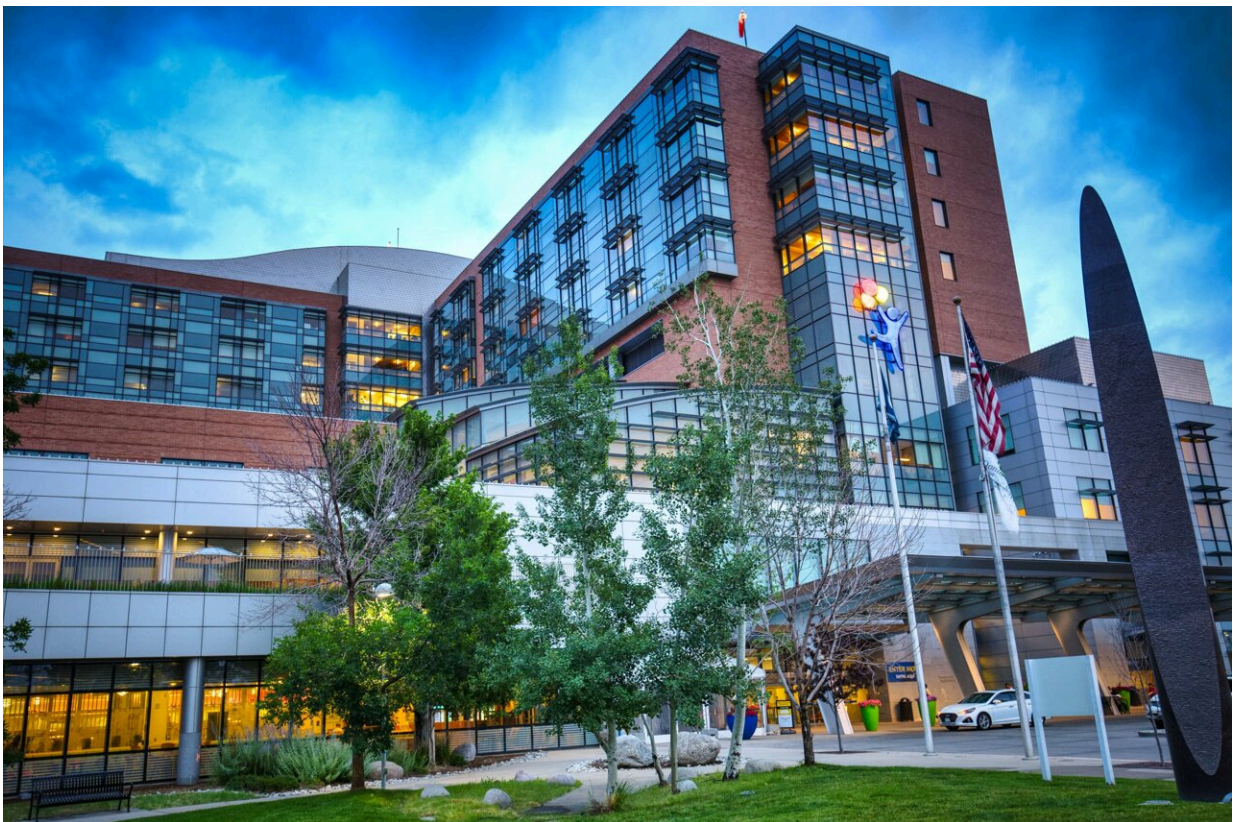


# Academic medical centers are linked to better health outcomes at neighboring hospitals, researchers find

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An academic medical center (AMC), sometimes called a teaching hospital, is a hospital that is integrated with a medical school and that

serves as the principal site for the education of medical students and trainees. Many studies provide evidence that AMC's in general have better patient outcomes than non-teaching or community hospitals. However, how the presence of AMC's may affect their neighboring community hospitals has been unknown.

A new study led by researcher-clinicians at Beth Israel Deaconess Medical Center (BIDMC) suggests that the presence of academic medical centers within a health care [market](#) is linked to better outcomes for patients treated at nearby [community hospitals](#). Findings published in *JAMA Network Open* show that receiving care at a non-AMC [hospital](#) in a market with AMC presence was associated with [lower mortality](#) and a greater number of healthy days at home. These associations were greatest in markets with the highest AMC presence, indicating that AMC's may have a positive impact on outcomes for patients treated at neighboring non-teaching hospitals.

"To our knowledge, this is the first study to systematically examine the potential indirect clinical benefits of receiving health care at a non-teaching hospital with greater proximity to one or more AMC's across a wide range of conditions," said lead author Laura G. Burke, MD, MPH, an emergency medicine physician at BIDMC. "Identifying strategies by which AMC's may enhance care for patients in the entire region has the potential to improve health outcomes for underserved populations."

In their retrospective cohort study of older Medicare beneficiaries who received care from U.S. acute care hospitals from 2015 to 2017, Burke and colleagues looked at more than 22 million total hospitalizations. Nearly 19 million of these, or nearly 84%, were at non-teaching hospitals. They calculated mortality within 30 and 90 days of an inpatient stay. They also calculated patients' healthy days at home during the follow-up period, defined as the number of days during which the patient was not at an inpatient or long-term facility, outpatient

emergency department or deceased.

Next, the team created four health care market categories. In a market with no AMC presence, zero patients who were admitted to a hospital were admitted to an AMC. In a market with low AMC presence, up to 20% of patients admitted the hospital went to an AMC. In moderate AMC regions, AMCs managed 20%–35% of cases; and in high AMC markets, more than 35% of hospitalized patients were admitted to AMCs.

Burke and colleagues saw stark disparities in the demographic characteristics of the overall populations residing in the four markets, with those with no AMC presence having the lowest median income, lowest mean population, highest mean poverty rate, and highest proportion of white residents. Before accounting for the negative impact poverty and other regional characteristics can have on health, the scientists saw significant association with lower mortality for treatment in markets with high and low AMC presence compared to markets with no AMC presence.

However, when Burke and colleagues adjusted their model for patient characteristics and demographic factors, the association strengthened. Patients hospitalized at non-AMCs had lower 30- and 90-day mortality and more healthy days at home at 30 and 90 days when they received care in markets with greater AMC presence.

By contrast the team found no relationship between market-level AMC presence and outcomes for patients treated at the AMC themselves; that is, the presence of more AMCs in a given market did not impact outcomes for patients of AMCs.

"Taken together these results suggest a spillover effect of AMC's on outcomes for neighboring community hospitals and that the benefits of

AMC for the broader community may be greater than is traditionally recognized," said Burke, who is also an instructor in the department of Health Policy and Management at Harvard T. H. Chan School of Public Health.

Burke and colleagues speculate that AMCs may have a positive impact on neighboring community hospitals in a few different ways. Given that physicians tend to practice in close geographic proximity to where they trained, it is possible that the presence of an AMC may lead to a more robust physician supply. Indeed, Burke and colleagues' analysis revealed that markets with the greatest AMC presence have more nurses and physicians per capita.

Similarly, formal and informal affiliations between AMCs and non-AMCs within the same market may encourage diffusion of knowledge, innovation as well as sharing of [best practices](#) and even clinicians who work at multiple sites. Perhaps most obviously, patients admitted to community hospitals in regions with greater AMC availability may be more likely to be transferred to a [teaching hospital](#) should their conditions warrant tertiary care.

"This study extends prior work examining the role of AMCs in driving acute care outcomes," said Burke, who is also an assistant professor of emergency medicine at Harvard Medical School. "The findings are consistent with other studies demonstrating geographic disparities in healthcare access, and highlights the degree to which rural regions have less access to AMC services. The presence of AMCs may enhance care for patients in rural and [remote locations](#) and further research may identify strategies that have the potential to improve [health outcomes](#) for underserved populations and widen the reach of the nation's academic healthcare institutions."

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**More information:** Laura G. Burke et al, Association of Academic Medical Center Presence With Clinical Outcomes at Neighboring Community Hospitals Among Medicare Beneficiaries, *JAMA Network Open* (2023). [DOI: 10.1001/jamanetworkopen.2022.54559](https://doi.org/10.1001/jamanetworkopen.2022.54559)

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