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without moderating our behavior, we will break this young allocation system quickly.

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## Commentary: Flying too close to the sun

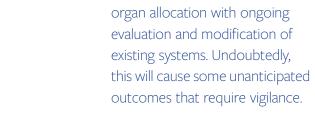
Anh-Thu Le, MD, and Nahush A. Mokadam, MD

There is a well-known Greek myth in which the architect Daedalus crafts a pair of wax and feather wings to escape the clutches of the cruel King of Crete. Daedalus wishes to free his son Icarus first, and launches him away after warning his only child to not fly too high, as the sun's rays would melt the waxy wings. Alas, Icarus, young and eager, falls to his death after disregarding his father's admonition.<sup>1</sup> While it is only an ancient story, it does still have relevance in the world of heart transplant whereas the number of donor hearts remains impertinently stagnant.<sup>2</sup> Like the old inventor wanting to

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**CENTRAL MESSAGE** 

Anh-Thu Le, MD, and Nahush A. Mokadam, MD

We must continue to optimize

save his son, we want to save our patients by transplanting as many donor hearts as we can to those who will benefit most.

In this issue of the *Journal*, Estep and colleagues<sup>3</sup> discuss the outcomes on heart transplantation after the implementation of new adult heart allocation guidelines in October of 2018. There were changes for the better: for example, more patients received heart transplants after implementation of the guidelines, there were no changes to mortality over 180 days for patients who were listed, and the available donor network

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seemed to have widened, based on the increase in median travel distance for the donor hearts.<sup>4</sup> However, there were also some findings that do give one pause and are worth addressing. Of the 124 transplanting centers examined, a little less than half performed *fewer* transplantations after the new allocation guidelines were implemented. Although there seems to be a wider area of distribution for these donor hearts, that distance comes with a price—a statistically significant increase in ischemic time, which may in part explain why the 180-day post-transplant mortality was also greater for patients after the update to the guidelines. By continuing to transplant patients after the allocation changes, whether due to lack of resources, increased donor ischemic time, or other intangibles, have some of these centers flown too closely to the sun?

It is important, as the authors themselves note, that some of the data was acquired early after October 2018, and there may not have been a sufficient sample size to draw any firm conclusions about the updated allocation system. Changes made by the United Network for Organ Sharing result in more donor organs—but we would do well to remember that there may be some unintended negative consequences, as there were for the listed status 2 patients after the 1999 United Network for Organ Sharing change to the allocation scheme.<sup>5</sup> What also, of the 56 programs whose transplant volumes decreased after the change to the allocation system? Centralization of care may have some advantages but may also limit access to patients who are unable to travel. Myths are still told even thousands of years later because the lessons they impart are still relevant to us today. Let us continue to pursue changes to the allocation system, let us continue to maximize the hearts transplanted. We must continue to study the outcomes of the patients transplanted after the update and use the sturdy wings of knowledge to safely propel all transplant centers and our patients forward. Let us do better than Daedalus!

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# Commentary: The ethics of donor allocation

Vivek Rao, MD, PhD

Cardiac transplantation involves major ethical dilemmas at all stages of the transplant process. In contrast to liver and kidney donors, an increasing proportion of whom are living-related, heart donors are primarily young individuals

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### CENTRAL MESSAGE

All aspects of cardiac transplantation involve important ethical considerations. Changes to any of these aspects demand careful consideration and constant evaluation of their impact.

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