

Hospital Guidance: Making Cardiopulmonary Resuscitation Decisions in the Context of the COVID-19 Pandemic

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Introduction

In situations of a widespread challenge to public health and safety, such as pandemics, health care organizations work to provide the best care possible, given the circumstances. It is always the goal to maintain the usual standard of care, including providing life-sustaining treatment for all patients who are critically ill.

However, changes in practice may be required when the number of patients facing critical illness is expected to be very high over a long period of time and the risks in health care settings of exhausting personal protective equipment (PPE) and transmitting the infectious disease are substantial. This document addresses ethical dimensions of decisions around attempting in-hospital cardiopulmonary resuscitation (CPR) under these conditions and is informed by the current COVID-19 pandemic. The framework articulated in this document is meant to be applied throughout the pandemic, not just when crisis standards of care are formally activated.

As at all times, encouraging and supporting advance care planning by patients is crucial. All adults should be encouraged to identify an authorized decision-maker (sometimes called a “health care agent”) and complete advance directives (also called “health directives”) to document their wishes.

Clinicians for patients with advanced age, frailty, or serious chronic disease should also consider completing a Provider Order for Life-Sustaining Treatment (POLST) form, to effectuate patient wishes

regarding life-sustaining medical treatment, such as CPR, mechanical ventilation, and ICU care, particularly when patients prefer to allow natural death rather than undergo these interventions.

Patients who prefer a natural death in their home may best receive this care with assistance of hospice, particularly when social distancing and quarantine delay or prevent family presence at the hospital bedside. As some patients spontaneously express the willingness to forego the use of scarce health care resources for the sake of another, processes should allow for and respect the expression of this preference, without in any way directing or pressuring patients to make such a decision. Health systems should ensure that patients' health directives and POLST orders are readily available to all clinicians involved in their care.

Basic ethical foundations

1. Health care workers have a duty to care for all patients and provide medically effective treatment to the best of their ability, even during times of limited resources. All patients deserve medical care, whether the goal of that care is cure or comfort, including palliation. Treatment decisions should be based on clinically relevant factors, avoiding biases that would unduly affect disabled persons and underserved or marginalized populations.
2. Patient needs must be balanced with the safety of health care workers and other patients. There is an obligation to mitigate exposure risks to health care workers and protect them from unreasonable risk of harm, particularly when the likelihood of success in medical interventions is low. There is also an obligation to consider the needs of other patients when a surge in acutely ill patients exceeds the ability of staff to meet all patient needs.
3. Health care workers have a duty to provide CPR when judged to be medically appropriate, unless it is unwanted by the patient (or the authorized decision-maker of a patient who is unable to make their own decisions) or risks to staff are disproportionate to the expected benefit to the patient, particularly due to a lack of appropriate PPE.

Recommendations

1. **Individual patient consideration** should occur in all cases: Under all situations, including crisis standards of care, each patient case should be considered individually in order to evaluate whether CPR will achieve its intended goal of restoring heartbeat and breathing.
 - a. A universal policy of "Do Not Attempt Resuscitation/Do Not Resuscitate" (DNAR or DNR) for groups of patients based on diagnosis alone is not ethically justifiable.
 - b. Discussions with the patient (or authorized decision-maker) about this framework, their CPR status, and the rationale for that status (including the potential effectiveness of in-hospital CPR) should occur as early as possible in acute episodes to avoid mid-arrest decisions. Health care systems should facilitate and document these conversations.

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- c. Clinicians should revisit advance care planning and goals of care with patients (or their authorized decision-makers) with any significant change in the patient's clinical status, particularly any decline in status that may require an increased level of life-sustaining treatment.
 - d. All patients with advance directives (in long-term care settings or at home) should be encouraged to make these documents available to acute care providers and teams. Previous provider orders limiting emergency treatment (e.g., DNAR, DNI, no ICU) should be reconciled if necessary and rewritten as hospital orders, if the patient is admitted. Hospice support should be considered when the patient's treatment preferences do not require hospitalization, particularly when the patient prefers being at home and with family while dying and the burdens of hospitalization to patient and family are significant.
 - e. Palliative care consultation should be offered where available to assist with determining preferences and an appropriate care plan, particularly when there is stress (to family and/or care team) associated with decision-making.
2. Procedures to **provide** CPR for patients with COVID-19: When a patient experiences cardiopulmonary arrest, a presumption that they will receive CPR ordinarily applies, unless a decision has been made to forgo it. While CPR is the usual standard of care in patients with cardiac arrest, it should not be attempted when a patient (or their authorized decision-maker) expresses a preference to forgo the procedure, or when the procedure is medically inappropriate, as described below.

In the setting of the current COVID-19 pandemic, additional factors discussed below can contribute to an appropriate decision to forgo CPR. When CPR is being provided to patients with COVID-19, clinicians should follow guidance from the American Hospital Association, [Interim Guidance for Basic and Advanced Life Support in Adults, Children, and Neonates With Suspected or Confirmed COVID-19](https://www.ahajournals.org/doi/full/10.1161/CIRCULATIONAHA.120.047463) (<https://www.ahajournals.org/doi/full/10.1161/CIRCULATIONAHA.120.047463>), and consider the following principles:

- a. Reduce provider exposure to COVID-19 and other hazards to staff.
 - b. Prioritize oxygenation and ventilation strategies with lower aerosolization risk.
 - c. Consider the appropriateness of starting and continuing resuscitation.
3. **Decisions to Forgo Resuscitation when Judged Medically Inappropriate:**¹ Health care providers are not obligated to offer or provide CPR if resuscitative efforts would be medically inappropriate, even when resuscitative efforts are desired by a patient or authorized decision-maker. CPR is medically inappropriate when it is unlikely to achieve the goals of restoring circulation and oxygenation, or the

¹ Kon, Alexander & Shepard, Eric & Sederstrom, Nneka & Swoboda, Sandra & Marshall, Mary Faith & Birriel, Barbara & Rincon, Fred. (2016). *Defining Futile and Potentially Inappropriate Interventions: A Policy Statement From the Society of Critical Care Medicine Ethics Committee* (https://journals.lww.com/ccmjournal/Abstract/2016/09000/Defining_Futile_and_Potentially_Inappropriate.17.aspx). *Critical care medicine*. 44. 1769-1774. 10.1097/CCM.0000000000001965.

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patient is unlikely to survive to hospital discharge or be able to live outside of a hospital setting. This applies to patients with or without COVID-19.

- a. Examples of COVID-19-related clinical situations where CPR would most likely be medically inappropriate include:
 - i. COVID-19 positive, with low likelihood of successful or durable restoration of circulation and oxygenation following resuscitation due to end-stage (including hospice-eligible) chronic illness (also categorized as Blue in 2020 Minnesota resource scarcity allocation protocols).
 - ii. COVID-19 positive and declining medically, despite maximal ICU support.
 - iii. COVID-19 positive, with evidence of low likelihood of survival to hospital discharge.
 - iv. Under circumstance of crisis standards of care and a shortage of ICU resources, if a patient's triage priority score or randomization did not allow for allocation of a ventilator, or the ventilator was withdrawn in reallocation, where death is anticipated.
 - v. Conditions where CPR will not meet physiologic goals of restoring circulation and oxygenation, regardless of presence of COVID infection; these conditions include, but are not limited to:
 - Refractory hyperkalemia/acidosis if the patient is not a dialysis candidate.
 - Refractory hypoxia despite maximal management.
 - Uncontrollable hemorrhage despite maximal management.
 - Impending cerebral herniation.
 - Massive brainstem infarct from basilar artery occlusion.
 - Very large intracerebral hemorrhage that is deemed non-operable/non-survivable by neurosurgery.
 - Multisystem organ failure that has failed optimization.
 - Refractory shock despite fluid and pressor optimization.
 - b. If it is unclear whether resuscitation is likely to be effective, or if there has been inadequate time for evaluation, resuscitative efforts may be initiated. A rapid assessment should then be employed to determine whether to maintain the patient on any life-sustaining treatment that resulted from the code. Continuing critical care support is not mandated if it is determined that survival to hospital discharge is unlikely.
4. Decisions to **forgo** CPR when otherwise determined to be medically appropriate: Even when resuscitation may be clinically effective for an individual patient, foregoing CPR is ethically justifiable under certain circumstance:
- a. The patient or authorized decision-maker has decided to forgo resuscitation.
 - b. Risk to health care workers outweighs potential benefit to the patient. Health care workers' duty to provide restorative medical treatment is not absolute and has justifiable exceptions, particularly when staff are unable to adequately mitigate risk to themselves. For example:

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- i. If no PPE is available or the available PPE is inadequate (in keeping with current standards, such as CDC guidelines) and PPE is necessary for reasonable safety, health care workers are not obligated to perform CPR. The facility or unit should regularly assess the PPE resources available, and if possible should communicate to frontline staff in advance of potential episodes of cardiopulmonary arrest whether resources are adequate for performing CPR.
 - ii. When PPE is required for safe provision of CPR, and delay in initiating resuscitation occurs as health care workers don appropriate PPE, it may not be appropriate to start if the delay in initiating CPR makes success in restoring circulation and oxygenation unlikely. Note that this should not generally be viewed as a failure on the part of staff, but rather a consequence of meeting the demands of safe practice.
 - c. If the public health crisis has created a severe critical care staff shortage (as determined by institutional leadership or incident command), code team staffing may be reduced within medically appropriate bounds to limit the exposure of health care workers, as long as doing so does not compromise the clinical effectiveness of the code process. It is also reasonable for institutional leadership or incident command to consider limiting provision of CPR when secondary risk to other patients may outweigh the potential benefit to the arresting patient, for example, when staffing the code process threatens the capacity to provide adequate basic medical care to others. Adequacy of staffing should be regularly assessed to determine whether the shortage has been resolved.
5. **Procedures** for clinician-directed decisions to forego resuscitation:
- a. All facilities and units whose patients may experience cardiopulmonary arrest necessitating consideration of in-hospital CPR should stock adequate PPE for staff to perform the procedure. However, if PPE scarcity renders that stock inadequate at any point in time, hospital leadership should communicate this to relevant units and frontline staff, including code teams, in advance of potential episodes of cardiopulmonary arrest, if at all possible. Code teams should be updated on PPE adequacy at regular intervals.
 - b. Clinician-directed decisions to forego CPR should be approved by the attending physician or advanced practice provider (APP) on the primary team, undergo review and affirmation by a second physician or APP who is independent of the primary team, and be documented in the electronic health record (EHR). CPR status should be discussed/reviewed with care teams to ensure shared understanding.
 - c. The decision to forego CPR should be communicated to the patient and/or authorized decision-maker in a timely manner, along with discussion of what treatments will be provided. Providing palliative and supportive care should be a priority.
 - d. If the patient or authorized decision-maker disagrees with the CPR decision, it is appropriate to provide rapid additional review, as staffing and circumstances allow. The request for review will not suspend or supersede the clinical orders in place. Review should be completed rapidly by a standing review team created by hospital leadership. If crisis standards of care have been triggered, this may be the institution's secondary review team, in accordance with procedures stated in the [MCEC "Ethical Framework for Allocation of Ventilators and Related Scarce Critical Care Resources During the COVID-19 Crisis."](#)

(<https://www.health.state.mn.us/communities/ep/surge/crisis/ventilators.pdf>). Secondary review is not necessary when a facility has determined that PPE or staffing is inadequate to allow for safe provision of CPR.

- e. In circumstances where clinician-directed DNAR is used, a retrospective review should be conducted at the organizational level by the Review Team (or Secondary Review Team) to ensure quality of care, clinically and ethically appropriate implementation of this framework, and avoidance of bias in decision-making and worsening of health inequities, as well as to guide improvements.
6. **Communication** and transparency about guidelines and decisions: Patients and their authorized decision-makers should be informed of these guidelines.
- a. The decision-making framework for CPR should be disclosed as early as possible in the clinical course of the individual patient. Early disclosure of decision-making processes may help avoid situations where teams lack time to communicate optimally with patients and their authorized decision-makers.
 - b. Communication during the pandemic should prioritize establishing openness and trust, recognizing that there may be circumstances in which shared decision-making is not feasible (for example, health care workers are not obligated to put into force patient requests for resuscitation if PPE is not available).
 - c. Patients and authorized decision-makers should be informed in times of resource scarcity that staff safety and ability to care for all patients is of high importance. These conditions may result in limitations on the initiation and provision of CPR.
 - d. Patients and authorized decision-makers should be informed of the mechanisms in place for considering requests for review of decisions to forego resuscitation and for reviewing concerns and complaints. Palliative and supportive care for patients as well as grief support for families should be offered.

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