
Lottery for Insufficient Drugs Allocation



One solution to the problem of scarce medications allocation, which has been exacerbated by the COVID-19 pandemic, can be the implementation of a centralised lottery system, an article in *JAMA* argues.

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The authors (White and Angus 2020) take as an example the distribution of the unapproved drug remdesivir authorised for emergency use by the U.S. Food and Drug Administration (FDA) in May. They criticise the authority's approach pointing to two underlying problems. It is underscored that these problems are common to any pandemic context when governments have to deal with novel therapeutics, which are scarce and unknown.

One problem is that the quantities of the drug were not enough to cover all eligible patients, which consequently required the rationing of the drug by hospitals. The authors point out that the available frameworks for the drug's allocation have been either inefficient or absent or ethically questionable.

The other is "major gaps in knowledge" and "missed opportunities" regarding the learning about the drug's efficacy. With only minimal reporting required on the treatment's outcomes, an opportunity is missed "to collect outcome data that would shed light on several pressing questions, such as whether remdesivir has an overall mortality benefit and whether certain clinical subgroups are more likely to benefit than others," the authors note.

Considering the absence of careful planning in such cases, the authors propose a centralised lottery system managed by the state health departments rather than federal government or individual hospitals. In this system, a central registry would be created for hospitals to submit data on patients' demographics and clinical outcomes, including those patients who are not allocated the drug. It is argued that such system would not only mean fair distribution of the drug but also facilitate rapid learning about its effectiveness by providing access to the registry's data to researchers.

The authors also point to a secondary benefit of the lottery system, which is randomisation not limited by the need to provide equal chances to all patients (ie, weighted lottery system). They opine that it "creates a natural experiment that could be leveraged by researchers to make causal inferences about the effect of a factor outside their control." Implementing the system on the state level would further allow for larger patient databases, hence greater statistical power to facilitate the research into the drug's efficiency. Also, the administrative burden would be reduced compared to the hospital-level approach.

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