

ANZICS guiding principles for complex decision making during the COVID-19 pandemic

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The key guiding principle for the provision of patient-centred intensive care therapy for adults and children is that treatments are tailored to the specific clinical needs, preferences and values of each individual.

Central tenets of clinical management include consultation with colleagues, patients and families; establishment of goals of care with the consideration of treatment options and potential outcomes; respect for individual autonomy; and shared decision making. Intensive care treatments in critically ill children should promote the child's best interests, and the parents or guardians have broad, but not absolute, autonomy in determining this. Similarly, for adult patients who lack decision making capacity, decisions must generally be made in the patient's interests by doctors and substitute decision makers.

Intensive care requires significant resources, particularly in relation to highly skilled staff. Intensive care quality is closely monitored in Australia and New Zealand against professional standards (including those created by the Australian and New Zealand Intensive Care Society [ANZICS], the College of Intensive Care Medicine of Australia and New Zealand, and the Australian College of Critical Care Nurses), while the ANZICS and the Australian and New Zealand Paediatric Intensive Care registries allow the determination of trends over time as well as benchmarking across units and jurisdictions.

The scale of the 2019 coronavirus disease (COVID-19) pandemic is uncharted territory and is expected to cause significant strain on a finite resource. Intensive care specialists, in partnership with other specialist colleagues, are required to make decisions about the ethical allocation of critical resources, especially when demand exceeds capacity. Decisions should be made fairly, consistently, transparently and in accordance with policy to the extent that this is possible.

Scope of this guidance

This guidance provides a framework to support intensive care specialists who are required to make decisions about the ethical allocation of critical care resources when demand exceeds capacity during a global pandemic. Contributors

ABSTRACT

The global 2019 coronavirus disease (COVID-19) pandemic has led to major challenges in clinical decision making when the demand for intensive care exceeds local capacity. In order to promote consistent, transparent, objective and ethical decision making, the Australian and New Zealand Intensive Care Society (ANZICS) formed a committee to urgently develop guidelines outlining key principles that should be utilised during the pandemic. This guidance is intended to support the practice of intensive care specialists during the COVID-19 pandemic and to promote the development of local admission policies that should be endorsed by health care organisations and relevant local authorities.

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include senior intensivists from various regions, health care consumers, and experts in medical ethics. The fundamental principles outlined in this document are consistent with those relied upon during the normal practice of intensive care; however, this guideline is intended to be used in the circumstances of a global pandemic. In many advanced economies, critical care resources usually match or even slightly exceed demand. The guidance in this document is provided because it is anticipated that during the COVID-19 pandemic, resources may not be adequate to provide intensive care therapy to everyone who may benefit from it. Rather than allocating resources based solely on whether individual patients might benefit, there will be a need to shift to allocating resources with the good of the whole community in mind, such that we derive maximum benefit for all people from the resources that are available.

It is beyond the scope of this framework to detail how intensive care capacity can be maximised. However, all possible measures must be implemented to increase capacity to ensure that as many patients can be cared for as possible.¹

We recognise that increasing intensive care capacity will at some stage result in major changes in the way in which intensive therapies are delivered, including in workforce skill mix, patient to staff ratios (particularly nursing staff), the location of treatment, and the range and extent of available treatments. This should occur within overall system capacity, as long as the net benefit to more patients by increasing access to treatments is not overcome by the net loss from what is not able to be provided to fewer patients. The guiding principles of this framework are applicable to these decisions.

This document is intended to provide a statement of best practices to inform the development of local admission policies suited to specific jurisdictions and institutional contexts. The principles of this guidance support authorities managing the pandemic crisis, as well as health care facilities as they support their front-line clinicians. ANZICS acknowledges that patients may die as a result of resource scarcity and that this situation may occur even with optimal planning and coordination. It is essential that this is publicly acknowledged and that health care workers are supported by hospital executives and civil authorities. This support must include protection from legal and other liabilities when they have acted according to relevant endorsed practices, including jurisdictional guidelines. This guideline recognises that accountability for such outcomes extends beyond the individual clinician to include health care organisations, departments of health, and government.

Context of decision making

Public health officials must agree and openly communicate that the health system is under extreme stress and that this may result in an inability to provide usual access and standard models of care.

In these circumstances, it is necessary to balance the needs of the community with the needs of individuals. A consequentialist approach that ensures the greatest benefit and least harm for the maximum number of people is justified. Nevertheless, some protections can be incorporated to ensure that vulnerable groups are not disadvantaged and the principle of equal respect for all people is maintained.

The need to make challenging decisions cannot be avoided. Guidelines to support senior clinicians in making these decisions should be ethical, objective, consistent, transparent, publicly disclosed, and applied equitably.² A study of public opinion indicates that they support the use of guidance frameworks and trust senior clinicians to make fair decisions in the context of a pandemic.³

This guideline considers the whole population accessing intensive care, including those with proven or suspected severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection and those not infected. It recommends

collaboration across intensive care services to share the COVID-19 workload and optimise equitable access. Local prioritisation needs to be dynamic, flexible and able to respond equitably to rapidly changing resource availability.

This framework recognises that predicting an individual patient's potential for clinical benefit can be challenging and, therefore, we recommend a senior intensivist undertake a clinical assessment to aid decision making. All reasonable efforts should be made to include insights from the patient and family and allow for shared decision making with clinicians involved in the patient's previous care.

The sole use of categorical exclusions of specific patient populations is not recommended because such criteria can be problematic due to unequal application and may be unnecessary given that less restrictive approaches are feasible.⁴ They are also less responsive to changes, including improvements in resource availability. Criteria-based strategies also present challenges, as they may be difficult for a community of clinicians to agree upon, require continual adjustment in a dynamic crisis, and risk being directly or indirectly discriminatory.

Illness severity scores (eg, Sequential Organ Failure Assessment, Acute Physiology and Chronic Health Evaluation) strategies are attractive in so far as they appear to lend objectivity and have been validated as having prognostic value in groups of patients. However, they do not predict outcomes in individual patients and should not be used on their own to guide treatment decisions or resource allocation at an individual patient level. In addition, the relationship between such scores and individual outcomes in critically ill patients with COVID-19 has not been determined. It should be noted that the incidence and severity of various components of these scores has already been recognised as not being exactly analogous with other more familiar diseases (eg, sepsis, influenza). Finally, there is no single illness severity scoring system that has been validated in (and applicable to) a population of both adults and children. For an individual patient, the carefully considered judgement of experienced clinicians is agreed to be superior.^{5,6}

Prioritisation of patients who share an equal clinical need and an equal likelihood of benefit from intensive care will require consideration of additional principles. These are outlined below as secondary considerations (point 7).

Recommended principles for decision making

1. Patients who do not require critical care interventions on clinical grounds (due to low illness severity) at the time of assessment should not be admitted to the intensive care unit (ICU). Systems to monitor for clinical deterioration are essential and re-assessment for critical care support should occur if required.

2. ANZICS recommends that all patients (including adults and children with SARS-CoV-2 infection and without it, and whether they are currently being treated in an ICU or not) receive equitable consideration of their needs for intensive care services and equitable access to them.
3. Clinical prioritisation should be the initial approach to determine access to intensive care when resources are limited. The approach should incorporate the best information available at the time and be based on a clinical review by senior intensive care clinicians, considering:
 - the likelihood of the patient response to treatment and survival to hospital discharge based on acute illness severity;
 - the severity of patient comorbidities, their independent prognoses and their effect on intensive care outcomes; and
 - the likelihood of long term patient survival, with an attempt to assess both the quality and the potential quantity of that life. It is acknowledged that the estimation of quality of life following an episode of critical illness may be challenging.
4. The comprehensive patient assessment should include discussions about goals of care, patient and family preferences, and the acceptability to the patient of critical care interventions if offered. Intensive care treatment in critically ill children should promote the child's best interests. Parents of children too young to exercise autonomy may help in deciding the child's goals of care. Adolescents' developing autonomy should be respected in an age-appropriate manner. The carers and family members of adult patients unable to effectively communicate their preferences may provide valuable insights into their wishes. A competent adult patient may make an informed choice to refuse treatment, and advanced care directives may apply if supported by local legislation and practice.⁷
5. The involvement of two or more senior intensive care clinicians in decision making is recommended where possible and one of these should be the intensivist completing the clinical assessment. Clinicians involved in the previous care of the patient may contribute to the shared decision making where this is possible. Decision makers should have full knowledge of available ICU resources across their own hospital and should engage with relevant jurisdictional coordinators at the time of their assessment to ensure all options have been adequately explored (including the possibility of transfer).
6. In the situation where patients are otherwise similarly ranked in terms of clinical priority, access to intensive care must not be based on irrelevant and discriminatory considerations such as sex, sexual orientation, religion, disability, social status, personal connections, wealth, citizenship, insurance status, ethnicity or race.
7. If a situation arises where patients are similarly ranked in terms of clinical priority, some legitimate instances where it may be ethically justifiable to consider other determinants for prioritisation include, but are not exclusive to:
 - supporting patients belonging to groups subjected to social deprivation and disadvantage as a means of redressing their vulnerability;
 - considering that adults with caring responsibilities be prioritised;
 - advocating that younger patients who have lived through fewer life stages are prioritised over older patients; and
 - supporting individuals who undertake front-line patient care and are exposed directly to the risk of infection due to activities inherent to their role (noting that their families also bear some additional risk as a consequence). This recognition reflects their value in maintaining the welfare of patients and is based on the principle of reciprocity.^{3,8,9}

These have been suggested by ethicists as relevant secondary considerations and the order in which they are listed is not intended to convey their importance. ANZICS recommends that health care organisations and relevant authorities determine how such situations will be managed in their jurisdiction according to established ethical principles and in a manner that reflects community expectations. Such determinations should be formally conveyed to clinicians ahead of any need to apply them to specific individual situations. In the absence of such guidance, ANZICS recommends that clinicians seek advice from institutional ethics boards or similarly recognised experts wherever possible.
8. Where it is not possible to achieve consensus on clinical decision making, advice from other relevant experts should be sought (eg, clinicians from relevant disciplines such as palliative care, aged care, general medicine and respiratory medicine, paediatric care, medical ethicists and chief medical officers).
9. The comprehensive patient assessment, discussions with the patient and family, the process and the clinical prioritisation decision, and the clinicians involved in the decision-making process must be clearly documented in the patient's medical record.
10. Decisions relating to interventions such as extracorporeal membrane oxygenation and other critical care supports should be based on the same process as that used when considering admission to the ICU. It is important to also consider the impact that using resource-intensive interventions has on the ability for an ICU to deliver care to other patients.
11. In some cases, intensive care treatment may not provide the benefit that was hoped for, or a patient may develop

complications and it becomes apparent that survival is unlikely. In these difficult circumstances it is then justifiable to consider discontinuation of intensive care therapy in order to provide support to patients who are reasonably expected to benefit. Discontinuation of non-beneficial treatment is accepted as part of normal intensive care practice (especially when therapy may be burdensome to the dying patient) and it is recognised that there is no ethical difference between withholding and withdrawing treatment.

12. It is appropriate to consider earlier discharge of improving patients to general wards when resources are scarce if this creates capacity to admit additional patients in greater need.

Guideline implementation

The aim of this framework is to guide the development of localised operational procedures suited to local needs.

Implementation of this framework should be regarded as an extension of usual intensive care practice. It advocates a broadly consequentialist approach in order to maximise benefit and minimise harm for as many people as possible. It also builds in prioritisation considerations that protect vulnerable groups and keeps a firm focus on the need to respect all people equally and ensure dignity and compassion during these difficult times.

Operationalised procedures may include an ICU admission and discharge policy, or similar decision-support documentation that describes the local implementation of the principles and recommended approach described in this guideline. Clinicians acting in good faith and in accordance with agreed policies should be supported and indemnified to the maximum extent possible.

It is recommended that implementation strategies should include:

- Timely and effective communication as an essential tool for engagement with patients and families. Communication strategies should be developed for how to discuss limiting or withholding or withdrawing life-sustaining treatment with patients and families when the primary reason is resource scarcity. Documentation of discussions is essential.
- An understanding that intensive care is a time-limited therapeutic process rather than an unlimited promise, while ensuring adequate duration of therapy in order to properly assess response.
- Comfort and dignity remain essential elements of care, especially when survival is not possible, and it is decided that life-sustaining treatments are not initiated or are ultimately withdrawn. High quality end of life

care is an important aspect of intensive care practice, and is supported by early involvement of palliative care specialists where this is possible.

- It is crucial that the symptoms of dying patients are well managed. Their wellbeing and that of their families must be compassionately supported.
- Individual ICUs should obtain approval of their admission policies from their hospital executive and additionally consider seeking jurisdictional endorsement from local health authorities. This should include consideration of how to implement clinical prioritisation in accordance with relevant local laws.
- All relevant clinical decisions made during the time of scarce resources should be reviewed as part of usual internal hospital processes.
- Disputes over decision making may arise and can be particularly challenging in the context of decision making due to scarce resources. Local policies should set out procedures for responding to and resolving such disputes.

Competing interests

None declared.

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References

- 1 Fair allocation of intensive care unit resources. American Thoracic Society. *Am J Respir Crit Care Med* 1997; 156: 1282-301.
- 2 Sprung CL, Zimmerman JL, Christian MD, et al. Recommendations for intensive care unit and hospital preparations for an influenza epidemic or mass disaster: summary report of the European Society of Intensive Care Medicine's Task Force for intensive care unit triage during an influenza epidemic or mass disaster. *Intensive Care Med* 2010; 36: 428-43.
- 3 Cheung W, Myburgh J, McGuinness S, et al. A cross-sectional survey of Australian and New Zealand public opinion on methods to triage intensive care patients in an influenza pandemic. *Crit Care Resusc* 2017; 19: 254-65.
- 4 White DB, Lo B. A framework for rationing ventilators and critical care beds during the COVID-19 pandemic. *JAMA* 2020; doi: 10.1001/jama.2020.5046. [Epub ahead of print]
- 5 Sinuff T, Adhikari NK, Cook DJ, et al. Mortality predictions in the intensive care unit: comparing physicians with scoring systems. *Crit Care Med* 2006; 34: 878-85.
- 6 Meyer AA, Messick WJ, Young P, et al. Prospective comparison of clinical judgment and APACHE II score in predicting the outcome in critically ill surgical patients. *J Trauma* 1992; 32: 747-53; discussion 53-4.
- 7 Australian and New Zealand Intensive Care Society. Statement on care and decision-making at the end of life for the critically ill; ed. 1.0. Melbourne: ANZICS, 2014. <https://www.anzics.com.au/wp-content/uploads/2018/08/ANZICS-Statement-on-Care-and-Decision-Making-at-the-End-of-Life-for-the-Critically-Ill.pdf> (viewed Apr 2020).
- 8 Ives J, Greenfield S, Parry JM, et al. Healthcare workers' attitudes to working during pandemic influenza: a qualitative study. *BMC Public Health* 2009; 9: 56.
- 9 Satalkar P, Elger BE, Shaw DM. Prioritising healthcare workers for Ebola treatment: treating those at greatest risk to confer greatest benefit. *Dev World Bioeth* 2015; 15: 59-67.