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## Framework for Ethical Decision Making During the Coronavirus Pandemic

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The current global pandemic caused by the novel coronavirus has presented the international medical community with unprecedented ethical challenges. The most difficult of these has involved making decisions about access to scarce resources when demand outweighs capacity.

In Canada, it is well accepted that everyone should have an equal opportunity to access and receive medical treatment. This is possible when there are sufficient resources. But in contexts of resource scarcity, when there are insufficient resources, difficult decisions have to be made about who receives critical care (e.g., ICU beds, ventilators) by triaging patients. Triage is a process for determining which patients receive treatment and/or which level of care under what circumstances in contexts of resource scarcity. Priority-setting for resource allocation becomes more ethically complex during catastrophic times or in public health emergencies, such as today's COVID-19 pandemic, when there is a need to manage a potential surge of patients.

Physicians from China to Italy to Spain to the United States have found themselves in the unfathomable position of having to triage their most seriously ill patients and decide which ones should have access to ventilators and which should not, and which allocation criteria should be used to make these decisions. While the Canadian Medical Association hopes that Canadian physicians will not be faced with these agonizing choices, it is our intent, through this framework, to provide them with guidance in case they do and enable them to make ethically justifiable informed decisions in the face of difficult ethical dilemmas. Invoking this framework to ground decisions about who has access to critical care and who does not should only be made as a last resort. As always, physicians should carefully document their clinical and ethical decisions and the reasoning behind them.

Generally, the CMA would spend many months in deliberations and consultations with numerous stakeholders, including patients and the public, before producing a document such as this one. The current situation, unfortunately, did not allow for such a process. We have turned instead to documents, reports and policies produced by our Italian colleagues and ethicists and physicians from Canada and around the world, as well as provincial level documents and frameworks.

The CMA is endorsing and recommending that Canadian physicians use the guidance provided by Emmanuel and colleagues in the New England Journal of Medicine [article](#) dated from March 23rd,<sup>1</sup> as outlined below. We believe these recommendations represent the best current approach to this situation, produced using the highest current standard of evidence by a panel of internationally recognized experts. We also recognize that the situation is changing constantly, and these guidelines may need to be updated as required.

The CMA will continue to advocate for access to personal protective equipment, ventilators and ICU equipment and resources. We also encourage physicians to make themselves aware of any relevant provincial or local documents, and to seek advice from their regulatory body or liability protection provider. It should be noted that some provinces and indeed individual health care facilities will have their own protocols or frameworks in place. At the time of its publication, this document was broadly consistent with those protocols that we were given an opportunity to review.

The CMA recognizes that physicians may experience moral distress when making these decisions. We encourage physicians to seek peer support and practice self-care. In addition, the CMA recommends that triage teams or committees be convened where feasible in order to help separate clinical decision making from resource allocation, thereby lessening the moral burden being placed on the individual physician.

The CMA recommends that physicians receive legal protection to ensure that they can continue providing needed care to patients with confidence and support and without fear of civil or criminal liability or professional discipline. In this time of uncertainty, physicians should be reassured that their good faith efforts to provide care during such a crisis will not put them at increased medical-legal risk. Providing such reassurance is needed so that physicians have the confidence to continue to provide care to their patients.

#### Recommendations:

Recommendation 1: In the context of a pandemic, the value of maximizing benefits is most important. This value reflects the importance of responsible stewardship of resources: it is difficult to justify asking health care workers and the public to take risks and make sacrifices if the promise that their efforts will save and lengthen lives is illusory. Priority for limited resources should aim both at saving the most lives and at maximizing improvements in individuals' post-treatment length of life. Saving more lives and more years of life is a consensus value across expert reports. It is consistent both with utilitarian ethical perspectives that emphasize population outcomes and with nonutilitarian views that emphasize the paramount value of each human life. There are many reasonable ways of balancing saving more lives against saving more years of life; whatever balance between lives and life-years is chosen must be applied consistently.

Limited time and information in a Covid-19 pandemic make it justifiable to give priority to maximizing the number of patients that survive treatment with a reasonable life expectancy and to regard maximizing improvements in length of life as a subordinate aim. The latter

becomes relevant only in comparing patients whose likelihood of survival is similar. Limited time and information during an emergency also counsel against incorporating patients' future quality of life, and quality-adjusted life-years, into benefit maximization. Doing so would require time-consuming collection of information and would present ethical and legal problems. However, encouraging all patients, especially those facing the prospect of intensive care, to document in an advance care directive what future quality of life they would regard as acceptable and when they would refuse ventilators or other life-sustaining interventions can be appropriate.

Operationalizing the value of maximizing benefits means that people who are sick but could recover if treated are given priority over those who are unlikely to recover even if treated and those who are likely to recover without treatment. Because young, severely ill patients will often comprise many of those who are sick but could recover with treatment, this operationalization also has the effect of giving priority to those who are worst off in the sense of being at risk of dying young and not having a full life.

Because maximizing benefits is paramount in a pandemic, we believe that removing a patient from a ventilator or an ICU bed to provide it to others in need is also justifiable and that patients should be made aware of this possibility at admission. Undoubtedly, withdrawing ventilators or ICU support from patients who arrived earlier to save those with better prognosis will be extremely psychologically traumatic for clinicians — and some clinicians might refuse to do so. However, many guidelines agree that the decision to withdraw a scarce resource to save others is not an act of killing and does not require the patient's consent. We agree with these guidelines that it is the ethical thing to do. Initially allocating beds and ventilators according to the value of maximizing benefits could help reduce the need for withdrawal.

Recommendation 2: Irrespective of Recommendation 1, Critical Covid-19 interventions — testing, PPE, ICU beds, ventilators, therapeutics, and vaccines — should go first to front-line health care workers and others who care for ill patients and who keep critical infrastructure operating, particularly workers who face a high risk of infection and whose training makes them difficult to replace. These workers should be given priority not because they are somehow more worthy, but because of their instrumental value: they are essential to pandemic response. If physicians and nurses and RTs are incapacitated, all patients — not just those with Covid-19 — will suffer greater mortality and years of life lost. Whether health workers who need ventilators will be able to return to work is uncertain but giving them priority for ventilators recognizes their assumption of the high-risk work of saving others. Priority for critical workers must not be abused by prioritizing wealthy or famous persons or the politically powerful above first responders and medical staff — as has already happened for testing. Such abuses will undermine trust in the allocation framework.

Recommendation 3: For patients with similar prognoses, equality should be invoked and operationalized through random allocation, such as a lottery, rather than a first-come, first-served allocation process. First-come, first-served is used for such resources as transplantable kidneys, where scarcity is long-standing, and patients can survive without the scarce resource.

Conversely, treatments for coronavirus address urgent need, meaning that a first-come, first-served approach would unfairly benefit patients living nearer to health facilities. And first-come, first-served medication or vaccine distribution would encourage crowding and even violence during a period when social distancing is paramount. Finally, first-come, first-served approaches mean that people who happen to get sick later on, perhaps because of their strict adherence to recommended public health measures, are excluded from treatment, worsening outcomes without improving fairness. In the face of time pressure and limited information, random selection is also preferable to trying to make finer-grained prognostic judgments within a group of roughly similar patients.

Recommendation 4: Prioritization guidelines should differ by intervention and should respond to changing scientific evidence. For instance, younger patients should not be prioritized for Covid-19 vaccines, which prevent disease rather than cure it, or for experimental post- or pre-exposure prophylaxis. Covid-19 outcomes have been significantly worse in older persons and those with chronic conditions. Invoking the value of maximizing saving lives justifies giving older persons priority for vaccines immediately after health care workers and first responders. If the vaccine supply is insufficient for patients in the highest risk categories — those over 60 years of age or with coexisting conditions — then equality supports using random selection, such as a lottery, for vaccine allocation. Invoking instrumental value justifies prioritizing younger patients for vaccines only if epidemiologic modeling shows that this would be the best way to reduce viral spread and the risk to others.

Epidemiologic modeling is even more relevant in setting priorities for coronavirus testing. Federal guidance currently gives priority to health care workers and older patients but reserving some tests for public health surveillance could improve knowledge about Covid-19 transmission and help researchers target other treatments to maximize benefits.

Conversely, ICU beds and ventilators are curative rather than preventive. Patients who need them face life-threatening conditions. Maximizing benefits requires consideration of prognosis — how long the patient is likely to live if treated — which may mean giving priority to younger patients and those with fewer coexisting conditions. This is consistent with the Italian guidelines that potentially assign a higher priority for intensive care access to younger patients with severe illness than to elderly patients. Determining the benefit-maximizing allocation of antivirals and other experimental treatments, which are likely to be most effective in patients who are seriously but not critically ill, will depend on scientific evidence. These treatments may produce the most benefit if preferentially allocated to patients who would fare badly on ventilation.

Recommendation 5: People who participate in research to prove the safety and effectiveness of vaccines and therapeutics should receive some priority for Covid-19 interventions. Their assumption of risk during their participation in research helps future patients, and they should be rewarded for that contribution. These rewards will also encourage other patients to participate in clinical trials. Research participation, however, should serve only as a tiebreaker among patients with similar prognoses.

Recommendation 6: There should be no difference in allocating scarce resources between patients with Covid-19 and those with other medical conditions. If the Covid-19 pandemic leads to absolute scarcity, that scarcity will affect all patients, including those with heart failure, cancer, and other serious and life-threatening conditions requiring prompt medical attention. Fair allocation of resources that prioritizes the value of maximizing benefits applies across all patients who need resources. For example, a doctor with an allergy who goes into anaphylactic shock and needs life-saving intubation and ventilator support should receive priority over Covid-19 patients who are not frontline health care workers.

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<sup>1</sup> Emanuel EJ, Persad G, Upshur R, et al. Fair Allocation of Scarce Medical Resources in the Time of Covid-19. *N Engl J Med*. 2020 Mar 23. Available: <https://www.nejm.org/doi/full/10.1056/NEJMs2005114> (accessed 2020 Apr 02).