

# Living in disadvantaged neighborhoods doubles post-op delirium risk for older adults

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Where you live can increase your risk for experiencing delirium after surgery. So said a study that showed older adults who live in the most disadvantaged neighborhoods are two times more likely to experience

delirium after surgery than their counterparts from more affluent communities. These findings by researchers from the Aging Brain Center in the Hinda and Arthur Marcus Institute for Aging Research (Marcus Institute) at Hebrew SeniorLife were published today in the *Journal of the American Geriatrics Society*. Franchesca Arias, Ph.D., Assistant Scientist, and Sharon K. Inouye, M.D., Director of the Aging Brain Center, were lead and senior authors respectively on the study.

Delirium is a clinical syndrome characterized by acute decline in cognition, which can present as inattention, disorientation, lethargy or agitation, and perceptual disturbance. Delirium among older hospitalized patients can lead to poor outcomes, including prolonged hospital stays, deep psychological stress for patients and their families, functional decline, and in worst cases, death. To date, however, the association between delirium and community-based factors that can influence [health outcomes](#), such as resources, [health care access](#), and local economic conditions, has not been well-examined.

The study enrolled a prospective observational cohort of 560 patients aged 70+ undergoing major non-cardiac surgery between June 2010 and August 2013 at two academic medical centers in Boston. The research team used the Area Deprivation Index (ADI) to characterize participant's neighborhood socioeconomic disadvantage.

ADI uses 17 United States Census indicators of poverty, education, employment, and physical environment to characterize the socioeconomic disadvantage of a census block group. This study found that neighborhood characteristics, such as poverty, lack of infrastructure, and density contributed to the two-fold increase in the number of patients who developed delirium after surgery. When compared with other social and economic risk factors for diminished health outcomes in [older adults](#), including income and level of education, neighborhood characteristics emerged as the strongest predictor of [delirium](#) incidence.

The COVID-19 pandemic has shone a light on the consequences of economic health care disparities in the U.S., and this study is yet another example of how social, economic, and environmental marginalization impacts the health of those who live in disadvantage communities.

"Our hope is that by building awareness of barriers to care present in disadvantaged neighborhoods, clinical teams will tailor support and treatment recommendations based on the resources available within a patient's community," said Dr. Inouye.

"Patients with higher ADI percentiles may benefit from having additional support and periodic check-ins with treatment teams prior to surgery and/or participating in [rehabilitation programs](#) postoperatively," said Dr. Arias.

**More information:** Franchesca Arias et al. Neighborhood-Level Social Disadvantage and Risk of Delirium Following Major Surgery. *Journal of the American Geriatrics Society*. First published: 31 August 2020 [doi.org/10.1111/jgs.16782](https://doi.org/10.1111/jgs.16782)

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