

During emergencies, social media is a critical channel for warnings

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Credit: Unsplash/CC0 Public Domain

A plume of smoke hung over the Houston area for days in March 2019 after storage tanks containing hazardous chemicals ignited at a Deer Park facility.

About a quarter of Deer Park residents living near the Intercontinental Terminal Company petrochemical facility who were surveyed by Texas

A&M University researchers, however, say they received no warnings of the disaster.

Additionally, despite outdoor sirens, messages pushed through [traditional media](#), and the emergency alert system CodeRED, among other methods used by Deer Park and other cities, more than 45 percent of residents said they found out about the chemical fire through social media. The results of the Texas A&M study, published in the journal *Environmental Justice*, highlights the important role social spheres play in risk communication.

Led by Garrett Sansom, research assistant professor in the Department of Environmental and Occupational Health at the School of Public Health, researchers surveyed people at homes throughout Deer Park about how they received emergency warnings about the hazardous event. They were also asked questions about whether they chose to follow shelter-in-place orders, how long they had lived in the community, their experience level with similar events and their perceptions of risks associated with living near a petrochemical facility.

Sansom and colleagues found that warnings did not reach about 25 percent of the surveyed residents. Following social media, for those who did receive the warnings, television was the next most common way residents found out about shelter-in-place orders, at 35 percent. The remaining 20 percent said they found out through radio or the CodeRED system. Twenty percent of respondents said they also were notified by family members or friends.

The least effective method was outdoor sirens—many people stated they did not hear them or assumed the sirens were being tested.

According to the study, residents who found out through social media or from friends and family were more likely to take action than those who

heard from other sources. This is in line with past research showing that people more readily follow the recommendations of those they know and trust than sources like local, state and federal government agencies.

The researchers also noted that risk communication should consider differences in the level of knowledge that experts and laypeople have, as well as variations in risk perception. Some of this can be accomplished through education and outreach programs on how to respond to emergencies. Deer Park has had such a program for years, which may have affected how people reacted to the emergency notifications.

The findings of the study highlight the need for cities to communicate with residents before a disaster happens. Additionally, there is a need to better understand how [social media](#) and its related issues affect responses to hazardous events.

More information: Garrett T. Sansom et al. Understanding Risk Communication and Willingness to Follow Emergency Recommendations Following Anthropogenic Disasters, *Environmental Justice* (2020). [DOI: 10.1089/env.2020.0050](https://doi.org/10.1089/env.2020.0050)

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