF capability and capacity to attend to care needs.
- Public health imperatives.

This may be supported by telehealth / telephone triage assessment utilising RACF support services (e.g. Connecting Care).

4. All hospital jurisdictions implement or expand geriatrician, palliative care and emergency physician-led telehealth services to support RACFs and GPs.
5. RACFs implement urgent influenza vaccination for residents and staff.
6. RACFs and GPs, with health service support where necessary, immediately prioritise advance care planning with residents and their health decision makers.
7. RACFs and GPs proactively change residents on nebulisers to metred aerosols with spacers where clinically appropriate.

We **advocate** for:

1. Development and implementation of a collaborative community strategy for care and support of community-dwelling frail older persons, including increased access to transition support and home care packages.
2. Adequate access of RACF staff and GPs to PPE.
3. Honesty with patients and relatives, and transparency of process in resource allocation decisions.
4. Increased funding and medical and nursing support provision to RACFs.
5. Improved access of GPs and RACFs to telehealth support and hospital-delivered clinical support in the RACF environment, 24 hours per day.

We **align** with:

- CDNA National Guidelines for the Prevention, Control and Public Health Management of COVID-19 Outbreaks in Residential Care Facilities in Australia. Version 1, 13 March 2020. [\[Link\]](#)
- Infection control processes relevant to RACFs recommended in NHMRC, Australian Guidelines for the Prevention and Control of Infection in Healthcare (2019). [\[Link\]](#)
- QLD Health, Checklist for Residential Aged Care Facility (RACF) preparation for COVID-19 prevention and outbreak management, 17 March 2020. [\[Link\]](#)

12.1 References

The following resources were used in the preparation of this section:

- Malone M, Hogan T, Perry A, Biese K, Bonner A et al. COVID-19 in older adults: key points for Emergency Department providers. Journal of Geriatric Emergency Medicine. 1(4): 1-11
- Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19). 16-24 Feb 2020. [\[Link\]](#)

- High K, Bradley S, Gravenstein S et al. Clinical practice guideline for the evaluation of fever and infection in older adult residents of long-term care facilities: 2008 Update by the Infectious diseases Society of America. Clin Infect Dis 2009; 28: 149-71
- CDNA National Guidelines for the Prevention, Control and Public Health Management of COVID-19 Outbreaks in Residential Care Facilities in Australia. Version 1, 13 March 2020. [\[Link\]](#)
- Hollander JE, Carr BG Virtually Perfect? Telemedicine for COVID-19. NEJM 2020; DOI: 10.1056/NEJM p2003539
- McIntosh K. Coronavirus disease 2019 (COVID-19) [\[Link\]](#):

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13. Paediatric specific recommendations

The number of reported cases of COVID-19 in children is low. Current data suggests that they have a much lower mortality and morbidity with only a handful of reported deaths. Critical illness is exceedingly rare. There is some evidence to suggest younger infants (less than one year of age) may be more unwell, but this is confounded by the higher incidence of respiratory illness, such as bronchiolitis or croup, in this age group.

However, many children will meet clinical criteria of acute respiratory illness and/or fever (without epidemiologic criteria), and rates of asymptomatic carriage are thought to be quite high.

Therefore, careful attention to infection control is critical.

The spectrum of disease presentations also appears to be different in children. Up to 50% of children may not have a fever. Gastrointestinal symptoms are the predominant feature in about 10% of cases. This variability in presentation, coupled with potential asymptomatic carriage, means that the management of potentially infected patients is a challenge.

13.1 The role of stand-alone Paediatric EDs

Tertiary paediatric hospitals have the capability to take paediatric presentations away from other hospitals in order to increase capacity to treat unwell adults in those hospitals.

13.2 Triage and screening

We **recommend**:

1. Initial streaming of patients (based on infection risk) takes place as outlined earlier.
2. That, if resources are available, children should be assessed in a separate area to adults. If multiple members of a family present seeking care, they should all be triaged and assessed in the same part of the department.
3. That families and children requesting testing, but not requiring emergency care, should be redirected to an appropriate screening clinic. This direction should occur prior to hospital through self-assessment algorithms or telephone triage/advice.

13.3 Care within the ED

We **recommend**:

1. That children receive usual routine care, such as adequate analgesia and sedation for procedures, including the use of nitrous oxide.
2. That close attention is paid to infection control. Potentially aerosolising procedures (such as nebuliser therapy, high flow nasal oxygen therapy, foreign body removal from nose/throat, throat examination or nasogastric tube insertion in uncooperative children) require appropriate airborne precautions to maintain staff safety.
3. That children streamed into the low-risk group should be seen in a physically separate space from those who are potentially infected, as deemed appropriate by local guidelines.

13.4 Considerations for special patient groups

Some patient groups are more at risk than others. Although there is little supporting data, the following groups should be considered as having higher risk of morbidity and mortality:

1. Immunocompromised patients including haematology/oncology patients;
2. Patients with chronic respiratory illness such as cystic fibrosis, bronchiectasis, prematurity or home ventilation; and
3. Patients taking immunomodulating medication e.g. those with rheumatological disease.

We **recommend** that patients at high risk of complications are rapidly assessed and, if they do not require immediate resuscitation, are admitted to the ward or other protective isolation area for work-up, to minimise exposure.

We **advocate** for age-appropriate negative pressure facilities, recognising that these may not always be available.

Some children may find respiratory precautions particularly challenging, such as those with autism spectrum disorder or other neurodevelopmental disorders. Although these children are not at higher risk in themselves, the process of isolation, swabbing and respiratory precautions may prove to be particularly challenging.

We **recommend** rapid assessment and disposition of children who may have difficulty tolerating respiratory precautions, especially those under school age or with special needs.

13.5 Clinical assessment

Typical features include fever, cough and sore throat. Knowledge is developing rapidly as more reports of the paediatric clinical picture are published.

Recent papers describe:

1. Fever, dry cough, and fatigue.
2. Upper respiratory symptoms including nasal congestion and/or runny nose.
3. Gastrointestinal symptoms (less common), including nausea, vomiting, abdominal pain, and diarrhea.

There is no one pathognomonic feature in the initial assessment that will point to the diagnosis of COVID-19. As with the adult population, a history of recent foreign travel or exposure to a confirmed case must be specifically sought.

We **recommend**:

1. That clinicians actively consider COVID-19 as a cause of fever in children (and ensure appropriate PPE), but also consider a broad differential diagnosis.
2. That well children with a viral syndrome and no specific risk factors should be rapidly discharged home with appropriate advice on:
 - Isolation until well.
 - When to seek further medical assistance.

13.6 Investigations

We **recommend**:

1. Specific swab tests for COVID-19 should follow recommendations from local health departments.
2. Radiological investigations should be used selectively, and only if the results are anticipated to change management.
3. CT chests should not be used in children for assessment of COVID-19.

13.7 Treatment Options

We **recommend**:

1. That children who are febrile AND distressed can be treated with paracetamol (15mg/kg) or ibuprofen (10 mg/kg). There is currently no evidence that ibuprofen can make COVID-19 worse.
2. That low-flow oxygen is appropriate for most cases of hypoxaemia.
3. That High Flow Nasal Cannula Oxygenation NOT be used for work of breathing in the absence of hypoxaemia.
4. That High Flow Nasal Cannula Oxygenation only be used for hypoxia and work of breathing which is not responding to low-flow oxygen.
5. High Flow Nasal Cannula Oxygenation is a potentially aerosol-generating procedure and should be carried out with aerosol PPE, and in an appropriate negative pressure space if possible.
6. The decision to give nebulised adrenaline in children with croup should be made by a senior doctor, and only if there is severe work of breathing. Weight based dosing of steroids is often sufficient.
7. Nebuliser therapy is a potentially aerosol-generating procedure and should be carried out with aerosol PPE, and in an appropriate negative pressure space if possible.

We align with:

The Royal Childrens' Hospital, Melbourne, Clinical Practice Guideline on the management of the patient with suspected COVID-19. March 2020 [[Link](#)].

13.8 Follow-up and ongoing care

We **recommend** that appropriate discharge advice is provided, including isolation at home, planned follow-up, and when to seek further medical care.

We **advocate** that follow-up should be provided in the community setting, either through traditional consultations and/or telehealth.

13.9 Caregiver considerations

We **recommend**:

1. Family-centred care at all times, with the caregiver remaining with the child for the duration of their time in the emergency department.

2. That parents, or carers, attending with children should wear PPE (such as a surgical mask) - according to advice from local health authorities.
3. That if a parent is required to stay for a potentially aerosol-generating procedure then they should wear a surgical mask only. It is assumed that they have already had significant exposure to whichever pathogen their child is carrying.
4. That caregivers of children with respiratory infections are given information, and appropriate certificates, regarding timing of return to school or child care.
5. All children are discharged from hospital with caregivers whose identification and guardianship is checked prior to discharge, particularly if a different person from that presenting with the child. This may require additional social work input. This should also be a consideration where parental death has occurred.

13.10 Psychological safety

Hospitals are already a potentially frightening place for children and their carers. Being provided with a face mask, and being cared for by healthcare providers dressed in PPE is likely to make the child's hospital experience even more distressing than usual.

We **recommend**:

1. That children and their carers are fully informed regarding their journey through the department.
2. That families and children have access to psychological support wherever possible during their hospital stay in order to mitigate long-term psychological consequences.

We **advocate** for child and family involvement in the decision-making process.

It is anticipated that the COVID-19 pandemic will cause marked disruption to day-to-day life, economic hardship, and significant household stress. In this context, domestic violence and child abuse is likely to increase.

We **recommend** that clinicians consider the risk of increased child abuse and domestic violence in all consultations.

We **advocate** that any alterations to staffing practices follow standard procedures to protect children from harm.

13.11 References

The following resources were used in the preparation of this section:

- Zimmermann P and Curtis N. Coronavirus Infections in Children Including Covid-19. An overview of the Epidemiology, Clinical features, diagnosis, treatment and prevention options in children.. Paediatric Infectious Disease Journal. Accepted March 3 2020. [\[Link\]](#)
- Wang XF, Yan J, Zheng YJ, et al Clinical and epidemiological characteristics of 34 children with 2019 novel coronavirus infection in Shenzhen. Zhonghua Er Ke Za Zhi. 2020;58:E008.
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13.13 Section revision history

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V1	25 March 2020	Approved by ACEM

14. Obstetric specific recommendations

Care of women in the first trimester should include attention to the same infection prevention and investigation/diagnostic guidance, as for non-pregnant adults. The following recommendations refer to the care of women in the second or third trimesters of pregnancy, with suspected or confirmed COVID-19 disease, presenting to healthcare services staffed by emergency clinicians.

We **recommend**:

1. Prioritisation of the wellbeing of the mother, in keeping with usual practice.
2. Early specialist advice for situations where overlap between pregnancy symptoms and COVID-19 symptoms may cause confusion (e.g. fever with ruptured membranes, shortness of breath with pre-eclampsia). In emergency situations where senior specialist advice is not immediately available, we recommend adoption of appropriate infection prevention and control procedures.

We **do not recommend**:

1. Delaying obstetric management in an emergency to test for COVID-19.

14.1 Neonatal care

There is limited data to guide the postnatal management of babies of mothers who tested positive for COVID-19 in the third trimester of pregnancy. Reassuringly, there is no evidence at present of (antenatal) vertical transmission. Only perform diagnostic testing for COVID-19 in the baby if the mother is confirmed as being positive **and** the baby is symptomatic.

We align with:

1. The upcoming Safer Care Victoria document on this issue (expected release date 27 March 2020).
2. The Royal College of Obstetricians and Gynaecologists UK, Coronavirus (COVID-19) Infection in Pregnancy: Information for healthcare professionals. Version 4, 21 March 2020. [\[Link\]](#)

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14.3 Section revision history

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15. Rural, regional and remote recommendations

During a pandemic, EDs in large regional centres operate like urban EDs in most respects. Smaller rural emergency facilities face three additional problems: a smaller pool of resources; lower priority for receiving replenishing resources; and lower community health literacy contributing to late patient presentations. The principles of pandemic care are the same in these emergency facilities but implementation may have to be modified. For example, negative pressure rooms are unlikely to be available so use the highest level of isolation available instead.

15.1 Regional EDs in hospitals with Intensive Care Units (ICUs)

We **recommend**:

1. Regional EDs implement the procedures recommended for urban EDs.
2. Planning for staff shortages, including the inability to source locum staff. Consider identifying and supporting any locum wishing to stay locally during the expected peak of presentations. Consider early identification of volunteer local clinicians of any specialty to undergo PPE and COVID-19 protocol training in preparation for redeployment to hospital work.
3. Setting up regular communication channels with surrounding facilities, ambulance, and retrieval services to clarify transfer indications (see below).

15.2 Rural EDs in hospitals without ICUs

We **recommend**:

1. Planning for workforce shortages, as above.
2. Focusing on PPE as staff are less familiar with this process and the pool to replace unwell staff is very small.
3. Considering triggers for consultation and transfer of patients with COVID-19. These triggers will vary over time with disease prevalence. The aim should be to keep as many patients as possible locally, but if transferring patients, do so just before they need higher level interventions that complicate transfer (such as high flow oxygen or intubation).
4. Preparing to accept repatriation from larger centres of as many stable patients without COVID-19 as possible.
5. Developing staff safety plans in emergency facilities with no onsite security.
6. Developing equipment packs for critical care transfer in the event that retrieval services are overwhelmed.

Hospitals with transport ventilators and ventilators in theatres could consider ventilating patients in high dependency areas in the event that interhospital transfers cease.

Before hospitals choose to ventilate patients we **recommend** that they consider:

1. The availability of adequately trained medical and nursing staff to be available 24/7.
2. The availability of resources to reduce infection such as filters and closed suction systems.

3. The impact of losing staff if they become contaminated performing unfamiliar tasks.
4. Consultation with regional ICUs both in the planning and management stages.

We **advocate** for the provision of:

1. Minimum standards to be met before undertaking long term ventilation with transport ventilators in lower resource settings.
2. Simple checklists and protocols for care of the ventilated patient in lower resource settings.
3. A basic transport pack equipment list by retrieval services for use by rural hospitals if retrieval services become overwhelmed.

15.3 Emergency facilities at very small rural hospitals

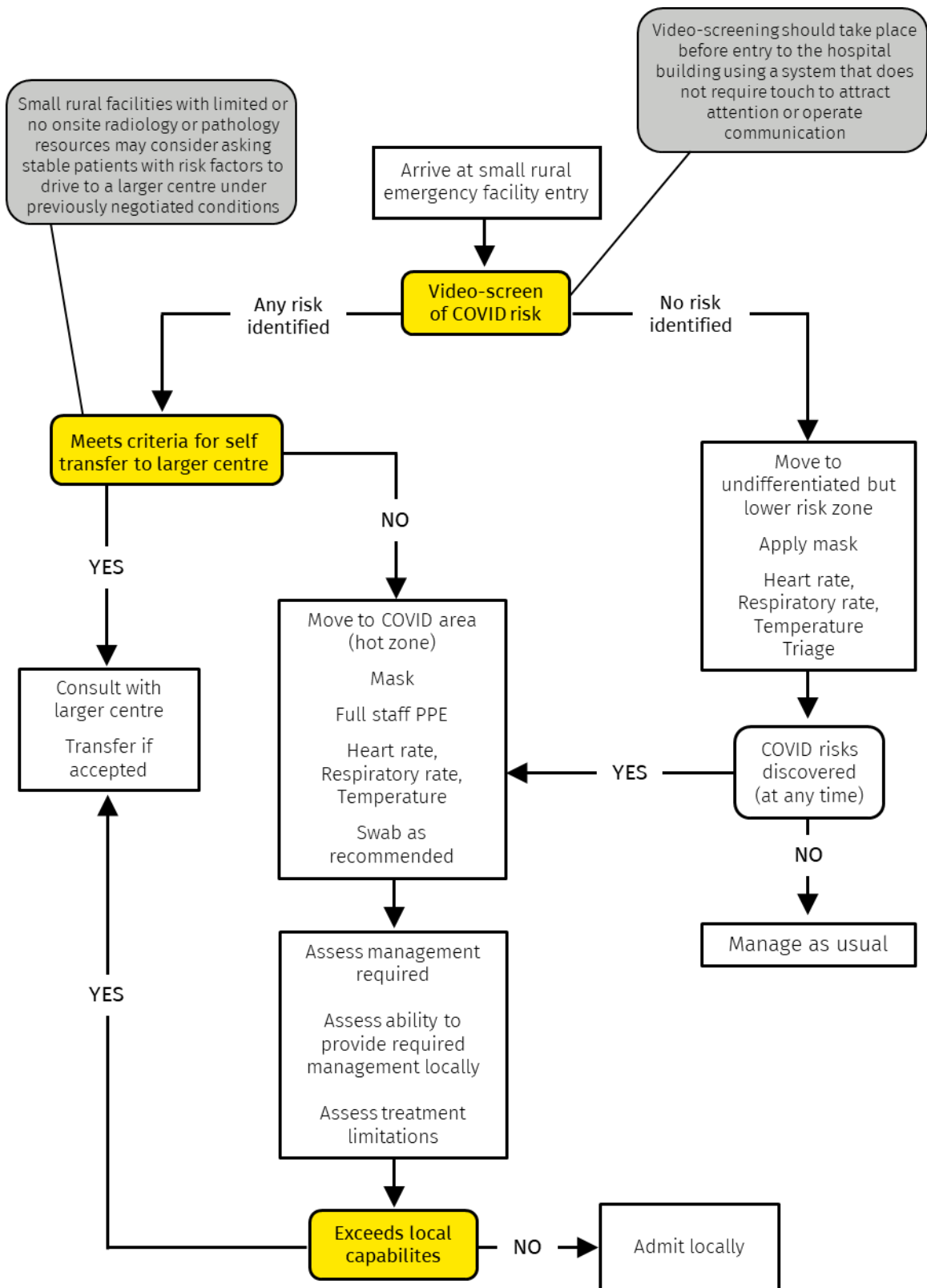
We **recommend**:

1. Planning for workforce shortages, as above.
2. Determining the highest level of local respiratory support available, such as oxygen only, oxygen with rebreather masks, or high-flow oxygen.
3. Considering consultation and transfer criteria as above. These small rural emergency facilities will transfer patients at an earlier stage than larger emergency facilities, and may even ask certain patients to self-transport to larger emergency facilities without entering the small rural emergency facility.
4. Consulting larger emergency facilities about all patients transferred to them. This should happen at regular intervals as indications may change. Larger emergency facilities should also be contacted about every patient the small emergency facility is considering transferring, even for patients who may be asked to drive directly to a larger emergency facility.

Following suggestions for separate COVID-19 screening and triage and separate hot and cold zones will be difficult but the general principles still apply.

We **recommend**:

1. Utilisation of video to allow staff to remotely screen patients before entry to the emergency facility. Options include security cameras, webcams, baby monitors and video-conferencing apps. Systems need to operate without patients needing to touch hardware to notify of attendance or turn on.
2. Streaming patients to high or low risk zones. Separate triage in these areas may not be necessary beyond identification of red flags.
3. Developing staff safety plans in facilities with no onsite security.



Some of these hospitals have large co-located Residential Aged Care Facilities, and nurses that move from ward/aged care work to emergency work as needed. This is an obvious clinical risk.

We **recommend**:

1. Isolating the entrance to co-located Residential Aged Care Facilities.
2. Rostering separate staff for shifts in the emergency facility. No nurse should visit the COVID-19 high risk zone and the hospital ward in a single shift.
3. Separating equipment from emergency facility hot zone as much as possible.
4. In hospitals with large co-located Residential Aged Care Facilities, considering service reconfiguration for their emergency facility if they have limited onsite resources. Resources may be better used assisting patients in the community using the community care facilities which are often the strongest division of a small rural hospital. This includes supporting general practitioners in their practices.

Rural hospitals, even small rural hospitals, are central to palliative care in their communities.

We **recommend** that hospitals:

1. Make plans for palliating patients with COVID-19.
2. Document any treatment limitations for admitted patients, including not-for-ventilation and not-for-transport plans.

15.4 Remote emergency facilities in communities with large Indigenous populations

These emergency facilities face the challenges described above, with the addition of caring for communities with high rates of chronic disease and unique conditions that make social distancing difficult. It is also likely that aeromedical transport will struggle to meet demand.

We **recommend**:

1. At an early stage, developing clear guidelines for the provision of care when resources are exceeded.
2. Using Aboriginal Health Workers (Australia) or Māori Health Liaison Services (New Zealand) to improve local understanding of COVID-19 and requirements.
3. Sharing successful interventions with ACEM so that other isolated facilities can be informed of potential options.

We **advocate** for:

1. Providing adequate volume of hand sanitiser to remote communities where hand washing facilities can be limited.
2. Quarantine of all remote communities and suspension of all tourism and non-essential travel.
3. Considering alternative accommodation for COVID-19 positive patients, such as partnering with local hotels.

15.5 Section disclaimer

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15.6 Section revision history

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16. Palliative care

Advanced age, comorbidity and immunological compromise put patients at increased risk of death. Most mortality will be associated with respiratory failure, however, there is also risk to the wider population as demand for healthcare outstrips resources. As we move through pandemic phases, decisions to provide palliative care as opposed to acute intervention will require ethical consideration. Emergency clinicians will be faced with these challenging decisions. Ethical frameworks supported by organisations with associated clinician and public education will assist in these decisions.

We **recommend** that:

1. Organisations have a multi-disciplinary approach to building an ethical decision-making framework to support clinicians who will need to make these decisions.
2. Early, senior decision making is vital regarding end-of-life decision making.
3. Staff caring for patients who will require end-of-life decisions are adequately and rapidly trained to do so.
4. Organisations will need to account and care for families who may not be able to visit their dying family member.
5. That psychological support is provided to staff caring for patients requiring end-of-life care.
6. Informed relatives and chaplaincy services wishing to have access to dying patients should be allowed to do so when PPE and isolation practices can be adhered to during and after the visit.
7. That appropriate medication protocols and clinical care pathways are available in the ED to ensure adequate and appropriate symptom management for dying patients.
8. Emphasis in end-of-life medication prescribing on reducing coughing and vomiting in order to reduce risk of transmission of COVID-19.
9. Health services have a defined plan for safe management of deceased patients with suspected or confirmed COVID-19 disease.

We **advocate** for:

1. GPs and specialists caring for vulnerable patient groups, to initiate discussions with their patients about their wishes in the setting of this pandemic.
2. Patients with advance care plans ensure that they are reflective of current wishes.
3. Organisations providing locations away from EDs to provide palliative care, being mindful that:
 - a. Current palliative care facilities may be easily overwhelmed.
 - b. Consideration of separation into COVID positive and negative stream.
 - c. Those caring for patients who are dying will also need PPE access and training.
 - d. Staff caring for dying patients are adequately and rapidly trained to do so.

We **align** with:

1. Palliative Care Australia, Statement on Statement on Coronavirus Disease (COVID-19) March 2020 [\[Link\]](#)

2. The following discussion papers and articles:

- Hick, J. L., D. Hanfling, M. K. Wynia, and A. T. Pavia. 2020. Duty to Plan: Health Care, Crisis Standards of Care, and Novel Coronavirus SARS-CoV-2. NAM Perspectives. Discussion paper. National Academy of Medicine. Washington, DC. [\[Link\]](#)
- Daugherty Biddison, E. L., Faden, R., Gwon, H. S., Mareiniss, D. P., Regenber, A. C., Schoch-Spana, M., Schwartz, J., & Toner, E. S. (2019). Too Many Patients...A Framework to Guide Statewide Allocation of Scarce Mechanical Ventilation During Disasters. In Chest (Vol. 155, Issue 4, pp. 848–854). Elsevier Inc. [\[Link\]](#)
- Daugherty Biddison, L., Berkowitz, K. A., Courtney, B., De Jong, M. J., Devereaux, A. V., Kissoon, N., Roxland, B. E., Sprung, C. L., Dichter, J. R., Christian, M. D., & Powell, T. (2014). Ethical considerations: Care of the critically ill and injured during pandemics and disasters: CHEST consensus statement. Chest, 146(4), e145S-e155S. [\[Link\]](#)

Exemplar documents:

- NSW Health, COVID-19 – Handling of bodies by funeral directors [\[Link\]](#)

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17. Ethics in ED decision making

Ethically challenging decisions in relation to the COVID-19 outbreak are expected. Ethical decision-making is contextual; previous tools may cause harm if used out of context. (Tuohey J. A Matrix for ethical decision making in a pandemic, Health Progress, Nov-Dec 2007, 20-25 [[Link](#)]).

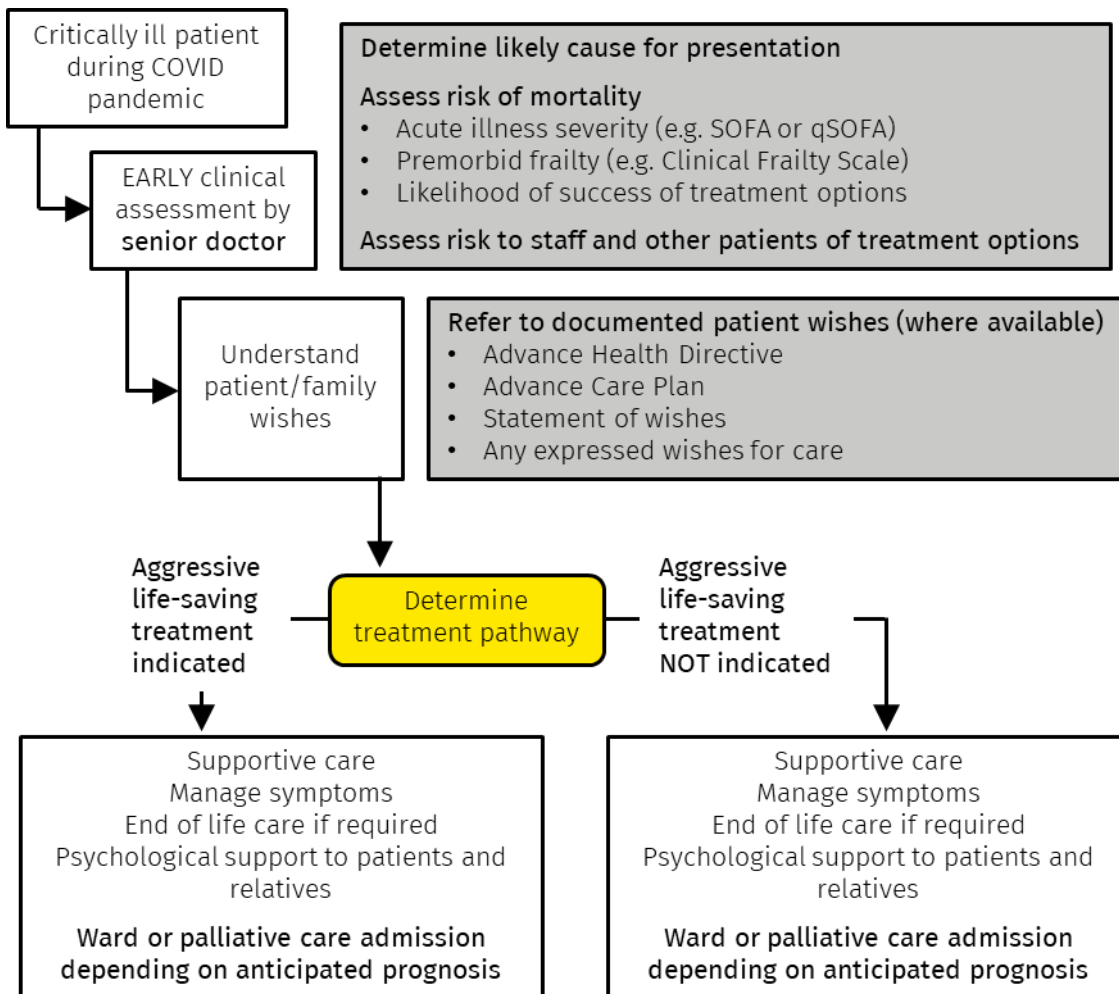
We **recommend**:

1. That the ethical framework adopted by ED physicians is underpinned by the fundamental premises:
 - a. Every person matters, and every person deserves respect.
 - b. We never abandon a patient: care is never futile; treatment may be.
2. That prior to making decisions clinicians check for their own forms of personal bias. All humans have them and they impede good ethical decision making.
3. Emergency clinicians apply well-known and ethically rigorous principles to guide decision making (Beauchamp, T. L., Childress, J. F. (1979). Principles of biomedical ethics. New York: Oxford University Press). These are applicable to the patient, our colleagues and the broader community:
 - a. Autonomy: the ability to choose but not in detriment to others. For example; patients may still choose to reject treatment and alternatively patients cannot demand treatment that does not have any capacity to benefit or that limits treatments of others.
 - b. Beneficence: obligation to provide care that is for the good of the patient and others including staff. This includes being truthful to patients and communicating with relevant stakeholders, where feasible.
 - c. Non-maleficence: options of care offered must avoid harm. Examples include: futile treatment and exposing staff to risk without availability of personal protective equipment.
 - d. Justice: allocating medical resources fairly, according to medical need and each patient's capacity to benefit. This allocation should not be influenced by the race, culture, wealth or address of the person being treated.
4. That emergency clinicians supplement the above principles with use of an objective, evidence-based threshold test to guide decision making in times of resource scarcity. The use of such tools will ensure that there is consistency of decision making that is less liable to latent biases and emotional valence. See figure below for an example of a standardized, evidence-based decision-making approach.

Further advice for emergency clinicians can be found at:

- Alberta Health, Ethical Framework for Responding to Pandemic Influenza [[Link](#)]

Example of standardized evidence-based decision-making guide:



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18. Workforce wellbeing

Emergency clinicians (doctors, nurses, administration and ancillary staff) are a precious, resilient, capable and expert frontline workforce. It is essential for the community that we:

1. Minimise the prevention of COVID-19 infection in emergency clinicians.
2. Prioritise the safety (physical and psychological) and the capacity of emergency clinicians.

18.1 COVID-19 risk management

We **strongly recommend**:

1. Supplies of recommended PPE, appropriate training in and use of PPE for emergency clinicians, are prioritised before delivery of patient care.
2. Organisations incorporate maintenance of emergency clinicians' PPE and required infection control measures into occupational violence and security policies.
3. Organisations rapidly prioritise the training of emergency clinicians in policies and procedures for COVID-19 healthcare delivery.
4. Organisations establish lines of communication to emergency clinicians ensuring daily and urgent updates on evolving emergency response planning, patient management, logistical and workforce wellbeing issues.

We **recommend** that:

1. Organisations identify emergency clinicians vulnerable to COVID-19 infection (age and comorbidities) and offer alternative work away from frontline patient care.
2. Emergency clinicians and their immediate household members have prioritised influenza vaccination.
3. Should it become available, emergency clinicians and their immediate household members have prioritised COVID-19 vaccination.
4. Emergency clinicians meeting COVID-19 case definition have access to prioritised testing;
5. Emergency clinicians unable to work due to COVID-19 illness, or public health isolation measures (for themselves or dependents) have access to paid leave for the duration of the illness/enforced leave.
6. Organisations develop a visitor policy in line with up to date local government guidelines designed to protect emergency clinicians as well as adhere to public health infection control measures.
7. Organisations employing emergency clinicians provide clean scrubs for use on every clinical shift, and access to change areas and showers.
8. Organisations employing emergency clinicians provide food, water and a 'clean' (non-COVID-19 risk) rest area, compliant with social distancing guidelines.
9. Organisations employing emergency clinicians provide security staff to control occupational violence and crowds and establish a Memorandum Of Understanding (MOU) with local law enforcement or other sources for increased organisational security.

We **advocate** for:

1. Planning a formalised period of system reflection and quality improvement after the COVID-19 emergency response.

18.2 Staffing

We **recommend** that:

1. Organisations develop a process to assess the requirement for and rapid, safe credentialing of staff and volunteers (medical and non-medical) to supplement the emergency clinician workforce response to COVID-19.
2. Non-clinical staff (for example administration, transporters, security) are included in support and training initiatives.
3. Emergency clinicians are rotated through shifts in areas of high stress to areas of low stress.
4. Organisations develop staffing models that partner inexperienced or rotating staff with more experienced colleagues.
5. Short team pre-briefs and debriefs are utilised for every clinical shift.
6. Emergency clinicians are provided with breaks every 4 hours.
7. Emergency clinicians have access to days off. Shifts numbers will need to be balanced to avoid fatigue and burnout against adequate staffing.
8. Emergency clinicians are provided with safe places to sleep at work and taxi vouchers if unsafe to drive home after a shift.

We **advocate** for:

1. Networks to urgently consider solutions for maldistribution of emergency clinician workforce between metropolitan and rural/regional healthcare services.
2. Organisations to consider local network organisations and how resources and support may be shared.

18.3 Psychosocial considerations

We **recommend** that:

1. Staff wellness (both physical and psychological) measures are incorporated into organisational emergency response and post response planning.
2. Emergency clinicians have access to free psychological support and debriefing (including 1:1) when required. This may include, peer support programs, drop in centres or telehealth support.
3. Planning a period of recovery, including debriefing, psychological support and leave for staff at an appropriate time, after the COVID-19 emergency response.

We **align** with:

1. Royal Australian and New Zealand College of Obstetricians and Gynaecologists, COVID-19 and pregnant health care workers statement [[Link](#)]
2. World Health Organisation (WHO), Hospital Readiness Checklist for COVID-19 [[Link](#)]
3. WHO, Mental Health and Psychosocial Considerations during COVID19 Outbreak [[Link](#)]

18.4 References

The following resources were used in the preparation of this section:

- American College of Emergency Physicians, National Strategic Plan for Emergency Department Management of Outbreaks for COVID-19 [[Link](#)]

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Contacts

Media

+61 (0) 498 068 023
media@acem.org.au

General

+61 3 9320 0444
admin@acem.org.au

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Australasian College for Emergency Medicine

34 Jeffcott Street
West Melbourne VIC 3003
Australia
+61 3 9320 0444
admin@acem.org.au

acem.org.au

