

# Your Team Made the Super Bowl? Get a Flu Shot

By AUSTIN FRAKT

If your home team is playing in the Super Bowl (looking at you, Denver Broncos and Carolina Panthers fans), the parties you attend could give you more than just heartburn, a hangover or temporary psychological pain.

They could give you the flu.

According to a new study published in the American Journal of Health Economics, the death rate from the flu is appreciably higher among those whose home team makes it to the Super Bowl.

This seemingly puzzling finding actually makes some sense. The game occurs during the heart of flu season and is the reason for the mingling at Super Bowl parties. And fans with their team in the game are probably more likely to attend one.

The flu virus can spread whenever a person with it releases droplets of saliva — by coughing, sneezing or even talking — within six feet of someone without it. At a Super Bowl party, people are mingling closely.

The Super Bowl is far from the only event that increases flu transmission. Anything that puts

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more people in close contact during flu season does so. One study found that the reduction in air travel after the Sept. 11 terrorist attacks postponed that year's flu peak by almost two weeks. The holiday closure of schools in France reduces flu cases by about 17 percent, according to another study.

Flu rates were higher at the Salt Lake City Winter Olympics in 2002, large music festivals in Hungary and Belgium, and the hajj pilgrimage. It's likely that other large gatherings during the flu season lead to greater transmission and mortality as well; they just haven't been studied.

But the Super Bowl provided a convenient natural experiment. The economists who worked on the study — Charles Stoecker and Alan Barreca, from Tulane, and Nicholas Sanders, from Cornell — compared deaths of people who lived near Super Bowl-participating teams with those who lived near other N.F.L. teams. Using mortality data from 1974 to 2009, the researchers found that areas that send teams to the Super Bowl experience an 18 percent increase in flu deaths in those years, relative to other years and areas with an N.F.L. team not in the Super Bowl.

Across all ages, 5.6 people per million die from the flu, a rate that increases to about 6.6 in Super Bowl-contending areas. Flu deaths are concentrated among those 65 years and older — 40.7 people per million die from the flu. In Super Bowl-contending areas, that figure jumps to 48.

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The flu also leads to doctor visits, hospitalizations and missed work and school. All told, the flu's annual cost is about \$100 billion nationally.

The mortality impact is about seven times larger when the peak of the flu season occurs closer to the Super Bowl than when it is held about three weeks or more before or after the peak. During years of more virulent flu strains, mortality effects are stronger. Some N.F.L. teams' regions are more prone to the flu and flu mortality than others, because of dif-

ferences in weather and demographics, which can be statistically controlled.

The researchers also found that flu mortality didn't increase in Super Bowl-contending areas a year or two before or after their teams went to the game. In other words, their results are not driven by generally higher flu mortality in some regions than others — it's the Super Bowl that makes the difference.

What can Super Bowl fans do to prevent the spread of the flu? Avoiding close contact with others who might be sick is an obvious way to reduce the chances of getting the flu. But those who don't want to miss Super Bowl parties and other gatherings during flu season can take other steps to reduce the risk.

The Centers for Disease Control and Prevention recommends that people get the flu vaccine; wash their hands frequently; avoid touching their eyes, nose and mouth; and clean surfaces at home. Those hosting Super Bowl parties — whether in Denver and Charlotte, N.C., or elsewhere — might supplement the beer and snacks with some hand sanitizer, and suggest to guests that a dab with each score could be part of the celebration.