

## EVIDENCE SEARCH REPORT

<b>RESEARCH QUESTION:</b>	What are the ethical principles that underlie pediatric triage protocols?	<b>UNIQUE IDENTIFIER:</b>	CAC061802-01 ESR
<b>RESOURCES USED:</b>			
<ul style="list-style-type: none"> <li>• CDC database</li> <li>• CINAHL</li> <li>• Google Scholar</li> <li>• LitCovid</li> <li>• Medline</li> <li>• medRxiv</li> <li>• Embase</li> <li>• PubMed</li> <li>• Global Ethics Observatory</li> <li>• BELIT – Bioethics Literature Database</li> <li>• BMJ Journal of Medical Ethics</li> <li>• Philpapers</li> <li>• BMC Medical Ethics</li> <li>• The Hastings Center</li> <li>• Google</li> </ul>			
<b>LIMITS/EXCLUSIONS/INCLUSIONS:</b>		<b>REFERENCE INTERVIEW COMPLETED:</b>	
English, last 20 years		June 18, 2020	
<b>DATE:</b> July 02, 2020			
<b>LIBRARIAN:</b>		<b>REQUESTOR:</b>	
Brianna Howell-Spooner Michelle Dalidowicz		Dr. Melody Isinger	
<b>TEAM:</b> CLINICAL/ACUTE CARE			
<b>SEARCH ALERTS CREATED:</b> N			
<b>CITE AS:</b>			
Howell-Spooner, B; Dalidowicz, M. What are the ethical principles that underlie pediatric triage protocols? 2020 Jul 2; Document no.: CAC061802-01 ESR. In: COVID-19 Rapid Evidence Reviews [Internet]. SK: SK COVID Evidence Support Team, c2020. 24 p. (CEST evidence search report)			

### LIBRARIAN NOTES/COMMENTS

Hello Dr. Isinger,

Here are the results for your evidence search on the ethics underlying pediatric triage protocols.

The results touch on the current pandemic as well as past and hypothetical incidents requiring triage in pediatric patients.

We included a few articles and resources in our results that did not identify a particular population (pediatrics) as they might have generalizability regardless of the population.

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This information is provided as a service by the Saskatchewan Health Authority and University of Saskatchewan Libraries. Professional librarians conduct searches of the literature. Results are subject to the limitations of the databases and the specificity, broadness and appropriateness of the search parameters presented by the requester. The Libraries do not represent in any matter that retrieved citations are complete, accurate or otherwise to be relied upon. The search results are only valid as of the date and time at which the search is conducted. The Libraries do not accept responsibility for any loss or damage arising from the use of, or reliance on, search results.

## SEARCH RESULTS

To obtain full-text articles email [library@saskhealthauthority.ca](mailto:library@saskhealthauthority.ca).

## SUMMARIES, GUIDELINES & OTHER RESOURCES

**Assistant Secretary for Preparedness and Response (ASPR) Technical Resources, Assistance Centre, and Information Exchange (TRACIE).** Topic Collection: Ethics

Section on Pandemic Influenza and Ethics. 2018, December 12. <https://asprtracie.hhs.gov/technical-resources/61/ethics#pandemic-influenza-and-ethics>

Section on Pediatric Issues. 2018, December 12. <https://asprtracie.hhs.gov/technical-resources/61/ethics#pediatric-issues>

**Royal College of Paediatrics and Child Health.** Ethics Framework for Use in Acute Paediatric Settings During COVID-19 Pandemic. 2020, April 16. <https://www.rcpch.ac.uk/resources/ethics-framework-use-acute-paediatric-settings-during-covid-19-pandemic>

**Nuffield Council on Bioethics.** Critical Care Decisions in Fetal and Neonatal Medicine: Ethical Issues. 2006, November. <https://www.nuffieldbioethics.org/assets/pdfs/Critical-care-decisions.pdf>

**Canadian Paediatric Society.** Medical Decision-Making in Paediatrics: Infancy to Adolescence. 2018, April 12. <https://www.cps.ca/en/documents/position/medical-decision-making-in-paediatrics-infancy-to-adolescence>

**Italian College of Anesthesia, Analgesia, Resuscitation and Intensive Care (SIAARTI).** Clinical Ethics Recommendations for Admission to Intensive Treatments and for Their Suspension, in Exceptional Conditions of Imbalance Between Needs and Available Resources [Raccomandazioni de Etica Clinica per L'Ammissione a Trattamenti Intensivi e per la Loro Sospensione, in Condizioni Eccezionali di Squilibrio tra Necessità e Risorse Disponibili]. 2020, March 6. <http://www.siaarti.it/SiteAssets/News/COVID19%20-%20documenti%20SIAARTI/SIAARTI%20-%20Covid19%20-%20Raccomandazioni%20di%20etica%20clinica.pdf>

- **Librarian's Note:** These guidelines are in Italian; however they have been published exclusively in light of COVID-19 and were being used for triaging during the outbreak in Italy so they are relevant.

**Burns, J. P. & Mitchell, C.** Resource allocation and triage in disasters and pandemics. In: Douglas S. Diekema (Ed), Mark R. Mercurio (Ed). Mary B. Adam (Ed). Clinical ethics in pediatrics: a case-based textbook. Cambridge, MA: Cambridge University Press; 2011. p.199-204/

**New York Magazine.** 'PTSD Waiting to Happen': Bioethicist Ezekiel Emanuel on the Realities of Coronavirus Triage. 2020, April 7. <https://nymag.com/intelligencer/2020/04/aca-architect-ezekiel-emanuel-on-coronavirus-triage-ethics.html>

**Vox.** The Grime Ethical Dilemma of Rationing Medical Care, Explained. 2020, March 31. <https://www.vox.com/coronavirus-covid19/2020/3/31/21199721/coronavirus-covid-19-hospitals-triage-rationing-italy-new-york>

**The Atlantic.** The Extraordinary Decisions Facing Italian Doctors. 2020, March 11.  
<https://www.theatlantic.com/ideas/archive/2020/03/who-gets-hospital-bed/607807/>

## ARTICLES

**Note: References are sorted by year (newest to oldest)**

**1. Denburg AE, Ungar WJ, Chen S, et al. Does moral reasoning influence public values for health care priority setting?: A population-based randomized stated preference survey. Health Policy. 2020;13:13.**

**ABSTRACT:** Objective: Preferences of members of the public are recognized as important inputs into health care priority-setting, though knowledge of such preferences is scant. We sought to generate evidence of public preferences related to healthcare resource allocation among adults and children.

Methods: We conducted an experimental stated preference survey in a national sample of Canadian adults. Preferences were elicited across a range of scenarios and scored on a visual analogue scale. Intervention group participants were randomized to a moral reasoning exercise prior to each choice task. The main outcomes were the differences in mean preference scores by group, scenario, and demographics.

Results: Our results demonstrate a consistent preference by participants to allocate scarce health system resources to children. Exposure to the moral reasoning exercise weakened but did not eliminate this preference. Younger respondent age and parenthood were associated with greater preference for children. The top principles guiding participants' allocative decisions were treat equally, relieve suffering, and rescue those at risk of dying.

Conclusions: Our study affirms the relevance of age in public preferences for the allocation of scarce health care resources, demonstrating a significant preference by participants to allocate healthcare resources to children. However, this preference diminishes when challenged by exposure to a range of moral principles, revealing a strong public endorsement of equality of access. Definitions of value in healthcare based on clinical benefit and cost-effectiveness may exclude moral considerations that the public values, such as equality and humanitarianism, highlighting opportunities to enrich healthcare priority-setting through public engagement.

URL: <https://www.sciencedirect.com/science/article/pii/S0168851020300920>

**2. Haward MF, Moore GP, Lantos J, et al. Paediatric ethical issues during the COVID-19 pandemic are not just about ventilator triage. Acta paediatrica (Oslo, Norway : 1992). 2020. DOI:**

URL: <https://onlinelibrary.wiley.com/doi/full/10.1111/apa.15334>

DOI: <https://dx.doi.org/10.1111/apa.15334>

**3. Jansen M, Irving H, Gillam L, et al. Ethical considerations for paediatrics during the COVID-19 pandemic: A discussion paper from the Australian Paediatric Clinical Ethics Collaboration. J Paediatr Child Health. 2020;56(6):847-51. DOI: 10.1111/jpc.14946**

**ABSTRACT:** Children have not been severely affected by SARS-CoV-2-related illness but are vulnerable to the economic and social deprivation arising from the pandemic.[1] This document describes unique risks and burdens for children and their care givers during the COVID-19 pandemic. The allocation of intensive care resources applies to all patients needing ICU, not only those with COVID-19, and it applies to the whole population, from newborns to the elderly. Determining eligibility for ICU admission Eligibility for ICU is based both on the clinical need of the patient and their likelihood of benefit from intensive care. How should non-ICU paediatric clinicians prepare for ICU resource scarcity?.

URL: <https://onlinelibrary.wiley.com/doi/full/10.1111/jpc.14946>

DOI: 10.1111/jpc.14946

4. Laventhal N, Basak R, Dell ML, et al. The Ethics of Creating a Resource Allocation Strategy During the COVID-19 Pandemic. *Pediatrics*. 2020;04:04.

URL: <https://pediatrics.aappublications.org/content/early/2020/06/23/peds.2020-1243.long>

5. Laventhal NT, Graham RJ, Rasmussen SA, et al. Ethical decision-making for children with neuromuscular disorders in the COVID-19 crisis. *Neurology*. 2020. DOI: <http://dx.doi.org/10.1212/WNL.0000000000009936>

**ABSTRACT:** The sudden appearance and proliferation of COVID-19 has forced societies and governmental authorities across the world to confront the possibility of resource constraints when critical care facilities are overwhelmed by the sheer numbers of grievously ill patients. As governments and health care systems develop and update policies and guidelines regarding the allocation of resources, patients and families affected by chronic disabilities, including many neuromuscular disorders that affect children and young adults, have become alarmed at the possibility that they may be determined to have less favorable prognoses due to their underlying diagnoses and thus be assigned to lower priority groups. It is important for health care workers, policymakers, and government officials to be aware that the long term prognoses for children and young adults with neuromuscular disorders are often more promising than previously believed, due to a better understanding of the natural history of these diseases, benefits of multidisciplinary supportive care, and novel molecular therapies that can dramatically improve the disease course. Although the realities of a global pandemic have the potential to require a shift from our usual, highly individualistic standards of care to crisis standards of care, shifting priorities should nonetheless be informed by good facts. Resource allocation guidelines with the potential to affect children and young adults with neuromuscular disorders should take into account the known trajectory of acute respiratory illness in this population, and rely primarily on contemporary long-term outcome data. Copyright © 2020 American Academy of Neurology.

URL: <https://n.neurology.org/content/early/2020/06/01/WNL.0000000000009936>

DOI: <http://dx.doi.org/10.1212/WNL.0000000000009936>

6. McGuire AL, Aulisio MP, Davis FD, et al. Ethical Challenges Arising in the COVID-19 Pandemic: An Overview from the Association of Bioethics Program Directors (ABPD) Task Force. *Am J Bioeth*. 2020:1-13.

**ABSTRACT:** The COVID-19 pandemic has raised a host of ethical challenges, but key among these has been the possibility that health care systems might need to ration scarce critical care resources. Rationing policies for pandemics differ by institution, health system, and applicable law. Most seem to agree that a patient's ability to benefit from treatment and to survive are first-order considerations. However, there is debate about what clinical measures should be used to make that determination and about other factors that might be ethically appropriate to consider. In this paper, we discuss resource allocation and several related ethical challenges to the healthcare system and society, including how to define benefit, how to handle informed consent, the special needs of pediatric patients, how to engage communities in these difficult decisions, and how to mitigate concerns of discrimination and the effects of structural inequities.

URL: <https://www.tandfonline.com/doi/pdf/10.1080/15265161.2020.1764138?needAccess=true>

7. Miller KE, Toltzis P. Finding the Right Ethical Framework for PICU Resource Allocation During a Pandemic. *Pediatr Crit Care Med*. 2020;27:27.

8. Wynne KJ, Petrova M, Coghlan R. Dying individuals and suffering populations: applying a population-level bioethics lens to palliative care in humanitarian contexts: before, during and after the COVID-19 pandemic. *J Med Ethics*. 2020:medethics-2019-105943. DOI: [10.1136/medethics-2019-105943](https://doi.org/10.1136/medethics-2019-105943)

**ABSTRACT:** Background Humanitarian crises and emergencies, events often marked by high mortality, have until recently excluded palliative care—a specialty focusing on supporting people with serious or terminal illness or those nearing death. In the COVID-19 pandemic, palliative care has received unprecedented levels of societal attention. Unfortunately, this has not been enough to prevent patients dying alone, relatives not being able to say goodbye and palliative care being used instead of intensive care due to resource limitations. Yet global

guidance was available. In 2018, the WHO released a guide on ‘Integrating palliative care and symptom relief into the response to humanitarian emergencies and crises’—the first guidance on the topic by an international body. Aims This paper argues that while a landmark document, the WHO guide took a narrowly clinical bioethics perspective and missed crucial moral dilemmas. We argue for adding a population-level bioethics lens, which draws forth complex moral dilemmas arising from the fact that groups having differential innate and acquired resources in the context of social and historical determinants of health. We discuss dilemmas concerning: limitations of material and human resources; patient prioritisation; euthanasia; and legacy inequalities, discrimination and power imbalances. Implications In parts of the world where opportunity for preparation still exists, and as countries emerge from COVID-19, planners must consider care for the dying. Immediate steps to support better resolutions to ethical dilemmas of the provision of palliative care in humanitarian and emergency contexts will require honest debate; concerted research effort; and international, national and local ethical guidance.

URL: <http://jme.bmj.com/content/early/2020/06/18/medethics-2019-105943.abstract>

DOI: 10.1136/medethics-2019-105943

**9. Gipe K, Kerstein SJ. Let Us Be Fair to 5-Year-Olds: Priority for the Young in the Allocation of Scarce Health Resources. Public Health Ethics. 2018;11(3):325-35.**

**ABSTRACT:** Life-saving health resources like organs for transplant and experimental medications are persistently scarce. How ought we, morally speaking, to ration these resources? Many hold that, in any morally acceptable allocation scheme, the young should to some extent be prioritized over the old. Govind Persad, Alan Wertheimer and Ezekiel Emanuel propose a multi-principle allocation scheme called the Complete Lives System, according to which persons roughly between 15 and 40 years old get priority over younger children and older adults, other things being equal. They defend this ‘modified youngest first’ principle in part by appealing to the greater social investment that has been made in 15-year-olds than in younger children. Ruth Tallman has proposed a distinctive defense of modified youngest first, one that appeals not at all to social investment. We find this defense wanting. Tallman’s argument depends on the idea, which we try to show to be implausible, that allocations should maximize the number of people in the midst of a possibly complete life who actually complete their lives. Moreover, Tallman does not justify the priority modified youngest first gives 15-year-olds over, for example, 5-year-olds. Tallman fails to dispel a serious shortcoming with modified youngest first: its fundamental unfairness to pre-adolescents.

URL: <https://philpapers.org/rec/GIPLUB>

**10. Hamele M, Neumayer K, Sweney J, et al. Always ready, always prepared-preparing for the next pandemic. Translational pediatrics. 2018;7(4):344-55. DOI: <https://dx.doi.org/10.21037/tp.2018.09.06>**

**ABSTRACT:** A future global pandemic is likely to occur and planning for the care of critically ill children is less robust than that for adults. This review covers the current state of federal and regional resources for pediatric care in pandemics, a strategy for pandemic preparation in pediatric intensive care units and regions focusing on staff, space, staff and systems, considerations in developing surge capacity and triage protocols, special circumstances such as highly infectious and highly lethal pandemics, and a discussion of ethics in the setting of pediatric critical care in a pandemic.

URL: <http://tp.amegroups.com/article/view/21607/21317>

DOI: <https://dx.doi.org/10.21037/tp.2018.09.06>

**11. Burkle FM, Jr. Pediatric Reverse Triage—Uncomfortable but Real Decision Making for Community Preparedness. JAMA Pediatrics. 2017;171(4):e164839-e. DOI: 10.1001/jamapediatrics.2016.4839**

**ABSTRACT:** Natural disasters, industrial accidents, terrorist attacks, and pandemics are the major drivers of disaster-related mortality and morbidity that affect the most vulnerable populations, especially children. Disasters keep communities honest by their uncanny ability to immediately define public health and expose the vulnerabilities and limitations faced by the health care system and the community that depends on its

protection and essential infrastructure. Although community-level postdisaster reviews focus on the rapid return to normalcy and opportunities to reduce future vulnerability, the health care system may launch after-action reports and a flurry of postmortem research and publications to determine what went wrong, why the health system was so vulnerable, and what could be done better.

URL: <https://doi.org/10.1001/jamapediatrics.2016.4839>

DOI: 10.1001/jamapediatrics.2016.4839

**12. Dadoun A, Khalil E, Bank I. Invoking the "expectant" triage category: Can we make the paradigm shift? Am J Disaster Med. 2017;12(3):167-72. DOI: <https://dx.doi.org/10.5055/ajdm.2017.0270>**

**ABSTRACT:** Medical triage is the process of determining the priority of patients' treatments based on the severity of their condition. Triage provides the healthcare provider the ability to identify the most urgent cases first, with the goal of maximizing each individual patient's outcome. When resources are challenged, such as in a disaster, the healthcare provider's goal becomes to maximize overall population survival. In this context, the triage process must identify patients who require resources urgently, as well as those who have the best chance of survival. The revised triage process must include an "expectant management" category, to identify patients for whom further resuscitation is delayed, as they have a poor chance of survival and require significant resources. The paradigm shift that is required in these circumstances can be challenging for pediatric healthcare providers. Many may find themselves unable to change the decision-making process that would favor overall survival and best outcome for the most members of a population, while potentially not addressing the most sick or injured because they have low chances of survival. We hypothesized that participating in a multiprofessional ethics-based educational session regarding making difficult triage decisions may improve participants' perceived ability to use the "expectant" triage category in a disaster setting. Participants took part in an ethics-based educational session and completed a pre- and postsurvey. Results demonstrated a significant change in the participants' self-perceived comfort level using the disaster triage tools and improved their confidence to use the expectant triage category in a disaster setting.

DOI: <https://dx.doi.org/10.5055/ajdm.2017.0270>

**13. Dwyer OM. The Ethical Allocation of Resources During a Pediatric Emergency Mass Critical Care Event. Current Treatment Options in Pediatrics. 2017;3(3):293-303. DOI: 10.1007/s40746-017-0098-4**

**ABSTRACT:** Emergency mass critical care events have affected children during the H1N1 influenza breakout, the natural disaster in Haiti, and during other disasters in the USA and abroad. Such an event is likely to happen again which has prompted state and federal government and various societies including the American Academy of Pediatrics to develop emergency preparedness plans. The main purpose of these plans is to maximize the survival of pediatric patients affected by such an event. Advance planning which includes surveillance, management of resources, involvement of family members, the use of triage standards of care, and ongoing research shows promise in maximizing the survival of pediatric patients if an event were to occur. In the USA, reports from the H1N1 event and the natural disaster in Haiti have shown that these strategies have the potential to save many lives. The inclusion of these methods in advance planning for an emergency mass critical care event may improve the overall survival rate of pediatric patients.

URL: <https://doi.org/10.1007/s40746-017-0098-4>

DOI: 10.1007/s40746-017-0098-4

**14. Hewitson J. Ethics and rationing how does one choose who to help in a resource poor environment. Cardiol Young. 2017;27(4):S87. DOI: <http://dx.doi.org/10.1017/S104795111700110X>**

**ABSTRACT:** With limited operating time patient selection is fraught with ethical difficulties and questions of distributive justice. We practice paediatric cardiac surgery in such a setting, in a well-equipped state-sponsored unit, meeting the needs of only 25% of children with heart disease. Over the past five years 1517 patients have received corrective surgery with a mortality rate of 2.9%. 81% of operations utilized cardiopulmonary bypass. Based on demographic data our potential caseload is over three times greater (900 per year). Access is limited

by poor health systems and poverty, so we get away with a first-come first-served system. We feel challenged to consider a more just approach. Options include: \* Selection by probable outcomes of quality and duration of life; this is subjective, and impossible to implement fairly. \* Basics-only, focusing on volume at the expense of complex lesions; results in poor surgical skills and frustration. \* Triage based on urgency and severity; means selecting patients with the worst outcomes. At the centre of the issue is the healing relationship we claim with all children with heart disease, so we are caught between denying the scope of the problem and denying our commitment to all children. When presented with two equally deserving children for a single slot, the only just way is to choose randomly. Hard as it sounds, this excuses us from acting as the arbiter over a child's life, and bypasses the dilemma of who is "most deserving." A first-come first-served system already has a degree of such randomness built into it. The patient-doctor relationship of trust must be preserved. We need to avoid the conundrum of choosing who is more deserving. However because of the relationship, as advocates for our patients we must also pursue innovative approaches and fight to "expand the investment" of authorities.

**URL:** [https://www.cambridge.org/core/services/aop-cambridge-core/content/view/9E812D0EB5A2C33365174EBF430B255C/S104795111700110Xa.pdf/7th\\_world\\_congress\\_of\\_pediatric\\_cardiology\\_cardiac\\_surgery\\_abstracts.pdf](https://www.cambridge.org/core/services/aop-cambridge-core/content/view/9E812D0EB5A2C33365174EBF430B255C/S104795111700110Xa.pdf/7th_world_congress_of_pediatric_cardiology_cardiac_surgery_abstracts.pdf)

**DOI:** <http://dx.doi.org/10.1017/S104795111700110X>

**15. McKie J, Richardson J. Social preferences for prioritizing the treatment of severely ill patients: The relevance of severity, expected benefit, past health and lifetime health. Health policy (Amsterdam, Netherlands). 2017;121(8):913-22. DOI: <https://dx.doi.org/10.1016/j.healthpol.2017.05.010>**

**ABSTRACT:** The study examined the preferences of a sample of the Australian public and health professionals regarding the relative importance of four different criteria for prioritizing between patients: the severity of the condition, the size of the benefit from the intervention, past health losses and expected lifetime health. A discussion-group methodology was adopted to elicit social preferences. This allowed participants time to consider all of the alternatives fully, to seek clarification of the task, and to engage in open debate about the issues raised. Participants traded-off cost-effectiveness for priority to the more severely ill. They placed less importance on past health and the lifetime allocation of health in deciding priority for treatment, and more importance on improving the condition of those who will be left more severely ill or disabled in the absence of treatment. The results pose a challenge to studies reporting support for the "fair innings argument". They also support the Norwegian government's decision not to pursue a life-time health loss criterion as recommended by the Norheim Commission. The study question is important given current debate both in the health economics literature and at the policy level in several jurisdictions. Copyright © 2017 Elsevier B.V. All rights reserved.

**DOI:** <https://dx.doi.org/10.1016/j.healthpol.2017.05.010>

**16. Ram-Tiktin E. Ethical Considerations of Triage Following Natural Disasters: The IDF Experience in Haiti as a Case Study. *Bioethics*. 2017;31(6):467-75.**

**ABSTRACT:** Natural disasters in populated areas may result in massive casualties and extensive destruction of infrastructure. Humanitarian aid delegations may have to cope with the complicated issue of patient prioritization under conditions of severe resource scarcity. A triage model, consisting of five principles, is proposed for the prioritization of patients, and it is argued that rational and reasonable agents would agree upon them. The Israel Defense Force's humanitarian mission to Haiti following the 2010 earthquake serves as a case study for the various considerations taken into account when designing the ethical-clinical policy of field hospitals. The discussion focuses on three applications: the decision to include an intensive care unit, the decision to include obstetrics and neonatal units, and the treatment policy for compound fractures.

**17. Rubin MA, Truog RD. What to Do When There Aren't Enough Beds in the PICU. *AMA Journal of Ethics*. 2017;19(2):157-63.**

**ABSTRACT:** The concepts of medical futility and rationing are often misunderstood and lead to significant consternation when resources are stretched and pediatric intensive care unit (PICU) beds are unavailable. While the two concepts overlap, each has its own distinct application and moral justification. Most importantly, we should avoid using one to justify the other. Bioethics professionals should assist critical care clinicians in clarifying when each rubric should be applied as well as how to develop policies to standardize the approach.

**18. Brunnquell D, Michaelson CM. Moral Hazard in Pediatrics. *Am J Bioeth*. 2016;16(7):29-38. DOI: 10.1080/15265161.2016.1180441**

**ABSTRACT:** "Moral hazard" is a term familiar in economics and business ethics that illuminates why rational parties sometimes choose decisions with bad moral outcomes without necessarily intending to behave selfishly or immorally. The term is not generally used in medical ethics. Decision makers such as parents and physicians generally do not use the concept or the word in evaluating ethical dilemmas. They may not even be aware of the precise nature of the moral hazard problem they are experiencing, beyond a general concern for the patient's seemingly excessive burden. This article brings the language and logic of moral hazard to pediatrics. The concept reminds us that decision makers in this context are often not the primary party affected by their decisions. It appraises the full scope of risk at issue when decision makers decide on behalf of others and leads us to separate, respect, and prioritize the interests of affected parties.

**DOI:** <https://dx.doi.org/10.1080/15265161.2016.1180441>

**19. King MA, Kissoon N. Triage During Pandemics: Difficult Choices When Business as Usual Is Not an Ethically Defensible Option. *Crit Care Med*. 2016;44(9):1793-5. DOI: 10.1097/CCM.0000000000001796**

**ABSTRACT:** The article deals with the ethical aspects of the triage of pediatric patients during pandemics. It references the study "Pediatric Triage in a Severe Pandemic: Maximizing Survival by Establishing Triage Thresholds," by C. Gall et al. published within the issue. The study is said to have simulated outcomes of critically ill children in a pandemic. According to the authors, the study provides an ethical way of resource allocation in times of crisis.

**DOI:** 10.1097/CCM.0000000000001796

**20. Christian MD, Devereaux AV, Dichter JR, et al. Introduction and executive summary: care of the critically ill and injured during pandemics and disasters: CHEST consensus statement. *Chest*. 2014;146(4 Suppl):8S-34S.**

**DOI:** <https://dx.doi.org/10.1378/chest.14-0732>

**ABSTRACT:** Natural disasters, industrial accidents, terrorism attacks, and pandemics all have the capacity to result in large numbers of critically ill or injured patients. This supplement provides suggestions for all of those involved in a disaster or pandemic with multiple critically ill patients, including front-line clinicians, hospital administrators, professional societies, and public health or government officials. The current Task Force included a total of 100 participants from nine countries, comprised of clinicians and experts from a wide variety of

disciplines. Comprehensive literature searches were conducted to identify studies upon which evidence-based recommendations could be made. No studies of sufficient quality were identified. Therefore, the panel developed expert-opinion-based suggestions that are presented in this supplement using a modified Delphi process. The ultimate aim of the supplement is to expand the focus beyond the walls of ICUs to provide recommendations for the management of all critically ill or injured adults and children resulting from a pandemic or disaster wherever that care may be provided. Considerations for the management of critically ill patients include clinical priorities and logistics (supplies, evacuation, and triage) as well as the key enablers (systems planning, business continuity, legal framework, and ethical considerations) that facilitate the provision of this care. The supplement also aims to illustrate how the concepts of mass critical care are integrated across the spectrum of surge events from conventional through contingency to crisis standards of care.

URL: [https://journal.chestnet.org/article/S0012-3692\(15\)51985-5/fulltext](https://journal.chestnet.org/article/S0012-3692(15)51985-5/fulltext)

DOI: <https://dx.doi.org/10.1378/chest.14-0732>

**21. Pinho M. Ethical principles of justice in microallocation healthcare resources. Aten Primaria. 2014;46(Supplement 5):53.**

**ABSTRACT:** Introduction: In a context of scarcity prioritization patients is plagued with ethical dilemmas focusing on principles of efficiency and equity. To define reasonable criteria for microallocation decisions requires knowing the ethical principles of justice defended by society. Objective(s): This study attempts to: 1) identify and compare the opinion of two groups of the Portuguese society ' people in general and health professionals, about the personal characteristics of patients they value when prioritizing them; 2) understand the reasons behind that choice in order to fit them under efficiency or equity orientations. Method(s): Using quantitative and qualitative methods a sample of 180 college students and 60 health professionals were studied. A questionnaire was developed with eleven hypothetical emergence scenarios. Respondents must decide and justify which patients to treat when only one bed is available. Patients are distinguished by personal characteristics summarized in three types: 1) inherent to the person (age, sex, race); 2) person's relations with others in society (having children; marital status; economic status; labor status) and 3) person's causal relation with illness (smoking, drinking). Result(s): Findings suggest the: 1) existence of significant differences in the choices made by both groups with health professionals to choose more often assign equal priority to patient's; 2) coexistence of equity and utilitarianism orientations among both groups even though efficiency received the greatest support especially by health professionals. Conclusion(s): Results suggest the acceptance of social criteria in the microallocation of health resources primarily for utilitarianism reasons.

URL: <http://repositorio.uportu.pt:8080/bitstream/11328/1464/1/Ata%20dos%20Abstract%20-%20pp%2055.pdf>

**22. Zlotnik Shaul R. Paediatric patient and family-centred care : ethical and legal issues: New York : Springer; 2014.**

**23. Orioles A, Morrison WE. Medical ethics in pediatric critical care. Crit Care Clin. 2013;29(2):359-75.**

**ABSTRACT:** Ethically charged situations are common in pediatric critical care. Most situations can be managed with minimal controversy within the medical team or between the team and patients/families. Familiarity with institutional resources, such as hospital ethics committees, and national guidelines, such as publications from the American Academy of Pediatrics, American Medical Association, or Society of Critical Care Medicine, are an essential part of the toolkit of any intensivist. Open discussion with colleagues and within the multidisciplinary team can also ensure that when difficult situations arise, they are addressed in a proactive, evidence-based, and collegial manner.

URL: [https://www.criticalcare.theclinics.com/article/S0749-0704\(12\)00110-8/fulltext](https://www.criticalcare.theclinics.com/article/S0749-0704(12)00110-8/fulltext)

**24. Antommaria AHM, Kaziny BD. Ethical issues in pediatric emergency medicine's preparation for and response to disasters. The virtual mentor : VM. 2012;14(10):801-4. DOI:**

<https://dx.doi.org/10.1001/virtualmentor.2012.14.10.pfor2-1210>

DOI: <https://dx.doi.org/10.1001/virtualmentor.2012.14.10.pfor2-1210>

**25. Fortes PAdC, Pereira PCA. Patient prioritization in medical emergencies: an ethical analysis. Revista da Associacao Medica Brasileira (1992). 2012;58(3):335-40.**

**ABSTRACT:** OBJECTIVE: To identify and analyze, in the light of ethical considerations, the choices and justifications of public health professionals in hypothetical situations of patient prioritization in circumstances of limited resources during emergency medical care., METHODS: Qualitative and quantitative study, carried out through interviews with 80 public health professionals, graduate students (MSc and PhD students) in public health who were faced with hypothetical situations involving the criteria of gender, age, and responsibility, asked to choose between alternatives that referred to the existence of people, equally submitted to life-threatening situations, who needed care in an emergency department., RESULTS: The choices prioritized children, young individuals, women, and married women, with decision-making invoking the ethical principles of vulnerability, social utility, and equity., CONCLUSION: The study shows a clear tendency to justify the choices that were made, guided by utilitarian ethics.

**26. Hope T, Mcmillan J, Hill E. Intensive care triage: Priority should be independent of whether patients are already receiving intensive care. Bioethics. 2012;26(5):259-66.**

**ABSTRACT:** Intensive care units are not always able to admit all patients who would benefit from intensive care. Pressure on ICU beds is likely to be particularly high during times of epidemics such as might arise in the case of swine influenza. In making choices as to which patients to admit, the key US guidelines state that significant priority should be given to the interests of patients who are already in the ICU over the interests of patients who would benefit from intensive care but who have not been admitted. We examine four reasons that in principle might justify such a prioritization rule and conclude that none is convincing. We argue that the current location of patients should not, in principle, affect their priority for intensive care. We show, however, that under some but not all circumstances, maximizing lives saved by intensive care might require continuing to treat in the ICU a patient already admitted rather than transferring that patient out of the unit in order to admit a sicker patient who would also benefit more from intensive care. We conclude that further modelling is required in order to clarify what practical policies would maximize lives saved by intensive care

**URL:** <https://philpapers.org/rec/HOPICT>

**27. McDougall CW. Ethical questions during a pandemic case studies. National Collaborating Centre for Healthy Public P, editor. Montréal, Qué. Montréal, Qué. : National Collaborating Centre for Healthy Public Policy; 2012.**

**28. Ytzhak A, Sagi R, Bader T, et al. Pediatric ventilation in a disaster: clinical and ethical decision making. Crit Care Med. 2012;40(2):603-7.**

**ABSTRACT:** INTRODUCTION: Medical resources may be overwhelmed in a mass disaster situation. Intensive care resources may be limited even further. When the demand for a certain resource, like ventilators, exceeds its availability, caregivers are faced with the task of deciding how to distribute this resource. Ethical dilemmas arise when a practical decision necessitates ranking the importance of several ethical principles. In a disaster area, the greatest good for the greatest number principle and the goal of equal distribution of resources may take priority over the needs of the individual. Nonetheless, regardless of the interventions available, it is a prime goal to keep the patients' comfort and dignity as much as possible.

**BACKGROUND:** In the mass disaster of the Haiti earthquake of January 2010, The Israeli Defense Forces Medical Corps field hospital was one of the first to respond to the call for help of the Haitian people with surgical and intensive care capabilities. It was the only facility able to ventilate children and neonates in the first week after the earthquake, although this ability was relatively limited. **SPECIAL ARTICLE:** Five case scenarios that we confronted at the pediatric ward of the field hospital are presented: two children with respiratory compromise due to pulmonary infection, one premature baby with respiratory distress syndrome, an asphyxiated neonate,

and a baby with severe sepsis of a probable abdominal origin. In normal circumstances all of them would have been ventilated but with limited resources we raised in each case the question of ventilating or not. To help in the evaluation of each case we used a decision-support tool that was previously developed for ventilator allocation during an influenza pandemic. This tool takes into account several factors, including the illness severity, prognosis, and the expected duration of ventilation.

**CONCLUSIONS:** Applying ethical priorities to analyze the decision-making problems leads to the understanding that an individualized approach with an ongoing assessment of the patient condition and the availability of resources, rather than a strict predefined decision rule, will give patients a better chance of survival, and will assist in allocating scarce resources.

**29. Antommaria AHM, Powell T, Miller JE, et al. Ethical issues in pediatric emergency mass critical care. *Pediatric critical care medicine : a journal of the Society of Critical Care Medicine and the World Federation of Pediatric Intensive and Critical Care Societies.* 2011;12(6 Suppl):S163-8. DOI:**

**<https://dx.doi.org/10.1097/PCC.0b013e318234a88b>**

**ABSTRACT:** INTRODUCTION: As a result of recent events, including natural disasters and pandemics, mass critical care planning has become a priority. In general, planning involves limiting the scope of disasters, increasing the supply of medical resources, and allocating scarce resources. Entities at varying levels have articulated ethical frameworks to inform policy development. In spite of this increased focus, children have received limited attention. Children require special attention because of their unique vulnerabilities and needs., METHODS: In May 2008, the Task Force for Mass Critical Care published guidance on provision of mass critical care to adults. Acknowledging that the critical care needs of children during disasters were unaddressed by this effort, a 17-member Steering Committee, assembled by the Oak Ridge Institute for Science and Education with guidance from members of the American Academy of Pediatrics, convened in April 2009 to determine priority topic areas for pediatric emergency mass critical care recommendations. Steering Committee members established subgroups by topic area and performed literature reviews of MEDLINE and Ovid databases. Draft documents were subsequently developed and revised based on the feedback from the Task Force. The Pediatric Emergency Mass Critical Care Task Force, composed of 36 experts from diverse public health, medical, and disaster response fields, convened in Atlanta, GA, on March 29-30, 2010. This document reflects expert input from the Task Force in addition to the most current medical literature., TASK FORCE RECOMMENDATIONS: The Ethics Subcommittee recommends that surge planning seek to provide resources for children in proportion to their percentage of the population or preferably, if data are available, the percentage of those affected by the disaster. Generally, scarce resources should be allocated on the basis of need, benefit, and the conservation of resources. Estimates of need, benefit, and resource utilization may be more subjective or objective. While the Subcommittee favors more objective methods, pediatrics lacks a simple, validated scoring system to predict benefit or resource utilization. The Subcommittee hesitantly recommends relying on expert opinion while pediatric triage tools are developed. If resources remain inadequate, they should then be allocated based on queuing or lottery. Choosing between these methods is based on ethical, psychological, and practical considerations upon which the Subcommittee could not reach consensus. The Subcommittee unanimously believes the proposal to favor individuals between 15 and 40 yrs of age is inappropriate. Other age-based criteria and criteria based on social role remain controversial. The Subcommittee recommends continued work to engage all stakeholders, especially the public, in deliberation about these issues.

**URL:**

**[https://journals.lww.com/pccmjournals/Fulltext/2011/11001/Ethical\\_issues\\_in\\_pediatric\\_emergency\\_mass.9.aspx](https://journals.lww.com/pccmjournals/Fulltext/2011/11001/Ethical_issues_in_pediatric_emergency_mass.9.aspx)**

**DOI: <https://dx.doi.org/10.1097/PCC.0b013e318234a88b>**

**30. Bailey TM, Haines C, Rosychuk RJ, et al. Public engagement on ethical principles in allocating scarce resources during an influenza pandemic. *Vaccine.* 2011;29(17):3111-7.**

**ABSTRACT:** OBJECTIVES: To investigate the views of students, support staff and academic staff at the University of Alberta in Edmonton, Canada on the allocation of scarce resources during an influenza pandemic to discover if there were any shared values.

**METHODS:** A web-based questionnaire was circulated to students, support staff and academic staff asking them how they would rank the priority of eleven different groups for access to scarce resources. They were also asked to select one of seven priority access plans.

**RESULTS:** The highest priority was given to health care workers by 89% of respondents, closely followed by emergency workers (85%). Only 12.7% of respondents gave politicians high priority. Respondents favored the "Save the most lives" priority access (39.9%) (N=5220).

**CONCLUSION:** Current policies in place for the allocation of scarce resources during an influenza pandemic may not properly reflect the views of the general public. Further public consultation should be undertaken in order to uncover how they would allocate scarce resources.

**31. Chervenak FA, McCullough LB. An ethical framework for the responsible management of pregnant patients in a medical disaster. The Journal of clinical ethics. 2011;22(1):20-4.**

**ABSTRACT:** The ethics of managing obstetric patients in medical disasters poses ethical challenges that are unique in comparison to other disaster patients, because the medical needs of two patients--the pregnant patient and the fetal patient--must be considered. We provide an ethical framework for doing so. We base the framework on the justice-based prevention of exploitation of populations of patients, both obstetric and non-obstetric, in medical disasters. We use the concept of exploitation to identify a spectrum from ethically acceptable, to ethically challenging, to ethically unacceptable, management of obstetric patients in medical disasters. We also address the ethics of the care of obstetric and neonatal patients when the resources of a hospital are completely overwhelmed in a large-scale medical disaster.

**32. Antommaria AHM, Sweney J, Poss WB. Critical appraisal of: triaging pediatric critical care resources during a pandemic: ethical and medical considerations. Pediatric critical care medicine : a journal of the Society of Critical Care Medicine and the World Federation of Pediatric Intensive and Critical Care Societies. 2010;11(3):396-400.**

**ABSTRACT:** Objective: To identify the ethical norms that should govern the allocation of pediatric critical care resources during a pandemic.

Design: Narrative review.

Methods: Review the literature on triage and pandemics.

Findings: When care that is functionally equivalent to usual patient care practices can no longer be maintained, resources should be allocated primarily on the basis of medical need and/or benefit. Unequal treatment may be justified to increase the supply of available resources and thereby save more lives. When ethically relevant distinctions can no longer be made between patients, resources should be distributed by chance. Allocation on the basis of quality of life, general contributions to society, or age are potentially problematic. Existing triage protocols inconsistently articulate the relationship between these ethical norms and their specific recommendations. In addition, they have limited applicability in pediatrics principally because of the lack of a simple validated global scoring system, which predicts mortality and/or resource utilization.

Conclusions: Although research to develop such scoring systems is ongoing, clinicians will need to rely more heavily on individual diagnoses of acute illnesses with high mortality rates and underlying conditions with short life expectancies and on random allocation methods.

**33. Cowden J, Crane L, Lezotte D, et al. Pre-pandemic planning survey of healthcare workers at a tertiary care children's hospital: ethical and workforce issues. Influenza Other Respi Viruses. 2010;4(4):213-22. DOI: 10.1111/j.1750-2659.2010.00145.x**

**ABSTRACT:** Please cite this paper as: Cowden et al. (2010). Pre-pandemic planning survey of healthcare workers at a tertiary care children's hospital: ethical and workforce issues. Influenza and Other Respiratory Viruses 4(4),

213?222. Background? Prior to the development of written policies and procedures for pandemic influenza, worker perceptions of ethical and workforce issues must be identified. Objective? To determine the relationship between healthcare worker (HCW) reporting willingness to work during a pandemic and perception of job importance, belief that one will be asked to work, and sense of professionalism and to assess HCW?s opinions regarding specific policy issues as well as barriers and motivators to work during a pandemic. Methods? A survey was conducted in HCWs at The Children?s Hospital in Denver, Colorado, from February to June 2007. Characteristics of workers reporting willingness to work during a pandemic were compared with those who were unwilling or unsure. Importance of barriers and motivators was compared by gender and willingness to work. Results Sixty percent of respondents reported willingness to work (overall response rate of 31%). Belief one will be asked to work (OR 4.6, P?<?0.0001) and having a high level of professionalism (OR 8.6, P?<?0.0001) were associated with reporting willingness to work. Hospital infrastructure support staffs were less likely to report willingness to work during a pandemic than clinical healthcare professionals (OR 0.39, P?<?0.001). Concern for personal safety, concern for safety of family, family?s concern for safety, and childcare issues were all important barriers to coming to work. Conclusions? Educational programs should focus on professional responsibility and the importance of staying home when ill. Targeted programs toward hospital infrastructure support and patient and family support staff stressing the essential nature of these jobs may improve willingness to work.

URL: <https://doi.org/10.1111/j.1750-2659.2010.00145.x>

DOI: 10.1111/j.1750-2659.2010.00145.x

**34. Kerstein SJ, Bogner G. Complete lives in the balance. Am J Bioeth. 2010;10(4):37 – 45.**

**ABSTRACT:** The allocation of scarce health care resources such as flu treatment or organs for transplant presents stark problems of distributive justice. Persad, Wertheimer, and Emanuel have recently proposed a novel system for such allocation. Their “complete lives system” incorporates several principles, including ones that prescribe saving the most lives, preserving the most life-years, and giving priority to persons between 15 and 40 years old. This paper argues that the system lacks adequate moral foundations. Persad and colleagues’ defense of giving priority to those between 15 and 40 leaves them open to the charge that they discriminate unfairly against children. Second, the paper contends that the complete lives system fails to provide meaningful practical guidance in central cases, since it contains no method for balancing its principles when they conflict. Finally, the paper proposes a new method for balancing principles of saving the most lives and maximizing life-years.

URL: <https://philpapers.org/rec/KERCLI>

**35. Kissoon N, Bohn D. Use of extracorporeal technology during pandemics: Ethical and staffing considerations\*. Pediatr Crit Care Med. 2010;11(6).**

URL:

[https://journals.lww.com/pccmjournal/Fulltext/2010/11000/Use\\_of\\_extracorporeal\\_technology\\_during\\_pandemics\\_.18.aspx](https://journals.lww.com/pccmjournal/Fulltext/2010/11000/Use_of_extracorporeal_technology_during_pandemics_.18.aspx)

**36. Verweij M. Moral principles for allocating scarce medical resources in an influenza pandemic. J Bioeth Inq. 2009;6(2):159-69. DOI: <http://dx.doi.org/10.1007/s11673-009-9161-6>**

**ABSTRACT:** One of the societal problems in a new influenza pandemic will be how to use the scarce medical resources that are available for prevention and treatment, and what medical, epidemiological and ethical justifications can be given for the choices that have to be made. Many things may become scarce: personal protective equipment, antiviral drugs, hospital beds, mechanical ventilation, vaccination, etc. In this paper I discuss two general ethical principles for priority setting (utility and equity) and explain how these principles will often point in diverging directions. Moreover, each of these principles can be understood in different, again often competing, ways. Notwithstanding these controversies and conflicts, in the context of pandemic response there are at least some points of convergence: several policies can be justified by appeal to different ethical

principles and theories. Convergence may be found with respect to a focus on saving the most lives (instead of other aggregative accounts); giving priority antiviral prophylaxis and therapy for life-saving pandemic responders; and, partly depending on epidemiology of the pandemic, to prioritize vaccination of children. Although decision-making about access to intensive care will involve choices with immediate tragic implications, the ethical complexity of these choices is relatively modest (although decisions will not be easy): there are persuasive moral reasons for giving priority to patients who are expected to benefit most within the shortest time. Finally, in the last section I tentatively argue that constraints on people's freedom, as necessary for an effective public health approach, may support giving somewhat more weight to saving the most lives, than to concerns of equity. (PsycINFO Database Record (c) 2016 APA, all rights reserved)

URL: <https://link.springer.com/article/10.1007/s11673-009-9161-6>

DOI: <http://dx.doi.org/10.1007/s11673-009-9161-6>

**37. Janvier A, Barrington KJ, Aziz K, et al. Ethics ain't easy: do we need simple rules for complicated ethical decisions? *Acta Paediatr.* 2008;97(4):402-6.**

**ABSTRACT:** BACKGROUND: Recommendations from national bodies regarding extremely preterm infants have focussed almost exclusively on thresholds for intervention based upon estimated gestational age (GA) alone. METHODS: We reviewed policy statements that address active intervention for newborn infants and compare them with those that are available for older patients. We reviewed research, examining attitudes towards preterm infants, uncertainties in GA assessment and other factors important in determining prognosis at the time of birth.

RESULTS: Policy statements regarding active care of very preterm infants treat this population differently from others in morally significant ways--without rationalizing this discrepancy. Extremely preterm infants are devalued in medical and lay opinion compared to older individuals with similar outcomes. Uncertainty in GA estimates often covers a range with vastly differing prognoses. Sex, birth weight, inborn-outborn status and use of antenatal steroids are vitally important in prognosis, but clinical findings in the delivery room are not. Most policy statements fail to account for these factors.

CONCLUSION: Simplistic policies based on GA alone should be avoided. Decision making for extremely preterm infants should recognize that they are each unique and must be individualized, taking into account all relevant prognostic factors and the values and wishes of the families.

**38. Laughlin DT, Hick JL. Ethical Issues in Resource Triage. *Respir Care.* 2008;53(2):190.**

**ABSTRACT:** Mass-care events, such as pandemic influenza, could reach such devastating proportions that there will be the need to make difficult triage decisions that will ultimately result in the deaths or severe disability of patients in large numbers. The method by which we determine how triage of scarce health care resources will be performed must be clearly defined prior to a disaster event. This paper will discuss several of the ethical principles that must be weighed in developing a mass-care triage plan, as well as steps to facilitate its implementation. Development of triage policies in such an event should be developed in an open and transparent manner, be reasonable in design, include the views of the critical stakeholders, and be responsive to and provide a mechanism for accountability, with a clearly defined goal of the just triage of limited health care resources. Planning failure will result in increased deaths from poor triage processes and substantial mistrust of the health care system and its practitioners.

URL: <http://rc.rcjournal.com/content/53/2/190.abstract>

**39. Carnevale FA. The birth of tragedy in pediatrics: a phronetic conception of bioethics. *Nurs Ethics.* 2007;14(5):571-82.**

**ABSTRACT:** Accepted standards of parental decisional autonomy and child best interests do not address adequately the complex moral problems involved in the care of critically ill children. A growing body of moral discourse is calling for the recognition of 'tragedy' in selected human problems. A tragic dilemma is an irresolvable dilemma with forced terrible alternatives, where even the virtuous agent inescapably emerges with

;dirty hands'. The shift in moral framework described here recognizes that the form of conduct called for by tragic dilemmas is the practice of phronesis. The phronetic agent has acquired a capacity to discern good agency in tragic circumstances. This discernment is practiced through the artful creation of moral narratives: stories that convey that which is morally meaningful in a particular situation; that is, stories that are 'meaning making'. The phronetic agent addresses tragic dilemmas involving children as a narrator of contextualized temporal embodied human (counter)stories. [References: 23]

**40. Fortune PM. Limiting and rationing treatment in paediatric and neonatal intensive care. Best Practice & Research Clinical Anaesthesiology. 2006;20(4):577-88.**

**ABSTRACT:** In this chapter I consider the ethical decisions surrounding the provision and limitation of treatment offered to children requiring intensive care. I focus on the processes surrounding end of life decision making and consider how the concepts of futility, burden and uncertainty should impact upon these decisions. I also examine resource allocation to children's critical care services. The discussion does not provide a structure that will solve any given situation. It does take a practical approach to the issues faced by considering why we should engage in life limiting discussions; When they should occur; Who should be involved; How they should be carried out; and where and by what means withholding or withdrawal should occur. I have drawn the discussions closer to clinical practice with the intention of making them more useful, for those engaged in direct patient care, than those focused around philosophical principles.

**41. Oliver A. Prioritizing health care: is "health" always an appropriate maximand? Medical decision making : an international journal of the Society for Medical Decision Making. 2004;24(3):272-80.**

**ABSTRACT:** In recent years, a few health economists have begun to question the ethical underpinnings of the standard practice of quality-adjusted life year (QALY) maximization as a ubiquitous decision rule in the allocation of health care resources. Prominent among these is Erik Nord, who conjectures that QALY maximization discriminates against the chronically ill and disabled when prioritizing between different individuals (or groups of individuals) for life-extending interventions. Nord has recommended that life years gained should always be given a weight equal to 1 in these circumstances. This article reports an experiment designed as an initial attempt at eliciting some of the thought processes employed by people when they prioritize life-saving health care interventions between patients who differ only in respect to the presence or absence of a disability. The results show that in the priority-setting contexts used, a majority of the respondents perceived the relative health status of the different patients as irrelevant, providing some tentative support for Nord's argument.

**URL:** [http://eprints.lse.ac.uk/157/1/Prioritising\\_health\\_care\\_MDM\\_article\\_%28revised\\_Oct\\_2003%29.pdf](http://eprints.lse.ac.uk/157/1/Prioritising_health_care_MDM_article_%28revised_Oct_2003%29.pdf)

**42. Silber T, Batshaw ML. Ethical dilemmas in the treatment of children with disabilities. *Pediatr Ann.* 2004;33(11):752-61.**

**ABSTRACT:** Issues relating to the treatment of children with disabilities, such as withholding treatment, organ donation, research, genetic screening, and prenatal diagnosis, all present ethical dilemmas. These issues always need to be reviewed to determine which ethical considerations apply. Identifying relevant principles, one can conclude which take precedence and what is ethically permissible. As with so many other medical responsibilities, this can be consulted, learned, practiced and improved upon. Pediatricians caring for children with disabilities can study and enhance their capacity for ethical reflection, so as to participate fully in these important decision-making processes.

**43. Sinuff T, Kahnamoui K, Cook DJ, et al. Rationing critical care beds: a systematic review. *Crit Care Med.* 2004;32(7):1588-97.**

**ABSTRACT:** **OBJECTIVE:** Rationing critical care beds occurs daily in the hospital setting. The objective of this systematic review was to examine the impact of rationing intensive care unit beds on the process and outcomes of care.

**DATA SOURCE:** We searched MEDLINE (1966-2003), CINAHL (1982-2003), Ovid Healthstar (1975-2003), EMBASE (1980-2003), Scisearch (1980-2003), the Cochrane Library, PUBMED related articles, personal files, abstract proceedings, and reference lists.

**STUDY SELECTION:** We included studies of seriously ill patients considered for admission to an intensive care unit bed during periods of reduced availability. We had no restriction on study design. Studies were excluded if rationing was performed using a scoring system or protocol and if cost-effectiveness was the only outcome.

**DATA EXTRACTION:** In duplicate and independently, we performed data abstraction and quality assessment.

**DATA SYNTHESIS:** We included ten observational studies. Hospital mortality rate was increased in patients refused intensive care unit admission vs. those admitted (odds ratio, 3.04; 95% confidence interval, 1.49-6.17). Factors associated with both intensive care unit bed refusal and increased mortality rate were increased age, severity of illness, and medical diagnosis. When intensive care unit beds were reduced, admitted patients were sicker, were less often admitted primarily for monitoring, and had a shorter intensive care unit length of stay, without other observed adverse effects.

**CONCLUSIONS:** These studies suggest that patients who are perceived not to benefit from critical care are more often refused intensive care unit admission; refusal is associated with an increased risk of hospital death. During times of decreased critical bed availability, several factors, including age, illness severity, and medical diagnosis, are used to triage patients, although their relative importance is uncertain. Critical care bed rationing requires further investigation. [References: 37]

44. Baylis F, McBurney C, Hospital for Sick Children. Dept. of B, et al. In the case of children : paediatric ethics in a Canadian context. Toronto: Toronto : Dept. of Bioethics, Hospital for Sick Children; 1993.

## SEARCH STRATEGIES

**Google Scholar – June 29, 2020, 3:48pm**

(covid19|"covid 19"|2019ncov|pandemic\*) AND (ethics|bioethics|ethical) AND (pediatrics|paediatrics) AND triage

**CINAHL – June 29, 2020, 3:30pm**

#	Query	Results
S1	( (MH "Pediatrics+") OR (MH "Child+") OR (MH "Adolescence+") ) OR (MH "Intensive Care Units, Pediatric+")	1,055,602
S2	( TI (child# or children or childhood or pediatric* or paediatric* or baby or babies or newborn# or new-born# or neonat* or perinat* or infant# or infantile or infancy or toddler# or preschooler# or pre-schooler# or boy# or girl# or adolescen* or teen* or youth# or juvenile# or pre-menarch* or pre-adolescen* or pre-teen or pre-pubert* or pre-pubesc* or premenarch* or preadolesc* or preteen or prepubert* or prepubesc* or PICU or PICUs or p#ediatric intensive care or NICU or NICUs or neonatal intensive care or neonatal ICU# or newborn intensive care or p#ediatric critical care or neonatal critical care) ) OR ( AB (child# or children or childhood or pediatric* or paediatric* or baby or babies or newborn# or new-born# or neonat* or perinat* or infant# or infantile or infancy or toddler# or preschooler# or pre-schooler# or boy# or girl# or adolescen* or teen* or youth# or juvenile# or pre-menarch* or pre-adolesc* or pre-teen or pre-pubert* or pre-pubesc* or premenarch* or preadolesc* or preteen or prepubert* or prepubesc* or PICU or PICUs or p#ediatric intensive care or NICU or NICUs or neonatal intensive care or neonatal ICU# or newborn intensive care or p#ediatric critical care or neonatal critical care) )	868,413
S3	S1 OR S2	1,312,455
S4	(MH "Coronavirus Infections+") OR (MH "Coronavirus+") OR (MH "COVID-19")	8,620
S5	TX ((corona* or corono*) N1 (virus* or viral* or virinae*))	337
S6	TX (coronavirus* or coronavir* or coronavirinae* or CoV or HCoV*)	11,209
S7	TX ("2019-nCoV" or 2019nCoV or nCoV2019 or "nCoV-2019" or "COVID-19" or COVID19 or "CORVID-19" or CORVID19 or "WN-CoV" or WNCov or "HCoV-19" or HCoV19 or "2019 novel*" or Ncov or "n-cov" or "SARS-CoV-2" or "SARSCoV-2" or "SARSCoV2" or "SARS-CoV2" or SARSCov19 or "SARS-Cov19" or "SARSCov-19" or "SARS-Cov-19" or Ncover or Ncorona* or Ncorono* or NcovWuhan* or NcovHubei* or NcovChina* or NcovChinese* or SARS2 or "SARS-2" or SARScoronavirus2 or "SARS-coronavirus-2" or "SARScoronavirus 2" or "SARS coronavirus2" or SARScoronavirus2 or "SARS-coronavirus-2" or "SARScoronavirus 2" or "SARS coronavirus2")	7,467
S8	TX (respiratory* N2 (symptom* or disease* or illness* or condition*) N10 (Wuhan* or Hubei* or China* or Chinese* or Huanan*))	1,293
S9	TX ("seafood market*" or "food market*" or pneumonia*) N10 (Wuhan* or Hubei* or China* or Chinese* or Huanan*))	530
S10	TX ((outbreak* or wildlife* or pandemic* or epidemic*) N1 (Wuhan* or Hubei or China* or Chinese* or Huanan*))	726
S11	TX ("severe acute respiratory syndrome*")	4,099
S12	S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11	20,131

<b>S13</b>	(MH "Triage")	10,163
<b>S14</b>	TI ( (triage# or triaging or ((casualt* or patient# or treatment# or care) n2 (priorit* or sorting or classification# or hierarch* or urgency))) ) OR AB ( (triage# or triaging or ((casualt* or patient# or treatment# or care) n2 (priorit* or sorting or classification# or hierarch* or urgency))) )	22,084
<b>S15</b>	S13 OR S14	26,545
<b>S16</b>	(MH "Health Resource Allocation") OR (MH "Resource Allocation+")	12,917
<b>S17</b>	TI ( ((resource n2 (allocat* or access* or scarc*)) or (allocation n1 resource#) or scarce resource# or ((health or medical or clinical) n2 resource#) or ((medical or "health care" or healthcare or resource) n2 ration*)) ) OR AB ( ((resource n2 (allocat* or access* or scarc*)) or (allocation n1 resource#) or scarce resource# or ((health or medical or clinical) n2 resource#) or ((medical or "health care" or healthcare or resource) n2 ration*)) )	25,458
<b>S18</b>	S16 OR S17	36,201
<b>S19</b>	(MH "Ethics+")	128,716
<b>S20</b>	TI ( (ethics or ethical issue* or moral# or ethical analys?s or principle-based ethics or principle based ethics or principlism or personal autonom* or relational autonom* or social justice or moral* or moral obligation# or moral duty or moral duties or moral quandr* or ethics committee# or ethics board# or professional ethics or bioethics or bioethical issue# or double effect principle# or double effect doctrine# or double effect rule# or clinical ethics or medical ethics or (ethical w1 (concern# or dilemma# or consideration# or protocol#))) ) OR AB ( (ethics or ethical issue* or moral# or ethical analys?s or principle-based ethics or principle based ethics or principlism or personal autonom* or relational autonom* or social justice or moral* or moral obligation# or moral duty or moral duties or moral quandr* or ethics committee# or ethics board# or professional ethics or bioethics or bioethical issue# or double effect principle# or double effect doctrine# or double effect rule# or clinical ethics or medical ethics or (ethical w1 (concern# or dilemma# or consideration# or protocol#))) )	63,558
<b>S21</b>	S19 OR S20	164,653
<b>S22</b>	S3 AND S12 AND S15 AND S18 AND S21	0
<b>S23</b>	S3 AND S15 AND S18 AND S21	14
<b>S24</b>	S3 AND S12 AND S15 AND S21	1
<b>S25</b>	S3 AND S15 AND S21	107
<b>S26</b>	S23 OR S24 OR S25	107
<b>S27</b>	S23 OR S24 OR S25 [Limit to 2000-2020]	104
<b>S28</b>	S23 OR S24 OR S25 [Limit to 2000-2020; English]	92
<b>S29</b>	S15 OR S18	61,842
<b>S30</b>	S3 AND S21 AND S29	487
<b>S31</b>	( TI (child# or children or childhood or pediatric* or paediatric* or baby or babies or newborn# or new-born# or neonat* or perinat* or infant# or infantile or infancy or toddler# or preschooler# or pre-schooler# or boy# or girl# or adolescen* or teen* or youth# or juvenile# or pre-menarch* or pre-adolescenc* or pre-teen or pre-pubert* or pre-pubesc* or premenarch* or preadolescenc* or preteen or prepubert* or prepubesc* or PICU or PICUs or p#ediatric intensive care or NICU or NICUs or neonatal intensive care or neonatal ICU# or newborn intensive care or p#ediatric critical care or neonatal critical care) )	588,276
<b>S32</b>	S30 AND S31	179
<b>S33</b>	S32 NOT S28	141
<b>S34</b>	S32 NOT S28 [Limit to 2000-2020]	115
<b>S35</b>	S32 NOT S28 [Limit to 2000-2020; English]	108

<b>S36</b>	(MH "Disease Outbreaks")	29,261
<b>S37</b>	TI ( (disease outbreak# or pandemic# or epidemic#) ) OR AB ( (disease outbreak# or pandemic# or epidemic#) )	34,965
<b>S38</b>	S36 OR S37	54,226
<b>S39</b>	S3 AND S21 AND S29 AND S38 [Limit to 2000-2020; English]	15

**Medline – June 29, 2020, 2:58pm**

#	Searches	Results
1	exp pediatrics/ or exp infant/ or exp child/ or adolescent/ or exp intensive care units, pediatric/	3566308
2	(child? or children or childhood or p?ediatric* or baby or babies or newborn? or new-born? or neonat* or perinat* or infant? or infantile or infancy or toddler? or preschooler? or pre-schooler* or boy? or girl? or adolescen* or teen* or youth? or juvenile? or pre-menarch* or pre-adolescen* or pre-teen or pre-pubert* or pre-pubesc* or premenarch* or preadolescen* or preteen or prepubert* or prepubesc* or PICU or PICUs or p?ediatric intensive care or NICU or NICUs or neonatal intensive care or neonatal ICU? or newborn intensive care or p?ediatric critical care or neonatal critical care).tw,kf.	2450108
3	1 or 2	4290988
4	exp coronavirus/ or exp coronavirus infections/	23116
5	((corona* or corono*) adj1 (virus* or viral* or virinae*)).ti,ab,kw,kf.	1348
6	(coronavirus* or coronovirus* or coronavirinae* or CoV).ti,ab,kw,kf.	27200
7	("2019-nCoV" or 2019nCoV or nCoV2019 or "nCoV-2019" or "COVID-19" or COVID19 or "CORVID-19" or CORVID19 or "WN-CoV" or WNCov or "HCoV-19" or HCoV19 or "2019 novel*" or Ncov or "n-cov" or "SARS-CoV-2" or "SARSCoV-2" or "SARSCoV2" or "SARS-CoV2" or SARSCov19 or "SARS-Cov19" or "SARSCov-19" or "SARS-Cov-19" or Ncovor or Ncorona* or Ncorono* or NcovWuhan* or NcovHubei* or NcovChina* or NcovChinese* or SARS2 or "SARS-2" or SARScoronavirus2 or "SARS-coronavirus-2" or "SARScoronavirus 2" or "SARS coronavirus2" or SARScoronavirus2 or "SARS-coronavirus-2" or "SARScoronavirus 2" or "SARS coronavirus2").ti,ab,kw,kf.	26813
8	(respiratory* adj2 (symptom* or disease* or illness* or condition*) adj10 (Wuhan* or Hubei* or China* or Chinese* or Huanan*)).ti,ab,kw,kf.	483
9	"severe acute respiratory syndrome*".ti,ab,kw,kf.	7601
10	or/4-9	53556
11	triage/ or decision making/	11599
12	(triage? or triaging or ((casualt* or patient? or treatment? or care) adj2 (priorit* or sorting or classification? or hierarch* or urgency)) or decision making or decision-making or making	175642

	decisions).tw,kf.	
13	11 or 12	199176
14	exp health resources/ or exp resource allocation/	42612
15	((resource adj2 (allocat* or access* or scarc*)) or (allocation adj1 resource?) or scarce resource? or ((health or medical or clinical) adj2 resource?) or ((medical or "health care" or healthcare or resource) adj2 ration*)).tw,kf.	36554
16	14 or 15	73293
17	exp ethics/ or es.fs.	184412
18	(ethics or ethical issue* or moral? or ethical analys#s or principle-based ethics or principle based ethics or principlism or personal autonom* or relational autonom* or social justice or moral* or moral obligation? or moral duty or moral duties or moral quandr* or ethics committee? or ethics board? or professional ethics or bioethics or bioethical issue? or double effect principle? or double effect doctrine? or double effect rule? or clinical ethics or medical ethics or (ethical adj1 (concern? or dilemma? or consideration? or protocol?))).tw,kf.	118055
19	17 or 18	241423
20	3 and 10 and 13 and 16 and 19	1
21	3 and 13 and 16 and 19	240
22	3 and 10 and 13 and 19	6
23	3 and 13 and 19	3471
24	20 or 21 or 22 or 23	3471
25	limit 24 to (english language and yr="2000 -Current")	2516
26	3 and (13 or 16) and 19	4320
27	(child? or children or childhood or p?ediatric* or baby or babies or newborn? or new-born? or neonat* or perinat* or infant? or infantile or infancy or toddler? or preschooler? or pre-schooler* or boy? or girl? or adolescen* or teen* or youth? or juvenile? or pre-menarch* or pre-adolescen* or pre-teen or pre-pubert* or pre-pubesc* or premenarch* or preadolescen* or preteen or prepubert* or prepubesc* or PICU or PICUs or p?ediatric intensive care or NICU or NICUs or neonatal intensive care or neonatal ICU? or newborn intensive care or p?ediatric critical care or neonatal critical care).ti.	1473616
28	26 and 27	1868
29	limit 28 to (english language and yr="2000 -Current")	1283
30	29 not 25	101

31	exp disease outbreaks/	102500
32	(disease outbreak? or pandemic? or epidemic?).tw,kf.	142077
33	31 or 32	204121
34	3 and (13 or 16) and 19 and 33	49
35	limit 34 to (english language and yr="2000 -Current")	43

**Embase – June 24, 2020, 3:16pm**

#	Searches	Results
1	exp pediatrics/ or exp infant/ or exp child/ or adolescent/ or exp intensive care units, pediatric/	3381659
2	(child? or children or childhood or p?ediatric* or baby or babies or newborn? or new-born? or neonat* or perinat* or infant? or infantile or infancy or toddler? or preschooler? or pre-schooler* or boy? or girl? or adolescen* or teen* or youth? or juvenile? or pre-menarch* or pre-adolescen* or pre-teen or pre-pubert* or pre-pubesc* or premenarch* or preadolescenc* or preteen or prepubert* or prepubesc* or PICU or PICUs or p?ediatric intensive care or NICU or NICUs or neonatal intensive care or neonatal ICU? or newborn intensive care or p?ediatric critical care or neonatal critical care).tw,hw.	4315367
3	1 or 2	4315367
4	exp coronavirus/ or exp coronavirus infections/	23043
5	((corona* or coron*) adj1 (virus* or viral* or virinae*)).ti,ab,hw.	881
6	(coronavirus* or coronovirus* or coronavirinae* or CoV).ti,ab,hw.	42533
7	("2019-nCoV" or 2019nCoV or nCoV2019 or "nCoV-2019" or "COVID-19" or COVID19 or "CORVID-19" or CORVID19 or "WN-CoV" or WNCov or "HCoV-19" or HCoV19 or "2019 novel*" or Ncov or "n-cov" or "SARS-CoV-2" or "SARSCoV-2" or "SARSCoV2" or "SARS-CoV2" or SARSCov19 or "SARS-Cov19" or "SARSCov-19" or "SARS-Cov-19" or Ncovor or Ncorona* or Ncorono* or NcovWuhan* or NcovHubei* or NcovChina* or NcovChinese* or SARS2 or "SARS-2" or SARSCoronavirus2 or "SARS-coronavirus-2" or "SARSCoronavirus 2" or "SARS coronavirus2" or SARSCoronavirus2 or "SARS-coronavirus-2" or "SARSCoronavirus 2" or "SARS coronavirus2").ti,ab,hw.	22029
8	(respiratory* adj2 (symptom* or disease* or illness* or condition*) adj10 (Wuhan* or Hubei* or China* or Chinese* or Huanan*)).ti,ab,hw.	640
9	"severe acute respiratory syndrome*".ti,ab,hw.	15838

10	or/4-9	51519
11	triage/	68190
12	(triage? or triaging or ((casualt* or patient? or treatment? or care) adj2 (priorit* or sorting or classification? or hierarch* or urgency))).tw,hw.	55407
13	11 or 12	113650
14	exp health resources/ or exp resource allocation/	115653
15	(resource allocation or (allocation adj1 resource?) or scarce resource? or ((health or medical) adj2 resource?) or ((medical or care or healthcare or resource?) adj2 rationing)).tw,hw.	56033
16	14 or 15	146943
17	exp ethics/	294826
18	(ethics or ethical issue* or moral? or ethical analys#s or principle-based ethics or principle based ethics or principlism or personal autonom* or relational autonom* or social justice or moral* or moral obligation? or moral duty or moral duties or moral quandr* or ethics committee? or ethics board? or professional ethics or bioethics or bioethical issue? or double effect principle? or double effect doctrine? or double effect rule? or clinical ethics or medical ethics or (ethical adj1 (concern? or dilemma? or consideration? or protocol?))).tw,hw.	276860
19	17 or 18	373900
20	3 and 10 and 13 and 16 and 19	4
21	3 and 13 and 16 and 19	51
22	3 and 10 and 13 and 19	8
23	3 and 13 and 19	470
24	21 or 22 or 23	470
25	limit 24 to (english language and yr="2000 -Current")	319

**Medline – June 24, 2020, 3:09pm**

#	Searches	Results
1	exp pediatrics/ or exp infant/ or exp child/ or adolescent/ or exp intensive care units, pediatric/	3565184
2	(child? or children or childhood or p?ediatric* or baby or babies or newborn? or new-born? or neonat* or perinat* or infant? or infantile or infancy or toddler? or preschooler? or pre-	2449840

schooler\* or boy? or girl? or adolescen\* or teen\* or youth? or juvenile? or pre-menarch\* or pre-adolescen\* or pre-teen or pre-pubert\* or pre-pubesc\* or premenarch\* or preadolescenc\* or preteen or prepubert\* or prepubesc\* or PICU or PICUs or p?ediatric intensive care or NICU or NICUs or neonatal intensive care or neonatal ICU? or newborn intensive care or p?ediatric critical care or neonatal critical care).tw,kf.

3	1 or 2	4290251
4	exp coronavirus/ or exp coronavirus infections/	22479
5	((corona* or corono*) adj1 (virus* or viral* or virinae*)).ti,ab,kw,kf.	1330
6	(coronavirus* or coronovirus* or coronavirinae* or CoV).ti,ab,kw,kf.	26851
7	("2019-nCoV" or 2019nCoV or nCoV2019 or "nCoV-2019" or "COVID-19" or COVID19 or "CORVID-19" or CORVID19 or "WN-CoV" or WNCov or "HCoV-19" or HCoV19 or "2019 novel*" or Ncov or "n-cov" or "SARS-CoV-2" or "SARSCoV-2" or "SARSCoV2" or "SARS-CoV2" or SARSCov19 or "SARS-Cov19" or "SARSCov-19" or "SARS-Cov-19" or Ncovor or Ncorona* or Ncorono* or NcovWuhan* or NcovHubei* or NcovChina* or NcovChinese* or SARS2 or "SARS-2" or SARScoronavirus2 or "SARS-coronavirus-2" or "SARScoronavirus 2" or "SARS coronavirus2" or SARScoronavirus2 or "SARS-coronavirus-2" or "SARScoronavirus 2" or "SARS coronavirus2").ti,ab,kw,kf.	26065
8	(respiratory* adj2 (symptom* or disease* or illness* or condition*) adj10 (Wuhan* or Hubei* or China* or Chinese* or Huanan*)).ti,ab,kw,kf.	482
9	"severe acute respiratory syndrome*".ti,ab,kw,kf.	7526
10	or/4-9	48248
11	triage/	11594
12	(triage? or triaging or ((casualt* or patient? or treatment? or care) adj2 (priorit* or sorting or classification? or hierarch* or urgency))))).tw,kf.	36186
13	11 or 12	40608
14	exp health resources/ or exp resource allocation/	42581
15	(resource allocation or (allocation adj1 resource?) or scarce resource? or ((health or medical) adj2 resource?) or medical rationing or health care rationing or healthcare rationing or resource rationing).tw,kf.	31963
16	14 or 15	69227
17	exp ethics/	145920
18	(ethics or ethical issue* or moral? or ethical analys#s or principle-based ethics or principle	118004

based ethics or principlism or personal autonom\* or relational autonom\* or social justice or moral\* or moral obligation? or moral duty or moral duties or moral quandr\* or ethics committee? or ethics board? or professional ethics or bioethics or bioethical issue? or double effect principle? or double effect doctrine? or double effect rule? or clinical ethics or medical ethics or (ethical adj1 (concern? or dilemma? or consideration? or protocol?)).tw,kf.

19	17 or 18	213412
20	3 and 10 and 13 and 16 and 19	0
21	3 and 13 and 16 and 19	34
22	3 and 10 and 13 and 19	2
23	3 and 13 and 19	115
24	21 or 22 or 23	115
25	limit 24 to (english language and yr="2000 -Current")	77

**Other Search Terms Used**

scarce resource triage pediatrics  
 covid triage pediatrics  
 Italy covid triage pediatric(s)