Abstract

Assessing the impact of a public safety power shutoff on emergency department visits in marin county, California

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background

Public Safety Power Shutoffs (PSPS) are planned power outages designed to reduce wildfire risk during heightened fire-risk conditions. The public health impacts of prolonged power outages are not well described. We examined visit patterns and reasons for seeking care (chief complaints) in emergency departments (ED) during an extended PSPS in October 2019.

methods

ED census data from Marin County's three hospitals were used to examine patient age, visit frequency, and proportion of visits attributed to chief complaint categories during October 27-29 (days one to three). Daily proportions of visits in categories of interest were compared to the two-year daily average using the chi-squared test. Average daily visitor age was compared to the two-year average using t-tests. Chief complaint text fields were used to create PSPS related diagnostic categories.

results

Visits increased on days one to three compared to the average, with the greatest increase on day one (33%). The average visitor age increased significantly on days one ($p=0.002$) and two ($p<0.001$), as did the proportion of accident-related visits ($p<0.001$). The proportion of medical device-related visits increased on day one ($p<0.001$), while gastrointestinal-related visits increased on days two ($p=0.03$) and three ($p=0.02$).

conclusions

Increases in total visits, average age, and the frequency of conditions potentially related to power loss suggests increased risk during an outage, particularly among older adults. Increases in certain complaint categories on different days point to evolving health risks over the course of an event. These findings suggest a need for evaluation of PSPS risks and benefits.

Environmental health sciences Epidemiology Program planning Provision of health care to the public Public health or related research