

Rationing With Respect to Age During a Pandemic

A Comparative Analysis of State Pandemic Preparedness Plans

Emily Scire, MD, MBE; Kyeong Yun Jeong, MD; MaryKatherine Gaurke, BA; Bernard Prusak, PhD; and Daniel P. Sulmasy, MD, PhD

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e-Table 1: Summary of State PPPs, along with Categorization

State (Year of Official PPP Publication/Last Update)	Triage Scheme/ Principles Cited	Category	Notes
Alabama (2020) https://www.adph.org/CEPSecure/assets/alabamacscguidelines2020.pdf	A general mass casualty triage guideline focused on saving the most lives; rejects age as a consideration	A-Short-term Survival	
Alaska (2020) http://dhss.alaska.gov/dph/Epi/id/SiteAssets/Pages/HumanCoV/SOA_DHSS_CrisisStandardsOfCare.pdf	Considers SOFA, duration of benefit/longer-term prognosis (beyond 1-2 years), duration of need, response to mechanical ventilation	B-1-5 Expected Life-years	Identical to MN CSC
Arizona (2020) https://azdhs.gov/documents/preparedness/epidemiology-disease-control/infectious-disease-epidemiology/novel-coronavirus/sdmac/covid-19-addendum.pdf	Uses SOFA as in previous versions, and also adds consideration of 1-5 year survival in calculating a priority score. In case of ties, providers may consider prioritizing pediatric patients, healthcare workers, single caretakers, pregnant patients, and those who have lived through fewer life stages	C-Total Life-years	Cites Pittsburgh Model Of note, AZ is the only state to enact its plan to date https://www.azmirror.com/2020/07/03/as-covid-19-worsens-az-is-the-first-state-to-enact-crisis-care-standards/
Arkansas (None)			2014 Pandemic Influenza Plan with no triage guidelines https://www.arcourts.gov/sites/default/files/articles/ADH-Pandemic-Flu-Response-Plan.pdf UAMS also apparently has a



			plan which has not been endorsed by the AR DOH https://www.arkansasonline.com/news/2020/may/18/creation-of-care-policies-gets-look-202/
California (2020) https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/COVID-19/California%20SARS-CoV-2%20Crisis%20Care%20Guidelines%20-June%208%202020.pdf	Uses SOFA; for ties can consider comorbidities that affect near-term survival (≤ 6 mo.)	A-Short-term Survival	
Colorado (2020) https://drive.google.com/file/d/1IIIEDTwEP6HQxzy5Az-9maYJxO7R6bp/view	Tier 1: short-term survival (SOFA/mCCI) Tier 2: children (life-cycles) and health care workers Tier 3: Pregnant/a caregiver, or maximizing life-years saved (near to intermediate term 1-5 years out) Tier 4: Random allocation for ties	C-Total Life-years (secondary consideration)	Cites Pittsburgh Model and 2018 version of CO plan
Connecticut (2010) https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/dph/legal/StandardsofCarefinalpdf.pdf	Cites plans like 2010 MN, CA, etc. and suggests using a standardized scoring system like SOFA	O-Other	
Delaware (2020) https://www.centerforpublicrep.org/wp-content/uploads/2020/05/DE-CSC-ConOps-FInal-4-29-20.pdf	Focus is saving the most lives; uses SOFA and does not consider prognosis beyond acute illness; ignores age (if not relevant for	A-Short-term Survival	



	current survival) and stable chronic conditions		
Florida (None)			2020 FL Bioethics Network Plan: Considers short-term (save lives) and longer-term (save life-years) by factoring in SOFA and comorbidities; Age bracket/life-cycle considerations and health care worker status can be used as tie-breakers http://www.fha.org/news/show-details/Florida-Hospital-Association-Supports-Ethics-Guidelines-for-Crisis-Standards-of-Care-in-Public-Health-Emergencies-from-Florida-Bioethics-Network/56
Georgia (None)			2009 Pandemic Influenza Plan with no triage guidelines https://dch.georgia.gov/documents/pandemic-influenza-business-continuity-plan
Hawaii (None)			2020 draft guidelines in approval process exclude people with severe illness likely to die in short-term, then considers SOFA score and longer-term survival (10 years out); penalizes those >65 with COVID-19, and uses



			age/ life-cycles tie-breaker https://georgetown.box.com/s/mqswltos_u1fnk2zxvor3q10aae1ihuqt
Idaho (None)			Apparently there were 2020 guidelines in development, but we did not hear back from them; 2017 EOP is non-specific https://ioem.idaho.gov/wp-content/uploads/sites/57/2018/12/2017-IDEOP.pdf
Illinois (2020) https://www.dph.illinois.gov/sites/default/files/Guidelines%20on%20Emergency%20Preparedness.pdf	Provides generally guiding ethical principles for hospitals, and suggests potential criteria for de-prioritization of patients who are unlikely to benefit from a scarce resource or treatment, such as (1) risk of mortality or morbidity for a particular patient; (2) likelihood of good or acceptable response to a treatment or resource for a particular patient; and (3) community risk of transmitting infection and ability to reduce that risk by using a particular resource.	O-Other	2018 EOP also addresses triage generally https://dph.illinois.gov/sites/default/files/publications/catastrrophic-incident-response-annex-052218.pdf
Indiana (2014) https://emeraldcoasthcc.org/sites/emeraldcoasthcc.site/files/indiana-crisis-standards-	Exclusion criteria (NYHA Class III Heart Failure (HF), dialysis-dependent, etc.); SOFA score; then first	B-1-5 Expected Life-years	



of-care-2014.pdf	come, first serve as tie-breaker		
Iowa (2007) http://publications.iowa.gov/17889/1/panflu_ethical_guidelines_manual.pdf	Considers SOFA score and notes one may need to choose young and healthy over older and sicker who have <i>less chance of surviving</i> ; prioritizes essential workers	A-Short-term Survival	2020 Draft is awaiting final review/approval per in-state contact
Kansas (2013) https://www.kdheks.gov/cphp/download/Crisis_Protocols.pdf	Exclusion criteria (NYHA Class III HF, etc.); then uses SOFA; random allocation or first-come-first-served for ties	B-1-5 Expected Life-years	2020 Pandemic Influenza Plan reaffirmed 2013 CSC https://www.kdheks.gov/cphp/download/KS_PF_Plan.pdf
Kentucky (2020) https://www.kyha.com/assets/docs/COVID19/Update/CrisisStandardsOfCareFinal.pdf	Considers SOFA, comorbidities that reduce 1 year survival, and expected resource utilization; offers example exclusion criteria including age > 85	D-Fair Innings	CSC suggest decision on exclusion criteria could be made locally
Louisiana (2019) https://bloximages.nyork1.vip.townnews.com/nola.com/content/tncms/assets/v3/editorial/3/03/30339376-84a4-11ea-a8d4-0f02d2e4e840/5ea0528be9f00.pdf.pdf	Exclusion criteria include persistent (>72 hour) coma and GCS < 6; then triage based on SOFA	A-Short-term Survival	Offers fair innings and life-cycles as ethical considerations in background section but does not truly apply
Maine (None)			2015 EOP only provides general guidance; we did not hear back about other plans https://www.maine.gov/dhhs/mecdc/public-health-systems/phep/documents/mainecdcallha_zeop.pdf



<p>Maryland (None)</p>			<p>2020 draft unapproved: Mentions saving lives and life-years; uses exclusion criteria, SOFA and "long-term survival" (< 1 year prognosis); life-cycle considerations, followed by random chance https://journal.chestnet.org/article/S0012-3692(18)32565-0/fulltext Attorney General has approved the concept of a CSC in the state https://www.marylandattorneygeneral.gov/Opinions%20Documents/2015/100oag160.pdf</p>
<p>Massachusetts (2020) https://georgetown.brookings.edu/wp-content/uploads/2020/04/2020-04-16-Georgetown-Brookings-Paper-Proposed-CSC-Model-for-ICU-Admission-Decision-Making.pdf</p>	<p>Goal of saving most lives (SOFA) and life-years (considers comorbidities with impact on "near-term" survival, 1-5 years from admission); life-cycle considerations and pregnant/essential worker status for tie-breakers, followed by lottery</p>	<p>C-Total Life-years</p>	<p>Based on Pittsburgh Model</p>
<p>Michigan (2012) http://www.mimedicalethics.org/Documentation/Michigan%20DCH%20Ethical%20Scarce%20Resources%20Guidelines%20v2%20rev%20Nov%202012.0.pdf</p>	<p>Creates tiers of priority based on medical prognosis ("survivability and favorable outcomes") and essential social function (health workers); secondarily, suggests age/QALY/DALYs</p>	<p>C-Total Life-years (secondary consideration)</p>	



	(based on fair innings principle), lottery, or first-come-first-served would be acceptable		
Minnesota (2020) https://www.health.state.mn.us/communities/ep/surge/crisis/standards.pdf	SOFA (short-term <6mo. prognosis), duration of benefit/longer-term prognosis (1-2 years out), duration of need, response to mechanical ventilation	B-1-5 Expected Life-years	
Mississippi (2017) https://msdh.ms.gov/msdhsite/static/resources/7221.pdf	Provides a general ethical framework	O-Other	
Missouri (2020) https://www.mhanet.com/mhaimages/COVID-19/A%20Framework%20for%20Managing%20the%202020%20COVID.pdf	Recommends multiple established frameworks, leaving decision up to hospitals, but highlights Pittsburgh Model: SOFA, life-years considerations (comorbidities that affect "near term" 5 year survival), life-cycles tie-breaker using age brackets, then lottery	C-Total Life-years	Pittsburgh Model is used as the primary example framework endorsed
Montana (2020) https://georgetown.brookings.edu/wp-content/uploads/2020/04/2020-04-20-Georgetown-Brookings-Report-on-Montana-COVID-19-Response.pdf	Mentions "life-years saved" as one priority to balance. Excludes those unlikely to survive acute admission; then considers SOFA (short-term) and longer-term survival based on comorbidities (looking at least 10 years out, based on examples of major comorbidities given); tie-breakers include: children over	C-Total Life-years	Influenced by WA, MD, MN, VAH, and Pittsburgh guidelines



	adults (vulnerable population), raw SOFA score, life-cycle considerations (if age gap > 30 years), prioritizing those already receiving care, and finally random allocation		
Nebraska (None)			Only 2020 EOP found, no triage guidelines; we did not hear back about other plans https://nema.nebraska.gov/sites/nema.nebraska.gov/files/doc/standard-leop.pdf
Nevada (2020) https://nvhealthresponse.nv.gov/wp-content/uploads/2020/04/NV_DHHS_DPBH_CSCRecommendations_COVID-19_040220_ADA.pdf	Provides Code of Ethics, including prioritizing those most likely to medically benefit (and possibly healthcare workers); remains general	O-Other	
New Hampshire (None)			June 2020 Draft is posted online: Goal of saving the most lives, based on SOFA and comorbidities affecting near-term survival (<1 year out); as tie-breakers, children and pregnant women get priority, then random allocation can be used https://www.dhhs.nh.gov/documents/nh-csc-plan.pdf
New Jersey (2020) https://nj.gov/health/legal/covid19/FinalAllo	Focus on saving lives and life-years based on SOFA (short-term)	C-Total Life-years	Based on Pittsburgh Model



cationPolicy4.11.20v2%20.pdf	and longer-term (5 year) prognosis; life-cycles tie-breaker		
New Mexico (2018) https://www.nmhealth.org/publication/view/plan/4877	Strictly SOFA-based triage system	A-Short-term Survival	2018 CSC was reaffirmed in 2020 Emergency Operations Plan https://www.nmhealth.org/publication/view/plan/5906/
New York (2015) https://www.health.ny.gov/regulations/task_force/reports_publications/docs/ventilator_guidelines.pdf	Rejects life-years approach; limited exclusion criteria to reflect "immediate or near-immediate mortality" despite therapy; triage based on SOFA; endorses reallocation based on clinical status; uses "fair innings" to prioritize younger age/children in case of ties	C-Total Life-years (secondary consideration)	These are "Ventilator Allocation Guidelines." In 2020 New York City also created their own set of guidelines, which allow age to be used as a tie-breaker criterion https://www1.nyc.gov/assets/doh/downloads/pdf/imm/covid-19-patient-surge-crisis-care.pdf
North Carolina (2020) https://www.ncha.org/wp-content/uploads/2020/04/North-Carolina-Protocol-for-Allocating-Scarce-Inpatient-Critical-Care-Resources-in-a-Pandemic_FINAL-4-6-2020541-1.pdf	Considers SOFA, longer-term comorbidities (at least 10 years out) to save lives and life-years; uses life-cycles considerations as tie-breaker	C-Total Life-years	Based on Pittsburgh Model
North Dakota (None)			2020 Pandemic Influenza Plan with no triage guidelines https://www.health.nd.gov/media/2439/pandemic-influenza-plan-3-31-2020_redacted.pdf



publications/guidelines/crisis-standards-of-care.pdf	includes organ failure (e.g. NYHA Class III HF) and terminal illnesses		
South Carolina (None)			2020 EOP does not discuss triage https://www.scemd.org/media/1214/19-annex-08-health-and-medical-services.pdf SC Medical Association has worked on 2020 guidelines, but they are not state-endorsed https://www.scmecial.org/covid-19-resources/ see also, https://www.greenvilleonline.com/story/news/health/2020/04/20/coronavirus-south-carolina-task-force-ethical-issues-overwhelmed-hospitals/5151600002/
South Dakota (None)			2006 Pandemic Influenza Plan encourages hospitals to create their own triage guidelines https://doh.sd.gov/documents/diseases/flu/PanFluPlan06.pdf
Tennessee (2020) https://www.tn.gov/content/dam/tn/health/documents/cedep/ep/Guidance_for_the_Ethical_Allocation_of_Scarce_Resources.pdf	Goal of saving the most lives; uses SOFA, excluding patients who, based on SOFA and underlying comorbidities, have a high likelihood of mortality during	A-Short-term Survival	Revised 2016 TN Guidelines in consultation with the Office for Civil Rights



	admission		
Texas (None)			<p>2020 EOP does not discuss triage https://tdem.texas.gov/wp-content/uploads/2019/08/2020-State-of-Texas-Basic-Plan_WEBSITE_05_07_gs.pdf</p> <p>North Texas Mass Critical Care Triage Guidelines which use mSOFA have had ongoing updates https://www.dallas-cms.org/tmaimis/Default.aspx?WebsiteKey=5857f487-9f64-4281-b4b7-67e6a2224be2&hkey=9f1e00e9-17f8-47f1-a874-2c315f147674&=404;https://www.dallas-cms.org:443/FDCMS/Public_Health/Mass_Critical_Care</p>
Utah (2020) https://georgetown.brookings.edu/wp-content/uploads/2020/04/Utah-2020-Protocol.pdf	Narrow exclusion criteria (SOFA>11, severe neurologic impairment, etc.), then shared decision-making whenever possible; consider withdrawal of care based on SOFA except give priority to certain groups: pregnant, healthcare worker, younger age (based on typically better prognosis)	B-1-5 Expected Life-years	



<p>Vermont (2020) https://www.healthvermont.gov/sites/default/files/documents/pdf/Vermont%20CSC%20Plan%2005.18.2020.pdf</p>	<p>Excludes: serious illness/organ failure with "poor prognosis," then triages based on SOFA. Can consider chronic conditions/resource limitations/other health scores for tie-breakers</p>	<p>B-1-5 Expected Life-years</p>	<p>Influenced by NY and MN guidelines</p>
<p>Virginia (2009) https://www.vdh.virginia.gov/content/uploads/sites/10/2019/01/VA-Critical-Resource-Shortages-Planning-Guide.pdf</p>	<p>General planning guide</p>	<p>O-Other</p>	
<p>Washington (2020) https://nwhrn.org/wp-content/uploads/2020/03/Scarce_Resource_Management_and_Crisis_Standards_of_Care_Overview_and_Materials-2020-3-16.pdf</p>	<p>Excludes patients with severe underlying disease predicting poor short-term survival, or those with lower "baseline functional status." For those who qualify, triage is based on expected duration of critical care, prognosis based on acute illness and underlying conditions that limit short-term survival, response to treatment, SOFA, baseline functional status</p>	<p>C-Total Life-years</p>	
<p>West Virginia (None)</p>			<p>WV Hospital Association is working on their own guidelines but not seeking state approval; EOP from 2016 does not contain specific triage guidance https://emd.wv.gov/Preparedness/Resour</p>



			ces/Documents/WV%20EOP%202016/ESF%2008%20-%20Public%20Health%20FINAL%201-6-16.pdf
Wisconsin (None)			In 2020 a draft was being crafted, but progress was halted https://www.wpr.org/sites/default/files/foistletter.pdf The state hospital association apparently has developed a plan this year https://talkingpointsmemo.com/news/how-your-covid-flooded-hospital-will-triage
Wyoming (2020) https://health.wyo.gov/wp-content/uploads/2020/05/SHOInstructionsCOVID19_May122020.pdf	General guidance	O-Other	Leaves things up to hospitals; states that providers should act reasonably, in good faith
Washington, D.C. (None)			D.C. DOH cites Institute of Medicine CSC guide http://dclaw.dohcloudservices.com/table-of-contents/scope-practice-volunteer-health-practitioners-and-crisis-standards-care

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