

What are “Crisis Standards of Care” (CSC)?

- Crisis Standards of Care (CSC) provide a framework for the fair allocation of scarce resources during emergencies¹.
- At present, CSC have not been described in literature or compared at a regional or national level to identify trends or discrepancies in the allocation of scarce resources².

CSC Development:

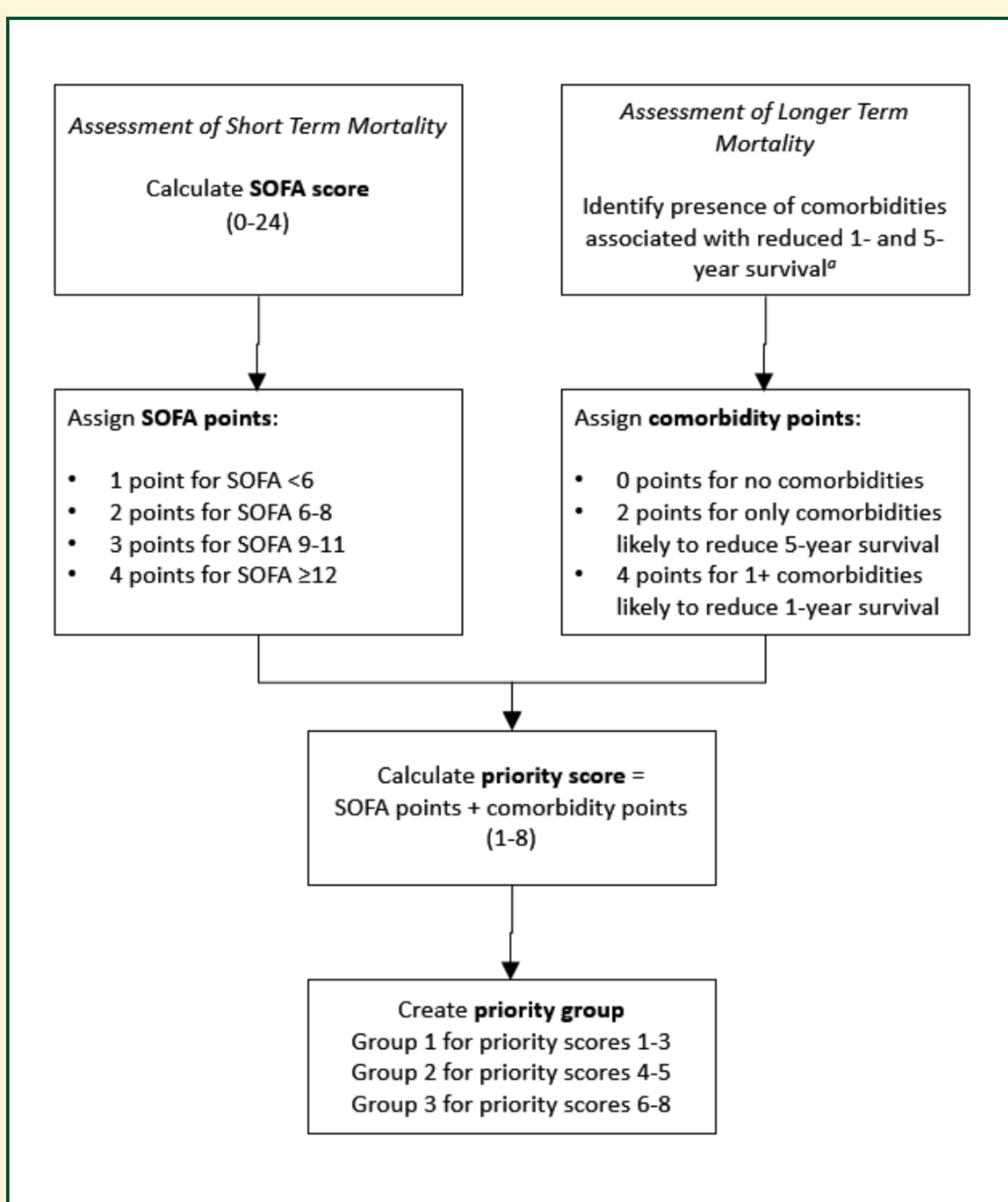
- In 2004, the Agency for Healthcare Research and Quality (AHRQ) and the Office of the Assistant Secretary for Preparedness and Response convened with experts in bioethics, emergency medicine, emergency management, health administration, health law and policy, and public health to draft, *Altered Standards of Care in a Mass Casualty Event*, which served as a foundational document for communities approaching the issues of crisis standards of care³.
- In 2007, a subsequent report, *Mass Medical Care with Scarce Resources: A Community Planning Guide*, built on the original framework⁴. There was particular interest in the allocation of scarce resource plans.
- During the H1N1 virus spread in 2009, the Institute of Medicine letter report, *Guidance for Establishing Crisis Standards of Care for Use in Disaster Situations*, offered a series of consensus committee recommendations for situations in which healthcare resources are overwhelmed⁵.
 - This report concluded that there is an urgent and clear need for a single national guidance for states with crisis standards of care that can be generalized to all crisis events and is not specific to a certain event.
 - The resulting report led to recommendations and regional workshops for developing CSC. Key principles included fairness, duty to care, duty to steward resources, transparency, consistency, proportionality, and accountability⁶.

Key Recommendations

- In 2014, the American College of Chest Physicians (CHEST) published consensus recommendations for triage and surge capacity logistics during pandemics and other disasters⁷.
- Key recommendations include:
 - The need for preparation with local and regional stockpiles, surge plans across all departments within a health system
 - A unified process across an affected geographic area (e.g. state)
 - Appropriate oversight to ensure adherence to the same standards despite potential local differences
 - Triage processes should rely on protocols, rather than clinical judgment, and that such protocols should be developed in advance of emergencies⁷.

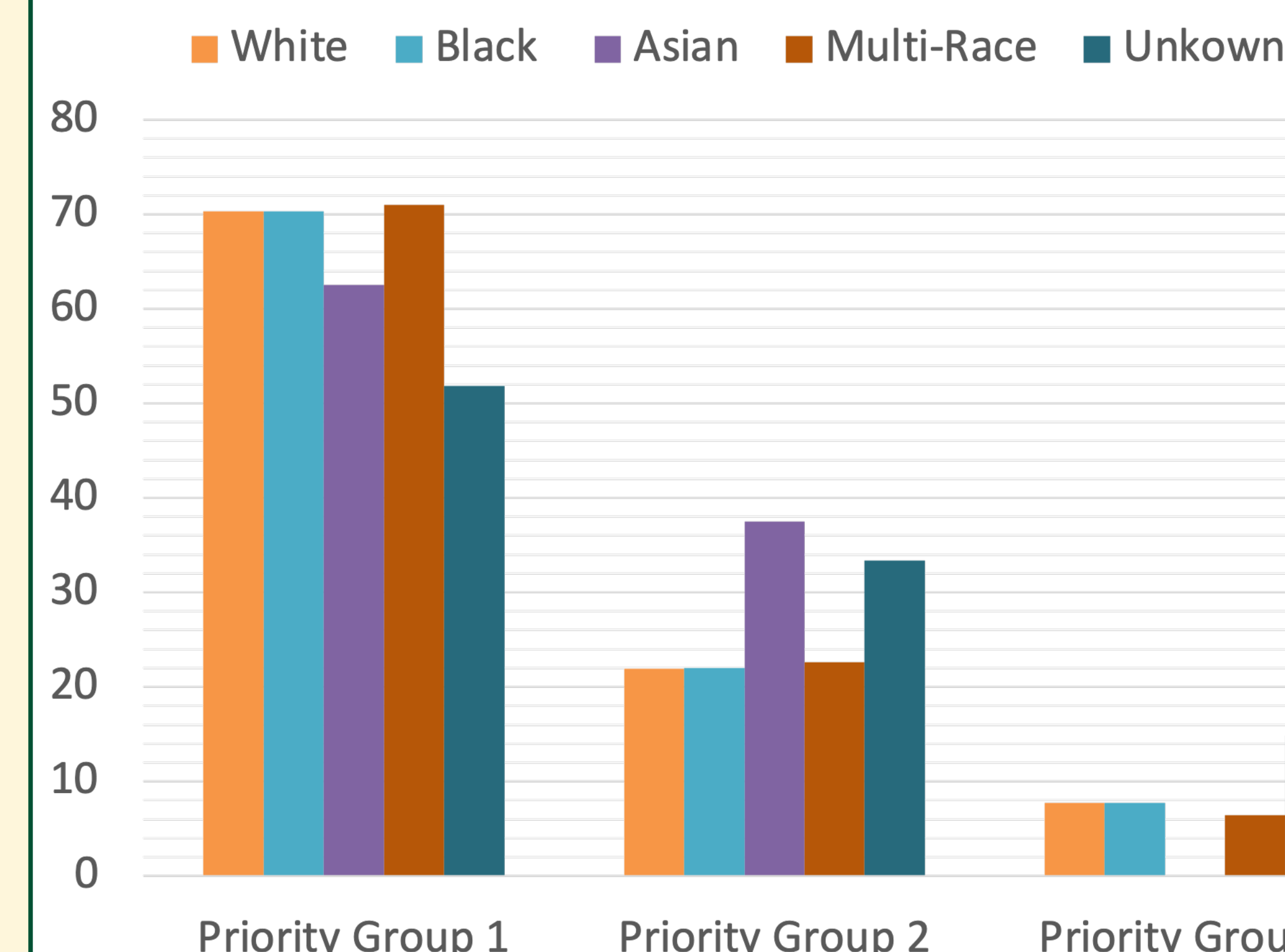
Our Algorithm

- COVID-19 has forced healthcare systems to acknowledge the need for lifesaving resources like ventilators may exceed supply.
- We created a policy using priority scores which were based, primarily, on predicted short and long-term survival (refer below).
- We created a method of calculating a daily priority score for patients at-risk for mechanical ventilation.
- Each day a group of students calculated and assigned a priority score to patients to determine an allocation schema.
- This was a feasibility study to ensure data could be collected in real-time
- A retrospective cohort study was then done to evaluate whether our policy was fair and equitable.



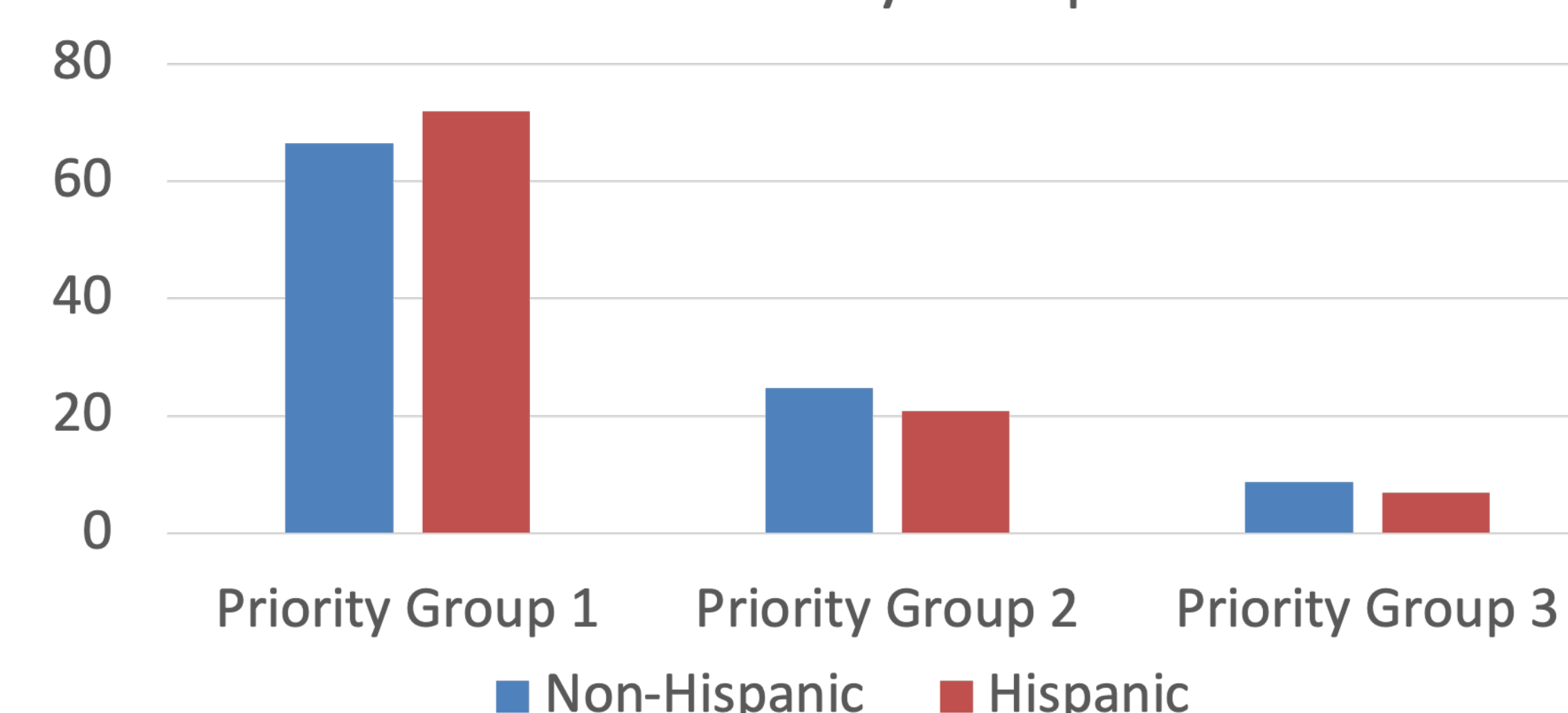
Results

Percentage of Race Cohort Allocated into Priority Group



No association of race or ethnicity with the priority score was found.

Percentage of Ethnicity Cohort Allocated into Priority Group



Conclusions

- 1) Data collection by volunteer medical students is feasible
- 2) Our Crisis Standards of Care policy does not appear to bias against any racial/ethnic minorities

Our Goals

1. Create a Crisis Standards of care model that follows key recommendations across two academic hospitals in Miami, Florida
2. Create a model of data collection that can be supervised and run by a team of medical student volunteers.
 - Removing the bias of clinical judgment away from trained physicians treating patients
 - Utilize a greater amount of manpower capable of calculating a priority score so physicians can focus on hospital responsibilities during the pandemic
3. Evaluate whether unanticipated disparities across races and ethnicities arise from our resource allocation policy

- Overall:**
- 1) Be actionable
 - 2) Allocate to those with greatest chance of surviving COVID-19 infection and living the longest.
 - 3) Be fair and equitable

Hypothesis: No racial or ethnic disparities would result.

Limitations

- Miscoding/irregularities within the electronic record
 - Race, Ethnicity, Comorbidities
- Only evaluated the first triage step (priority score)
 - Second triage team would be blinded to race and ethnicity
- External generalizability is unknown
 - Miami has a diverse patient population and staff

Resources

- 1 Institute of Medicine (US) Forum on Medical and Public Health Preparedness for Catastrophic Events. Crisis Standards of Care: Summary of a Workshop Series. Washington (DC): National Academies Press (US); 2010. Related IOM Work on Crisis Standards of Care. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK32749/>
- 2 Cleveland Manchanda, E. C., Sanku, C., & Appel, J. M. (2020). Crisis Standards of Care in the USA: A Systematic Review and Implications for Equity Amidst COVID-19. *Journal of racial and ethnic health disparities*, 1–13. Advance online publication. <https://doi.org/10.1007/s40615-020-00840-5>
- 3 AHRQ (Agency for Healthcare Research and Quality). *Altered standards of care in mass casualty events*. AHRQ Publication No. 05-0043. Rockville, MD: AHRQ; 2005.
- 4 Phillips S, Knebel A, editors. *Mass medical care with scarce resources: A community planning guide*. AHRQ Publication No. 07-0001. Rockville, MD: AHRQ; 2007.
- 5 IOM. *Guidance for establishing crisis standards of care for use in disaster situations: A letter report*. Washington, DC: The National Academies Press; 2009.
- 6 Hick JL, Hanfling D, Wynia MK, Pavia AT. *Duty to plan: health care, crisis standards of care, and novel coronavirus SARS-CoV-2*. Washington, DC: NAM Perspectives. Discussion paper. National Academy of Medicine; 2020.
- 7 Biddison LD, Berkowitz KA, Courtney B, de Jong CMJ, Devereaux AV, Kissoon N, Roxland BE, Sprung CL, Dichter JR, Christian MD, Powell T. *Ethical considerations: care of the critically ill and injured during pandemics and disasters: CHEST consensus statement*. *Chest*. 2014;146:e1455–e1555. doi: 10.1378/chest.14-0742.