

# Hurricane Sandy increased incidence of heart attacks and stroke

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(Medical Xpress)—Heart attacks and strokes are more likely to occur during extreme weather and natural disasters such as earthquakes and floods, according to a new Rutgers research study.

Researchers at the Cardiovascular Institute of New Jersey at Rutgers

Robert Wood Johnson Medical School have found evidence that Hurricane Sandy had a significant effect on cardiovascular events, including [myocardial infarction](#) ([heart attack](#)) and stroke, in the high-impact areas of New Jersey two weeks following the 2012 storm.

The study, led by Joel N. Swerdel, an epidemiologist at the Cardiovascular Institute and the Rutgers School of Public Health, was published December 8, 2014, in the *Journal of the American Heart Association*.

Utilizing the Myocardial Infarction Data Acquisition System (MIDAS), the researchers examined changes in the incidence of, and mortality from, myocardial infarctions and strokes from 2007 to 2012 for the two weeks before and after October 29, the date of Hurricane Sandy. MIDAS is an administrative database containing hospital records of all patients discharged from non-federal hospitals in New Jersey with a cardiovascular disease diagnosis or invasive cardiovascular procedure.

In the two weeks following Hurricane Sandy, the researchers found a 22 percent increase in heart attacks occurred in the eight counties determined to be high-impact areas as compared with the same time period in the previous five years. In the low impact areas (the remaining 13 counties), the increase was less than one percent. The 30-day mortality from heart attacks also increased by 31 percent in the high-impact area.

"We estimate that there were 69 more deaths from myocardial infarction during the two weeks following Sandy than would have been expected. This is a significant increase over typical non-emergency periods," said Swerdel. "Our hope is that the research may be used by the medical community, particularly emergency medical services, to prepare for the change in volume and severity of health incidents during extreme weather events."

In regard to stroke, the investigators found a 7 percent increase compared to the same time period in the prior five years in areas of the state impacted the most. There was no change in the incidence of stroke in low-impact areas, and no change in the 30-day mortality rate due to stroke in either the high- or low-impact areas.

"Hurricane Sandy had unprecedented environmental, financial and health consequences on New Jersey and its residents, all factors that can increase the risk of cardiovascular events," said John B. Kostis, director of the Cardiovascular Institute of New Jersey and RWJMS associate dean for cardiovascular research. "Increased stress and physical activity, dehydration and a decreased attention or ability to manage one's own medical needs probably caused [cardiovascular events](#) during natural disasters or [extreme weather](#). Also, the disruption of communication services, power outages, gas shortages, and road closures, also were contributing factors to efficiently obtaining medical care."

**More information:** "The Effect of Hurricane Sandy on Cardiovascular Events in New Jersey." *J Am Heart Assoc.* 2014;3:e001354, originally published December 8, 2014, [DOI: 10.1161/JAHA.114.001354](https://doi.org/10.1161/JAHA.114.001354)

Provided by Rutgers University

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