



## WEEKLY INFLUENZA SURVEILLANCE REPORT

### October 19 - October 25, 2014 (MMWR Week 43)

### Highlights

- Local influenza activity indicators were mixed, but most non-hospital indicators were around or below historical baseline measures.
- Pneumonia related deaths accounted for 5.1% of all deaths in MMWR 42 but accounted for 8.6% of all deaths in MMWR 41.
- No confirmed cases of flu associated hospitalization were reported this week.
- Percentage of doctor’s visits for flu like symptoms provided by Athenahealth decreased significantly this week.
- The number of emergency room visits due to influenza like illness increased significantly this week; first total that was above the four year median this flu season.

**Table 1. Summary of Cuyahoga County Influenza Data**

Influenza (Flu) Indicator	Current Activity Level	Activity Compared to Last Week	# Weeks <sup>123</sup> ▲ ● ▼	2014-2015 Season Total/Trend
Percent of pneumonia deaths & number of flu related deaths - [Fig 1]	Pneumonia: 5.1% Flu: 0 deaths	<b>88.8%</b> <b>Stable</b>	▲ 1 ● 3	Will be updated in week 45.
Influenza like illness (ILI) doctor visits [Fig 2]	Cuyahoga: 0.00% Athenahealth: 0.15%	<b>765%</b> <b>25.0%</b>	▼ 1 ▲ 1	Will be updated in week 45.
Flu associated hospitalizations [Fig 3]	0	<b>(3)</b>	▼ 1	N = 4.
School absenteeism due to <b>ILLNESS ONLY</b> – [Fig 4A]	Cleveland: N/A Northeast: 1.9% Northwest: 2.1% Southeast: 2.0% Southwest: 2.0%	N/A <b>72.7%</b> <b>(16.0%)</b> <b>53.8%</b> <b>Stable</b>	N/A ▲ 1 ● 1 ▲ 1 ● 3	Will be updated in week 45.
School absenteeism due to <b>ALL CAUSES</b> – [Fig 4B]	Northeast: 2.0% Northwest: 3.4% Southeast: N/A Southwest: N/A Sentinel: 3.9%	<b>(9.1%)</b> <b>26.5%</b> N/A N/A <b>8.3%</b>	● 1 ▲ 1 N/A N/A ● 2	Will be updated in week 45.
Emergency room visit due to ILI [Fig 5]	2.6%	<b>188.9%</b>	▲ 1	Will be updated in week 45.
Sales of over-the-counter medications used to treat ILI. [Fig 6]	299	<b>(17.2%)</b>	▼ 1	Will be updated in week 45.
Congestion & cough complaints [Fig 8]	676	<b>(38.5%)</b>	▼ 2	Will be updated in week 45.
Vomiting & nausea complaints [Fig 9]	640	<b>3.6%</b>	● 1	Will be updated in week 45.
Diarrhea complaints [Fig 10]	168	<b>12.8%</b>	▲ 2	Will be updated in week 45.

<sup>1</sup>Due to small percentages in figures 1-2, 4A, & 4B, caution should be used while interpreting the ‘Activity Compared to Last Week’ box.

<sup>2</sup>For figures 1,2,4a & 4b, ▲ = (Increase ≥ 20%), ▼ = (Decrease ≥ -20%), ● = Stable (-19.9% to +19.9%)

<sup>3</sup>For figures 5-6 & 8-10, ▲ = (Increase ≥ 10%), ▼ = (Decrease ≥ -10%), ● = Stable (-9.9% to +9.9%)



October 19 - October 25, 2014 (MMWR Week 43)

## 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-surveillance-report/>

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

### **Pneumonia and Influenza (P&I) Mortality**

5.1% of all deaths reported to the Cleveland Bureau of Vital Statistics were due to pneumonia. Adults 75 years old and older accounted for 50.0% of the pneumonia related deaths. No influenza related deaths occurred this week (**Figure 1**).

### **Influenza-Like Illness (ILI) Reports**

One ILI sentinel provider reported no patients had ILI symptoms this week. Athenahealth reported that 0.15% of patients had flu-like symptoms this week and 0.12% for week 42 (**Figure 2**). ILI is defined as a fever ( $\geq 100^{\circ}$  F), and cough and/or sore throat.

### **School Absenteeism**

Participating schools in Cuyahoga County reported the percentage (median = 2.0%) of absenteeism *due to any illness* on Tuesday (**Figure 3A**). **Figure 3B** shows the total absenteeism *due to any reason* (median = 3.8%).

### **Influenza-Associated Hospitalizations and Influenza-Associated Pediatric Mortality**

No confirmed cases of influenza-associated hospitalization in Cuyahoga County were reported this week (**Figure 4**). Seventeen statewide confirmed hospitalizations due to flu were reported this week. No influenza related pediatric deaths have been reported this flu season.

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

2.6% of all ED visits were for fever + ILI symptoms. Approximately 35 more patients visited EDs for fever and ILI symptoms this year compared to 2013 (**Figure 5**). **Figure 6** shows approximately 130 more OTC products per drugstore were purchased this year than in the same period in 2013. **Figure 7** shows the frequency of ED visits for fever and ILI by zip code.

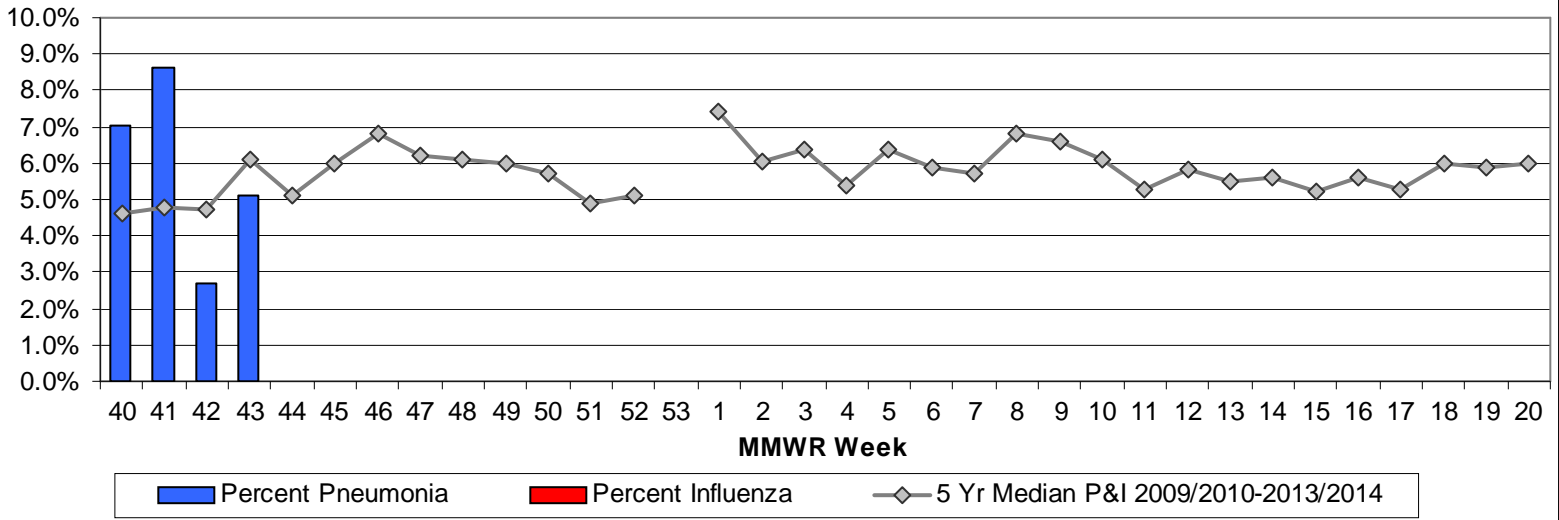
Three other maps show, by zip code, the frequency of ED visits for three symptoms that are common during the fall and winter seasons and are of interest to the general public: congestion and cough (**Figure 8**), vomiting and nausea (**Figure 9**), and diarrhea (**Figure 10**).

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

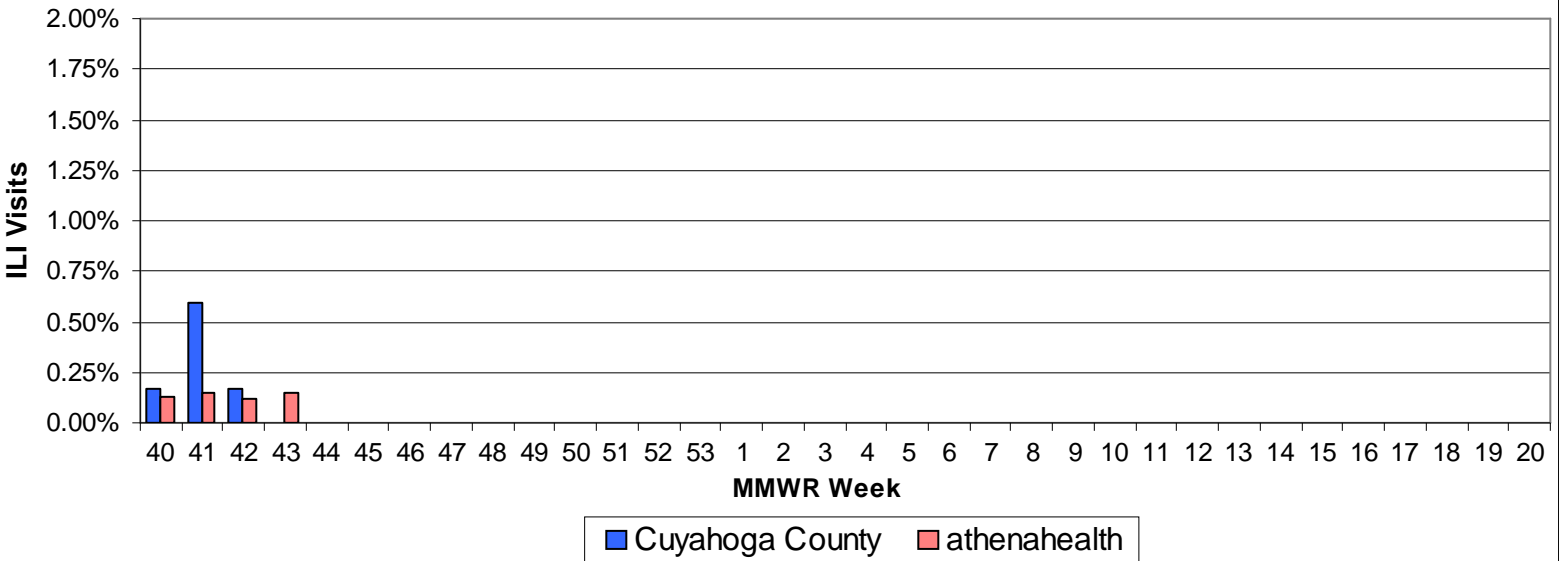
### **Additional Influenza Activity Links**

- Weekly U.S. Influenza Surveillance Report – <http://www.cdc.gov/flu/>
- Ohio Seasonal Influenza Activity Summary – <http://www.odh.ohio.gov/odhfeatures/seasflu/odhfluactivity.aspx>
- Cuyahoga County Weekly Influenza Surveillance Reports – <http://www.ccbh.net/flu-weekly-surveillance-report/>
- Google flu trends – <http://www.google.org/flutrends>

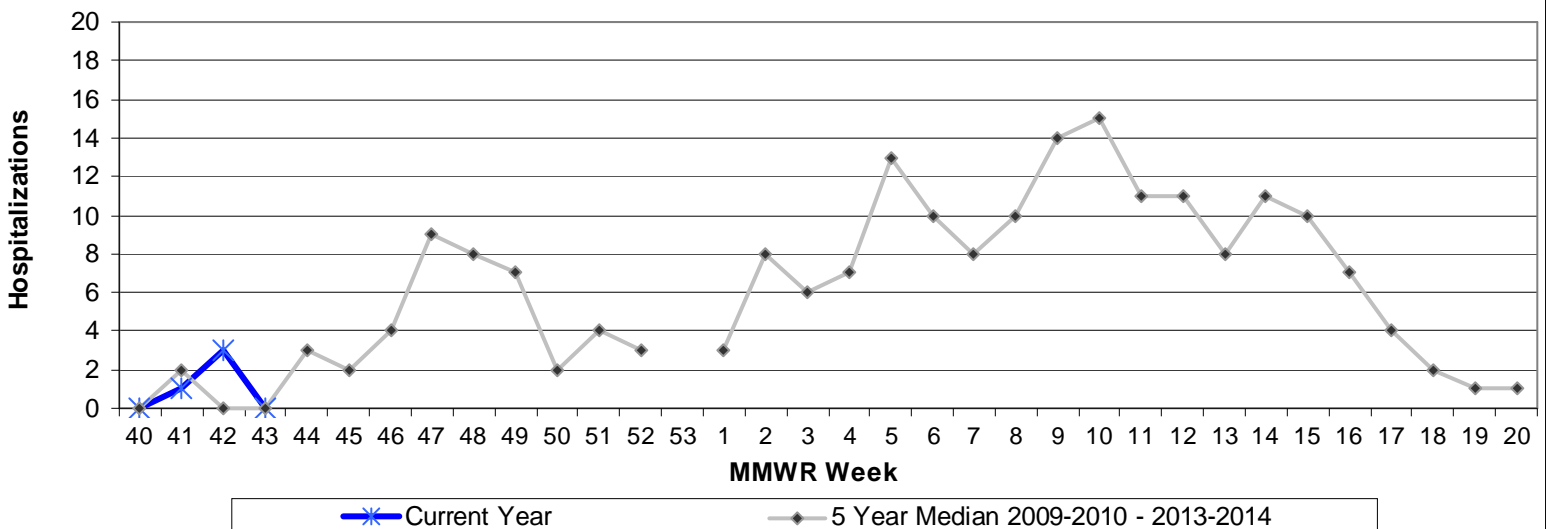
**Figure 1. Percentage of Deaths Due to Pneumonia and Influenza (P&I)  
Cleveland Bureau of Vital Statistics**



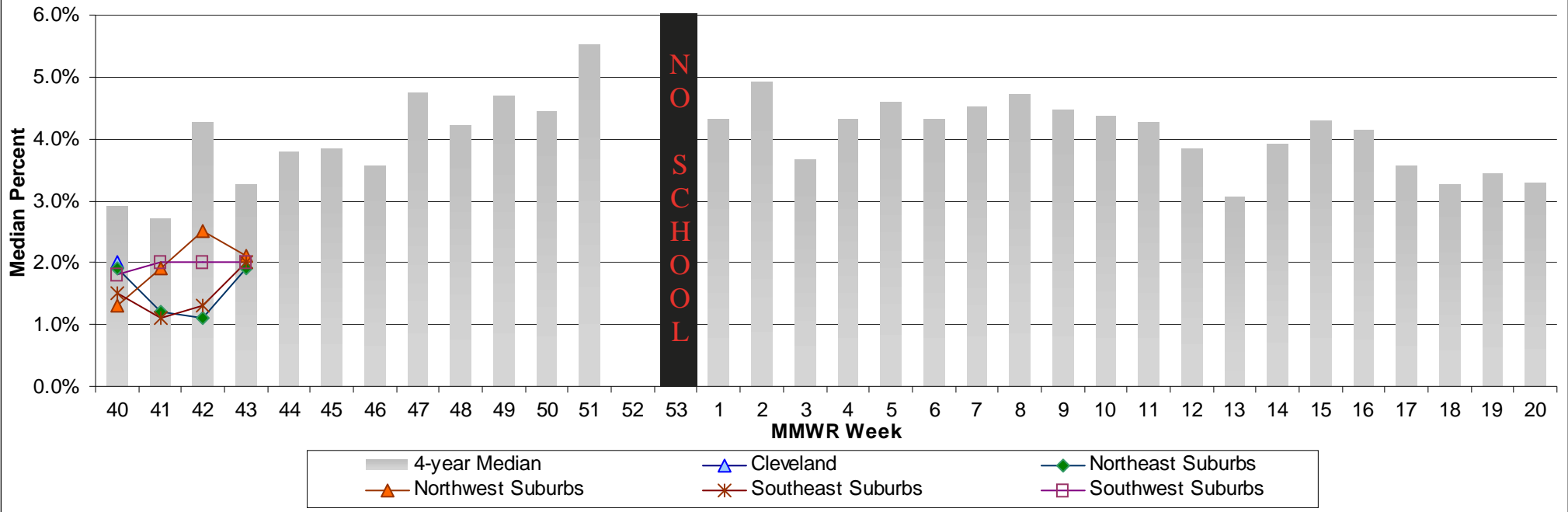
**Figure 2. Percent of Influenza-Like Illness (ILI) Visits  
U.S. Influenza Sentinel Provider Surveillance Network**



**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**

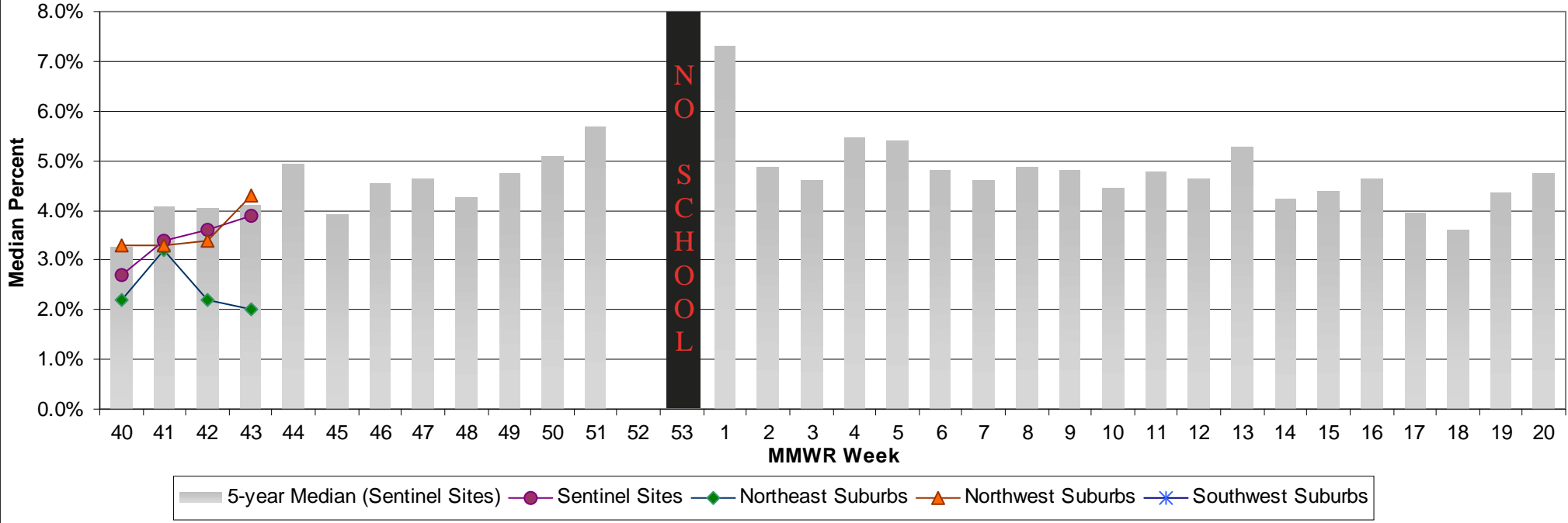


Figure 5. Cuyahoga County Hospital ED Visits for ILI & Fever Symptoms by Age Group

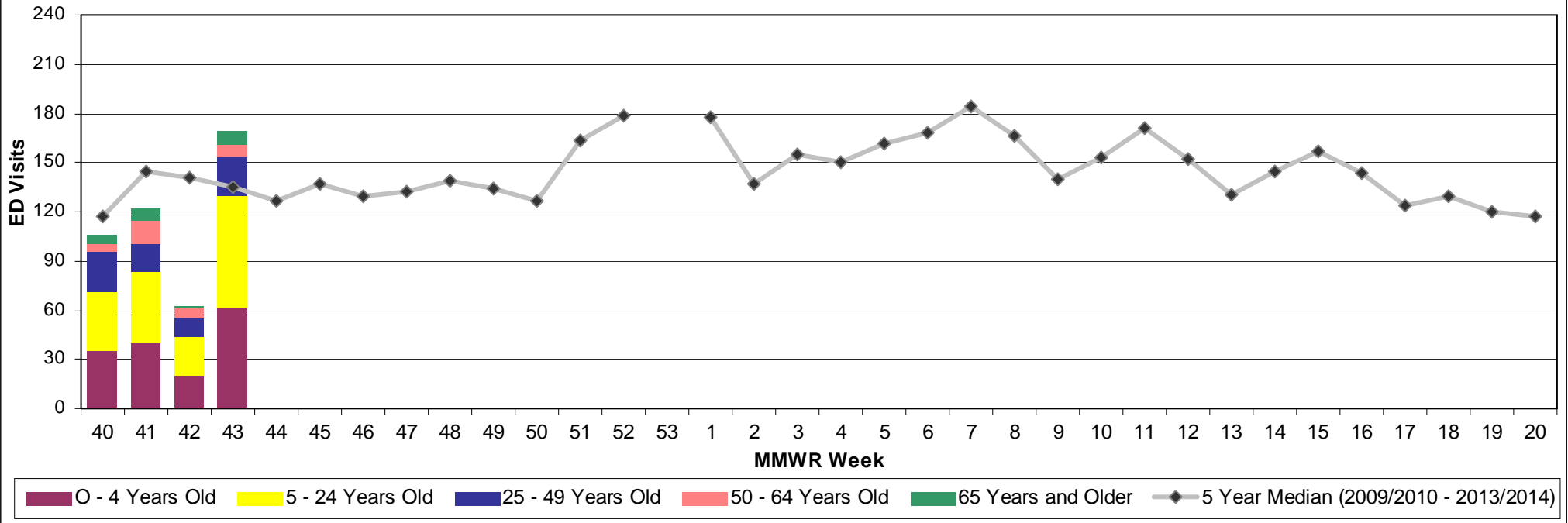


Figure 6. Comparison of Average Weekly OTC Products Sold in Cuyahaoga County Drugstores

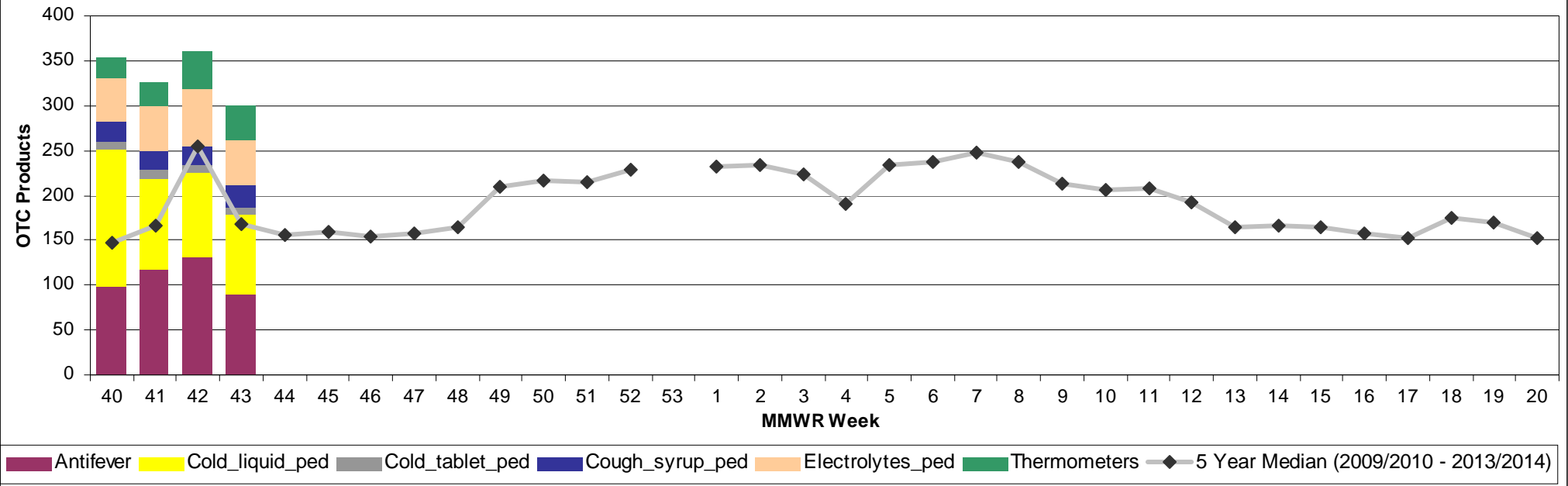


Figure 7 Frequency of Fever and Influenza-Like Illness Complaints by Zip Code

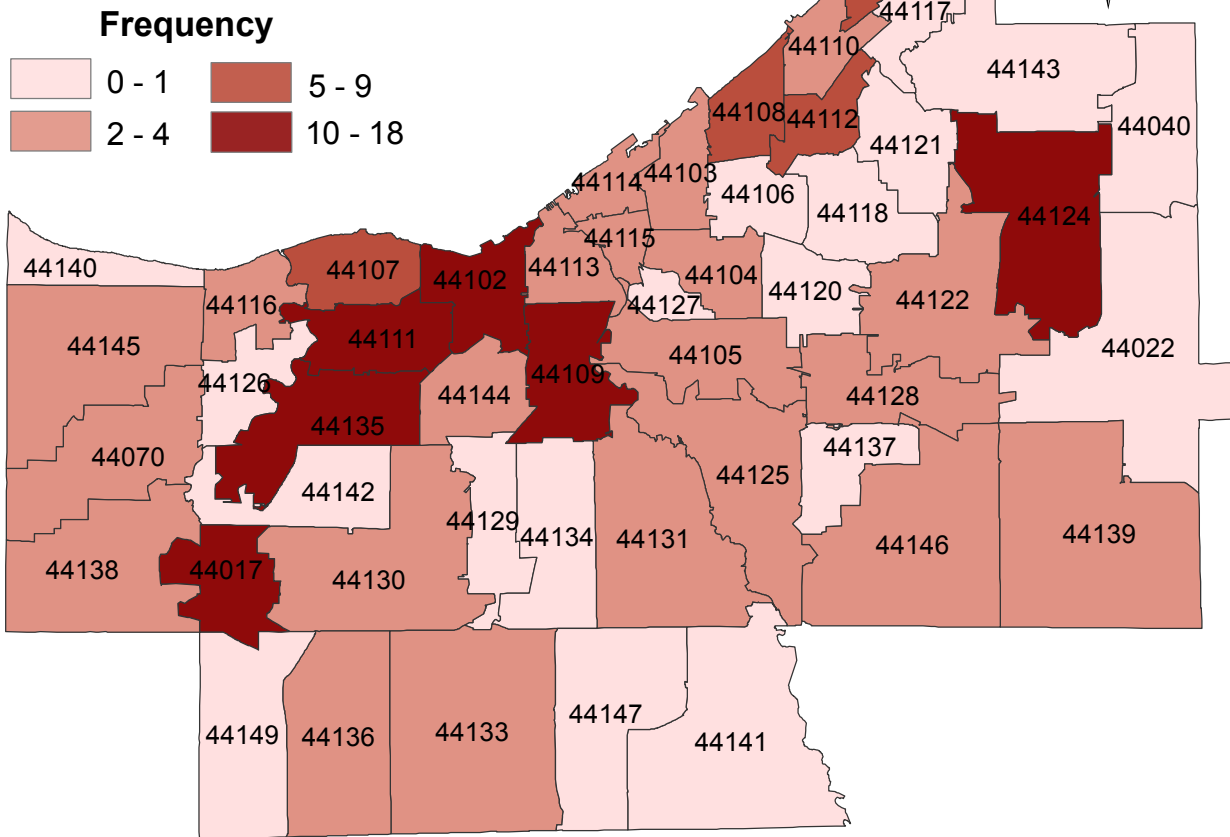


Figure 8 Frequency of Congestion and Cough Complaints by Zip Code

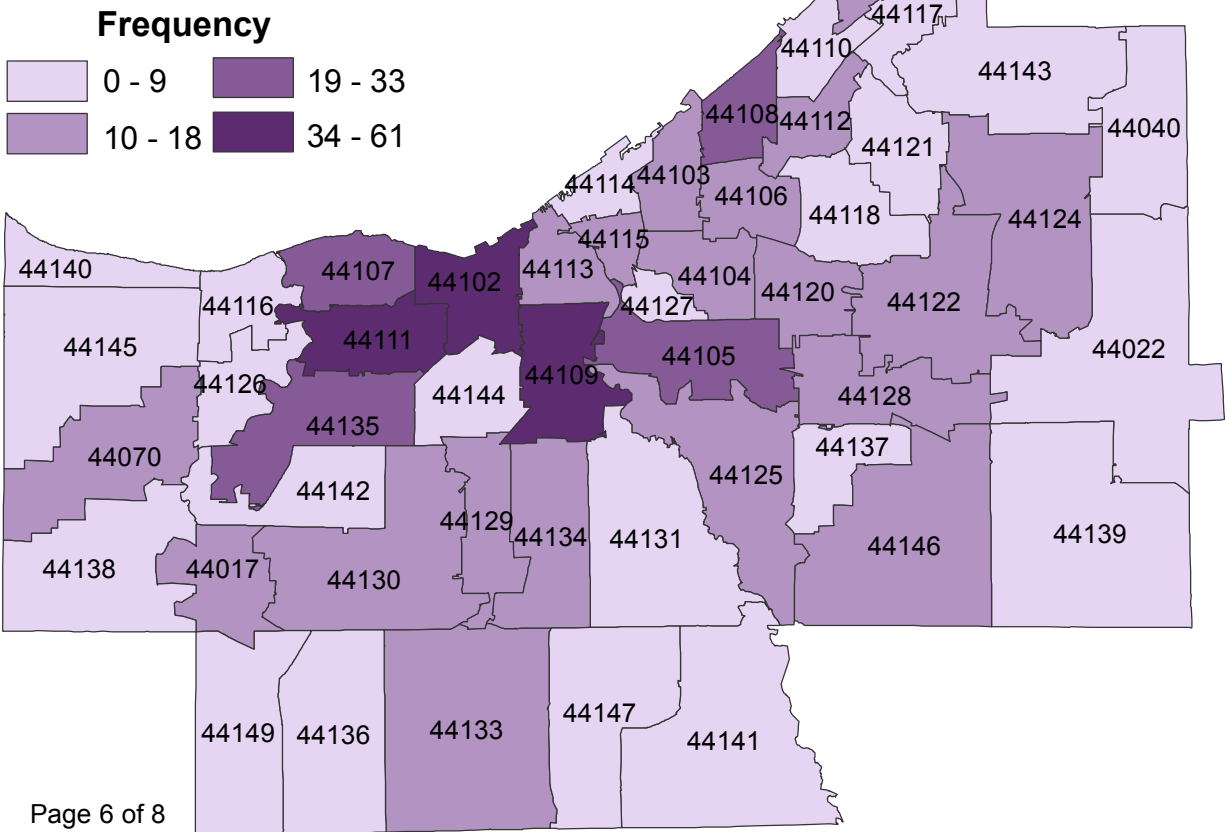


Figure 9 Frequency of Vomiting and Nausea Complaints by Zip Code

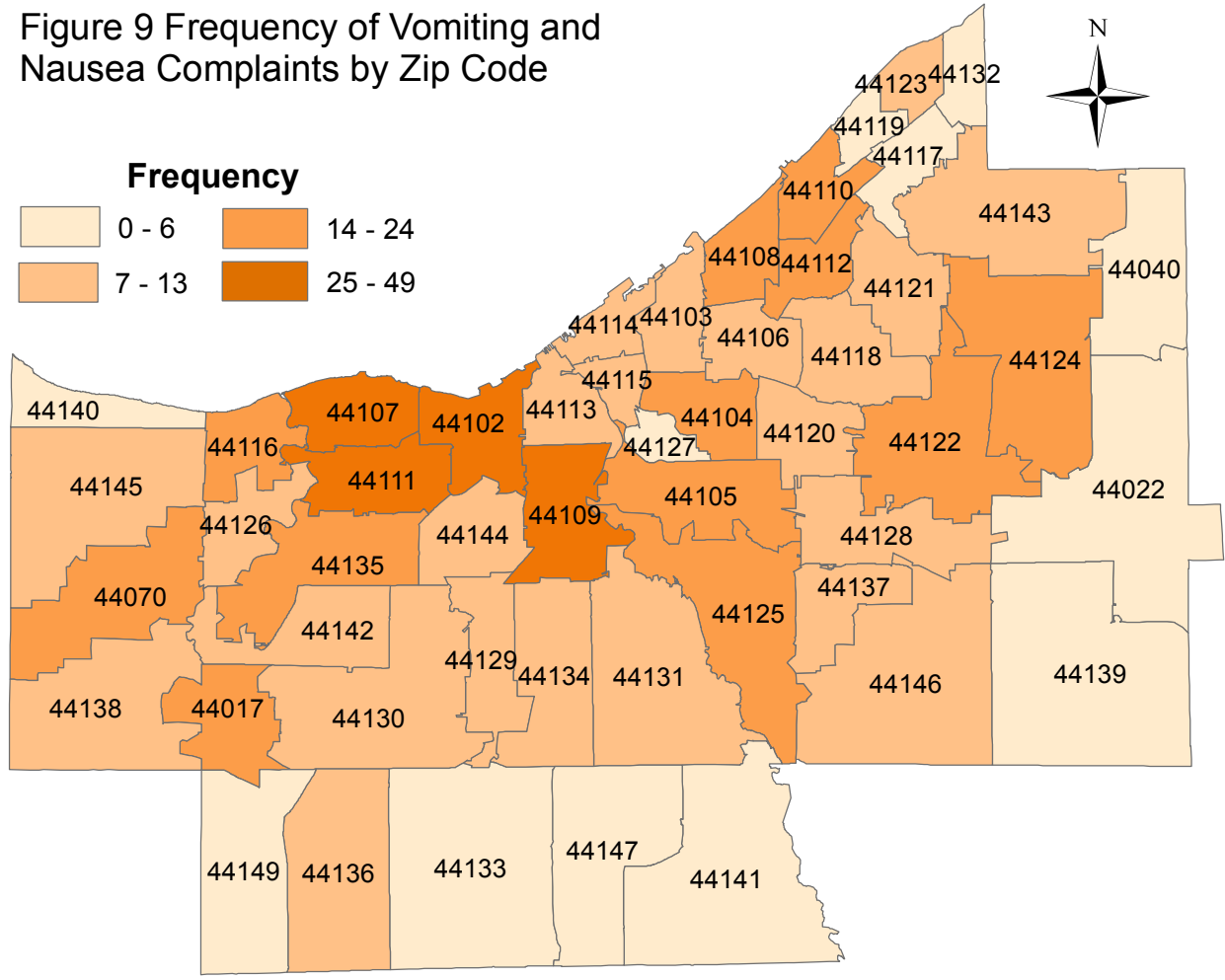
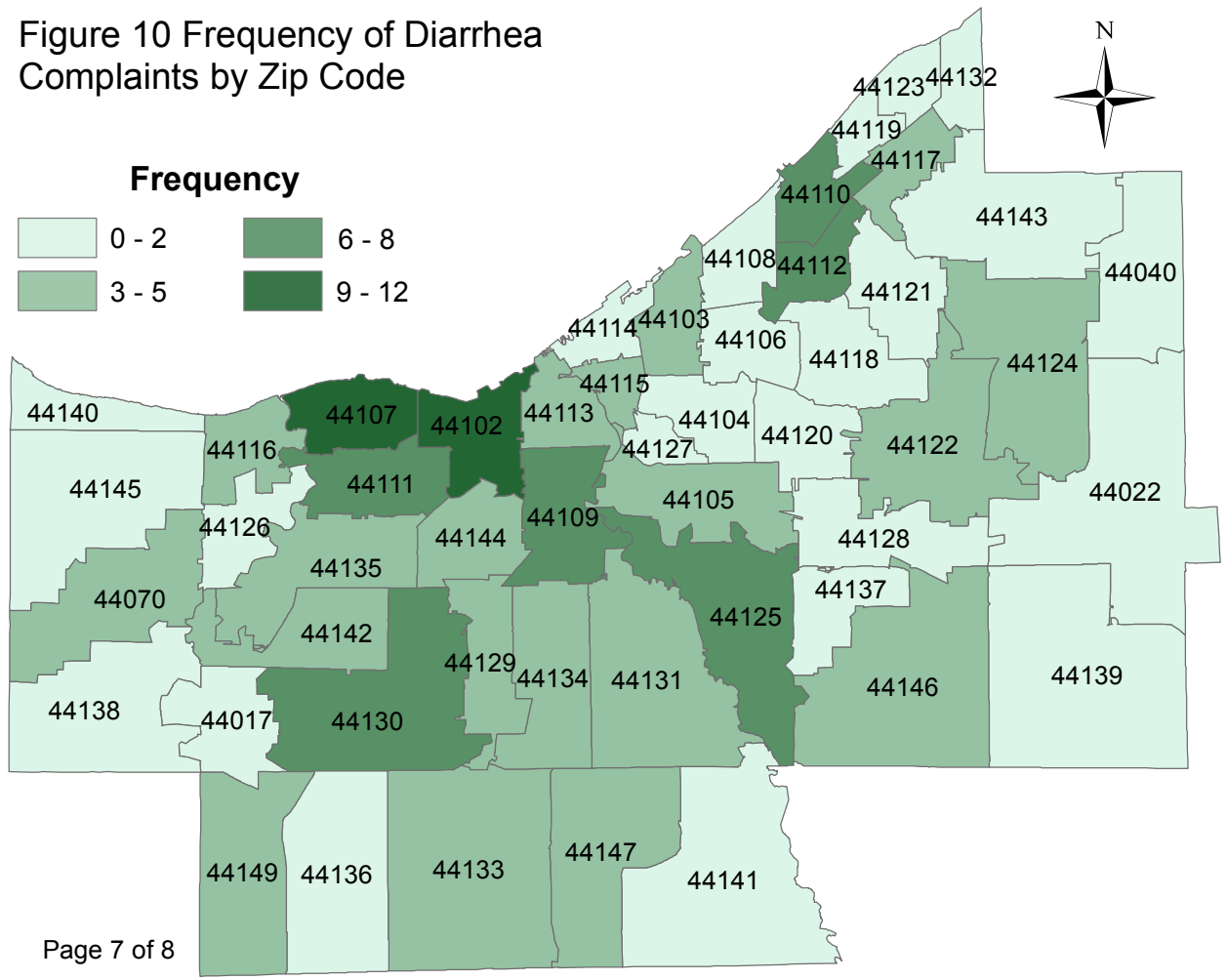


Figure 10 Frequency of Diarrhea Complaints by Zip Code



## 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 3 sentinel providers enrolled in Cuyahoga County for the 2014-2015 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 (Cleveland's Vital Statistics)**: Cleveland Vital Statistics office reports on deaths that occur in 55 of 59 municipalities in Cuyahoga County (excludes Lakewood, Bedford, Euclid, & Parma) regarding pneumonia & influenza.
- 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, antifever 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. Chief complaints regarding fever + ILI symptoms are analyzed.