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Commentary: Focusing the lens on racial disparities in congenital heart surgery

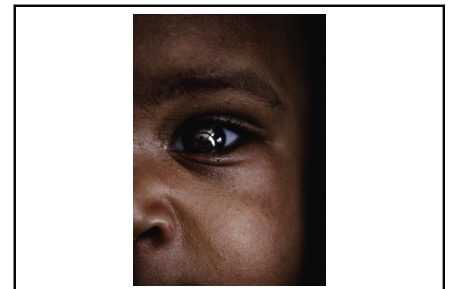
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Racial disparities exist in congenital heart surgery^{1,2}—but why?

In this issue of the *Journal*, Tjoeng and colleagues³ report a timely and insightful analysis that attempts to focus the lens on racial disparities in congenital heart surgery and uncover the reasons why disparities in care continue to exist in contemporary practice. Several key findings were unearthed in this analysis that add considerable granularity to our understanding of disparities in congenital heart surgery.

Along with measuring traditional surgical risk factors, the authors calculated highly detailed illness severity scores at the time of pediatric intensive care unit (ICU) admission. Their analysis was further stratified into patients admitted to the ICU (and had illness severity scores calculated) before the operation and those admitted after the operation.

Among the patients admitted to the ICU before surgery, African American patients had significantly higher illness severity scores than white patients. However, in the authors' cohort, race was not independently associated with operative mortality either before or after adjustment for illness severity. Among patients who were admitted to the ICU directly from the operating room, African American patients also had significantly higher illness severity scores compared with white patients, as well as a 40% higher odds of mortality after adjusting for traditional risk factors. When illness severity was added to the statistical model, race/ethnicity was no longer associated with increased



Focusing the lens on racial disparities in congenital heart surgery. (Image courtesy of Jeffrey Riley at <https://unsplash.com/@tonesmk1>.)

CENTRAL MESSAGE

Racial disparities in congenital heart surgery persist and appear to be driven largely by preoperative illness severity.

mortality, suggesting that the increased mortality risk was largely attributed to increased illness severity.

The major limitation of these findings is that race/ethnicity may have been surrogates for other critically important variables related to health care access that were not captured by the dataset, such as insurance status and socioeconomic status. The take-home message from this study appears to be that African American patients uniformly demonstrated higher illness severity scores at ICU admission, and that illness severity was a key driver of increased operative mortality for the subset of patients admitted to the ICU directly from the operating room.

Although not reported previously, these results ring true with daily observations. Patients who are admitted to the ICU before surgery include neonates or patients with other urgent surgical conditions. Greater illness severity at ICU presentation in African Americans may be a marker of less/inadequate prenatal or prehospital care, or delays in referral or presentation. Yet the results of surgery were largely equivalent across racial groups, suggesting that the performance of the surgical and ICU teams was not significantly impacted by the race of these high-risk patients. In “elective” patients who were not admitted to the ICU before surgery, African Americans had significantly worse outcomes that were driven in part by greater illness severity, which encompassed the prehospital and intraoperative phases of care. In short, the worse outcomes in these

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patients are most likely the result of their entering and/or exiting the operating room sicker than their white counterparts and less likely related to differences in postoperative care.

Overall, this analysis provides considerable new information regarding disparities in care in congenital heart surgery. The focal point for intervention appears to be the preoperative or prehospital phase of care, largely implying that the same societal problems relating to health care access and delivery of quality care to minority patients also impact minority children with heart disease. However, the comforting aspect of this work is that the postoperative phase of care did not appear to be the major culprit, suggesting that once children undergo surgery, race does not significantly impact what happens to them afterward in the hospital. These data are both reassuring and concerning

and demonstrate that excellence in congenital heart surgery requires expanding our world view beyond the confines of the operating room and ICU and renewing our emphasis on ensuring that children outside of our direct field of view are receiving equitable cardiac care before surgical intervention.

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