ISDS 2016 Conference Abstracts

How's the Weather? Severe Weather Classifications in Syndromic Surveillance

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Objective

To report the results of the application of New Jersey's Severe Weather Classifier in New Jersey's syndromic surveillance system during two extreme weather events.

Introduction

Hurricane 'Superstorm' Sandy struck New Jersey on October 29, 2012, causing harm to the health of New Jersey residents and billions of dollars of damage to businesses, transportation, and infrastructure. Monitoring health outcomes for increased illness and injury due to a severe weather event is important in measuring the severity of conditions and the efficacy of state response, as well as in emergency response preparations for future severe weather events. Following the experience with Hurricane Sandy, NJDOH initiated a project to develop a suite of 19 indicators, known as the Severe Weather Classifier (SWC) in EpiCenter, an online system which collects emergency department chief complaint data in real-time, to perform syndromic surveillance of extreme weather–related conditions. NJDOH has since used these classifiers in more recent events to monitor for weather-related visits to storm-affected area emergency departments (ED's).

In June, 2015, a squall line of damaging thunderstorms, known as a "bow echo," caused downed wires and multi-day power outages in Camden and Gloucester counties in southern New Jersey. Almost exactly seven months later, in January, 2016, Winter Storm Jonas dropped more than a foot of snow over New Jersey. These events provided an opportunity to assess the indicators within SWC.

Methods

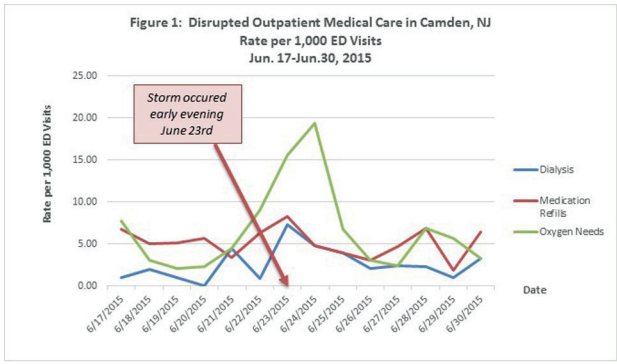
The impact of these storms on ED visits was assessed in EpiCenter by using the SWC sub-classifications for disrupted outpatient medical care (dialysis and oxygen needs, and medication refills). Rates per 1,000 ED visits were calculated on two weeks of ED visits by classification for each storm. For the June 2015 bow echo storm, this assessment focused on Gloucester and Camden counties, the two hardest hit by the storm. For Winter Storm Jonas, rates per 1,000 ED visits were calculated statewide since all counties were impacted.

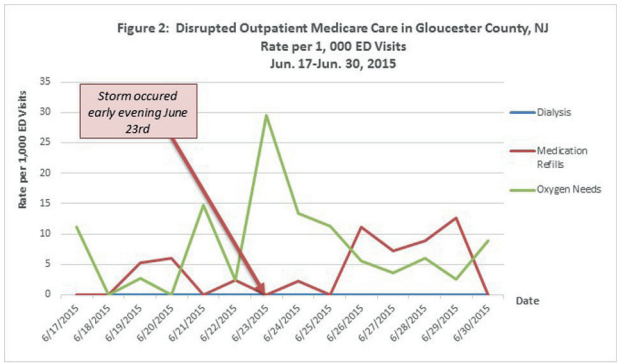
Results

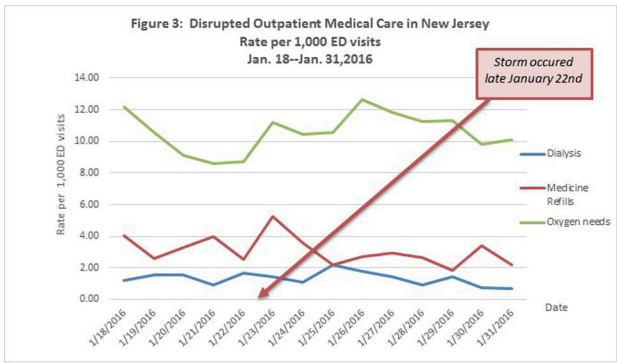
After the June, 2015 bow echo storm, both Camden and Gloucester county ED's experienced increases in disrupted medical care, the most notable being for oxygen needs (Figures 1 and 2). During and after Winter Storm Jonas, ED visits for oxygen assistance and medicine refills were the most impacted (Figure 3). It is speculated that ED visits for dialysis were not noticeably higher since the storm occurred over a weekend when, generally, treatments take place during weekdays.

Conclusions

While not every classification in the suite that makes up the SWC would be relevant in every extreme weather event, having the 19 various elements available provides tools for state and local users to monitor storm impacts both locally and at the state level.







Keywords

classifications; severe weather; syndromic surveillance; EpiCenter

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