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RESEARCH INSIGHTS ON SEVERE CLIMATE AND HEALTH CARE UTILIZATION

BY R. DALE HALL



The Society of Actuaries (SOA), as you may know, has been working closely with data providers and actuarial partner organizations on a wide range of topics, including on the health care and general insurance fields. In February I had the opportunity to attend and present at the National Tornado Summit in Oklahoma City on Midwest climate research, and also the intersection of health care utilization and severe weather.

This meeting was a unique opportunity to discuss the joint research work from the SOA, the American Academy of Actuaries, the Canadian Institute of Actuaries and the Casualty Actuarial Society on the forthcoming Actuaries Climate Index. This joint actuarial research project brings together not only actuarial insights, but

also a combination of data analyses to understand severe weather and its impact on regions. The index will be available in the near future, and it examines six climate indicators: temperature highs and lows, precipitation, drought, wind and sea level. The index uses data supplied from the National Oceanic and Atmospheric Administration (NOAA). Since the summit covered tornado zones, we discussed the seasonal wind power and average daily wind speed for the Midwest regions, comparing data from the Actuaries Climate Index base period prior to 1990 to more recent observations since 1990. Stay tuned for more insights when the joint Actuaries Climate Index is released.

On the topic of severe weather, I also presented on post-catastrophe health

care utilization. Health care utilization can change following a windstorm, which means an increase in ER emergent visits for injuries, post-event viral and fungal infections, and behavioral health treatment, and also fewer routine health visits and non-emergency visits to the ER. We conducted an initial part of a growing study on 2012-2013 Kansas health care utilization following the windstorms in that region. Non-emergent visits declined by 6 percent in the Kansas health system, while emergent ER visits remained substantially the same. The analysis also indicated the emergence of septicemia and fungal infections in the days following windstorm events, with health visits increasing by 15 percent. NOAA provided helpful insights in understanding these usage trends in relation to severe weather events. Actuaries and others working with health systems and multiple lines of insurance can benefit from understanding the potential changes due to extreme weather events.

We are continuing to study these types of data points to help our members, and the industry, understand the challenges, patterns and solutions related to severe weather. **A**

R. Dale Hall, FSA, CERA, MAAA, is managing director of Research at the Society of Actuaries. He can be reached at dhall@soa.org.