

## Low neighborhood income, Medicaid linked to delays in reaching hospital after heart attack

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Individuals with Medicaid insurance and those who live in neighborhoods with lower household incomes appear less likely than others to reach the hospital within two hours of having a heart attack, according to a report in the September 22 issue of *Archives of Internal Medicine*.

Patients tend to have better outcomes after an acute myocardial infarction (heart attack) if they receive medical treatment in a timely manner, according to background information in the article. Timedependent treatments, such as clot-dissolving therapy or heart catheterization to reopen blocked arteries, are more likely to be given to patients who arrive at the hospital quickly. "Despite efforts to reduce time elapsed between the onset of acute myocardial infarction symptoms and hospital arrival, prehospital delay times have not improved over the years," the authors write.

Randi E. Foraker, M.A., of the University of North Carolina, Chapel Hill, and colleagues examined the medical records of 6,746 men and women hospitalized with heart attack between 1993 and 2002. From the records, the researchers determined the prehospital delay time, or the time elapsed between the onset of symptoms and arrival at the hospital. Participants' addresses were geocoded and linked with 2000 U.S. census socioeconomic data. Median (midpoint) household income for each participant's area was classified as low (less than \$33,533), medium



(\$33,533 to \$50,031) or high (\$50,032 or more). Health insurance status was noted and the distance from the residence to the hospital was calculated.

A total of 36 percent of the patients arrived at the hospital within two hours of developing symptoms (short delay), 42 percent between two hours and 12 hours (medium delay) and 22 percent between 12 and 72 hours (long delay). "Low neighborhood household income was associated with a higher odds of long vs. short delay and medium vs. short delay compared with high neighborhood household income in a model including age, sex, race and study community," the authors write. "These associations persisted after additionally controlling for health insurance status, diabetes, hypertension, emergency medical services (EMS) use, chest pain, year of acute myocardial infarction event and distance from residence to hospital."

In addition, patients with Medicaid were more likely to have a long or medium vs. a short delay than were patients with prepaid insurance or with prepaid insurance plus Medicare.

"Reducing socioeconomic and insurance disparities in prehospital delay is critical because excess delay time may hinder effective care for acute myocardial infarction," the authors note. "Prolonged prehospital delay among patients from low neighborhood income areas and among Medicaid recipients suggests a need for increased recognition of and rapid response to acute myocardial infarction symptoms within these populations. Interventions that have been considered include the following: community education and awareness campaigns, targeted interventions by health care professionals aimed at reducing prehospital delay among patients with known coronary heart disease and promoting EMS use throughout the community."

Source: JAMA and Archives Journals



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