

Study: Urban African-Americans more likely to live in trauma deserts

March 8 2019

African-Americans in major U.S. cities are significantly more likely to live in "trauma deserts" with limited access to advanced emergency medical care, according to new research from the University of Chicago Medicine. The study also shows the academic medical center's new Level 1 Trauma Center led to a seven-fold reduction in Chicago's access disparity.

The findings, published March 8 in the *Journal of the American Medical Association's Network Open*, are the first to be released about the impact of UChicago Medicine's adult Level 1 Trauma Center. Adult [trauma](#) services at the hospital began in May 2018.

"So much of the advocacy for the [trauma center](#) was framed in terms of racial equity," said Elizabeth Tung, MD, MS, a primary care physician and instructor of medicine at UChicago Medicine who was the paper's first author. "But we realized no previous studies had addressed trauma access through the lens of race/ethnicity—not just looking at Chicago, but comparing our city to other communities as well."

The research team examined access to trauma care in Chicago, New York and Los Angeles using a geospatial analysis that compared the location of designated trauma centers with the racial and ethnic composition of the cities' census tracts. The project included only Level 1 and Level 2 Trauma Centers, which are able to provide medical care to patients with the most serious injuries.

Using a standard established in previous research from colleagues at other hospitals, the team defined a "trauma desert" as any urban community that is at least five miles away from advanced trauma care. While many suburban and [rural communities](#) are significantly further away from trauma care, Tung said dense urban communities must be assessed differently.

"Five miles in a [rural area](#) is probably five minutes away, but in an urban area that same distance could be 15 minutes or it could be two hours away—it entirely depends on traffic congestion," Tung said. "The kind of care in urban trauma also differs from that in rural areas—the types of trauma are generally different, the patient volume is higher and the injuries are more severe."

Trauma centers provided advanced emergency [medical care](#) for patients with critical injuries, including those from motor vehicle accidents, falls, shootings and stabbings.

In Chicago, the team found that 73 percent of census tracts with a mostly black population were located in trauma deserts. Until UChicago Medicine's trauma center opened 10 months ago on its Hyde Park medical campus, residents of those communities had 8.5 times higher odds of being farther away from trauma care than people living in the city's white-majority census tracts. The new trauma center reduced this disparity by nearly 7-fold, to 1.6 times.

"Since we opened the trauma center nearly one year ago in May, the disparity in access to adult trauma care has been significantly lessened for African-Americans in Chicago," said Selwyn Rogers, Jr., MD, MPH, a professor of surgery and the director of UChicago Medicine's trauma center, which has treated more than 2,000 trauma patients.

In New York City, just 14 percent of African-American communities

were located in trauma deserts. In Los Angeles, 89 percent of African-American communities were located in trauma deserts, although very few census tracts in Los Angeles remain predominantly African-American. The team said Chicago's Hispanic and Latino communities were also more likely to be farther from trauma care than those living in white communities. The Hispanic and Latino disparity was not present in New York or Los Angeles.

"Even though we had a sense that this was a racially divided issue, the data confirmed that this was the case in a significant way. It was pretty startling," said Monica Peek, MD, MPH, an associate professor of medicine and health disparities researcher who was the senior author on the paper.

UChicago Medicine has provided pediatric trauma care at Comer Children's Hospital since 1990, but previously ended its adult trauma program in 1988 before announcing it would resume the service in 2015 in response to community requests. The hospital built a new adult emergency department, which opened in late December 2017. Adult trauma services launched about five months later, following regulatory approval.

The researchers said they hope their findings highlight the lingering impact of structural inequality in U.S. cities. They said planning for new trauma centers, which require a significant financial investment, should include an assessment of how a new facility can help address racial equity.

More information: *Journal of the American Medical Association* (2019). [DOI: 10.1001/jamanetworkopen.2019.0138](https://doi.org/10.1001/jamanetworkopen.2019.0138) , jamanetwork.com/journals/jaman.../fullarticle/2727264

Provided by University of Chicago Medical Center

Citation: Study: Urban African-Americans more likely to live in trauma deserts (2019, March 8)
retrieved 26 April 2024 from

<https://medicalxpress.com/news/2019-03-urban-african-americans-trauma.html>

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