

Weekly Early Event Detection Report

Week Ending May 25, 2019

MMWR Week 21

Report Date 5/30/2019 **Prepared by:** Ken Dufault Kenneth.Dufault@dhhs.nh.gov / 603-271-5165

The purpose of this weekly report is to keep both internal and external partners informed of potential public health threats detected through several surveillance systems that are regularly monitored by IDSS staff. The effectiveness of a disease control response and, in turn, the ability to prevent illness can be directly related to how early a threat is detected.

Over-the-Counter (OTC) Pharmaceutical Sales

The IDSS receives automated data of OTC pharmaceuticals sales from a system, described below. Often people who are ill seek self-treatment from OTC medications before visiting a health care provider. Sales of OTC medications can be an early indicator of public health anomalies or community outbreaks, either natural or as a result of bioterrorism.

Real-time Outbreak and Disease Surveillance (RODS)

- This OTC surveillance tool collects and analyzes daily sales data for OTC medications. IDSS receives automated data from 155 pharmacies statewide. Sales are categorized into 18 specific categories based on UPC codes. These categories include cough, cold, antidiarrheal, antifever and rash treatment medications. Data from select categories is provided in tables below.

RODS - Weekly OTC Sales

| Medication Category | Antidiarrheal Remedies | | | | Cough/Cold Remedies | | | |
|---------------------|------------------------|-----|-----|-----|---------------------|-------|-------|-------|
| | 18 | 19 | 20 | 21 | 18 | 19 | 20 | 21 |
| MMWR Week | | | | | | | | |
| 5-Yr Average | 747 | 745 | 729 | 708 | 18304 | 18389 | 18389 | 17486 |
| Current | 994 | 949 | 997 | 925 | 15047 | 15208 | 16900 | 17479 |

Watch values highlighted in orange are one standard deviation above the average

Warning values highlighted in red are two standard deviation above average

Automated Hospital Emergency Department Data (AHEDD)

AHEDD automatically collects real-time Emergency Department (ED) electronic data from hospitals statewide using chief complaint text and diagnosis codes (ICD-10 codes). Queries categorize ED encounters, in real time, by syndrome and symptom based on the chief complaint text of each encounter. Most hospitals provide ICD-10 codes, which confirm a diagnosis, sometimes several days after a chief complaint. There are 26 acute care hospitals in the State participating in AHEDD.

Weekly Activity by Syndrome*

| Syndromes | Hospitals | Cities and Towns |
|-------------------------|--|---|
| Botulinic | None | None |
| Constitutional | Concord, Elliot, Portsmouth | Amherst, Concord, Conway, Farmington, Goffstown, Hampstead, Jaffrey, Littleton, Londonderry, Manchester, Milford, Newmarket, Pembroke, Seabrook |
| Gastrointestinal | Elliot | Auburn, Barrington, Bedford, Bow, Hollis, Londonderry, Milford, Northfield, Pembroke, Peterborough, Weare |
| Hemorrhagic | Catholic, Elliot, Memorial, Monadnock | Conway, Manchester, Peterborough, Rye, Somersworth, Weare |
| Neurological | Portsmouth | None |
| Rash | Elliot, Memorial, Portsmouth, St. Joseph | Dover, Manchester |
| Respiratory | Elliot, Memorial, Portsmouth, St. Joseph | Amherst, Bedford, Derry, Farmington, Goffstown, Hampstead, Hampton, Hillsborough, Hooksett, Hudson, Jaffrey, Kingston, Litchfield, Londonderry, Manchester, Merrimack, Milford, Pelham, Raymond, Rye, Seabrook, Somersworth, Windham, Wolfeboro |

*Please note: Individual hospital information in this report is to be considered privileged and not intended to be made available to third parties or the general public.

AHEDD encounters by reportable condition based on chief complaint text: Chief complaint text is searched for clinical language associated with reportable disease conditions, bioterrorism agents, and chemical terrorism agents.

□ None

AHEDD encounters based on ICD-10 codes: As diagnostic codes are assigned to an encounter, select codes associated with reportable diseases, bioterrorism agents, or chemical terrorism agents are identified. Not all hospitals are currently providing ICD-10 data.

□ Babesiosis (ruled out), Hepatitis (ruled out), Hepatitis A x 2 (2 confirmed in NHEDSS), Hepatitis C (historical), Lyme x 10 (7 pending, 1 suspect, 1 ruled out, 1 confirmed), Measles (ruled out), Salmonella (confirmed), Varicella (ruled out)

School Absenteeism

Beginning with the 2009-2010 school year, an influenza-like illness (ILI) web-reporting tool for NH schools was implemented to better evaluate trends of ILI in communities over time. All public schools voluntarily report daily aggregate counts for student absenteeism and those absent for ILI. Student absenteeism and student ILI rates, reported by county, are posted on the DHHS website each week at <http://www.dhhs.nh.gov/dphs/cdcs/influenza/schoolsurveillance.htm>

| Student Absenteeism | Overall Rate | Number of Schools Reporting | Percentage Reporting | Previous Week's Overall Rate |
|-------------------------------|--------------|-----------------------------|----------------------|------------------------------|
| Total Absenteeism | 4.60 | 100 | 15% | 4.40 |
| Influenza-Like-Illness | 0.10 | 56 | 8% | 0.10 |

Death Certificate Surveillance

NH DHHS partners with the NH Division of Vital Records Administration to receive NH death records for surveillance purposes. Through the death certificate surveillance database, IDSS has the ability to track pneumonia and influenza deaths, as well as deaths from communicable diseases and other potential public health threats. Total numbers adjusted for causes other than influenza we are monitoring.

| Deaths | Calendar Year | New Detections | Individuals |
|--------------------------|---------------|----------------|-------------|
| Influenza Related | | | |
| | 2019 | 1 | 43 |
| | 2018 | | 61 |
| | 2017 | | 47 |
| | 2016 | | 28 |
| | 2015 | | 54 |

Seasonal Reports

These are emergency department visits reported through AHEDD searching for clinical language associated with heat/cold related injuries and exposure (hyper/hypothermia) and carbon monoxide exposure. The search tool has been validated with ICD-10 codes.

| Encounter | Calendar Year | New Detections | Individuals | Clusters |
|---------------------|---------------|----------------|-------------|-----------|
| Heat Related | | | | |
| | 2019 | 2 | 3 | |
| | 2018 | | 175 | |
| | 2017 | | 72 | |
| | 2016 | | 105 | |
| | 2015 | | 85 | |
| Cold Related | | | | |
| | 2019 | 1 | 81 | |
| | 2018 | | 117 | |
| | 2017 | | 97 | |
| | 2016 | | 129 | |
| | 2015 | | 152 | |
| CO Exposure | | | | |
| | 2019 | 1 | 32 | |
| | 2018 | | 87 | 12 |
| | 2017 | | 99 | 11 |
| | 2016 | | 70 | 7 |
| | 2015 | | 135 | 13 |

Allergen Levels

Predominant pollen: Information comes from <http://www.pollen.com/state.asp?id=nh>, which provides daily allergy updates that are qualitative and quantitative results that aid in identifying health care risk. Scale is from a low of 0 to a high of 12. Currently Birch, Oak and Grasses are top allergen (5-day average 5.4-9.4)

Syndromic Definitions

Botulinic - ocular abnormalities (diplopia, blurred vision, photophobia), difficulty speaking (dysphonia, dysarthria, slurred speech), and difficulty swallowing (dysphagia).

Constitutional - non-localized, systemic problems including fever, chills, body aches, flu symptoms (viral syndrome), weakness, fatigue, anorexia, malaise, lethargy, sweating (diaphoresis), light headedness, faintness and fussiness. Shaking (not chills) is Other and not Constitutional.

Gastrointestinal - pain or cramps anywhere in the abdomen, nausea, vomiting, diarrhea, and abdominal distension or swelling.

Hemorrhagic - bleeding from any site, e.g., vomiting blood (hematemesis), nose bleed (epistaxis), hematuria, gastrointestinal bleeding (site unspecified), rectal bleeding, and vaginal bleeding. Bleeding from a site for which there is a syndrome is classified as Hemorrhagic and as the relevant syndrome (e.g., Hematochesia is Gastrointestinal and Hemorrhagic; hemoptysis is Respiratory and Hemorrhagic).

Neurological - non-psychiatric complaints which relate to brain function. Included are headache, head pain, migraine, facial pain or numbness, seizure, tremor, convulsion, loss of consciousness, syncope, fainting, ataxia, confusion, disorientation, altered mental status, vertigo, concussion, meningitis, stiff neck, tingling and numbness. (Dizziness is both Constitutional and Neurological.)

Other - pain or process in a system or area not being monitored. For example, flank pain most likely arising from the genitourinary system would be considered Other. Chest pain with no mention of the source of the pain is considered Other (e.g., chest pain (Other) versus pleuritic chest pain (Respiratory)). Earache or ear pain is Other. Trauma is Other.

Rash - any description of a rash, such as macular, papular, vesicular, petechial, purpuric, or hives. Ulcerations are not normally considered Rash unless consistent with cutaneous anthrax (an ulcer with a black eschar).

Respiratory - problems of the nose (coryza) and throat (pharyngitis), as well as the lungs. Examples of Respiratory include congestion, sore throat, tonsillitis, sinusitis, cold symptoms, bronchitis, cough, shortness of breath, asthma, chronic obstructive pulmonary disease (COPD), and pneumonia. The presence of both cold and flu symptoms are Respiratory and not Constitutional.

Note: This report follows the CDC Morbidity and Mortality Weekly Report (MMWR) the report starts on a Sunday and ends on a Saturday.