



WEEKLY INFLUENZA SURVEILLANCE REPORT

April 24 - April 30, 2016 (MMWR Week 17)

Highlights

Flu activity decreased to 'low' this week. The flu rating scale is here: <https://ccbh-new.squarespace.com/flu-weekly-reports/?rq=flu>

Pneumonia-related deaths accounted for 7.2% of all deaths. No flu related deaths were reported this week.

3 confirmed cases of flu associated hospitalization were reported this week and 25 cases for week 16.

2.6% of emergency room visits were due to flu like illness this week.

Local Flu Activity Dashboard (All data are preliminary and may change as updated information are received.)

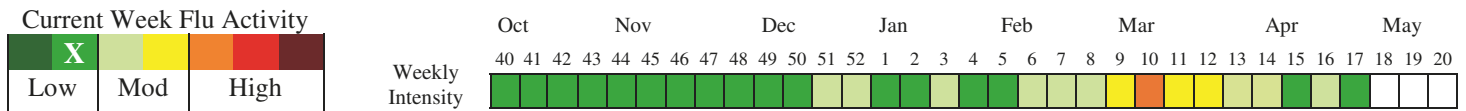


Table 1. Cuyahoga County Influenza Data Dashboard

| Influenza (Flu) Indicator | Current Activity Level | Activity Compared to Last Week | #Weeks ¹²³⁴ | 2015-2016 Season Total/Trend |
|--|---|--|------------------------------|---|
| Percent of pneumonia deaths & number of flu related deaths - [Fig 1] | Pneumonia: 7.2% Flu: 0 deaths | 63.0% (2) | ▲1 ▼1 | Pneumonia (Avg.=5.1) below 5-year median. 7 flu deaths. |
| Influenza like illness (ILI) doctor visits [Fig 2] | Cuyahoga: N/A athenahealth: 0.24% | N/A (26.4%) | N/A ▼1 | athenahealth flu visits below 5-year median. |
| Flu associated hospitalizations [Fig 3] | 3 | (22) | ▼4 | N=589. Above 5-year median. |
| School absenteeism due to ILLNESS ONLY - [Fig 4A] | Northeast: 1.2% Northwest: 2.1% Southwest: 2.2% | (33.3%) (27.6%) (4.3%) | ▼1 ▼1 ●3 | School absenteeism due to any illness trending above the 5-year median. |
| School absenteeism due to ALL CAUSES - [Fig 4B] | Northeast: N/A Northwest: 2.5% Southeast: 8.5% Southwest: 3.3% | N/A 13.6% 34.9% 65.0% | N/A ●1 ▲1 ▲1 | School absenteeism due to any reason is trending above 5-year median. |
| Emergency room visit due to ILI [Fig 5] | 2.6% | (4.4%) | ●3 | Median = 2.6%. Normal activity. |
| Sales of over-the-counter medications used to treat ILI. [Fig 6] | 293 | (2.3%) | ●4 | Sales higher than the 5-yr median. |
| Congestion & cough complaints [Fig 8] | 10.4% | (2.9%) | ●7 | Median = 11.9%. Normal activity. |
| Vomiting & nausea complaints [Fig 9] | 10.0% | (4.8%) | ●14 | Median = 10.6%. Normal activity. |
| Diarrhea complaints [Fig 10] | 2.6% | (19.6%) | ▼1 | Median = 2.9%. Normal activity. |

¹Due to small percentages, caution should be used while interpreting the 'Activity Compared to Last Week' box.

²For figures 2, 4a-4b, ▲ = (Increase ≥ 20%), ▼ = (Decrease ≥ -20%), ● = Stable (-19.9% to +19.9%)

³For figures 1, 5-10, ▲ = (Increase ≥ 10%), ▼ = (Decrease ≥ -10%), ● = Stable (-9.9% to +9.9%)

⁴For flu related deaths (Fig 1) & Fig 3, ▲ = (Increase # of deaths/cases), ▼ = (Decrease # of deaths/cases), ● = Stable (Same # of deaths/cases)



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Flu Summary

This report is intended to provide an overview of influenza related activity occurring in Cuyahoga County while providing some information on state activity that is one week behind the current week. It will be published on a weekly basis and can be found at the following website: <http://www.ccbh.net/flu-weekly-reports/?rq=flu>

Note: Data are provisional and subject to change. Updates will be included in future reports.

Pneumonia and Influenza (P&I) Mortality

7.2% of all deaths reported to vital statistics departments in our county were due to pneumonia. Adults 45-64 years old accounted for 35% of all pneumonia related deaths. No influenza related deaths occurred this week; seven flu deaths so far this season (**Figure 1**).

Influenza-Like Illness (ILI) Reports

Athenahealth reported that 0.24% of patients had ILI this week. No sentinel providers reported this week (**Figure 2**). ILI is defined as a fever ($\geq 100^{\circ}$ F), **and** cough and/or sore throat.

Influenza-Associated Hospitalizations and Influenza-Associated Pediatric Mortality

Three confirmed cases of influenza-associated hospitalizations in Cuyahoga County were reported this week & 25 cases for week 16 (**Figure 3**). Two hundred twenty statewide confirmed influenza associated hospitalizations in week 16. One statewide pediatric flu related death has occurred so far this flu season.

School Absenteeism

Participating schools in Cuyahoga County reported the percentage (median = 2.0%) of absenteeism *due to any illness* on Tuesday (**Figure 4A**). **Figure 4B** shows the total absenteeism *due to any reason* (median = 2.8%).

Emergency Department (ED) visits and Over-the-Counter Medication Sales

2.6% of all ED visits were for fever + ILI symptoms. Approximately 90 more patients visited EDs for fever and ILI symptoms this week compared to the previous 5-year weekly median (**Figure 5**). **Figure 6** shows approximately 140 more OTC products per drugstore were purchased this week than the previous 5-year weekly median.

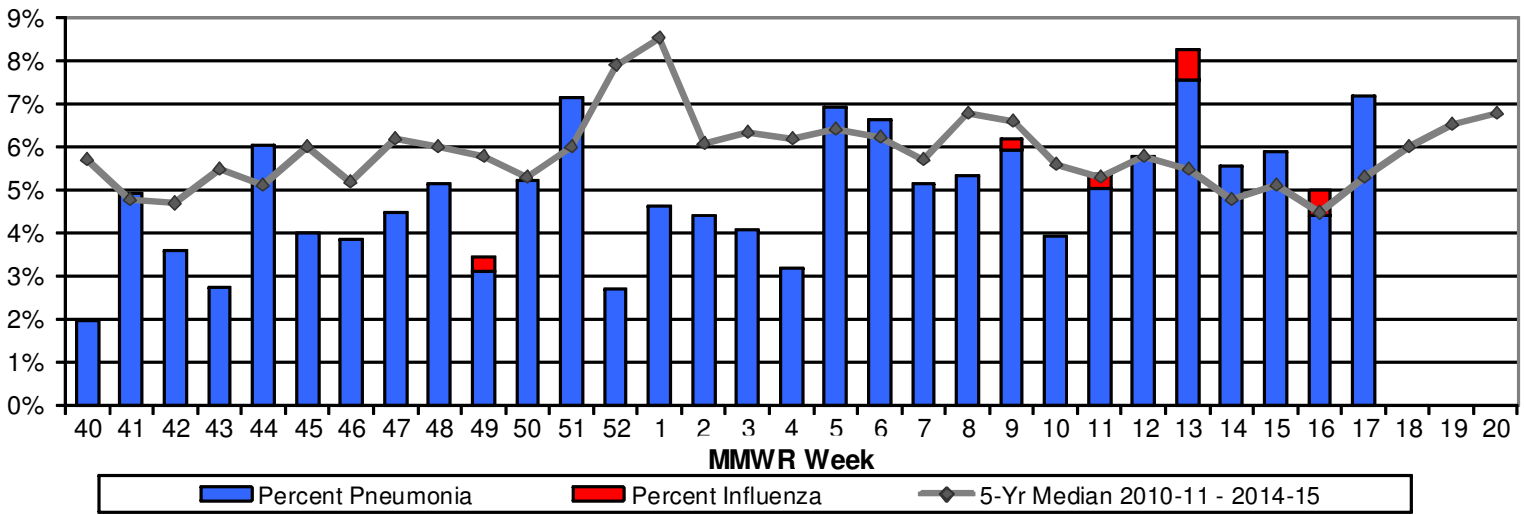
Three other maps show, by zip code, the frequency of ED visits for three symptoms that are common during the fall and winter seasons and are of interest to the general public: congestion and cough (**Figure 8**), vomiting and nausea (**Figure 9**), and diarrhea (**Figure 10**).

Descriptions of data sources used to complete the weekly influenza write-up can be found on the last page of this report.

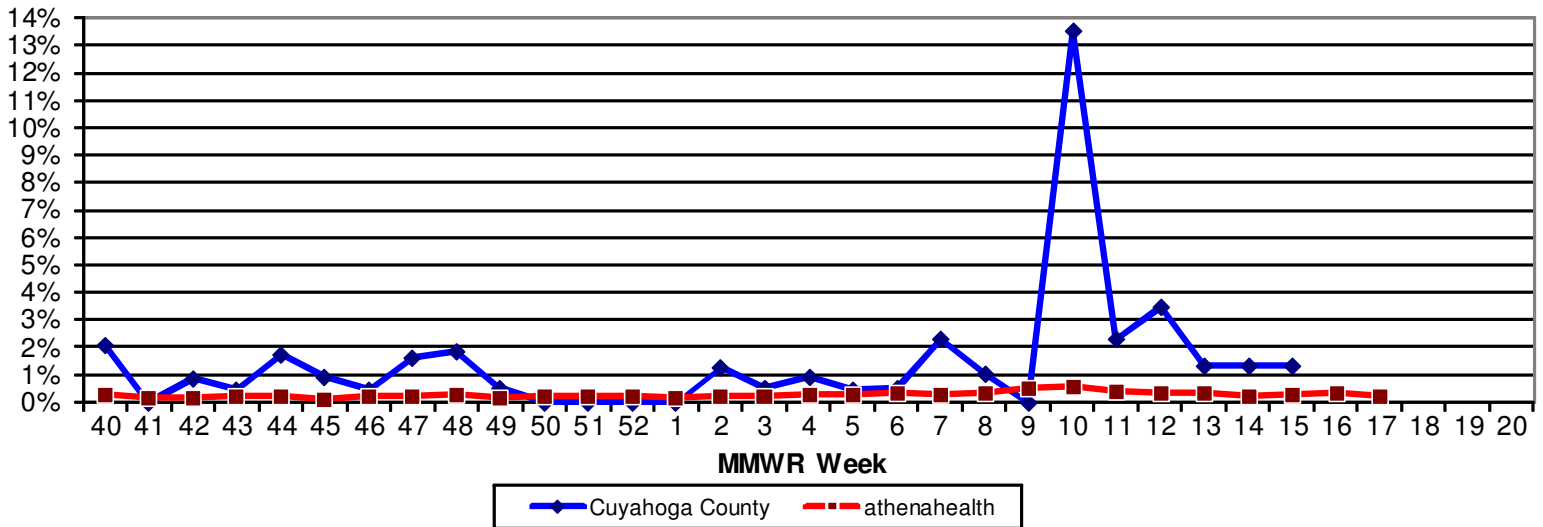
Additional Influenza Activity Links

- Weekly U.S. Influenza Surveillance Report – <http://www.cdc.gov/flu/weekly>
- Ohio Influenza Surveillance – <http://www.odh.ohio.gov/features/odhfeatures/seasflu/ohfluactivity.aspx>

**Figure 1. Percentage of Deaths Due to Pneumonia and Influenza (P&I)
Cleveland Bureau of Vital Statistics**



**Figure 2. Percent of Influenza-Like Illness (ILI) Visits U.S. Influenza Sentinel
Provider Surveillance Network and ILI visits data via athenahealth**



**Figure 3. Number of Influenza-Associated Hospitalizations in
Cuyahoga County (using event date)**

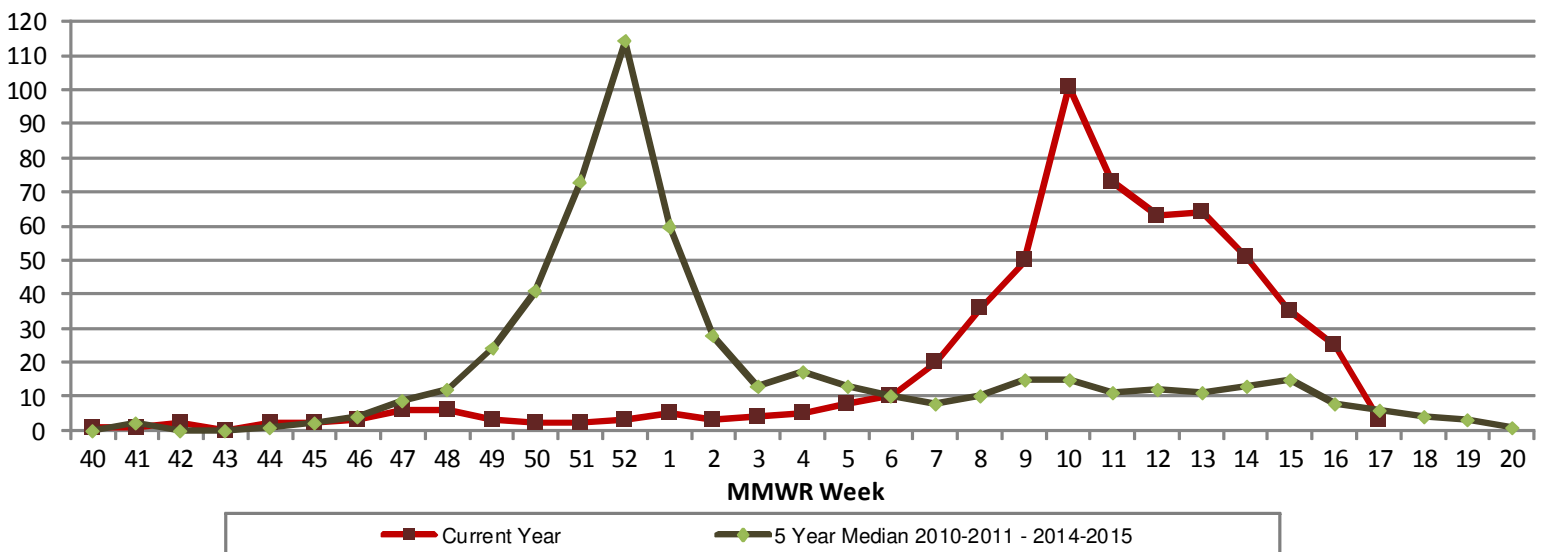


Figure 4a. School Absenteeism (Due to any Illness) in Cuyahoga County

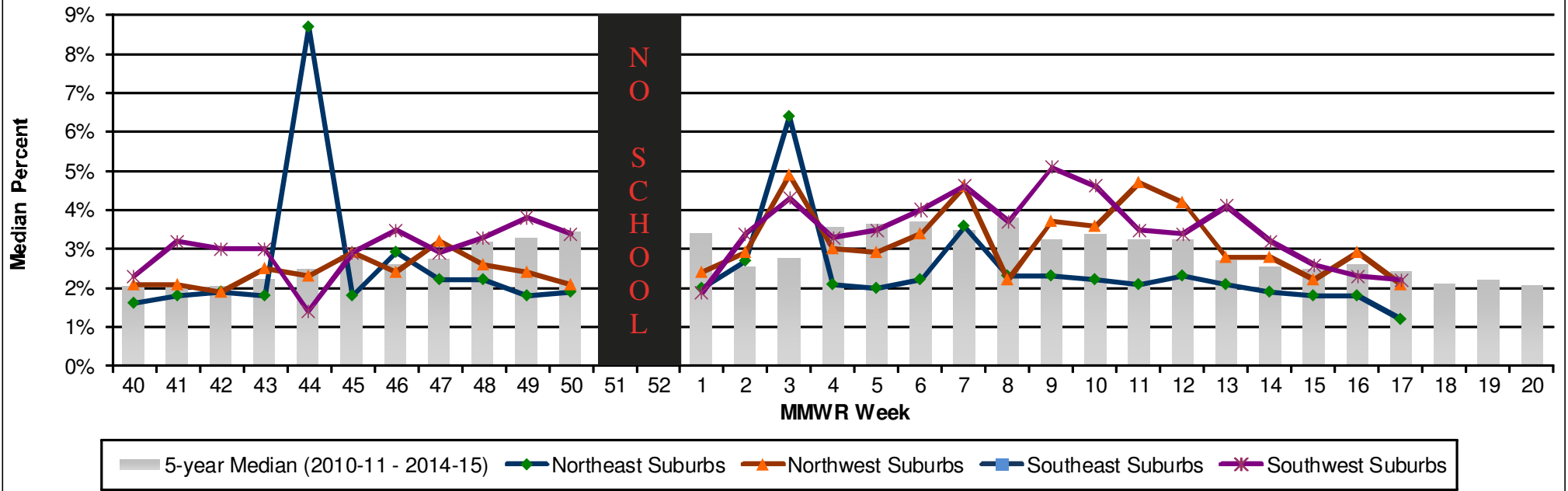


Figure 4b. School Absenteeism (Due to any Reason) in Cuyahoga County

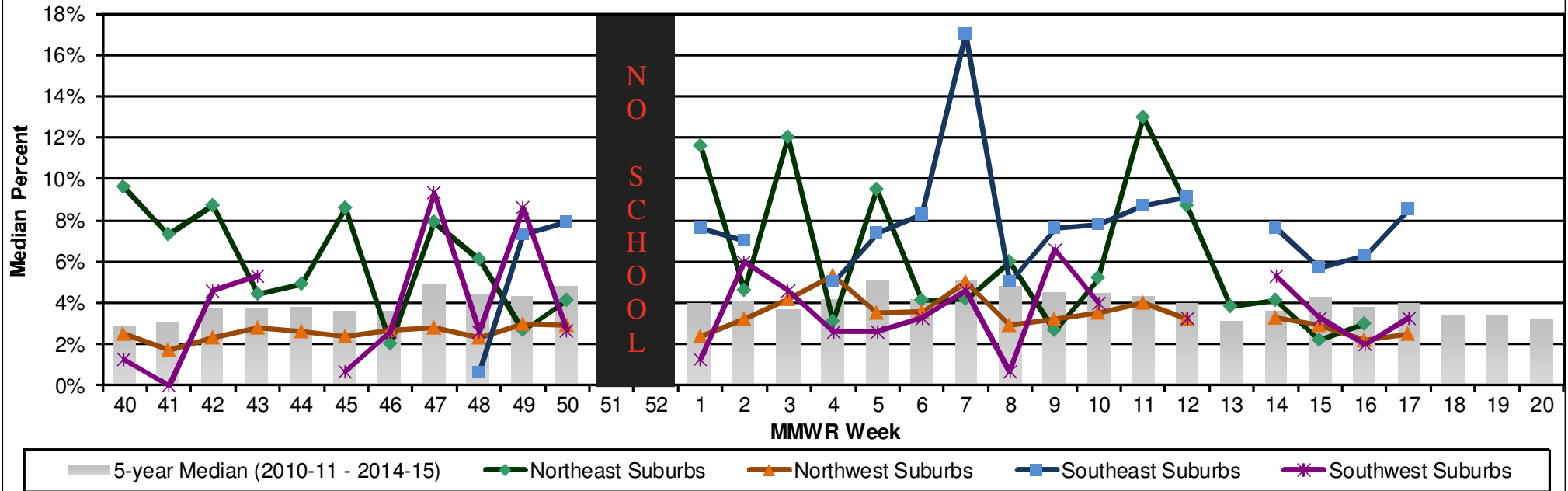


Figure 5. Cuyahoga County Hospital ED Visits for ILI & Fever Symptoms by Age Group

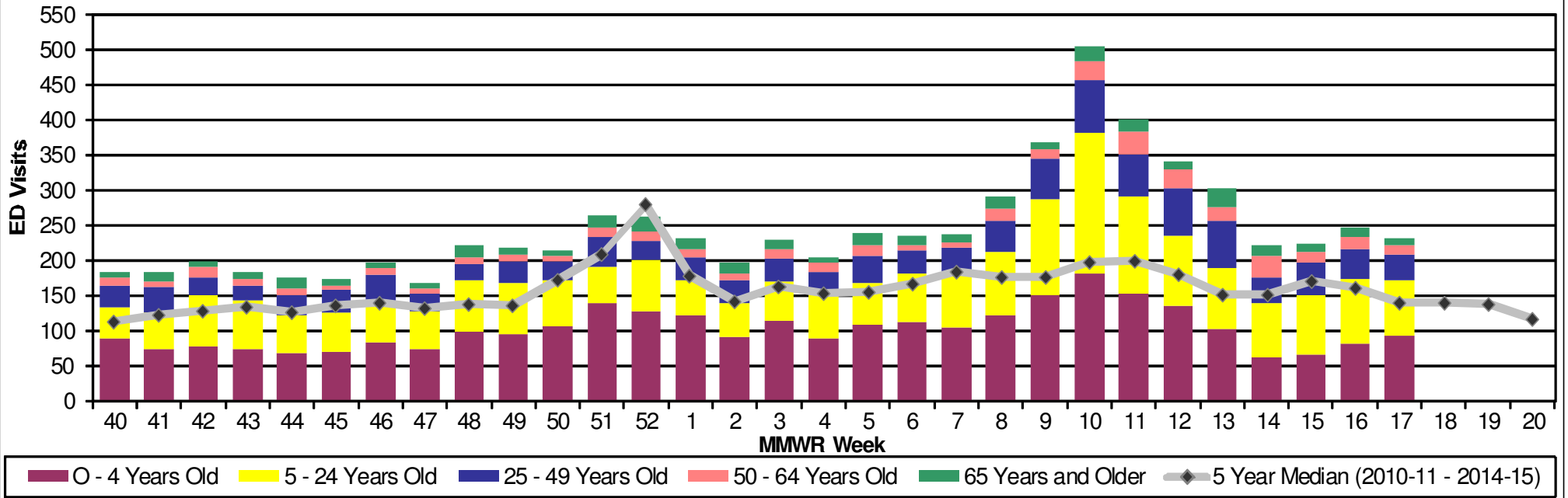


Figure 6. Comparison of Average Weekly OTC Products Sold in Cuyhaoga County Drugstores

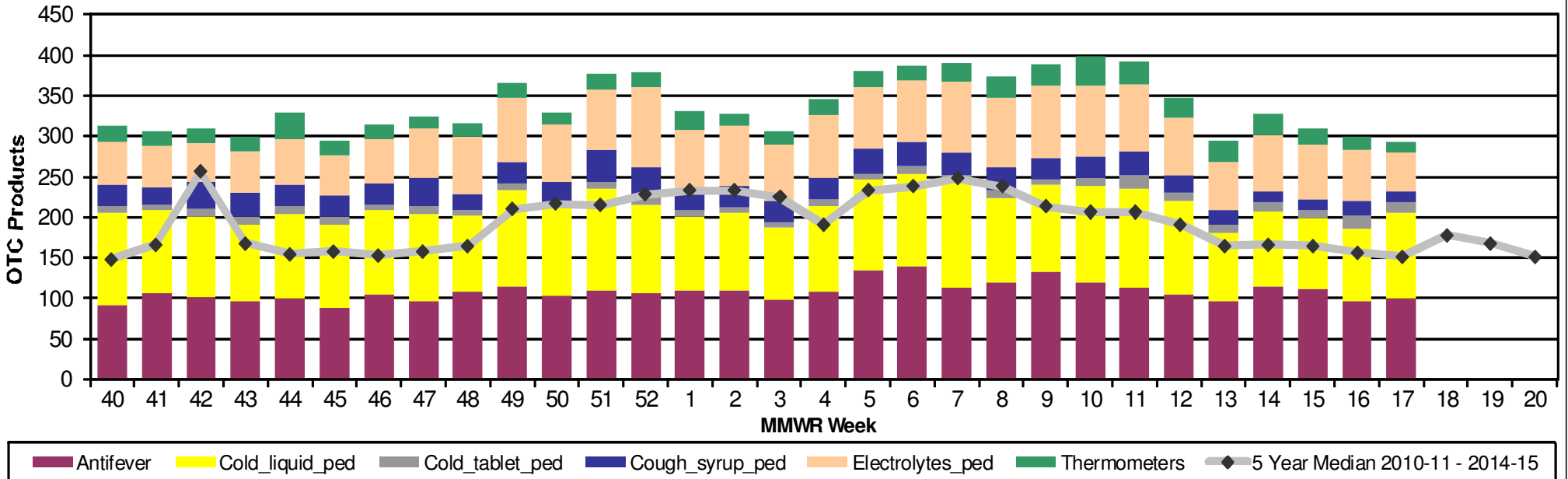
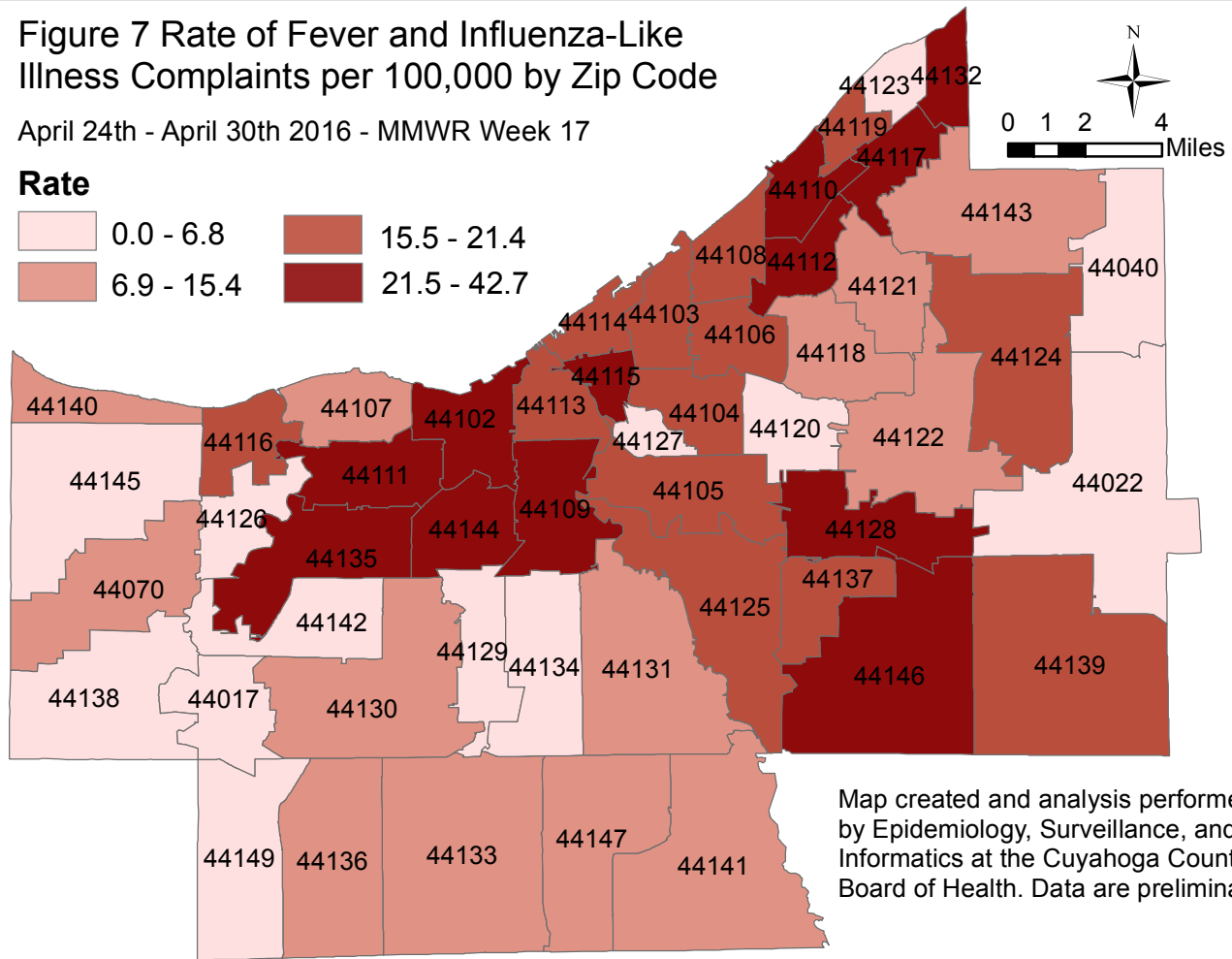
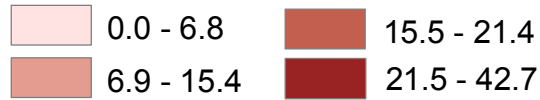


Figure 7 Rate of Fever and Influenza-Like Illness Complaints per 100,000 by Zip Code

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Rate

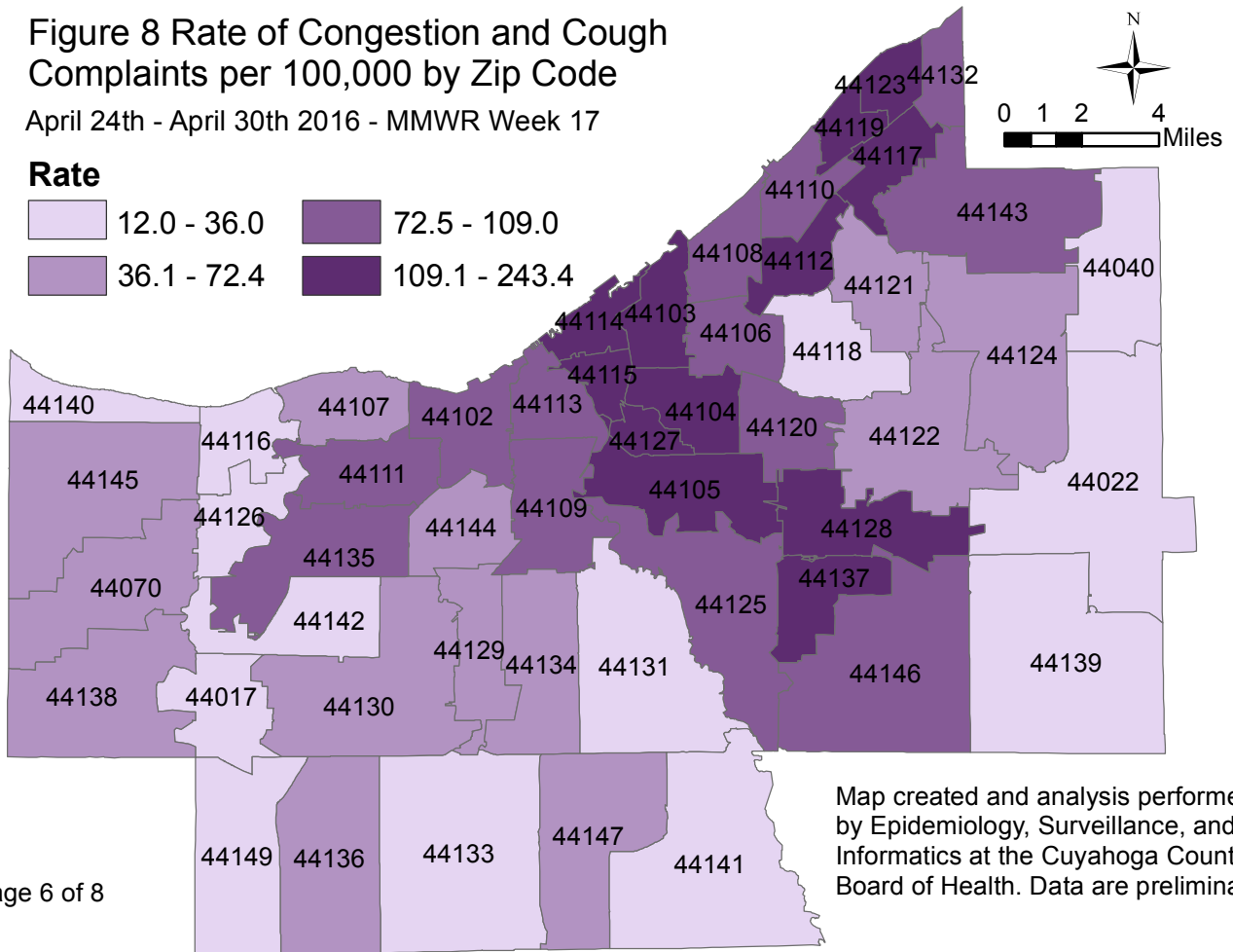
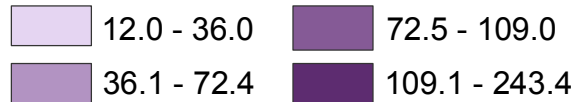


Map created and analysis performed by Epidemiology, Surveillance, and Informatics at the Cuyahoga County Board of Health. Data are preliminary.

Figure 8 Rate of Congestion and Cough Complaints per 100,000 by Zip Code

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Rate



Map created and analysis performed by Epidemiology, Surveillance, and Informatics at the Cuyahoga County Board of Health. Data are preliminary.

Figure 9 Rate of Vomiting and Nausea Complaints per 100,000 by Zip Code

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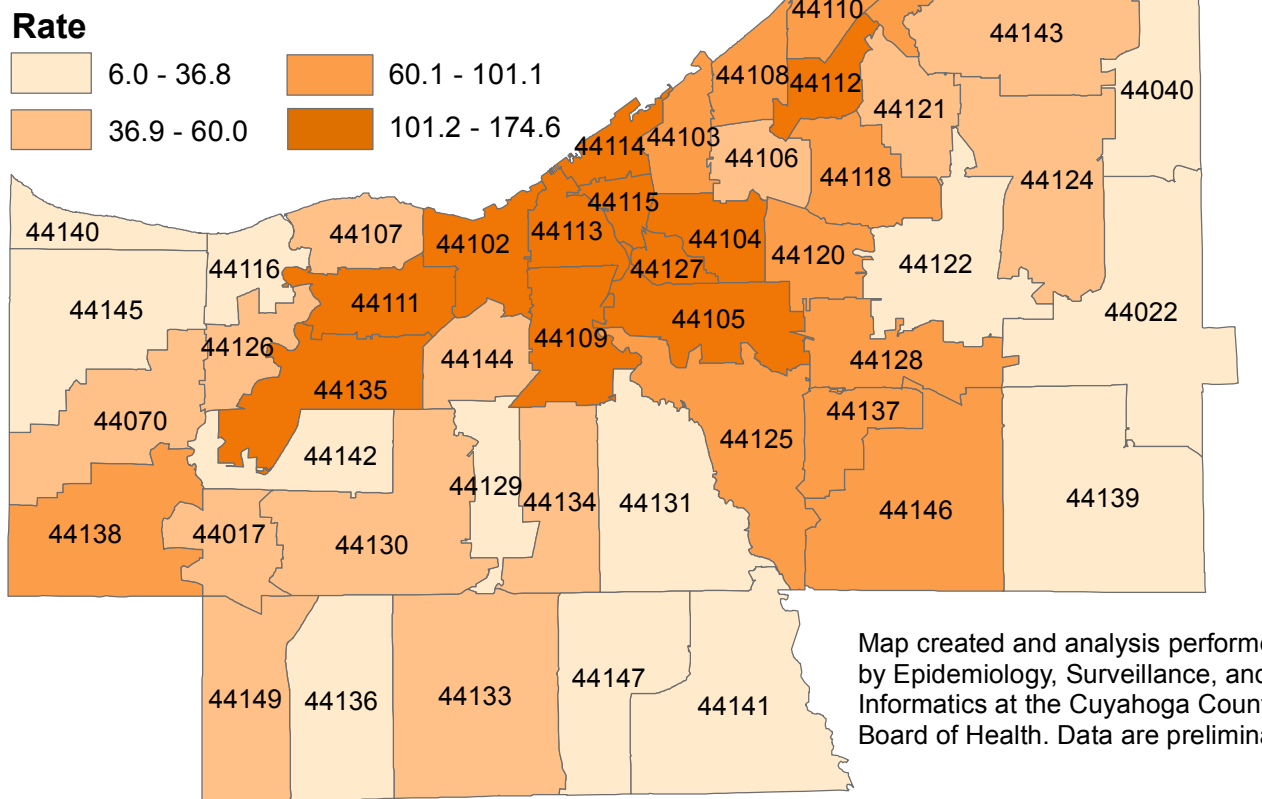
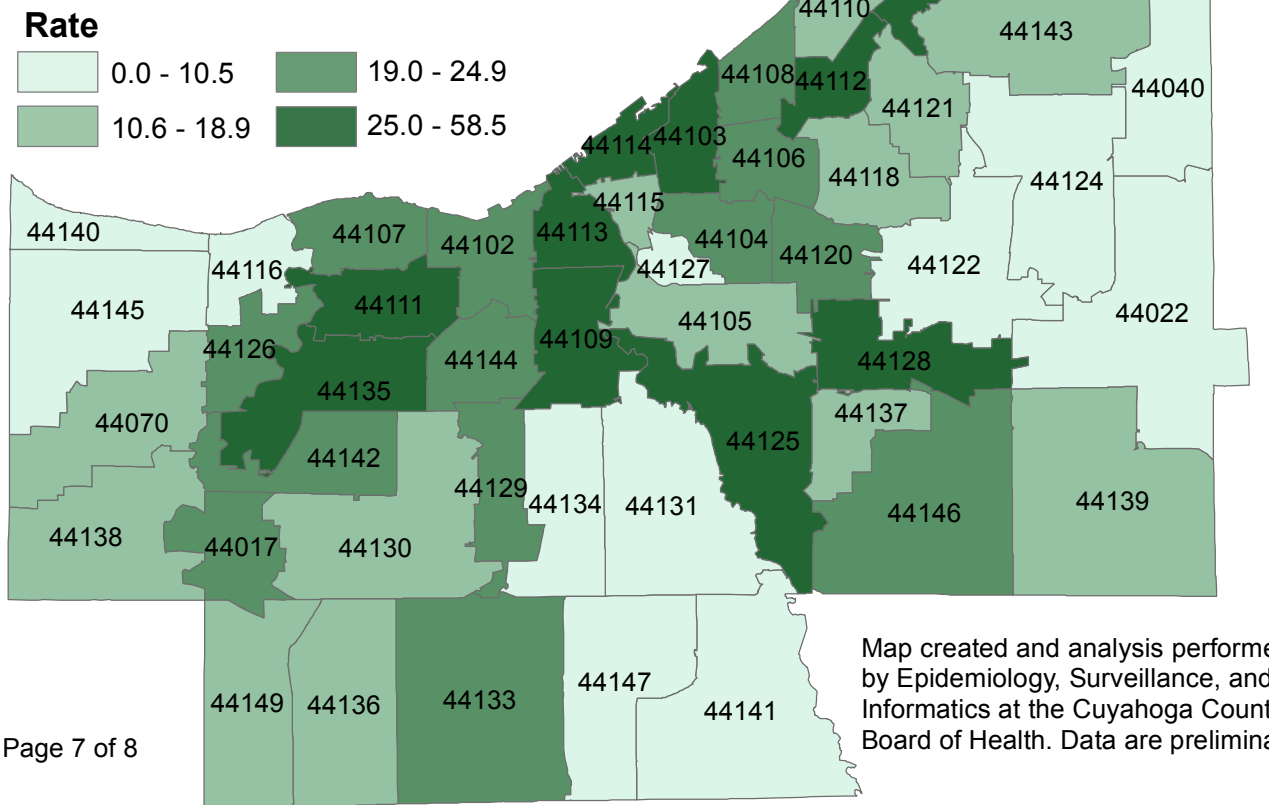


Figure 10 Rate of Diarrhea Complaints per 100,000 by Zip Code

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Sources of Influenza Surveillance Data

Six types of data sources are examined on a weekly basis to help determine the influenza activity level for Cuyahoga County:

- 1) **Ohio Department of Health (ODH) Seasonal Influenza Activity Summary** : The ODH influenza summary provides state-wide data . Data used from this report include: frequency of fever plus influenza-like illness (ILI) associated hospitalizations, number of influenza-associated pediatric mortalities, and number of lab-confirmed influenza cases.
 - A) **Influenza-associated Hospitalizations (ODRS)**: Influenza-associated hospitalizations are reported by the Cuyahoga County Board of Health (CCBH) and hospitals using the Ohio Disease Reporting System (ODRS). Hospitalizations can be used as an indicator of the severity of illness during a particular influenza season. This condition became reportable in January 2009.
 - B) **Influenza-associated Pediatric Mortality (ODRS)**: Influenza-associated pediatric mortalities are reported into ODRS by CCBH and hospital staff. Pediatric deaths can be an indicator of the severity of illness during the influenza season. This condition became reportable in 2005.
 - C) **Sentinel Providers (ILINet)**: Sentinel providers, through the US Influenza-like Illness Surveillance Network (ILINet), collect outpatient influenza-like illness (ILI) data. ILI is defined as a fever (> 100 F), **and** cough *and/or* sore throat without another known cause. Providers report the total number of patients seen, by age group, on a weekly basis. Sentinel providers also submit specimens for influenza testing to the ODH laboratory throughout the influenza season. There are 2 sentinel providers enrolled in Cuyahoga County for the 2015-2016 season.
 - D) **ODH Laboratory Surveillance**: The Ohio Department of Health Laboratory reports the number of specimens that test positive for influenza each week. Generally, specimens are submitted by sentinel provider participants. A subset of the positive specimens is sent to CDC for further testing during the season.
- 2) **Mortality Reporting System (Vital Statistics)**: Vital Statistics offices in Cuyahoga County (Cleveland, Euclid, Lakewood, & Parma) reports the percentage of deaths that are due to pneumonia or influenza that occur within their jurisdiction. Cleveland issues death certificates for 56 of the 59 cities in the county.
- 3) **ILI data (athenahealth)** "ILI estimates are based on insurance claims diagnoses, documented in athenahealth's database. Athenahealth is a healthcare technology and services company for electronic health records, medical billing, patient engagement, and care coordination."
- 4) **School Absenteeism data (due to illness and due to any reason)**: More than 50 Cuyahoga County schools provide absenteeism data for each Tuesday on the number children absent due to any illness or due to any reason as well as sentinel schools that report week absenteeism data.
- 5) **National Retail Data Monitor (NRDM)-OTC Drug Purchases**: The NRDM collects over-the-counter (OTC) drug sales information from Cuyahoga County chain drug stores and grocery stores. Pediatric cold products, anti-fever products, and thermometer sales are monitored on a weekly basis.
- 6) **Emergency Department Visits (EpiCenter)**: EpiCenter collects emergency department chief complaint data from hospitals and urgent care facilities across Cuyahoga County and classifies them into symptom and syndrome categories. Rates for chief complaints regarding fever + ILI and other symptoms commonly detected during the winter are analyzed.