



## Editorial

## Understanding the mechanisms and implications of the association between community distress and organ nonutilization



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The shortage of available organs is perhaps the single most vexing problem facing the field of transplantation today. The organs and tissues that both living and deceased individuals and their families choose to donate are precious, life-saving gifts, sometimes requiring great sacrifice on behalf of the donor. Yet at the same time, the field bears responsibility for the proper stewarding of these gifts in order to maximize the benefit of this gift to recipients who face life-threatening illnesses in some cases and substantially diminished quality of life in others. With a full understanding of the need to balance the relative scarcity of available organs with the challenges of reliably predicting the quality and viability of recovered organs, approximately 20% of organs are not utilized in the US.<sup>1</sup>

Schold et al<sup>2</sup> explored whether kidneys donated from deceased donors residing in more distressed communities had a greater likelihood of nonutilization and whether these same kidneys were associated with poorer posttransplant outcomes among recipients. Their main finding of a significant association between the donor residential Distressed Communities Index and deceased donor kidney nonutilization while adjusting for known risk factors and stratified by the kidney donor profile index and donor race/ethnicity may provide important insights into socio-environmental drivers of nonutilization. Further, their finding that transplanted kidneys from donors residing in more highly distressed communities did not confer increased risk for delayed graft function or death-censored graft loss while controlling for clinical characteristics of donor and recipient and

donor kidney management practices addresses concerns about the quality and viability of these organs. The relationships between Distressed Communities Index and both donor characteristics and kidney nonutilization speak to the deeply entrenched social disadvantage that characterizes residents of highly distressed communities well beyond the life of the donor.

If one accepts the validity of the study findings, at least 2 questions beg attention:

1. What are the mechanisms linking community distress and nonutilization?

A social-ecologic approach<sup>3</sup> to answering this question would suggest that there are complex, multilevel systems bearing down on the organ acceptance decision in a way that could potentially bias against donors from high-distress communities. These levels of influence are embedded systems whereby higher-order systems set the parameters for lower-order systems that can result in greater nonutilization of organs from distressed communities (Fig.). This ecosystem may be characterized by the following:

1. Societal factors, including federal and state policies, rules, and regulations (such as the 2021 kidney allocation system, Centers for Medicare and Medicaid Services and Organ Procurement and Transplantation Network oversight, and ease of registration on state donor registries) and social norms around donation and transplantation;
2. Transplant community behavior and characteristics, including national patient advocacy organizations, professional societies, and coalitions focused on access to transplants;

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**Figure.** A social-ecologic approach to organ nonutilization.

3. Organizational characteristics of donor hospitals, organ procurement organizations, and transplant centers (including demographic characteristics of the service area, market concentration, local organ availability, operations management, processes and quality of care, and donor management practices and policies);
4. Individual characteristics of the donor (including demographic and residential community characteristics, clinical characteristics, comorbid conditions, circumstances and mechanisms of death, donation after circulatory vs brain death, timing of procurement, and biopsy results);
5. Individual characteristics of the decision maker (including selection biases based on donor characteristics, training, and experience).

Community distress may operate through these factors in various ways. For example, the lack of social, financial, and political capital inherent to these communities may result in negative perceptions about the viability of organs recovered from residents of these communities on behalf of decision-makers. Additionally, donor hospitals and organ procurement organizations serving distressed communities may be underresourced in ways that impact their procurement processes and quality of care, exposing them to scrutiny from federal agencies. It could also be that the impact of transplant community advocacy for the fair and equitable utilization and distribution of organs is muted in a context where profound competing social needs exist along a range of different dimensions (eg, access to healthy food, safe housing, employment, etc.). Clearly, a deeper understanding of the complex interplay among all of these systems and community distress is needed to inform future intervention in this area.

2. What do study findings mean for donors who reside in distressed communities and their families?

Distrust in health care is associated with donation-related attitudes among African Americans.<sup>4</sup> The findings of the study by Schold et al<sup>2</sup> could serve to reinforce any disinterest in organ donation. So, how does the transplant community communicate the importance of donation when there is well-earned distrust of health care systems and processes among many individuals within these communities, taken together with the findings of study by Schold et al?<sup>2</sup> Ideally, community members would join the state donor registry, communicate their wishes to their families, and trust that their organs and tissues will be distributed in a fair and equitable manner. To strengthen this trust, we must expand efforts to improve access to health care, access to transplants, and policies and processes that encourage public commitment to donation with a sensitivity to the needs of members of distressed communities. As a transplant community, we must be transparent in our communication about the challenges

that we face related to predicting the quality and viability of organs. With these challenges, all would agree (including donors and donor families) that positive recipient outcomes ought to remain the focus. It is notable that while the finding by Schold et al<sup>2</sup> focus on kidney nonutilization, it does not mean that other organs were not procured to extend and improve quality of life for others. So, continuing to understand how socio-environmental factors relate to nonutilization of other organs in order to inform future intervention is important work that honors the precious gifts of donors and their families. Let us be mindful that “While not all of the currently unused organs could be used, the persistence of this rate over time diminishes the fairness, equity, and transparency of the organ transplantation system.”<sup>5</sup> Moreover, care must be taken to ensure that current allocation systems and processes do not reinforce the legacy of distrust toward health care that many disadvantaged social groups still hold.

## Disclosure


The authors of this manuscript have conflicts of interest to disclose as described by the American Journal of Transplantation.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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