

Hurricane Disasters Associated With Treatment Delays Among Patients With Lung Cancer

Hurricanes can disrupt care for patients who need daily radiation therapy, which depends on stable electricity and safe facility access.

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A new study from researchers at the [American Cancer Society](#) (ACS) found that patients with Stage 3 locally advanced non-small-cell lung cancer (NSCLC) who received radiation treatment during a hurricane disaster were more likely to experience treatment completion delays. Researchers also reported that patients treated during a hurricane were more likely to receive higher total doses of radiation and complete more fractions. These findings will be presented at the annual [American Society of Clinical Oncology \(ASCO\) Quality Care Symposium](#) in San Francisco, September 27-28, 2024.

Hurricanes can disrupt cancer care and adversely affect health outcomes, especially for patients needing daily radiation therapy, which depends on stable electricity and safe facility access. Among patients diagnosed with locally advanced NSCLC, disruptions in radiation can decrease survival.

In the study, researchers, led by [Rand Sakka](#), health services research at the American Cancer Society, and to be presented by senior author [Dr. Leticia Nogueira](#), identified patients aged 18 years old and older from the National Cancer Database who initiated radiation therapy for non-operable stage III NSCLC between 2004-2022.

Exposure was defined as a Federal Emergency Management Agency (FEMA) hurricane disaster declaration at the county of the treating facility during radiation treatment. Patients treated at the same facility, but at a time when no hurricane happened (i.e. unexposed) were propensity score matched in a 1:1 ratio with exposed patients on age at diagnosis, sex, lymph node involvement, comorbidity score, and era (radiation start year 2004-2009, 2010-2015, 2016-2022), to account for more active hurricane seasons in recent years. Delays in radiation treatment completion were defined as greater than eight weeks between the date radiation started and ended.

The results included 6,700 matched patients, of whom 3,350 were treated at facilities exposed to hurricanes during radiation and 3,350 completed treatment at the same facilities but when no

hurricane exposure happened. Patients treated during hurricanes had 2.2 higher odds of experiencing treatment delays compared to unexposed patients (12.96% of exposed patients experienced delays compared to 6.87% of unexposed patients). Exposed patients were more likely to have received higher radiation doses and completed more fractions compared to unexposed patients.

Researchers stress that as severe weather events become more common, comprehensive emergency preparedness plans that incorporate evidence-based strategies for mitigating the adverse effects of treatment delays are essential.

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