Editorial

For reprint orders, please contact: reprints@futuremedicine.com

Journal of **Comparative Effectiveness Research**

How the use of standardized protocols may paradoxically worsen disparities for safety-net hospitals

Karam M Habchi[1], Roniel Y Weinberg[1] & Robert S White*[,1]

[1]Department of Anesthesiology, New York Presbyterian Hospital-Weill Cornell Medicine, NY 10065, USA

*Author for correspondence: rsw33@cornell.edu

> "As anesthesiologists, we are in a prime position to influence patient care directly and can be leaders in implementing changes needed to improve outcomes for all our patients."

First draft submitted: 21 November 2021; Accepted for publication: 22 November 2021; Published online: 9 December 2021

Keywords: health economics • health insurance • health policy • public health • resource allocation

Safety-net refers to hospitals that offer access to patients regardless of their ability to pay, with a substantial share of their patients utilizing Medicaid as primary insurance or are uninsured [1]. Within the past few years, multiple studies have shown that safety-net hospitals have worse surgical outcomes, especially after total joint arthroplasty [2–5]. For example, Browne *et al.* showed that Medicaid patients had higher morbidity after total joint arthroplasties and similarly, Kelleher *et al.* showed that patients who underwent total knee replacement at hospitals with higher safety-net burden had increased mortality [2,3]. While studies show that this discrepancy exists, there is a paucity of quantitative and qualitative research explaining why. This editorial will summarize the available evidence and possible reasons as to why these inter-hospital variations exist; and how we as anesthesiologists can improve outcomes for safety-net hospitals and their patients.

One method of improving surgical outcomes and reducing healthcare disparities is by implementing enhanced recovery after surgery (ERAS) pathways [6]. Through standardization, ERAS protocols can reduce disparities by reducing intra-hospital variations of care, which will ultimately increase quality of care. However ERAS protocols can be time consuming and costly to implement, and require buy in from multiple groups within a hospital system [6–8]. This can be especially difficult in safety-net hospitals, where resources are limited. While many safety-net hospitals are eager to implement ERAS protocols and standardization, they face many barriers in doing so [6]. Multiple studies have been published on the successful implementation of ERAS pathways in safety-net hospitals and have identified barriers they encountered along the way [7,8]. While these studies are based on single hospital experiences, they highlight similar barriers including patient population, lack of buy-in from perioperative staff, practice differences among providers, including anesthesiologists and lack of resources to provide supplementary perioperative services that would assist patients throughout the entire surgical process, from pre-op to post-op [6–8].

It is important to note that safety-net hospitals are at an economic disadvantage and funding models that are outcomes driven deepen this disparity. As other hospitals spend to improve their outcomes and thus continue to gain increased funding, safety-net hospitals may not be able to keep pace thus leading to a vicious cycle [9]. Thirukumaran *et al.* highlighted that during the first year of the Comprehensive Care for Joint Replacement model, almost 50 percent fewer safety-net hospitals received rewards based on their performance and when they did, the rewards were significantly smaller amounts [9]. With increased funds, hospitals can continue to implement in-patient protocols or other outcome improving measures, such as a preoperative clinics or sobriety pathways [6]. This leads to reduction in disparities, decreasing intra-hospital variability, improving outcomes and thus increasing funding. As intra-hospital variations in care decrease at non safety-net hospitals or those with lower safety-net burden, this may lead to increased inter-hospital variation giving off the appearance of worsening care at higher burden safety-net hospitals. Without the appropriate funding, safety-net hospitals will be unable to implement similar outcome improving measures. The lack of resources means these hospitals are less likely to institute quality improvement initiatives,

Future Medicine

have worse information technology capabilities and have fewer perioperative services such as preanesthesia clinics or pain management protocols [6,9]. If trends like this continue, safety-net hospitals will continue to have widening gaps in care and will be unable to make up the difference compared with their counterparts.

While ERAS protocols are multidisciplinary, there are certain aspects of patient's care that we as anesthesiologists have direct influence over, namely the type of anesthetic they receive. Memtsoudis *et al.* identified that neuraxial anesthesia and peripheral nerve blocks were less likely to be used in black and Hispanic patients and those on Medicaid, Medicare or those without insurance [10]. Notably these groups mentioned are more likely to be served by safety-net hospitals. Similar data were also seen in an article published by La *et al.* suggesting that safety-net hospitals have worse outcomes after total hip arthroplasty, where the authors identified these patients were more likely to receive a general anesthetic for their procedures [2]. To our knowledge, there has been no studies investigating why safety-net patients are less likely to get neuraxial or regional anesthesia. We believe that focus should be placed on finding out why these disparities exist. These findings suggest that we as anesthesiologist have a role to play in improving the inter-hospital variations that may be leading to worse outcomes for safety-net hospital patients.

It is prudent that we continue to highlight these disparities and inter-hospital variations, but we must also continue identify the reasons why these disparities exist. As anesthesiologists, we are in a prime position to influence patient care directly and can be leaders in implementing changes needed to improve outcomes for all our patients.

Financial & competing interests disclosure

The authors have no relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript. This includes employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties.

No writing assistance was utilized in the production of this manuscript.

References

1. Zwanziger J, Khan N. Safety-net hospitals. *Med. Care Res. Rev.* 65(4), 478–495 (2008).
2. La M, Tangel V, Gupta S, Tedore T, White RS. Hospital safety net burden is associated with increased inpatient mortality and postoperative morbidity after total hip arthroplasty: a retrospective multistate review, 2007–2014. *Reg. Anesth. Pain Med.* 44(9), 839–846 (2019).
3. Kelleher DC, Lippell R, Lui B *et al.* Hospital safety-net burden is associated with increased inpatient mortality after elective total knee arthroplasty: a retrospective multistate review, 2007–2018. *Reg. Anesth. Pain Med.* 46(8), 663–670 (2021).
4. LaPar DJ, Bhamidipati CM, Mery CM *et al.* Primary payer status affects mortality for major surgical operations. *Ann. Surg.* 252(3), 544–551 (2010).
5. Browne JA, Novicoff WM, D'Apuzzo MR. Medicaid payer status is associated with in-hospital morbidity and resource utilization following primary total joint arthroplasty. *J. Bone Joint Surg. Am.* 96(21), e180 (2014).
6. Bernstein DN, Wu H-H, Jergesen HE. Protocols for management of underserved patients undergoing arthroplasty: a national survey of safety net hospitals. *Arch. Bone Jt. Surg.* 6(4), 294–300 (2018).
7. Pooya S, Johnston K, Estakhri P, Fathi A. Successful implementation of Enhanced Recovery After Surgery program in a safety-net hospital: barriers and facilitators. *J. Perianesth. Nurs.* 36(5), 468–472 (2021).
8. Alawadi ZM, Leal I, Phatak UR *et al.* Facilitators and barriers of implementing enhanced recovery in colorectal surgery at a safety net hospital: a provider and patient perspective. *Surgery* 159(3), 700–712 (2016).
9. Thirukumaran CP, Glance LG, Cai X, Balkissoon R, Mesfin A, Li Y. Performance of safety-net hospitals in year 1 of the comprehensive care for joint replacement model. *Health Aff. (Millwood)* 38(2), 190–196 (2019).
10. Memtsoudis S, Stundner O. Disparities in care, public health and the role of the anesthesiologist. *Reg. Anesth. Pain Med.* 44(9), 837–838 (2019).