# Racial Disparities Tied To Hospital Type

When researchers from UCLA Medical Center investigated the link between racial disparities and appendicitis outcomes in children, they found that the type of hospital in which black, Hispanic and other minority patients receive care—community, children's or county—affects their odds of developing a perforated appendix. The study, published in the January issue of the *Journal of the American College of Surgeons* is a first-of-its-kind look at the role hospital type plays in race-based treatment variances among this patient subset.

Appendicitis is the most common reason for emergency abdominal surgery in children. Approximately 80,000 pediatric cases are diagnosed in the U.S. annually. Since the inflamed appendix can sometimes become perforated if the condition is not treated in a timely fashion, researchers have used appendix perforation as a marker for inadequate access to healthcare. While existing research shows that a number of factors (such as age, socioeconomic status, the distance a family lives from a hospital) increase the risk for developing a perforated appendix in minorities, these factors don't tell the whole story.

"Appendicitis is a time-dependent disease process that leads to a more complicated medical outcome, and that outcome, perforated appendicitis, has increased hospital costs and increased burden to both the patient and society," according to study author Stephen Shew, MD, FACS, associate professor of surgery, UCLA Medical Center, and a pediatric surgeon at Mattel Children's hospital, both in Los Angeles.

To determine whether there is a link between hospital type and racial disparities, as measured by appendiceal perforation (AP), Dr. Shew and colleagues looked at data from the California Patient Discharge Dataset. Their analysis involved 107,727 children between the ages of two and 18 years-old who were treated for appendicitis at 386 California hospitals between 1999 and 2007. Of these children, 53 percent were Hispanic, 36 percent were white, three percent were black, five percent were Asian, and eight percent were of an unknown race. The children were sorted by hospital type, which included community, children's and county hospitals.

After accounting for age, income level and other known factors that increase risk for a perforated appendix, researchers found that at community hospitals, Hispanic children were 23 percent more likely to experience appendix perforation than white children, and Asian children were 34 percent more likely than white children to experience appendix perforation. Further, Hispanic patients treated at children's hospitals were 18 percent more likely to develop this complication than white patients. Odds of appendix perforation did not differ by race within county hospitals. Researchers also found that black patients treated at children's and county hospitals had a higher risk of appendix perforation compared with black patients treated at community hospitals.

Dr. Shew stressed that further research is still needed on a variety of issues,

including whether there is a link between language barriers and understanding symptoms of appendicitis and access to care. “We don’t know what explains these findings; however we suspect that there are some other barriers in play,” Dr. Shew said. This discovery shows that a critical piece of the puzzle—what is happening with the child and the parents from the time they first discover the symptoms of appendicitis to the time they seek care—is still missing. As investigators it behooves us to look further into prehospital factors that may contribute to this racial disparity and ultimately find what interventions can be implemented to provide much quicker access to care, so children can get treated more effectively,” Dr. Shew said.

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