whom an adverse outcome occurred. In other words, how can we reconcile the paradox that hospitals with mortality or transplant prevalence would appear better than those in whom patients experienced complications, yet survived to discharge? Failure to rescue metrics may represent one such strategy, but of course calibration of complications and identification of the first “sentinel event” that then cascades to other downstream complications is challenging without time–date stamping for perioperative complications.

Generalizability of the results is another limitation of the present study, given the preponderance of White patients. Some elaboration of how the SEP and racial/ethnic makeup of the study population compares to the general Texas population and to the national landscape of congenital heart surgery is warranted. The parental home address as the home address may also introduce bias into the study, as young parents of low SEP particularly may not live with their parents at the time of inclusion in the study. This is especially important for those aged 18 to 26 years, who still may be covered under the insurance policies held by their parents.

Finally, the lack of relationship between the distance traveled and LOS, particularly because private insurance was associated with greater distance traveled, is particularly interesting. Our group⁵ has explored the argument “access versus excess” in the lens of potential regionalization of congenital heart surgery care delivery. The results reported by Spigel and colleagues¹ suggest that disparities in access to high-quality care for Norwood palliation may be a very real issue that will not be easy to resolve.

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Commentary: SEParating out the details in quality metrics

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Appropriate quality metrics for congenital cardiac surgery have been keenly debated during the past several years. Recently, a composite metric, including length of stay, was proposed for the Congenital Heart Surgery Database.¹ Because length of stay may be influenced by

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CENTRAL MESSAGE

Parental socioeconomic position influences length of stay after the Norwood procedure and thus may influence quality metrics used to evaluate quality of care.

factors that are not related to treatment, including socioeconomic status, the validity of this composite metric may be lessened.

Spigel and colleagues² examined how length of stay after a Norwood procedure may be related to parental

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socioeconomic position (SEP). The authors hypothesized that low SEP leads to longer hospital stays because of the time needed to ensure family and home readiness for interstage outpatient monitoring. The study population included 98 patients at a single center who underwent the Norwood procedure and were discharged alive before second stage palliation. Of these, 91% were children of United States citizens or permanent residents, 55% were covered by private insurance, and the median area deprivation index (ADI), a key component in the study's definition of SEP, was 54. Median length of stay was 37 days. For every 10-percentile increase in ADI, length of stay increased by 4%, controlling for other variables. Other components of SEP, including insurance type, immigration status, and distance traveled were not found to influence length of stay. The authors concluded that a significant relationship exists between SEP and length of stay.

Data collection was performed via chart review; immigration and insurance status as well as the patient's home address, and thus ADI, were obtained from care coordination notes. These variables served as crude estimates or surrogates for socioeconomic position. The authors could have strengthened their study by reviewing the same notes or social work documentation for evidence that a patient's hospital stay was indeed prolonged because of a family's inadequate resources. This would have been a more direct way of evaluating their hypothesis.

This study exclusively examined data for patients with hypoplastic left heart syndrome status after Norwood. This choice is rational when studying length of stay,

considering the emphasis on interstage monitoring of discharged patients. Patients not discharged before second-stage palliation were necessarily not included in the analysis. It would be important to know whether or not any of these patients were not discharged strictly because of socioeconomic issues. Again, this insight might have been gleaned from review of the social work notes. Additionally, because of the narrow patient population included here, the question remains whether or not a relationship exists between SEP and length of stay in other groups.

We suspect that most physicians have cared for patients for whom coordinating a safe discharge has been difficult due to socioeconomic barriers. Our challenge now is finding the best way to convert anecdote to evidence. This challenge is pressing—policies instituting quality metrics for congenital heart surgery such as length of stay are being developed at the national level. This study adds some evidence that implementing such policies may unfairly penalize hospitals caring for patients with lower socioeconomic position, and more needs to be done to create a just metric that objectively evaluates quality while separating and controlling for other nontreatment-related factors.

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