



Mitigating Inequities with a Weighted Lottery to Allocate Scarce COVID-19 Medications

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Removing Access Barriers Is Not Enough



Overcoming the access barriers that disadvantaged groups face **will not mitigate inequities**; it will only **prevent a worsening of inequities**.

To actually **mitigate inequities**, it's necessary to take steps to direct more resources **to groups that have been disproportionately affected**.

Is Mitigating Inequities an Appropriate Goal When Allocating Scarce COVID-19 Treatments?



“Twin moral impulses animate public health: to advance human well-being by **improving health** and to do so particularly by **focusing on the needs of the most disadvantaged.**”

**Promote population
health outcomes**

Mitigate disparities

Gostin L. Health Affairs; 2006
White DB, Lo B. AJRCCM; 2020

Equal Respect



We show equal respect for all members of society by mitigating the negative circumstances that cause disadvantaged persons to bear the greatest burden of the pandemic.

Model Hospital Policy for Fair Allocation of Scarce Medications to Treat COVID-19**Executive Summary****Contributors:****University of Pittsburgh School of Medicine**

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**Endorsed by
UPMC Patient &
Family Advisory
Council**

Full policy available at:
<https://ccm.pitt.edu/node/1133>

Pennsylvania guidance:
<https://www.health.pa.gov/topics/diseases/coronavirus/Pages/Guidance/Ethical-Allocation-Framework.aspx>

Weighted Lottery Gives All Eligible Patients a Chance and Mitigates Disparities



Eligible patients: All who meet eligibility criteria

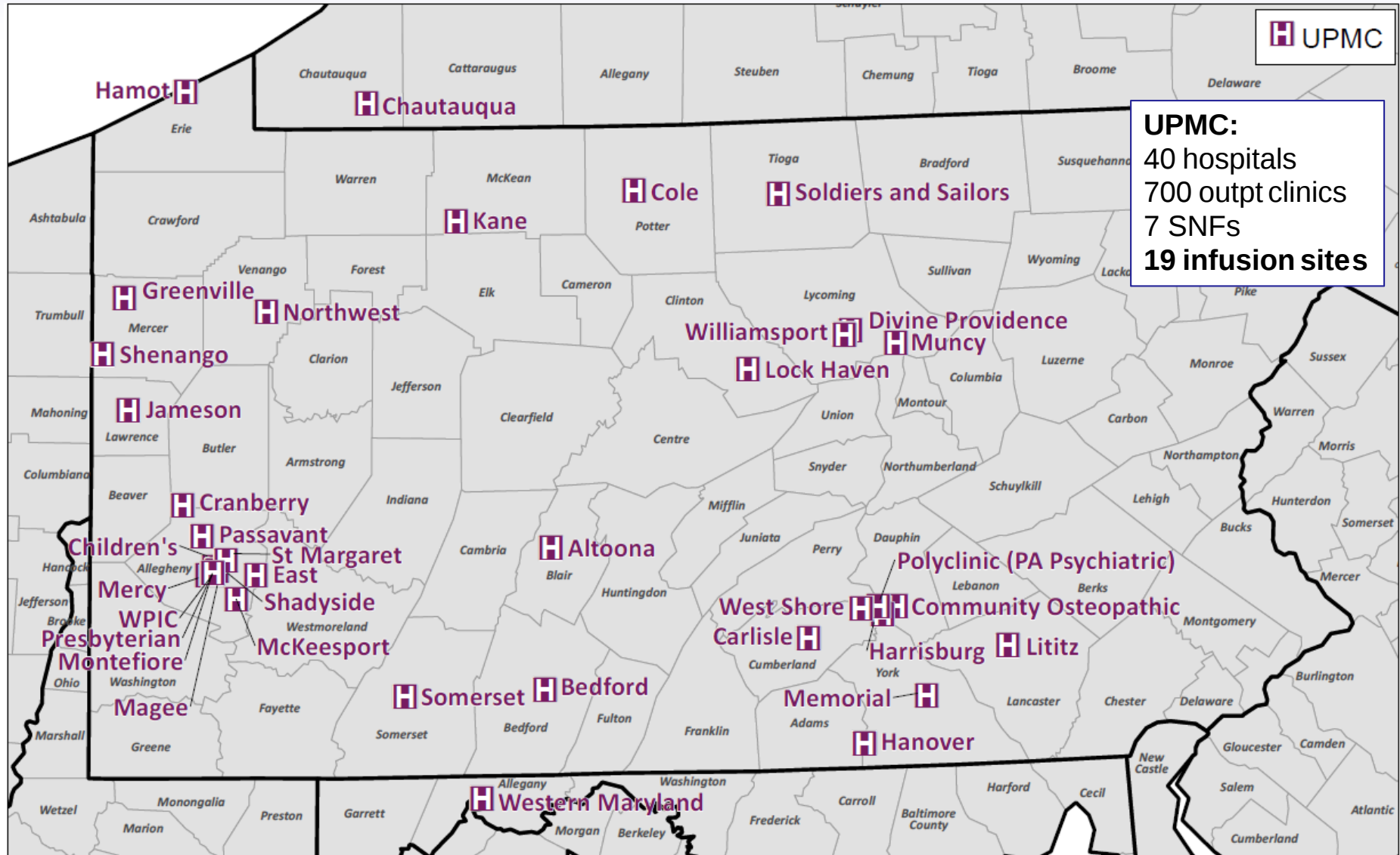
Allocation mechanism: weighted lottery

- ✿ Every eligible patient has a chance to receive the drug.
- ✿ Baseline chances:
$$\frac{\text{number of treatment courses}}{\text{predicted number of patients until next shipment}}$$
- ✿ Weighting to achieve equity goals.

Weighting factors:

Ethical Goal	Specification	Chances
Prioritize frontline workers	Higher chances to frontline workers (who are disproportionately POC)	+25%
Mitigate inequities in COVID-19 outcomes	Higher chances to those from disadvantaged areas (Area Deprivation Index score 8-10)	+25%

UPMC Health System



Achieving Equitable Access: Centralized Lottery and Scheduling of Monoclonal Antibody Infusion



Requests managed through a central allocation center in Pittsburgh, PA



Allocation team confirms eligibility with the treating physician



Lottery is conducted daily by trained staff + witness; all are blinded to patient characteristics except weighting factors.



Referring physician is informed whether patient is allocated drug; gains consent



Centralized infusion scheduling process across the 19 infusion sites; drug infused; all patients' outcomes tracked



VIEWPOINT

A Proposed Lottery System to Allocate Scarce COVID-19 Medications

Promoting Fairness and Generating Knowledge

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On May 1, 2020, the US Food and Drug Administration (FDA) issued an Emergency Use Authorization for the unapproved drug remdesivir to treat hospitalized patients with severe coronavirus disease 2019 (COVID-19). The authorization was based on a preliminary report

tients and missed opportunities to generate new knowledge that could reduce morbidity and mortality. After a largely unsuccessful attempt by the US Department of Health and Human Services (DHHS) to distribute remdesivir to hospitals across the country, the DHHS del-

Centralized lottery

- ✿ Primary goal: fair allocation when scarcity exists
- ✿ Secondary benefit: gaining knowledge of treatment effectiveness
- ✿ Lottery creates randomization (i.e., a natural experiment) that allows valid causal inferences
- ✿ A single registry increases value

White DB. JAMA; 2020

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