Experts Collaborate to Develop a Standardized Syndrome Definition for Cold-related Illness

In winter, people are at risk for cold-related illness (CRI) such as hypothermia. Deaths coded as weather-related from 2006 through 2010 showed exposure to excessive cold as the leading cause of weather-related deaths in the United States. Therefore, the National Syndromic Surveillance Program Community of Practice (NSSP–CoP) worked with the Council of State and Territorial Epidemiologists (CSTE) to create a standardized cold-related illness syndrome definition.

Actions Taken
In 2017, CSTE’s Climate, Health, and Equity Subcommittee convened a workgroup to create a CRI query definition and implementation guidance. The workgroup collaborated with data analysts and epidemiologists from the NSSP–CoP Syndrome Definition Committee and based its approach on that used to develop CSTE’s 2016 Heat-Related Illness Syndrome Query: A Guidance Document for Implementing Heat-Related Illness Syndromic Surveillance in Public Health Practice.

The workgroup compiled known cold-related illness syndromes from health departments around the country. To identify health departments with CRI syndrome definitions, they used results from a 2015 CSTE national assessment on syndromic surveillance for climate-related hazards. They also consulted CDC’s Environmental Public Health Tracking Draft Definition to identify cold-related illness diagnostics codes used by hospital discharge databases. Inclusion and exclusion criteria from available syndromes were combined, and the International Classification of Diseases, Ninth Revision, Clinical Modification diagnostic codes were also included in the criteria. Workgroup members discussed topics including regional variation in terms, inclusion and exclusion terms, ESSENCE query syntax, potential applications and limitations, and steps for implementing the syndrome into practice. To validate the proposed CRI definition, three workgroup members applied it to their public health department data. Further, the New York City Department of Health and Mental Hygiene compared syndrome records with hospital discharge data.

Outcome
This collaboration across organizations and public health departments developed the CRI syndrome definition and guidance document: Cold-related Illness Query: Guidance for Implementing Cold-related Illness Syndromic Surveillance in Public Health Practice. The CRI definition has been implemented in NSSP–ESSENCE,* and associated documentation will be posted in the International Society for Disease Surveillance (ISDS) Syndrome Library, part of the Knowledge Repository.


* Electronic Surveillance System for the Early Notification of Community-based Epidemics