Heat-Related Illness Syndromic Surveillance: Case Definition & Limitations

August 2023

Data source:

Data are from participating Louisiana (LA) Emergency Departments. Approximately 90% of Louisiana EDs provide data. Data are transmitted and processed via the National Syndromic Surveillance Program's BioSense Platform. BioSense is a cloud-based platform that hosts the Electronic Surveillance System for the Early Notification of Community-based Epidemics, or ESSENCE, a web-based syndromic surveillance analysis system.

Case definition:

Each case represents an ED visit for heat-related illness. An individual may have more than one ED visit. Records are selected using a built-in Essence query that searches the Chief Complaint (i.e., the patient's stated reason for visit), Admit Reason (i.e., the provider's noted reason for admission), and Discharge Diagnosis fields for text and ICD codes associated with heat exhaustion, heat exposure, heat cramps, heat stroke or hyperthermia. The Clinical Impression and Triage fields were added to the syndrome query to increase the number of cases captured.

Limitations:

While syndromic surveillance is a valuable near real-time data source for assessing the impacts of HRI in Louisiana, it is accompanied by some limitations that should be considered when interpreting the data.

Not all ED visits in the state are included in the data analyzed (approximately 90% of EDs report data). Also, the amount of ED data received by the syndromic system may change over time due to the onboarding and off-boarding of facilities, changes in electronic health reporting systems and data outages for various reasons. This limitation should be considered when analyzing trends over time.

Patients seen outside of EDs, such as at urgent care centers or by emergency medical services without transport to a hospital, are not captured.

Records in ESSENCE are not verified using clinical standards to definitively classify them and so do not represent clinically confirmed diagnoses. Some cases are identified from pre-visit information. These fields may be inaccurately or incompletely reported which could result in misclassification of HRI ED visits. An example of this issue lies within the Chief Complaint category, as it relies on self-reporting and may provide ambiguous information.

Data are retrieved and reported based on location of treatment facility, except for the number of HRI ED visits by parish, which is reported based on the patient's parish of residence. While the facility location is a useful proxy for the patient's location, it represents the location where the patient sought care which may differ from the location where the patient became ill.