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CORR Insights

CORR Insights®: Disparities in TKA Outcomes: Census Tract Data Show Interactions Between Race and Poverty

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Where Are We Now?

Across numerous medical disciplines, black patients receive less care, worse care, and later care than white patients [3]. The discrepancies in health services range from preventive primary care (such as prenatal care and counseling about smoking and weight control) to treatment for life-threatening conditions, like myocardial infarction, appendicitis, and malignancies [3]. Poverty is also associated with poor health outcomes [3]. Even after adjustment for insurance status, provider characteristics, facility size, and other factors, the association of race, poverty, and poor outcomes persists.

A recent analysis [2] of nearly 7 million deaths confirmed earlier findings that poverty, which disproportionally affects black patients, is associated with lower life expectancy. The study [2] also revealed that the gap between the wealthiest and the poorest groups has increased, with some populations experiencing decreases in longevity from 2001 to 2014. In terms of the human cost, as well as the economic impact, the toll of these disparities is staggering.

Based on their evaluation of more than 4000 individuals who had undergone TKA, Goodman and colleagues reported that black patients have worse outcomes in terms of self-reported pain and function scores, and that poverty has a more detrimental effect on black patients than white patients. After controlling for relevant confounding variables, the authors found that in addition to race and poverty, comorbidities and preoperative pain and function scores were associated with worse outcomes. Therefore, optimizing the management of hypertension, diabetes mellitus, and hemoglobinopathies should be a priority.

Where Do We Need To Go?

Even after comorbidities are addressed, deeper questions remain: Why are race and poverty each independently

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associated with worse outcomes? How and why do these two factors magnify each other? The observation that black patients have worse preoperative scores for pain and function suggests a delay in referral, treatment, or both. When and where do system breakdowns occur?

How Do We Get There?

Several specific research designs might provide further insight into this crucial issue. First, using the same dataset, the authors can apply a paired difference test in which they analyze the preoperative and postoperative scores for each individual patient. This approach will help to isolate the effects of surgery and reduce confounding by preoperative pain and function. That is, if there is greater improvement among white patients than black patients—with each person serving as his or her own control, as opposed to using the mean postoperative scores for all white patients and all black patients—then the results suggest an effect of the surgery itself. Second, one can match black and white individuals based on preoperative status and comorbidities, and then compare postoperative outcomes. Third, as Goodman and colleagues acknowledge, the vast majority of individuals in their study resided in urban areas. Future research should include rural and suburban regions, since the effects of race and poverty might be quite different in those areas. Indeed, the recent analysis [2] of poverty and longevity revealed substantial geographic variation.

Evaluating, characterizing, quantifying, and—most importantly—correcting the disparities will require independent and objective observation, accurate documentation, and some uncomfortable discussions. As much as we might hate to admit it, we all harbor biases—consciously or subconsciously—and we need to confront those biases head on. One might perform a study in which orthopaedic surgeons review 100 redacted medical records. For each case, half the surgeons are told that the person is black and the remaining surgeons are informed that the patient is white, with sufficient randomization to ensure that each practitioner reviews cases within each category. When shown exactly the same chart and diagnostic imaging results, will orthopaedic surgeons make the same recommendations for Tamika and Rasheed that they will for Jill and Geoffrey? Bertrand and Mullainathan [1] sent résumés with either white-sounding names or African American-sounding names, and they found that—even for self-described "equal opportunity employers"—whites were far more likely to receive a call for an interview. Thus, people's perception of their own behavior can contrast sharply with their conduct. Individuals and institutions claiming to promote equality do not always do so.

The response to Ebola demonstrates an important and disturbing contrast: We have allocated USD 5 billion [4] on Ebola because it is a mysterious and terrifying illness that inspires acute fear. In contrast, many people don't perceive racial discrimination as a crisis. When a woman dies of a myocardial infarction because it took 55 minutes for her to reach the catheterization laboratory—instead of 25—it's hard to prove that racial discrimination caused her death. People shrug and figure that "these things happen." If the fear of a rare disease prompted massive mobilization of personnel, funds, and other resources, then the shame of a common (and preventable) problem should, too.

Racial disparities are unacceptable. Addressing healthcare inequalities is not a matter of ideology, but one of basic human rights, and we all bear the responsibility to correct them.

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