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conduct of research. *Ethics & Behavior* 14(4): 383–395. doi: 10.1207/s15327019eb1404_8.
Emanuel, E. J., D. Wendler, and C. Grady. 2000. What makes clinical research ethical? *JAMA* 283(20): 2701–2711. doi: 10.1001/jama.283.20.2701.
World Health Organization. 2016. Guidance for managing ethical issues in infectious disease. https://www.who.int/tdr/news/2016/ethical-issues-in-inf-dis-outbreaks/en/ (accessed May 20, 2020).
Zhang, H., F. Shao, J. Gu, L. Li, and Y. Wang. 2020. Ethics committee reviews of applications for research studies at 1 hospital in China during the 2019 novel coronavirus epidemic. *JAMA* 323(18): 1844–1846.

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OPEN PEER COMMENTARIES

Ethical Allocation of Remdesivir

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As the federal government distributed remdesivir to some of the states COVID-19 hit hardest, policymakers scrambled to develop criteria to allocate the drug to their hospitals. Our state, Michigan, was among those states to receive an initial quantity of the drug from the U.S. government. The disparities in burden of disease in Michigan are striking. Detroit has a death rate more than three times the state average. Our recommendation to the state was that it should prioritize the communities that bear a disproportionate burden of suffering in the allocation of the new potential treatment. This recommendation is justified not only for new drugs with uncertain effects, but also for drugs of certain benefit or vaccines. For states with significant health disparities, such as Michigan, this allocation priority may help to repair them. In fact, any other allocation strategy may make them worse.

CRITERIA FOR ALLOCATION

Our recommendation was to allocate remdesivir first and foremost, but not exclusively, to those communities who are bearing the most disproportionate burden of suffering from COVID-19. For states in which the burden of disease is distributed more uniformly across the population, there would obviously be no need for such a recommendation. In Michigan, as elsewhere, there are significant health disparities. The greatest burden a person or community can bear is the burden of death. The sickest are those most likely to die. Thus, our recommendation was to prioritize those communities with the highest death rates and those communities with the highest rolling number of people on ventilators.

Using death and ventilator usage rates rates maximizes benefit, but doing so is also the fairest method of allocation in states with great health disparities. It achieves greater benefit than other methods of allocation mainly for two reasons. The first is that if the drug goes to those communities' members of which are most likely to die of the disease, then the disparity in rate of death may decrease. Given that the badness of death is a matter of what is lost, and that death is the greatest loss, allocating to avoid this loss helps to achieve benefits that other allocation criteria would only achieve coincidentally, if at all.

The second way that allocating by death rates achieves benefits that would be lost by prioritizing other communities is that the communities in which death rates are the highest are the same communities that have long histories of disparities wrought by, among other thigs, mistreatment and mistrust (Webb Hooper et al. 2019). Prioritizing these communities can help repair this trust. In fact, the long term benefits that accrue because of this repaired trust may be much greater than the benefits associated with the avoidance of death. Improved trust between the

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community and policymakers and health officials may lead to improved health behaviors (Birkhäuer et al. 2017). Over the long-term, these behaviors may help to reduce the prevalence and severity of chronic disease. Over the short-term, this increased trust may support better adherence to public health recommendations, which is especially important in subsequent waves of the pandemic.

These benefits—greater likelihood of avoiding death and the downstream benefits of improved trust—are unlikely to be achieved if allocation from the state to communities was by, for example, total case count. Allocating proportional to case count may instead bias the allocation toward those communities with a high capacity for testing, which may be communities already rich with health services. Furthermore, this criterion for allocation has potential to forego the benefit of avoiding death, because the drug may go to communities that have high rates of disease but low rates of death, such as the communities that are healthier at baseline. Allocating remdesivir in this manner would only make health disparities worse.

Prioritizing communities which bear a disproportionate burden of disease as measured by death rate is also the fairest. Rawls' Difference Principle allows inequalities of a good, but only if that inequality advantages those who are worst off (1993). In the case of COVID-19, the highly limited supply of remdesivir implies that its distribution will be unequal. This inequality is justifiable only if it improves the lives of those who are worst off, or members of the communities with the highest death rates. The only allocation priority that does this is the one according to which these communities get the drug and others don't. Allocating the drug instead to communities that don't bear a disproportionate burden of suffering—those communities bearing proportionate burden of suffering—would not advantage those who are worst off. By the Difference Principle, such an allocation would be unfair.

One might object that prioritizing those communities bearing a disproportionate burden of suffering runs the risk of making the disparities even worse. The objection is rooted in the uncertainty of the risks and benefits of remdesivir, but it has two stems. The first stem is that the unknown risks may end up harming those who take it. If it is allocated to over-burdened communities and it ends up harming them, then that harm is worse than it would be for other communities. In addition to the disutility of this harm, it may also further undermine the relationship between the community and policymakers or health officials, leading to even worse outcomes. The second stem is that the communities disproportionately burdened are the same communities that have a history of mistreatment by medicine and that by prioritizing them in the allocation of an "experimental" drug, they may feel that they are being exploited even further.

These reasons, however, don't undermine our argument. There are no treatments the effects of which are certain. The evidence that remdesivir is, on balance, beneficial is indeed lower than it would ideally be. But higher stakes and few options warrant lower credences in making treatment decisions. At no point should a physician recommend remdesivir to a patient if they think the harms are greater than the benefits Prioritizing remdesivir to over-burdened communities doesn't require that physicians recommend it to patients for whom it would be inappropriate, nor does it require that the patients to whom it is offered take it. But if it is going to be recommended to anyone, it can only be under the presumption that there are some patients who might, on balance, benefit from it. If there is no presumption of benefit, then there is no justification for it to be recommended to anyone.

TIERED SYSTEM

The distribution strategy that resulted from these recommendations has tiers of priority, which, as further supplies of remdesivir become available, continue to guide its distribution. Alone in the first tier is the City of Detroit, based on a death rate that is more than three times the state death rate. The next tier consists of the counties in the Detroit metropolitan area and Genesee County, the home county of Flint. This tier is based upon a death rate that is between one and three times the state mean COVID-19 death rate or has counties that are among the top five by such measures. The third tier includes counties with death rates between 50% and 100% of the state death rate and includes mainly more rural counties, most with limited hospital capacity and often not caring for COVID-19 patients. The fourth tier is the remainder of the counties in the state, including urban through rural counties.

Within these tiers, the distribution of remdesivir to individual hospitals is according to the percent of patients placed on mechanical ventilation over the most recent 5-day period. Thus, this system ensures that the hospital that gets the most remdesivir is the hospital in the first tier that has the highest percentage of patients on mechanical ventilation, rather than, for example, a large university-affiliated medical center or research hospital in a wealthy community. While Detroit is prioritized because of its

disproportionately high death rate, the distribution of remdesivir must also consider the value that more widespread distribution achieves. Michigan, like many states, has a diverse range of communities. The value that allocating to communities with high death rates achieves must be balanced against the value that allocating to a diverse range of communities across the state achieves. Doing so demonstrates policymakers' and health officials' concern for all communities it serves, not only those communities most impacted. This tiered system achieves that balance.

FUTURE ALLOCATION

Until such time as the supply of remdesivir is sufficient to meet the clinical demand, there will be a need for strategies such as described here. Remdesivir is not likely to be the only drug distributed by the states to its hospitals. There may be other treatments or vaccines made available. The allocation of future interventions must be evaluated based on the circumstances and information available that time. But any time a new intervention is made available and the state is responsible for its distribution, it is an opportunity for the state to demonstrate its commitment to addressing health disparities. The moral value of this demonstration—the degree to which it achieves greater benefits and fairness—may suggest, as it does in the case of remdesivir, that the state should prioritize those communities bearing a disproportionate burden of suffering.

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REFERENCES

Birkhäuer, J., J. Gaab, J. Kossowsky, et al. 2017. Trust in the health care professional and health outcome: A meta-analysis. *PLoS One* 12(2): e0170988. doi: 10.1371/journal.pone.0170988.

Rawls, J. 1993. *Political liberalism*. New York: Columbia University Press.

Webb Hooper, M., C. Mitchell, V. J. Marshall, et al. 2019. Understanding multilevel factors related to urban community trust in healthcare and research. *International Journal of Environmental Research and Public Health* 16(18): 3280. doi: 10.3390/ijerph16183280.

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Resource Allocation in COVID-19 Research: Which Trials? Which Patients?

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During the COVID-19 pandemic, ethicists and others have worked to allocate scarce resources in the clinical setting, including intensive care beds, ventilators, and personal protective equipment, in equitable and consistent ways. The sudden increase in COVID-19 research has made clear that the allocation of research resources is also an area that needs attention. Previous allocation work in the clinical setting is particularly helpful in informing allocation in the research setting.

Several scarce resources are required for COVID-19 research. These include participants, facilities, funding to complete the research, and interventions being tested. In what follows, we will focus on participants.

First, COVID-19 patients are unevenly distributed in space and time. Due to a variety of factors, some parts of the world experience surges of cases while others have few. Areas such as Wuhan were initially overwhelmed with patients (and therefore potential research participants) when trials began, yet have had to stop trials as the first wave of cases dissipated. Narrow inclusion criteria in some trials, such as focusing on the most severely affected patients, also

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