

Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Israeli Position Paper

Triage Decisions for Severely Ill Patients During the COVID-19 Pandemic

Avraham Steinberg, MD Ephrat Levy-Lahad, MD Jerusalem, Israel Tami Karni, MD, MHA Zerifin, Israel Charles L. Sprung, MD, JD, FCCP Jerusalem, Israel



protocol. Guiding principles included supreme value of life, equality of all individuals, transparency, consistency, equity in access, fair distribution, greatest good to the greatest number, palliation, preserving societal humanity and compassion, and promoting public trust. The guidelines furnish objective, functional clinical criteria and decision-making mechanisms and prohibit discrimination based on race, religion, sex, nationality or citizenship, sexual orientation, socioeconomic status, age, or disability. The Israeli National policy is the only national policy for the COVID-19 pandemic developed by a governmental agency.

Israeli Triage Commission

The coronavirus disease 2019 (COVID-19) pandemic created the need for triaging scarce life-saving resources, raising medical, ethical, social, legal, and religious dilemmas. In Israel, a Joint Commission of the Israel National Bioethics Council, the Ethics Bureau of the Israel Medical Association, and the Israeli Ministry of Health was appointed by the Director General of the Ministry of Health to develop national guidelines for triaging severely ill patients if the health-care system was overwhelmed. The Commission was composed of senior experts in medicine, ethics, law, sociology, Jewish law, Christianity, and Islam. The document produced by the Commission provides an overview of general principles, pragmatic medical criteria, and a practical triage

ABBREVIATIONS: COVID-19 = coronavirus disease 2019

AFFILIATIONS: From the Medical Ethics Unit (Dr Steinberg), Shaare Zedek Medical Center, & Co-Chairman, Israel National Bioethics Council, Jerusalem, Israel; the Medical Genetics Institute (Dr Levy-Lahad), Shaare Zedek Medical Center, Hebrew University of Jerusalem, Faculty of Medicine, & Co-Chairman, Israel National Bioethics Council; the Breast Care Institute (Dr Karni), Assaf Harofe Medical Center, the Ethics Bureau of the Israel Medical Association; and the Department of Anesthesiology and Critical Care Medicine (Dr Sprung), Hadassah Medical Center, Hebrew University of Jerusalem, Faculty of Medicine.

FINANCIAL/NONFINANCIAL DISCLOSURES: None declared. CORRESPONDENCE TO: Charles L. Sprung, MD, JD, FCCP, General

Intensive Care Unit, Department of Anesthesiology and Critical Care Medicine, Hadassah Hebrew University Medical Center, PO Box 12000, Jerusalem, Israel 91120; e-mail: charles.sprung@ekmd.huji.ac.il Copyright © 2020 Published by Elsevier Inc under license from the American College of Chest Physicians.

DOI: https://doi.org/10.1016/j.chest.2020.07.052

Triage Guidelines and Protocol

Triage guidelines apply only after the health-care system is overwhelmed and the Ministry of Health declares an emergency state. The triage protocol is simple and easy to understand, uses multidimensional assessment measures, and enables quick decisions. The Commission discussed several algorithms with different scoring systems to triage ICU beds and ventilators, choosing the best predictors of short-term survival and enabling the quickest decisions. Working with an international expert group that developed a triage protocol helped provide additional assessments and consistency adapting the protocol to Israel.

The first triage decision (ie, inclusion and exclusion criteria) is the same used under normal circumstances. Only individuals too ill to benefit or those likely to recover without scarce resources are excluded. Thus, everyone has the same opportunity to receive scarce resources as during "normal" conditions. This should allay societal fears about individuals not triaged because they are considered "unworthy" of being saved.² The measures chosen for prioritization included functional ability (Eastern Cooperative Oncology Group performance score), comorbidities (American Society of Anesthesiologists score), number of organ systems failing, and overall estimation of short-term survival. The Sequential Organ Failure Assessment score was not chosen because it requires additional assessments, it was unhelpful when applied to epidemic data, and most COVID-19 patients only have single organ failure. If more patients than resources have the same priority, further triage should be based on lives saved and then on

TABLE 1] The Israeli Commission on Prioritization of Scarce Medical Resources: Decisions and Reasoning for Selected Issues

Issue	Decision	Reasoning
A. General Principles		
Greatest good for greatest number	Saving the most lives (not the most life- years)	Maximal societal benefit (utilitarian), sanctity of life, equality
Equity	Same criteria for all patients	Fairness, public confidence
Transparency	Public disclosure	Public confidence
B. Prioritization criteria		
	Medical criteria	Consistency Nonmedical criteria lead to inequality, bias, and discrimination, and benefit is not maximized
	Short-term survival	Prediction of short-term survival is much more accurate than prediction of long-term survival Using long-term survival would significantly bias against older individuals and people with disabilities
Tie-breaking	First come, first served	Fairness, transparency
C. Specific patient features		
Age	Not a stand-alone criterion, only as part of combined risk assessment	Sociocultural respect for the elderly
Disability	Not a stand-alone criterion, only as part of combined risk assessment of short-term survival	Equality and lack of discrimination Functional status can be used for prioritization only if it affects short-term survival
Health-care workers	No prioritization upfront	Equality, public confidence
	Prioritize only if needed to address staff shortages and then only as a tie-breaker	Recognition of risk and of service (for all workers with patient contact, not only health professionals)
Palliative care	Especially for patients not admitted to ICU or ventilated	Beneficence
D. Implementation		
Initiation of policy implementation	Overwhelmed medical system	Emergency triage is acceptable only in crisis situations
	Formal declaration of an emergency situation by the Ministry of Health	Formal announcement is critical for public trust
Local triage decisions	Two senior physicians, institutional triage committee available for consultation, not mandatory	Mandating requirement of an institutional committee is unworkable in the local setting during emergencies
National triage decisions	Establish a national triage committee, available for amendments	Triage situations not covered by current policies may arise

"first come, first served." The triage algorithm applies equally to all ICU or ventilator candidates with and without COVID-19. Patients' advance directives should be sought and honored. All patients must receive palliative care. This triage protocol was endorsed by the Israeli Critical Care Society.

Objective protocols are recommended to facilitate triage decisions, enhancing fairness and consistency and reducing provider moral distress.¹ The general principles

of the Israeli guidelines are similar to those in various countries, but some differences reflect the local sociocultural and regulatory landscape.

Despite the fact that some countries have used age to triage patients during the pandemic,³ the Commission noted that chronological age is not a legitimate standalone criterion for triaging scarce resources and should only be considered as part of the combination of risk factors. Furthermore, all else being equal, the goal is to

chestjournal.org 2279

TABLE 2 Developing National Triage Policy

Governmental, professional, and public involvement

- Interest and support of national government or agency
- Preliminary input from medical institutions, medical societies, or governmental agencies
- Public discourse and involvement of all stakeholders (time permitting)

Commission composition

- Commission of nationally recognized experts in multiple disciplines
- Disciplines: Medicine, Ethics and Philosophy, Law, Sociology, Social work, and Religion
- · Medical subspecialties: intensive care, internal medicine, geriatrics, medical administration, trauma, psychiatry, and

Guideline development process

- Identification of issues to be included, especially those with controversy
- · Commission division into subcommittees for specific expertise discussions (medical, philosophical-ethical-social, legal,
- Combine subcommittee opinions to develop consensus
- Publicize first draft for further public discourse and refinement of document

Guideline document

- Awareness of multiple constituencies: the general public, including patient organizations, organizations of people with disabilities; health-care professionals.
- Present a detailed and clear background in accessible language, including moral, legal, and religious aspects
- Justifications and explanations of disputed issues in style and language understood by the public
- Include age, health-care professionals, and disability priorities in document
- Present a concise, simple, and clear medical flowsheet and tables for implementation by physicians in real time
- · Evaluate different medical measurements for the protocol that are most appropriate for country and situation
- Customization of document for local realities, culture, and regulations and laws

maximize the *number of lives saved* rather than *life-years* saved by considering only the chances of the individual's short-term survival.

Although some protocols prioritize health-care professionals for receiving care, the Commission recommended that unless absolutely necessary to overcome staff shortages, health-care professionals should not be given upfront priority even if infected while treating COVID-19. When there is, however, parity for medical priority between two patients, health-care professionals will receive priority. These rules explicitly apply to all workers directly involved with COVID-19 patients (ie, including cleaning staff, patient transporters, and so forth).

Many protocols recommend that triage decisions be made by institutional committees separate from the triaging physician.⁴ The Israeli Commission judged such separation as unworkable. The Commission recommended appointing two senior physicians to jointly decide on triage, and appointing a special ad hoc institutional triage committee for consultations.

Triage protocols generally call for periodic reassessment of decisions to optimize the use of scarce resources. Limiting the treatment of a patient whose condition is

deteriorating despite ICU treatment or ventilator therapy can free scarce resources to patients more likely to benefit. Withdrawing ventilation is currently illegal in Israel, and the Commission was split on the issue of recommending legal changes allowing ventilation withdrawal.

Because there are geographical disparities in availability of medical resources, the Commission recommended that the State ensure the nationwide fair distribution of available ICU beds, ventilators, and skilled personnel according to population density and the expected/actual demand.

When the Commission's report was first publicized, several organizations for people with disabilities protested against the inclusion of a functional performance score in the triage algorithm. This was viewed as discriminatory against people with disabilities. Commission chairpersons met with representatives of these organizations and amended the document to explicitly prohibit discrimination based on disability status per se. Specifically, the document focuses on individual assessment of the likelihood for short-term survival and prohibits decisions based on groups of people, such as the elderly or individuals with disabilities.⁵ (See English translation of the document.⁶) Because performance status in critically ill⁷ and other patients is a significant predictor of in-hospital mortality and is widely used in medicine, the Commission concluded that it was an important measurement for triage, and that its elimination would reduce the predictive power of the triage algorithm and exacerbate inequity.

Conclusion

The Israeli consensus document and pragmatic triage protocol offer a societal and medical roadmap for allocating scarce resources. They reflect both universal principles and local sensitivities. The current summary of the process and decisions (Table 1) of the Israeli Joint Commission provides strategies and approaches for policymakers in different countries to develop policies (Table 2) for this pandemic, the next coronavirus wave, or other disasters, to correct previous policies and to develop objective, transparent, equitable, and consistent national triage policies.

Acknowledgments

Other contributions: We thank all members of the Commission: Commission Co-Chairs: Avraham Steinberg, MD, Ephrat Levy-Lahad, MD, Tami Karni, MD, MHA; Medical Subcommittee: Charles Sprung, MD, JD, FCCP (Chair), Jonathan Halevy, MD, Yaron Niv, MD, Ofer Merin, MD, MHA, Pesach Schwartzman, MD, Moshe Sonnenblick, MD, Adi Nimrod, MD, Israel Strous, MD, MHA; Philosophical-Ethical-Social Subcommittee: Noam Zohar, PhD (Chair), David Heyd, PhD, Yael HaShiloni-Dolev, PhD, Ruth Landau, PhD, Efrat Ram-Tiktin PhD; Legal Subcommittee: Gil Siegal, SJD, MD (chair), Salim Jubran, LLB, Shai Lavi, Talia Agmon, LLB; Halachic/Religious Subcommittee: Avraham Steinberg, MD (Chair), Eyal Krim, Yigal Shafran, PhD, Mordechai Halperin, MD, LLB, Avraham Manela, Muhammad Abu-Abeid, Etienne Lepicard, MD, PhD. We thank Nurit Dessau, MBA, for research assistance, and Rafi Twizer and Deganit Lahav for administrative assistance.

References

- Sprung C, Joynt GM, Christian M, Truog RD, Rello J, Nates JL. Adult ICU triage during the coronavirus disease 2019 pandemic: who will live and who will die? Recommendations to improve survival. Crit Care Med. 2020;48(8):1196-1202.
- White DB, Lo B. A framework for rationing ventilators and critical care beds during the COVID-19 pandemic. *JAMA*. 2020;323:1773-1774.
- 3. Rosenbaum L. Facing Covid-19 in Italy: ethics, logistics, and therapeutics on the epidemic's front line. *N Engl J Med.* 2020;382:1873-1875.
- 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;382: 2049-2055.
- Mello MM, Persad G, White DB. Respecting disability rights: toward improved crisis standards of care. N Engl J Med. 2020;383(5):e26.
- https://www.health.gov.il/PublicationsFiles/position-paper-230520. pdf. Accessed August 10, 2020.
- Park C, Koh Y, Jeon K, et al. Impact of Eastern Cooperative Oncology Group performance status on hospital mortality in critically ill patients. J Crit Care. 2014;29:409-413.

chestjournal.org 2281