



WEEKLY INFLUENZA SURVEILLANCE REPORT

December 7 - December 13, 2014 (MMWR Week 50)

Highlights

Local flu activity is 'high' for the 2nd straight week as last week data was updated. The local activity rating scale definition has been revised. The 1st seasonal scale uses the revised definition while the 2nd scale below is using the old parameters. The guidelines are here: <http://www.ccbh.net/storage/flu/Cuyahoga%20County%20Flu%20Activity%20Level%20Definitions%202011.06.14.pdf>

91 confirmed cases of flu associated hospitalizations were reported this week and 141 reported cases for week 49.

Almost 350 emergency room visits due to flu like illness this week; 7th straight week total was above the 5-year median.

Percentage of doctor's visits for flu like symptoms provided by athenahealth increased for this week.

Pneumonia related deaths accounted for 4.0% of all deaths. No flu related deaths so far this flu season.

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

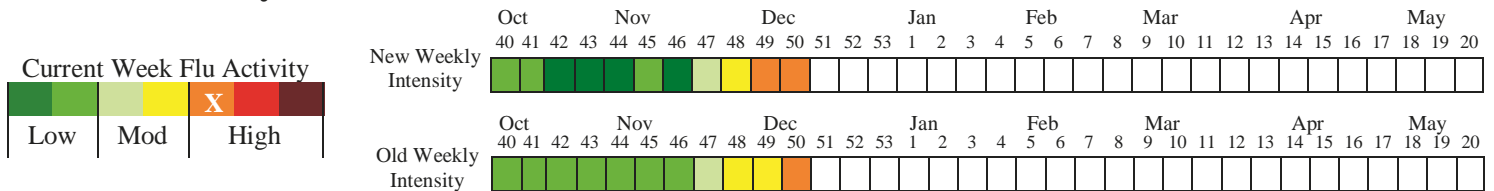


Table 1. Cuyahoga County Influenza Data Dashboard

Influenza (Flu) Indicator	Current Activity Level	Activity Compared to Last Week	# Weeks ¹²³	2014-2015 Season Total/Trend
Percent of pneumonia deaths & number of flu related deaths - [Fig 1]	Pneumonia: 4.0% Flu: 0 deaths	53.8% Stable	▲ 1 ● 9	Trending slightly below 5 year median. No flu deaths.
Influenza like illness (ILI) doctor visits [Fig 2]	Cuyahoga: 7.25% Athenahealth: 1.55%	153.5% 59.8%	▲ 2 ▲ 1	athenahealth ILI visits up since week 43.
Flu associated hospitalizations [Fig 3]	91	(50)	▼ 1	N=374; sig more than 5 yr mdn
School absenteeism due to ILLNESS ONLY - [Fig 4A]	Cleveland: N/A Northeast: 5.6% Northwest: 5.3% Southeast: 4.7% Southwest: 5.1%	N/A 64.7% 178.9% (4.1%) 34.2%	N/A ▲ 1 ▲ 1 ● 1 ▲ 2	All locations trending higher in the past four weeks and starting to trend higher than the 5 year median.
School absenteeism due to ALL CAUSES - [Fig 4B]	Northeast: N/A Northwest: 4.8% Southeast: N/A Southwest: N/A Sentinel: 6.3%	N/A 9.1% N/A N/A 40.0%	N/A ● 3 N/A N/A ▲ 1	All locations trending below 5 year median.
Emergency room visit due to ILI [Fig 5]	6.0%	Stable	▲ 1	Well above 5 year median.
Sales of over-the-counter medications used to treat ILI. [Fig 6]	518	12.1%	▲ 3	Above 5 yr median. Avg ~ 370
Congestion & cough complaints [Fig 8]	1422	14.7%	▲ 3	Near 3 yr median. Avg ~ 790
Vomiting & nausea complaints [Fig 9]	768	(0.3%)	● 1	Above 3 yr median. Avg ~ 620
Diarrhea complaints [Fig 10]	204	(7.3%)	● 1	Above 3 yr median. Avg ~ 165

¹Due to small percentages in figures 1-2, 4A, & 4B, caution should be used while interpreting the 'Activity Compared to Last Week' box.

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

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



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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-surveillance-report/>

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

Pneumonia and Influenza (P&I) Mortality

4.3% of all deaths reported to the Cleveland Bureau of Vital Statistics were due to pneumonia. Adults 75 years old and older accounted for 69.2% of the pneumonia related deaths. No influenza related deaths occurred this week (**Figure 1**).

Influenza-Like Illness (ILI) Reports

One ILI sentinel provider reported 7.25% of patients had ILI symptoms this week. Athenahealth reported that 1.55% of patients had flu-like symptoms this week and 0.97% for week 49 (**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

Ninety-one confirmed cases of influenza-associated hospitalization in Cuyahoga County were reported this week, 141 cases for week 49, and 77 cases for week 48 (**Figure 3**). Two hundred fifty four statewide confirmed influenza associated hospitalizations in week 49. One pediatric flu related death occurred in this flu season.

School Absenteeism

Participating schools in Cuyahoga County reported the percentage (median = 5.3%) of absenteeism *due to any illness* on Tuesday (**Figure 4A**). **Figure 4B** shows the total absenteeism *due to any reason* (median = 4.8%).

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

6.0% of all ED visits were for fever + ILI symptoms. Approximately 310 more patients visited EDs for fever and ILI symptoms this year compared to 2013 (**Figure 5**). **Figure 6** shows approximately 300 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.

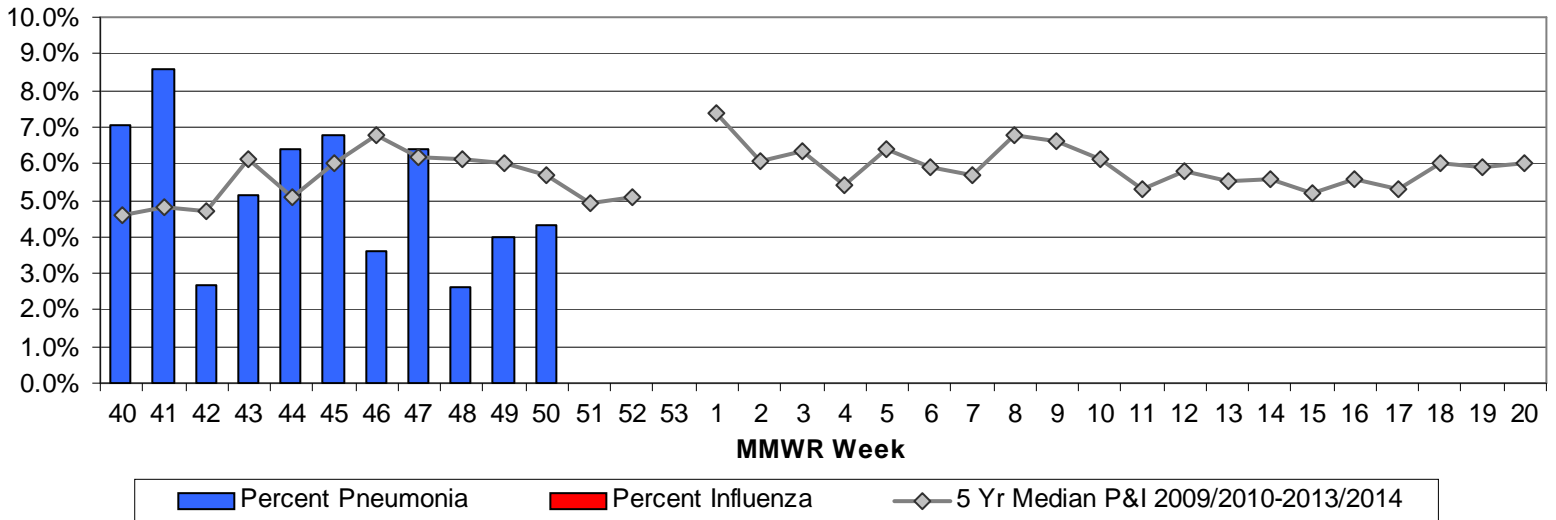
Three other maps show, by zip code, the frequency of ED visits for three symptoms that are common during the fall and winter seasons and are of interest to the general public: congestion and cough (**Figure 8**), vomiting and nausea (**Figure 9**), and diarrhea (**Figure 10**).

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

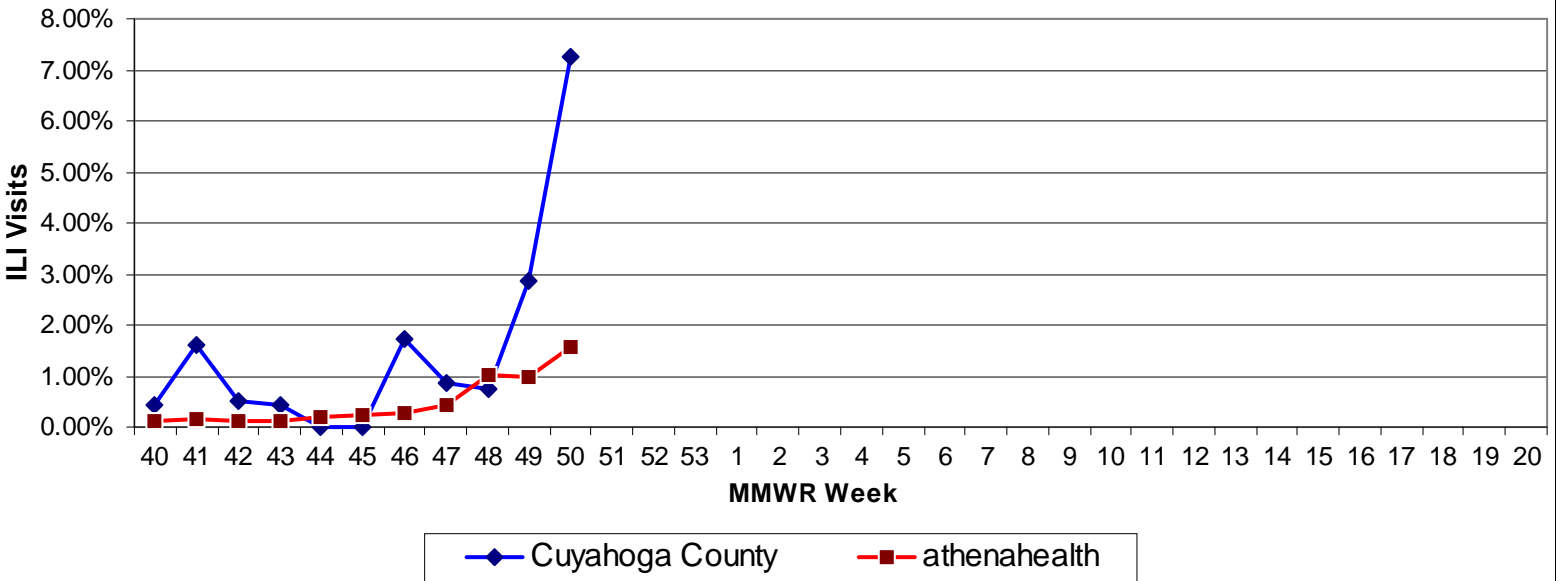
Additional Influenza Activity Links

- Weekly U.S. Influenza Surveillance Report – <http://www.cdc.gov/flu/weekly>
- Ohio Influenza Surveillance – <http://www.odh.ohio.gov/features/odhfeatures/seasflu/ohfluactivity.aspx>
- 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 and ILI visits data via athenahealth**



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

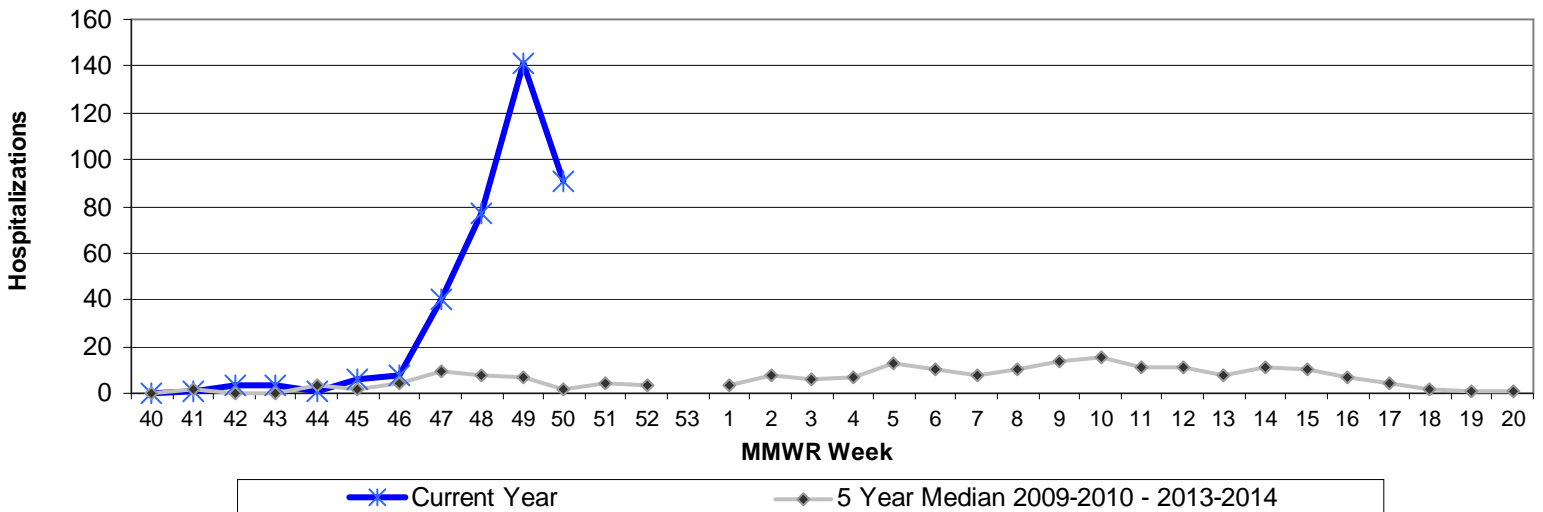


Figure 4a. School Absenteeism (Due to any Illness) in Cuyahoga County

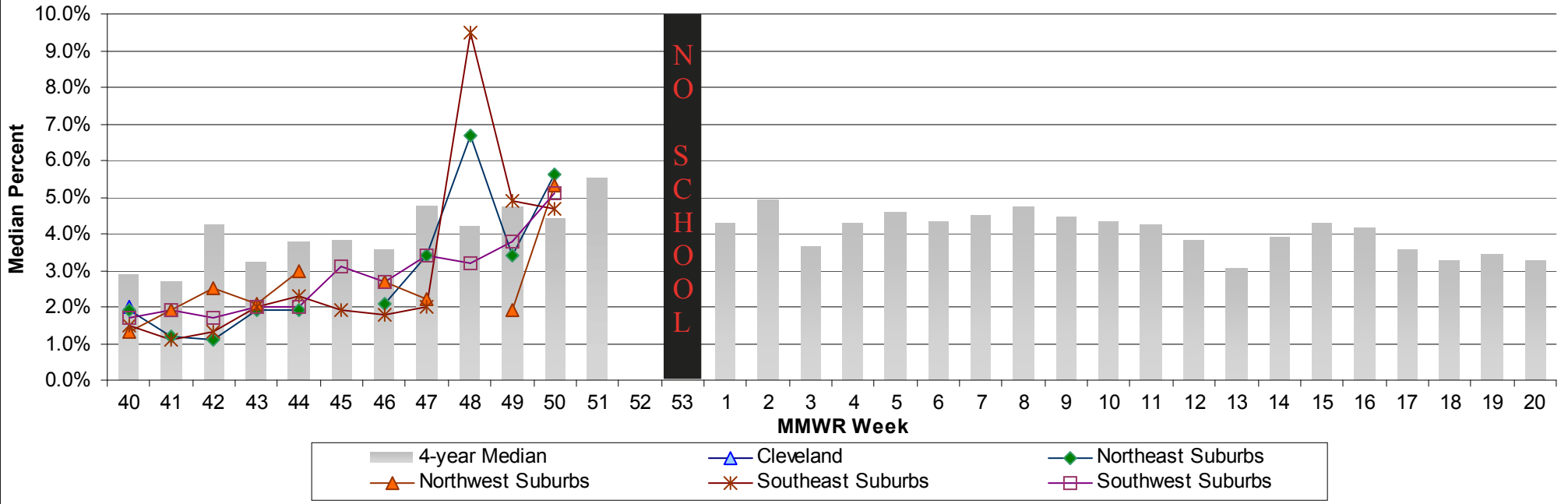


Figure 4b. School Absenteeism (Due to any Reason) in Cuyahoga County

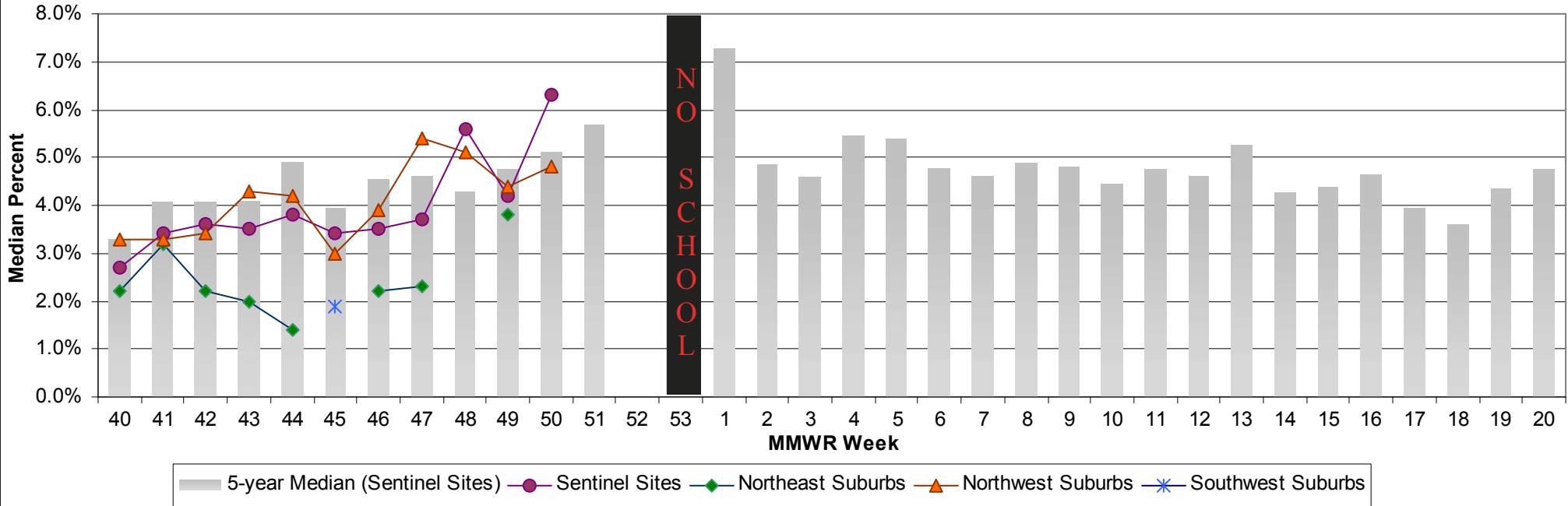


Figure 5. Cuyahoga County Hospital ED Visits for ILI & Fever Symptoms by Age Group

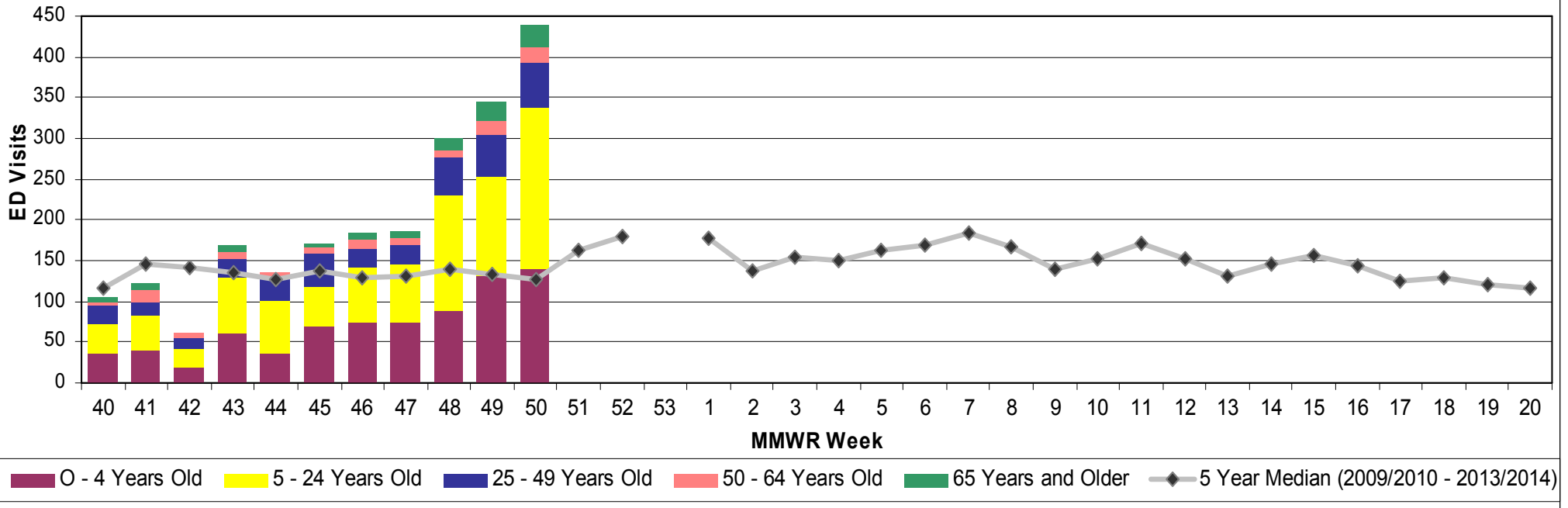


Figure 6. Comparison of Average Weekly OTC Products Sold in Cuyhaoga County Drugstores

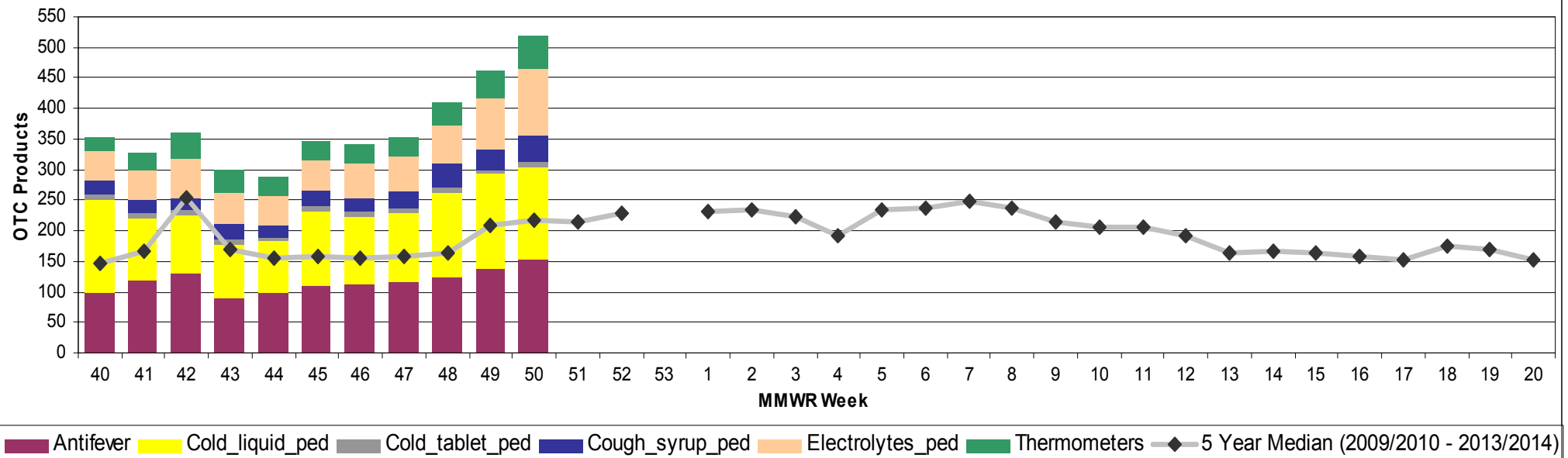


Figure 7 Frequency of Fever and Influenza-Like Illness Complaints by Zip Code

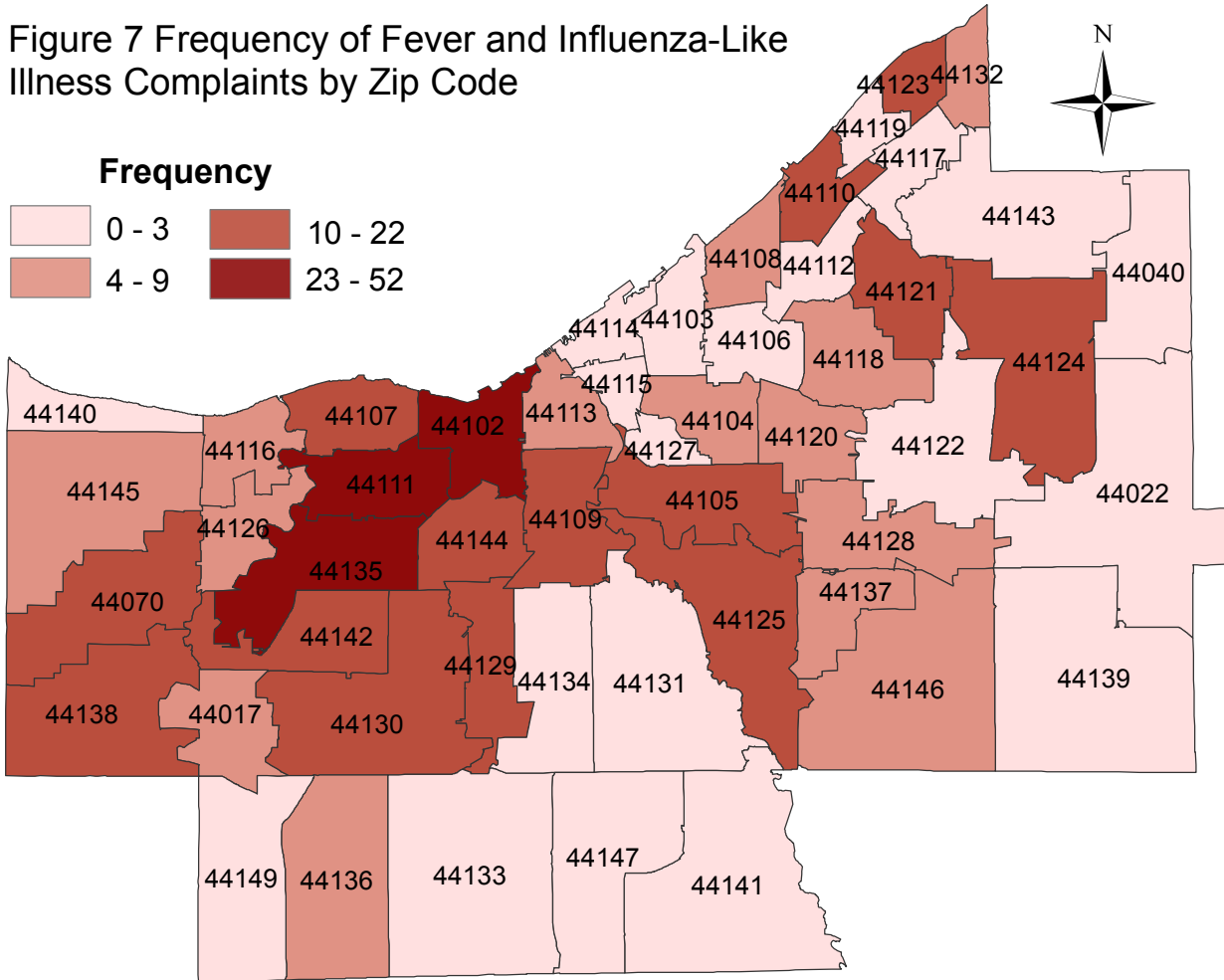


Figure 8 Frequency of Congestion and Cough Complaints by Zip Code

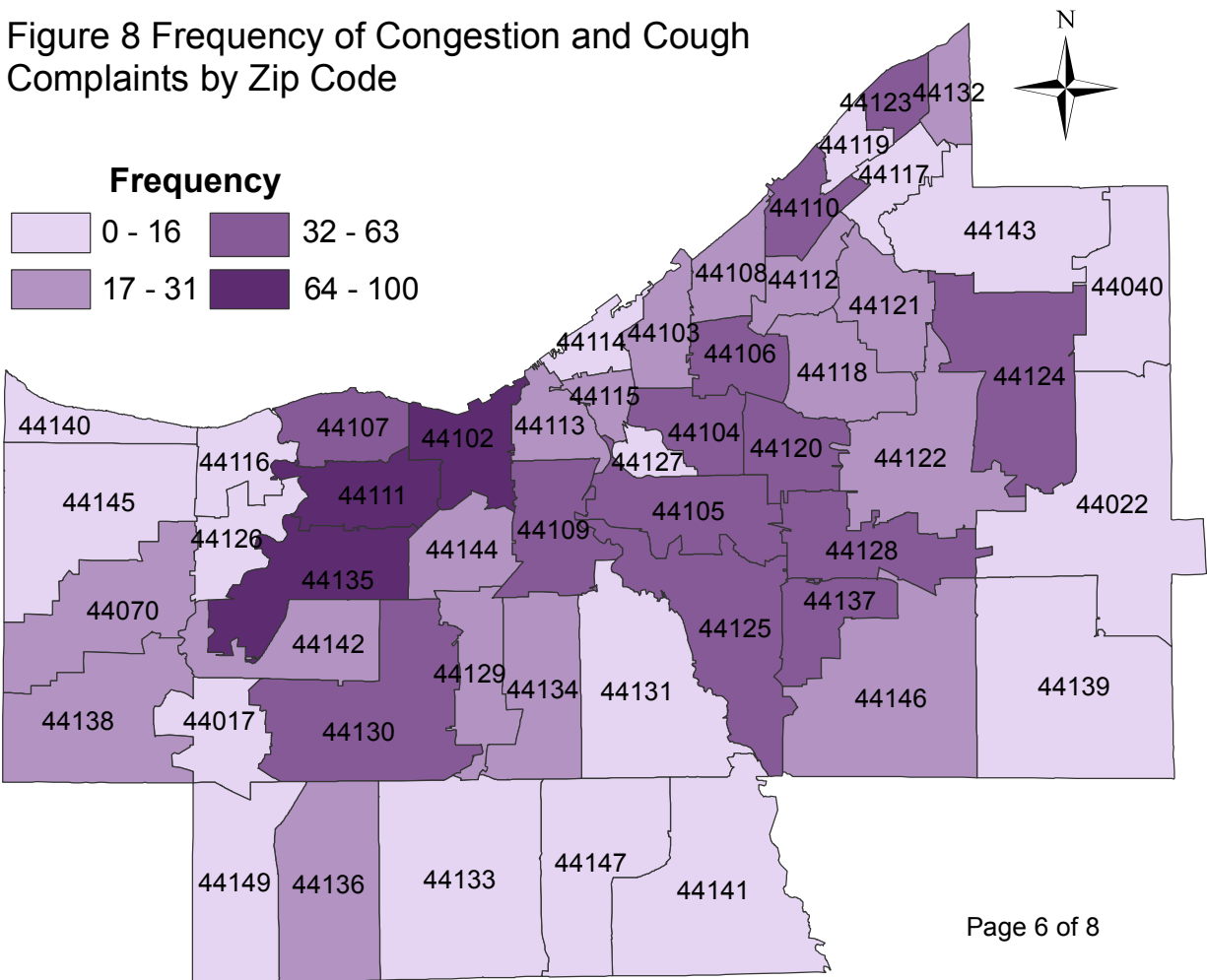


Figure 9 Frequency of Vomiting and Nausea Complaints by Zip Code

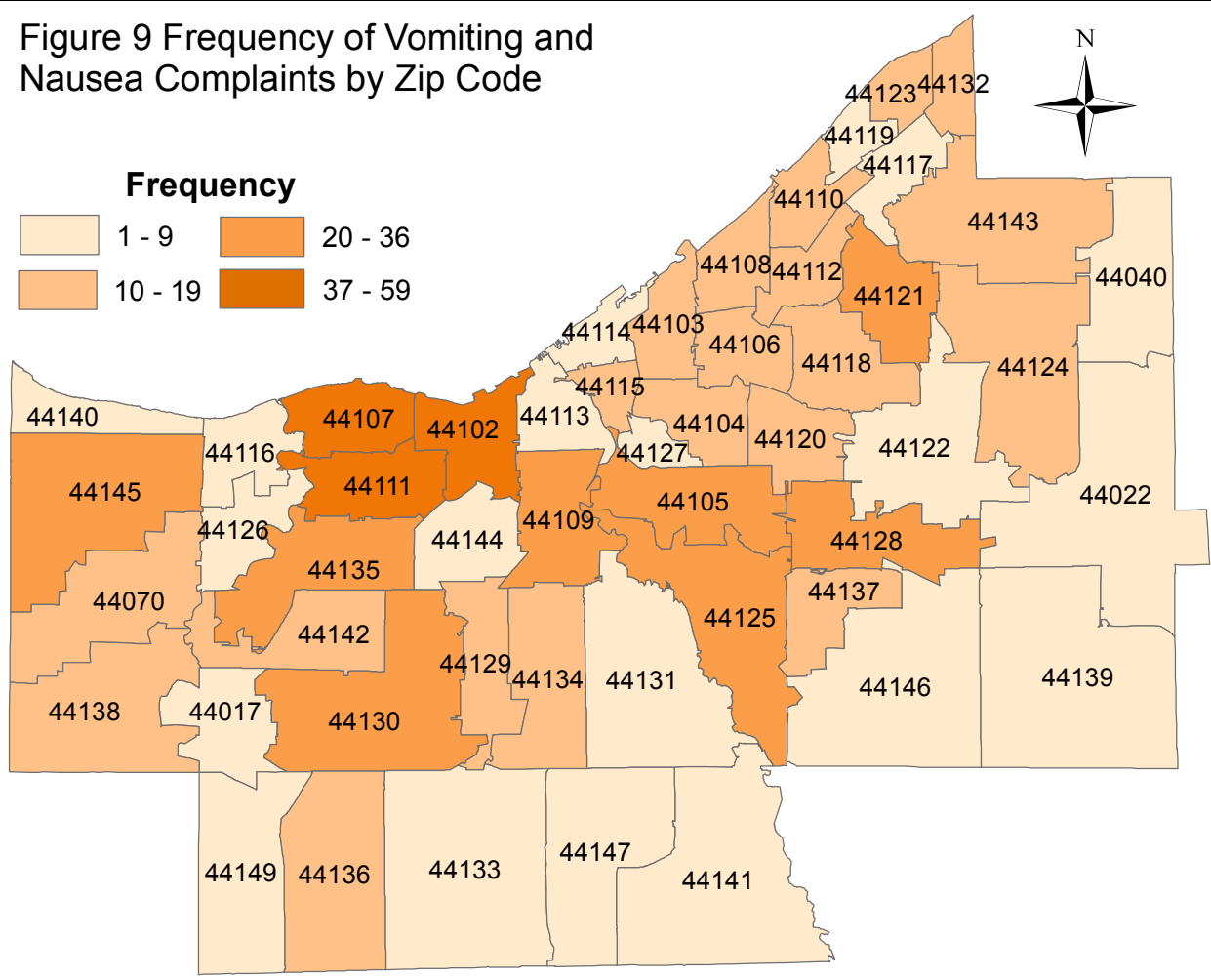
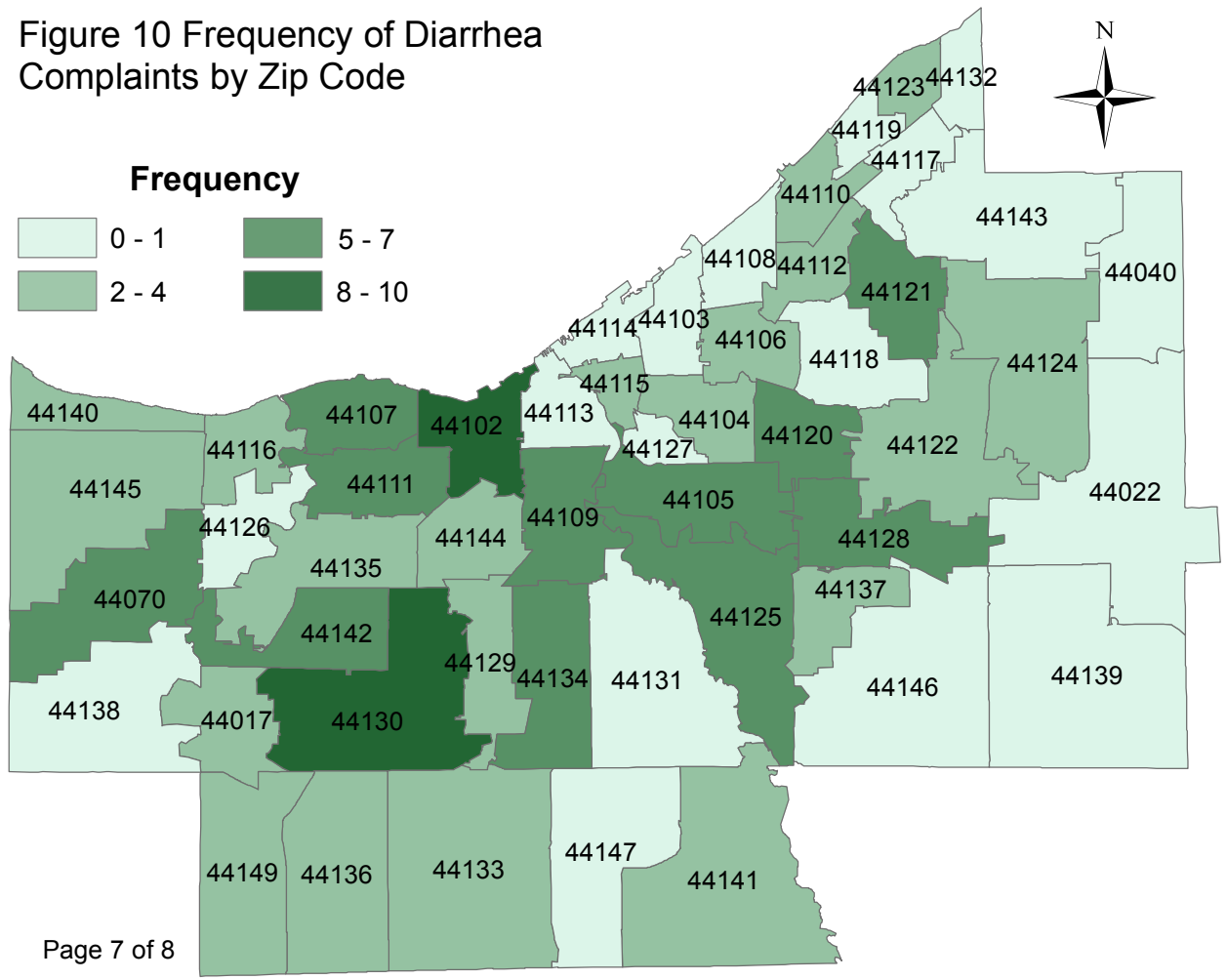


Figure 10 Frequency of Diarrhea Complaints by Zip Code



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.