Ethics framework for use in acute paediatric settings during COVID-19 pandemic

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This ethical framework is a modification of guidance developed for treatment decisions relating to adults. The principles relating to decisions for children in the setting of the pandemic are the same as those for adults. The framework emphasises that decisions should be ethically consistent and apply to patients both with COVID-related and non-COVID related illness.

The focus of the ethical framework provides guidance for a national emergency where there is extremely high demand and limited critical care capacity. However, it is important to note that at the time of writing (8 January 2021) there is enough paediatric critical care capacity across the UK. There was no need for prioritisation in access to paediatric critical care in the first wave of the pandemic, and it is hoped that in subsequent waves of the pandemic the same will apply.

At the present time decisions about children in need of critical care should reflect the same fundamental ethical considerations as apply in normal times. Those decisions should be focused on the best interests of the child, and actively involve parents in decision-making.

This revised document also acknowledges the need to prioritise non-critical care treatment given the problem of reduced access to services during the pandemic and significant increase in waiting lists and waiting times for treatment. This is in recognition that the problem of access to treatment for non-COVID-19 illness is one of the most serious problems for children’s health care arising from the pandemic.

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Introduction

This document is in three parts. Part A describes the ethical framework behind triage and critical care treatment decisions in the event of a national emergency with a severe surge of illness exceeding available capacity. It covers the approach to decision-making, beginning in the emergency department, progressing through to critical care. Part B addresses issues of prioritisation relating to non-COVID-19 treatment. Part C addresses some questions that clinicians may ask about how (if required) difficult decisions should be made in a practical setting.

This ethical framework has been developed for a pandemic when resources outstrip demand. It supplements the fundamental ethical principle of focus on the best interests of the child, with acknowledgement of the vital importance (at a time of extraordinary pressure on the health service) of saving the most lives. It also explicitly includes a fairness principle incorporating capacity management across geography and time.

Although this document is primarily aimed at acute paediatrics it is transferable to any paediatric setting including neonatal medicine.

Part A - Triage and critical care treatment decision making

1. Ethical Framework

- The starting point for ethical decisions for both adult and paediatric medicine is the responsibility of clinicians to offer appropriate medical treatment. Determination of the appropriateness of a therapy will be influenced by considerations of benefit to the patient (beneficence) and benefits to other patients (distributive justice).
- During a pandemic, as in non-pandemic times, consideration of patients’ autonomy and best interests are crucial. For adults who have capacity, their wishes about treatment should be sought, and treatment refusal should be respected. This is also relevant for some older children and adolescents. Clinicians should aim to provide medical treatment that will benefit patients (and avoid harm). Treatment should not be provided that is believed to be contrary to the patient’s best interests.
- In the setting of the pandemic, some treatments may be limited in availability because of the large numbers of patients simultaneously requiring medical care. It is important to note that the availability of treatment may change over the course of the pandemic, and some treatments may be more limited than others. This could apply particularly to forms of respiratory support (e.g., mechanical ventilation, non-invasive ventilation, continuous positive airway pressure). Those coordinating medical treatment should assess and classify the current availability of treatment (see below). Where there is a shortage of treatment, decisions to provide respiratory support must take account of distributive justice and will require prioritisation.
Prioritisation requires identification of clinically relevant facts about individual patients and their likelihood of benefiting from available resources. Higher priority should be given to patients based on those who have the highest ‘capacity to benefit quickly’. This means that treatment may be directed to patients who have a higher chance of survival, and lower predicted duration of requiring treatment.

Decisions should be individualised – this means that decisions must take into account patient’s individual characteristics, preferences, and prognosis.

Decision-making should be ethically consistent. This means that different decision-makers should reach similar decisions about treatment for the same patient. It also means that patients who have similar relevant characteristics (eg prognosis and patient wishes and availability of treatment) should be treated similarly.

During the pandemic treatment prioritisation may be required for patients with both COVID-related and non-COVID related illness. The presence of COVID-associated disease in itself should not give a patient either higher or lower priority for treatment.

The same ethical principles of prioritisation apply to children as to adults. However, in many cases these principles would yield a higher priority for paediatric patients requiring critical care because of high survival rate and short duration of stay. Where there is available spare capacity in paediatric intensive care units it would be ethical to consider using some of that resource for critically ill adults. However, this is unlikely to be feasible over the winter period, when there is a high demand for paediatric critical care beds.

Because of limited supply of treatment it may be important to consider both decisions to commence treatment and to continue treatment. Prolonged duration of treatment for one patient may mean that other patients are unable to be treated. Withholding of treatment and withdrawing of treatment are regarded as ethically and legally equivalent.

2. Availability/scarcity of treatment

Over the course of the pandemic, the availability of different treatments will change. Some treatments may be limited, while others will be more available. This means that it may be appropriate to offer some treatments and not others.

Those coordinating specialised treatment in the hospital should regularly review both the demand for treatment and its availability.

The following classification system may be helpful. It will overlap/correspond with national resource availability (CRITCON-PANDEMIC level) as indicated below.

<table>
<thead>
<tr>
<th>Available4 (CRITCON 0/1)</th>
<th>Treatment currently available. Supply &gt; Demand. Decisions about treatment will be based on patients’ wishes and best interests.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited (CRITCON 2/3)</td>
<td>Treatment currently available but in limited supply. Capacity may soon be exceeded if high demand. Decisions about treatment may be influenced by the need to avoid reaching the highest level.</td>
</tr>
</tbody>
</table>
Severely limited/Emergency (CRITCON 4)

| Treatment at capacity.  
| Demand exceeds supply of treatment.  
| Prioritisation/Triage is essential.  
| Treatment available only to those patients with highest capacity to benefit quickly.  

- Where treatments are limited in availability, decisions may need to take into account the need to avoid reaching a “severely limited”/Emergency level. However, this should also trigger hospital administrators to take all appropriate steps to increase capacity and availability of treatment, for example by expanding into quasi critical care or non critical care areas.
- Where treatment is limited locally, but nationally the health system has not reached the corresponding CRITCON level, clinicians should take all appropriate steps to transfer patients to other centres within network or region. If transfer is not possible, and treatment locally is at capacity, prioritisation will be required. However, this decision must be made in conjunction with NHSE and national directives.

3. Decision-making in the Emergency department/Admission to hospital

- **Provide immediate resuscitation/stabilisation where required.**
  If patients arrive critically ill and require resuscitation or stabilisation this should proceed immediately (as is standard practice). Treatment should not be delayed in order to attempt to prioritise. However, where possible, there should be a simultaneous attempt to gather information. If it becomes apparent during or following resuscitation that there is a low chance of a successful outcome, or that admission to intensive care would be inappropriate (because of limited resources), treatment should then change focus to providing palliative care.
- **Assess medically for cause of presentation and most appropriate clinical treatment.**
  This should occur (as is standard practice) for patients, whether they are presenting with a respiratory illness and possible COVID-19, or with other illness. In addition, assess severity of acute illness and possible need for organ support/intensive care.
- **Assess for presence of prognostic factors.**
  Explicitly consider factors that may affect the capacity of the patient to benefit quickly from hospital treatment. Assess for the presence and severity of co-morbidities that may influence chance of survival or duration of therapy required.
- **Determine parents or patient’s understanding about illness and values relating to treatment.**
  Where possible sensitively explore the parent’s views and priorities – particularly around the use of more intensive therapies. It may be important to enquire about the views of the young person or older children/adolescents with chronic severe illness. For children with life-limiting illness it is helpful to know whether there have been previous advance care planning discussions.
- **Review current availability of relevant treatment.**
  Assess latest information about the availability of treatments that could be beneficial. (See section 2).
- **For all children admitted with serious illness consider and document the appropriateness of escalation of treatment given both (see Annex 1).**
  - Current clinical needs, and
Future clinical needs in the event of deterioration

- Any treatment that is limited in availability should be commenced as a time-limited trial.
  At the time of commencing treatment, communicate this to the parents and (if appropriate) the young person. Explain that treatment is being provided for a limited period, and that if there is insufficient response to treatment that it will stop. Document planned time for review of treatment.

4. Triage – intensive care/respiratory support

If triage decisions are required it will be essential for decisions about provision of limited resources to be made centrally. This will particularly apply to respiratory support, but other treatments during the pandemic may also require prioritisation. Triage decisions should be applied consistently. They apply to patients with COVID-associated and non-COVID associated illness.

Triage decision-maker(s)

- These decisions should ideally be made by senior clinicians who are coordinating the provision of the clinical service, and who are aware of both current availability of treatment and demand for treatment. Ideally they should be separate from those providing frontline clinical care.
- They should have access to colleagues for advice/support in difficult cases, and, ideally, access to urgent clinical ethics support if required.

Assessment of triage factors

- Triage decision-makers should consider and document the following key elements, and aim to classify referred patients based on the following triage factors:
  - **Urgency**
    - High – high risk (eg >80%) of dying or of suffering serious harm if patient does not receive treatment in the near future
    - Moderate – moderate risk (eg 30-70%) of dying or of suffering serious harm if patient does not receive treatment in the near future
    - Low – low risk (eg <20%) of dying or of suffering serious harm if patient does not receive treatment in the near future
  - **Survival**
    - High – patient has a high chance (eg. >80%) of survival if provided with treatment
    - Moderate – patient has a moderate chance (eg 30-70%) of survival if provided with treatment
    - Low – patient has a low chance (eg <20%) of survival if provided with treatment
  - **Likelihood of rapid benefit**
    - High – patient has a high probability (eg >80%) of requiring only a short duration of support (ie intensive care admission) if provided with treatment
    - Moderate – patient has a moderate probability (eg 30-70%) of requiring only short duration support if provided with treatment
    - Low – patient has a low probability (eg <20%) of requiring short duration of
support if provided with treatment (ie prolonged duration is likely)

Triage priority

**Highest priority**

- Patients who have a high urgency for treatment, high chance of survival and low likelihood of requiring prolonged support should receive first priority for treatment
- Patients who fall into a moderate priority category in one triage factor (eg survival chance), but are in a ‘high priority’ category for others (eg urgency/requirement for prolonged treatment) may also be high priority

**Moderate priority**

- Patients who fall in a moderate risk for two or more triage factors would have a moderate priority for treatment
- Patients with one ‘low risk’ triage factor may also be classified as a moderate priority for treatment

**Lower priority**

- Patients who have a low urgency for treatment, low chance of survival and/or low probability of needing short durations of treatment would fall into a lower priority for treatment

**Decision**

- The decision about provision of treatment for an individual patient will depend on the current availability of treatment, as well as the level of demand and the priority of other patients currently presenting for treatment.
- Any decision to provide treatment will be specific to the current circumstances.
- If treatment is severely limited, treatment is likely to be available only to those patients with highest priority.

Note: If all “highest priority” patients cannot receive treatment, triage decision-makers may need to consider additional factors relevant to the benefit of intensive care. In such circumstances, all possible efforts should be made to increase availability of treatment, including temporary provision of intensive care in areas where this is not usually provided (eg operating theatre/recovery). It would also include active review of the appropriateness of continuing treatment for previously admitted patients.

**Documentation**

- Triage decision-makers should document clearly the following:
  - Time of referral
• Current availability of treatment
• Triage factors – and the basis for classification
• Priority for treatment
• Decision about provision of treatment
• Consultation or advice obtained in reaching a treatment decision (eg discussion with colleagues/clinical ethics, and the presence of agreement/disagreement).

• For cases of uncertainty/disagreement or difficult decisions see section below.

5. Decision making about ongoing treatment

• As noted above, all treatment that is limited in availability should be commenced as a time-limited trial. For example, this could apply to non-invasive ventilation, mechanical ventilation.
• Review at regular time-points after admission.
• Consider:
  • Physiological evidence of response to therapy
  • Evidence of deterioration – eg additional organ failure
  • Side effects/tolerability of treatment
  • Patient wishes
  • Any additional evidence about the patient’s prior wishes or underlying illness.
• If the patient has deteriorated or not improved, consider the appropriateness of escalation of therapy (eg intubation or additional organ support).
• Where escalation is not appropriate, or the patient’s prognosis now indicates a low chance of survival or a high chance of very long-duration of mechanical ventilation consider withdrawal of treatment. Depending on the context (and the parent’s wishes) it may be appropriate to:
  • Provide palliative/end of life care (eg palliative extubation)
  • Commence progressive timely weaning of support with clear plan not to escalate treatment and to shift to palliative care if patient unable to tolerate
  • Move the patient to a non-intensive care environment.
• If patient has improved with treatment, discuss this with patient/parents and identify a further time point to review continued treatment.

6. Difficult/contested decisions

Uncertainty

• Where there is uncertainty about the appropriateness of escalating/continuing treatment discuss with responsible consultant and/or the intensive care unit.
• In situations of rapid deterioration, without a clear prior decision or time to consult, provide urgently required treatment to stabilise while seeking further advice/information.

Disagreement

• Where there is disagreement between clinicians and the patient or family seek further advice. A sequential approach might escalate through the following stages:
  • Responsible consultant (emergency department or ward)
  • Consultant responsible for specialist care (eg NIV/intensive care)
  • Intensive care triage – senior consultant(s) available to discuss and support
decision-making
  ○ Urgent clinical ethics advice.
  - Where there is a unanimous clinical decision that escalation or continuation of treatment would not be appropriate in the circumstances, this should be sensitively but clearly explained to the patient/family.
  - Where there remains disagreement between clinicians about the appropriateness of treatment consider commencing treatment/stabilisation to allow further discussion.

Note: Decisions about provision of treatment in the context of severely limited resources are different from usual best interests’ decisions.\(^8\) It is possible that treatment may not be able to be provided, even if parents would strongly desire it. However, families may challenge or appeal decisions. Should they do so, it is important that there is a clear process for rapidly escalating decisions to senior clinicians within the hospital/intensive care unit, ideally with clinical ethics support. The process, justification for decisions, and the names of those consulted about the decision should be clearly documented.

### Annex 1 - Is intensive care admission appropriate?

You can also [view this chart online](#).

* Note: where a certain therapy has been deemed not appropriate – e.g. mechanical ventilation, it may still be beneficial and reasonable to provide other treatments (e.g. oxygen/NIV). Patients should continue to receive all appropriate medical care. For patients where survival now appears unlikely, this should include appropriate symptom management and end of life care.

### Part B - Prioritisation of non-critical care treatment

It is hoped that prioritisation and triage of critical care treatment will not be required, and consequently will not impact on the medical care of children during the pandemic.

However, many children have been impacted by the difficulty of accessing other (non-critical care) medical treatment as a direct consequence of the pandemic. While most elective services have now resumed, there remain serious issues with access to treatment arising from long waiting times for appointments and waiting lists for treatment (e.g. surgery).

Paediatric health care providers may need to prioritise referrals for treatment, as well as review patients who are already on waiting lists.

It is not possible to set out for every paediatric treatment/medical service how to approach prioritisation, since this will depend on the magnitude and nature of the clinical need, the severity of the problem of unmet demand, and the capacity of the service. Below, we set out some general ethical principles to apply to prioritisation decisions.

#### 1. Ethical principles

There are several different factors that are potentially relevant to the decision about prioritisation. These overlap with, but are slightly different from the principles that apply to
critical care triage.

- **Urgency**
  - High – high risk (e.g. >80%) of suffering serious harm if patient does not receive treatment in the near future
  - Moderate – moderate risk (e.g. 30-70%) of suffering serious harm if patient does not receive treatment in the near future
  - Low – low risk (e.g. <20%) of suffering serious harm if patient does not receive treatment in the near future

- **Magnitude of benefit**
  - High – patient has a high chance (e.g. >80%) of significant benefit (i.e. a definite improvement to their health, well-being or quality of life) if provided with treatment
  - Moderate – patient has a moderate chance (e.g. 30-70%) of significant benefit if provided with treatment
  - Low – patient has a low chance (e.g. <20%) of significant benefit if provided with treatment

- **Resource Requirement (Rapid resolution in comparison to average)**
  - High – treating this patient has a high probability (e.g. >80%) of requiring only an average duration of treatment (for example, an average length of operating time, or average duration of outpatient support)
  - Moderate – patient has a moderate probability (e.g. 30-70%) of requiring only an average duration of treatment
  - Low – patient has a low probability (e.g. <20%) of requiring short duration of support if provided with treatment (i.e prolonged duration is likely – for example requiring a prolonged operating time or a prolonged period of outpatient support)

In addition, it may be appropriate to take into account:

**Prior disadvantage**: the presence of pre-existing severe/complex medical needs, or severe/complex social needs might in some cases increase the urgency of a child’s need for treatment, or the potential benefit of treatment. However, in other cases, this might represent a separate ethical reason to give a child higher priority.

**Waiting time**: the length of time that a child has already been waiting for treatment is an ethical consideration for access to treatment. It will not necessarily outweigh other factors, but should be considered wherever possible. In some cases, long waiting times might increase the likelihood of harm if treatment is not received.

**Minimising harms**

As with critical care treatment, where demand for treatment exceeds availability, all efforts should be made to looks at ways to increase the availability of a particular treatment or service (for example, through scheduling extra clinics or operating sessions). This may not always be possible, or even if it has occurred may not be sufficient to meet unmet demand.

Where children are unable to access treatment within a reasonable timeframe, clinicians should explore ways to mitigate harms for those children.

For example, this could include non-surgical options for those patients for whom this is possible, providing information to patients or GPs to enable them to access other appropriate
services while waiting, increasing availability of specialist nurses and other members of MDT to mitigate harms for patients waiting for a long period.

Part C - Frequently asked questions

This is a supplement to the ethics guidance and follows the FAQs developed by the British Medical Association Ethics Committee March 2020.9

Children mostly have mild illness from COVID-19. How will children’s medical care be affected by this pandemic?

- Available information suggests that most children who have the COVID-19 infection have a mild illness.10 The greatest direct consequence of this pandemic will fall on adults, particularly older adults and those with underlying illness.
- However, some children may become seriously unwell with this infection, and a small proportion of affected children may die. Children with severe chronic underlying illness or disability are likely to be most vulnerable.
- Children are highly likely to be affected indirectly by this pandemic. That is because of the substantial impact of the pandemic on the health care system affecting the availability of medical care.
- Children have also been negatively affected by the considerable changes to their daily lives brought about by the pandemic, including effects on education, negative effects on children in vulnerable home environments, and widespread anxiety triggered by social disruption and fear of illness or death in family members.

BMA guidance indicates that in the setting of the pandemic it may be ethical and lawful to prioritise some patients over others. Does this also apply to children?

- The surge in the numbers of critically ill patients has placed considerable strain on the health care system. While to date, there has been sufficient capacity to treat all patients, if over winter the numbers of patients needing medical treatment exceed the resources available that could require clinicians to make difficult decisions about which patients to treat.
- Available guidance11 indicates that the need for prioritisation will potentially apply to all patients requiring scarce treatment. That should include both patients with illness relating to COVID-19 and patients with other illnesses. It will include both adults and children. While clinicians should always seek to act in children's best interests, if paediatric critical care beds are critically limited, clinicians could need to prioritise treatment.
- As noted in BMA guidance, it would be both lawful and ethical to withhold potentially life-saving treatment from a patient (including a child) where another current or anticipated patient has a higher priority for the available treatment.9

Are the ethical principles relating to prioritisation any different for children?

- BMA guidance indicates that it would be appropriate to prioritise treatment to those patients who have the highest ‘capacity to benefit quickly’.9 This will mean giving priority to those patients who are unlikely to survive without treatment, but have a high chance of survival if treated, and are less likely to require a prolonged period of
support. Such an approach would maximise the numbers of lives saved at a time of extreme pressure on the health system.

- The same ethical principles would apply to children. However, it is worth noting that in many cases these criteria would yield a higher priority for paediatric patients requiring critical care (for example because of high survival rate and short duration of stay). Some individual paediatric patients with predicted high mortality and/or long duration of stay in intensive care could have a lower priority for treatment.

Is it appropriate for adults to be treated in paediatric intensive care during the pandemic?

- There has been considerable effort being expended to expand adult critical care capacity in the anticipation of a large surge of critically ill adults with COVID-19 associated illness, exceeding by some way the normal capacity of the health system. Once all adult critical care beds have been used there will be pressure to expand to other areas in the hospital capable of providing critical care for example operating theatres, and paediatric intensive care.
- Where there is available spare capacity in paediatric intensive care units it would be ethical and appropriate to consider using that resource for critically ill adults. This is unlikely to be feasible over the winter period, when there is usually a high demand for paediatric critical care beds. Additionally, PIC beds may be centralised which itself may reduce access for some patients.
- If there is reduced access for paediatric patients there needs to be careful attention to the potential harms from reducing available paediatric intensive care beds. The mortality rate for children admitted to paediatric intensive care is considerably lower than that for patients admitted to adult intensive care. This means that there is a risk that use of paediatric intensive care beds to facilitate treatment of adults (for example with COVID-19 pneumonitis) could mean that a child with a higher chance of survival is unable to be admitted to intensive care.

Is it ethical for children’s medical care or wellbeing to be compromised during a pandemic?

- The overwhelming nature of this pandemic will affect children’s medical care and wellbeing.
- Some compromises are simply unavoidable because of the enormous pressure placed on the health system at every level. All members of society, young and old, are having to make sacrifices in order to mitigate the harms of this virus and protect those vulnerable to it.
- Reductions in services (for example postponement of surgery, cancellation of clinics) will require changes in care that are not optimal and would not normally be considered. Children with complex neurodisabilities particularly rely on a coherent health service which is likely to be compromised during a pandemic. Paediatric health professionals should provide the best available care and treatment that they can to children in these difficult circumstances. They should be aware of possible risks or harms from changes in the delivery of medical care and seek to minimise or avoid these where-ever possible. They should advocate for children’s health needs, and ensure that children are not forgotten, at a time when the health system will be focussing most attention on adults.
Is it ethical for neonatal care to be compromised during a pandemic?

- All healthcare systems are interlinked, and limited resources must be shared equitably. It is conceivable that if resources become critically limited, neonatal care will similarly need to utilise its resources based on a “capacity to benefit”.
- Neonatal health professionals should continue to provide the best available care and treatment that they can to newborns and their parents in the difficult circumstances of a severe pandemic. They should be aware of possible risks or harms from changes in the delivery of medical care and seek to minimise or avoid these where ever possible. They should advocate for infants’ health needs, and ensure these are met.

Will decisions to triage or prioritise treatment discriminate against children with disability or chronic health care needs?

- As in normal times, treatment decisions during the pandemic should focus on the best interests of the individual child, and their specific circumstances and needs. Health professionals should aim to provide for all children the best available medical treatment that is appropriate in the circumstances. (This may not be the same as treatment that would be provided in other times.)
- If there is a need to make decisions to prioritise treatment in a setting where there is overwhelming demand, those decisions should be made taking into account an individual child’s needs and their capacity to benefit from treatment. A child’s clinical condition and background medical problems may be relevant to the benefit of treatment. No decisions to prioritise should be based on blanket rules that deny treatment to groups, or discriminate unjustly against children with pre-existing disability.

Latest updates on this page

Updates in this version (8 January 2021)

- Addition of section on prioritisation of non-critical care treatment.

4. This classification system relates to specific treatments. For example, at a given point in time some therapies (e.g. non-invasive ventilation) may be available while others are more limited (e.g. mechanical ventilation)
5. In adults with COVID-19 this might include severity of ARDS (P/F ratio), presence/severity of organ failure using Sequential Organ Failure Assessment (www.mdcalc.com/covid-19#calcs)
6. In adults, NICE guidance recommends assessment of Frailty – using a Clinical Frailty Scale (static1.squarespace.com/static/5b5f1d4e9d5abb9699cb8a75/t/5dadc90bb11ecf3bce47f27e/1571670285023/Rockwood+CFS.jpg). It is unclear how this could be applied to paediatrics, or whether it would be predictive of outcome of critical care
7. It is difficult to define prolonged treatment. In paediatric critical care, a ‘long-stay’ is often defined as >28 days. 
   [adc.bmj.com/content/105/6/558.long](http://adc.bmj.com/content/105/6/558.long)


