



WEEKLY INFLUENZA SURVEILLANCE REPORT

April 6-April 12, 2014 (MMWR Week 15)

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

7.4% of all deaths reported to the Cleveland Bureau of Vital Statistics were due to pneumonia. Adults 65 years old and older accounted for 80% of the pneumonia related deaths. One influenza related death occurred this week (**Figure 1**).

Influenza-Like Illness (ILI) Reports

One ILI sentinel provider reported no patients had ILI symptoms this week. Statewide ILI sentinel providers reported 0.42% of patients had flu-like symptoms for week 14 (**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 = 2.6%) of absenteeism *due to any illness* on Tuesday (**Figure 3A**). **Figure 3B** shows the total absenteeism *due to any reason* (median = 4.3%). Data were reported by sentinel sites and other participating schools throughout the county.

Influenza-Associated Hospitalizations and Influenza-Associated Pediatric Mortality

No confirmed cases of influenza-associated hospitalization in Cuyahoga County were reported this week & 7 in week 14 (**Figure 4**). State of Ohio reported 55 confirmed hospitalizations due to influenza in week 14, but no pediatric influenza related mortalities this flu season.

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

1.8% of all ED visits were for fever + ILI symptoms. Approximately 35 fewer patients visited EDs for fever and ILI symptoms this year compared to 2013 (**Figure 5**). **Figure 6** shows approximately 5 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. More information on national and world surveillance can be found at the Centers for Disease Control and Prevention website at www.cdc.gov/flu/weekly.

Table 1. Summary of Cuyahoga County Influenza Data

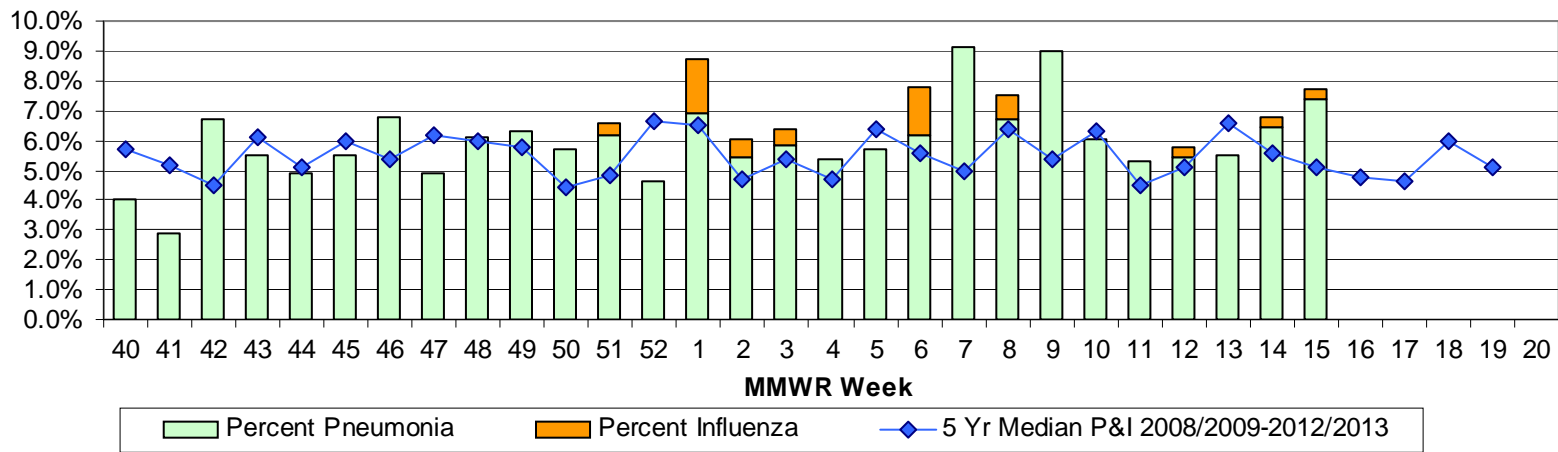
Influenza (Flu) Indicator	Current Activity Level	Activity Compared to Last Week	# Weeks ¹²³ ▲ ● ▼	General Trend for the Season
Percentage of deaths due to pneumonia and number of flu related deaths - [Figure 1]	Pneumonia: 7.4% Flu: 1 death	15.6% Stable	● 2 ● 1	Higher than median since Jan. 18 flu deaths this yr.
Influenza like illness (ILI) doctor visits [Figure 2] Ohio data 1 week behind	Cuyahoga: 0.0% Ohio: 0.42%	Stable (14.3%)	● 3 ● 2	Cuyahoga sentinel ILI trending higher than state ILI data.
School absenteeism due to ILLNESS ONLY – [Figure 3A]	Cleveland: 2.3% Northeast: 2.6% Northwest: N/A Southeast: 3.6% Southwest: 2.7%	53.3% 30.0% N/A 50.0% 42.1%	▲ 1 ▲ 1 N/A ▲ 1 ▲ 1	Cleveland schools have higher illness absenteeism than suburban schools and all areas generally lower than the 3 year median.
School absenteeism due to ALL CAUSES – sentinel sites [Figure 3B]	2.6%	(13.3%)	● 1	Generally trending below the five year median.
School absenteeism due to ALL CAUSES – [Figure 3B]	Northeast: 3.4% Northwest: 4.7% Southeast: N/A Southwest: N/A	(20.9%) Stable N/A N/A	▼ 1 ● 1 N/A N/A	Trending below the five year median; western suburbs have higher absenteeism rate than eastern suburbs.
Influenza associated hospitalizations [Figure 4]	0	(7)	▼ 1	398 more flu related hospital stays than 4 yr median N=597.
Emergency room visits due to ILI [Figure 5]	1.8%	(5.3%)	● 1	Peak occurred in week 52 and week 1. Average ~ 130
Sales of over-the-counter medications used to treat ILI. [Figure 6]	165	1.2%	● 2	OTC sales are lower than 4 year median. Average ~ 170
Congestion and cough complaints [Figure 8]	575	4.9%	● 4	Peak in wk 52 - now back to normal totals. Average ~ 655
Vomiting and nausea complaints [Figure 9]	695	(12.4%)	▼ 1	Elevated status has maintained since wk 49. Average ~ 600
Diarrhea complaints [Figure 10]	179	(3.2%)	● 4	Peak in wk 52 with small drop since Dec. Average ~ 130

¹Due to small percentages in figures 1-3b & figure 5, caution should be used while interpreting the 'Activity Compared to Last Week' box.

²For figures 1-3b, ▲ = (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%)

**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**

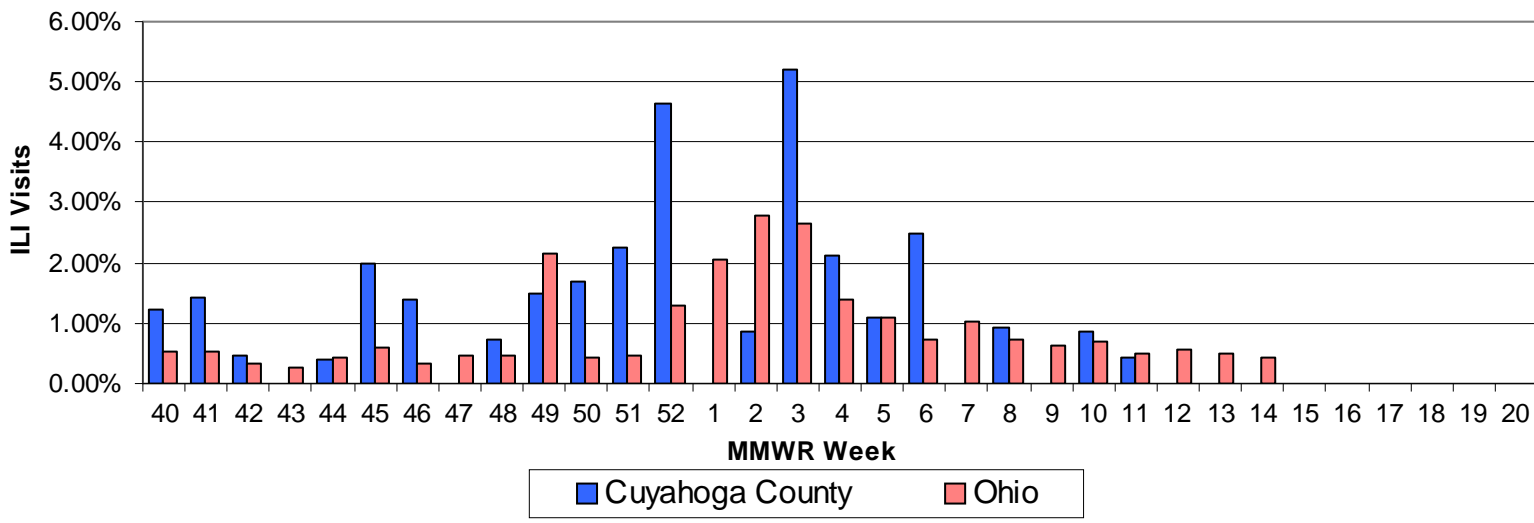


Figure 3a. School Absenteeism (Due to any illness) in Cuyahoga County

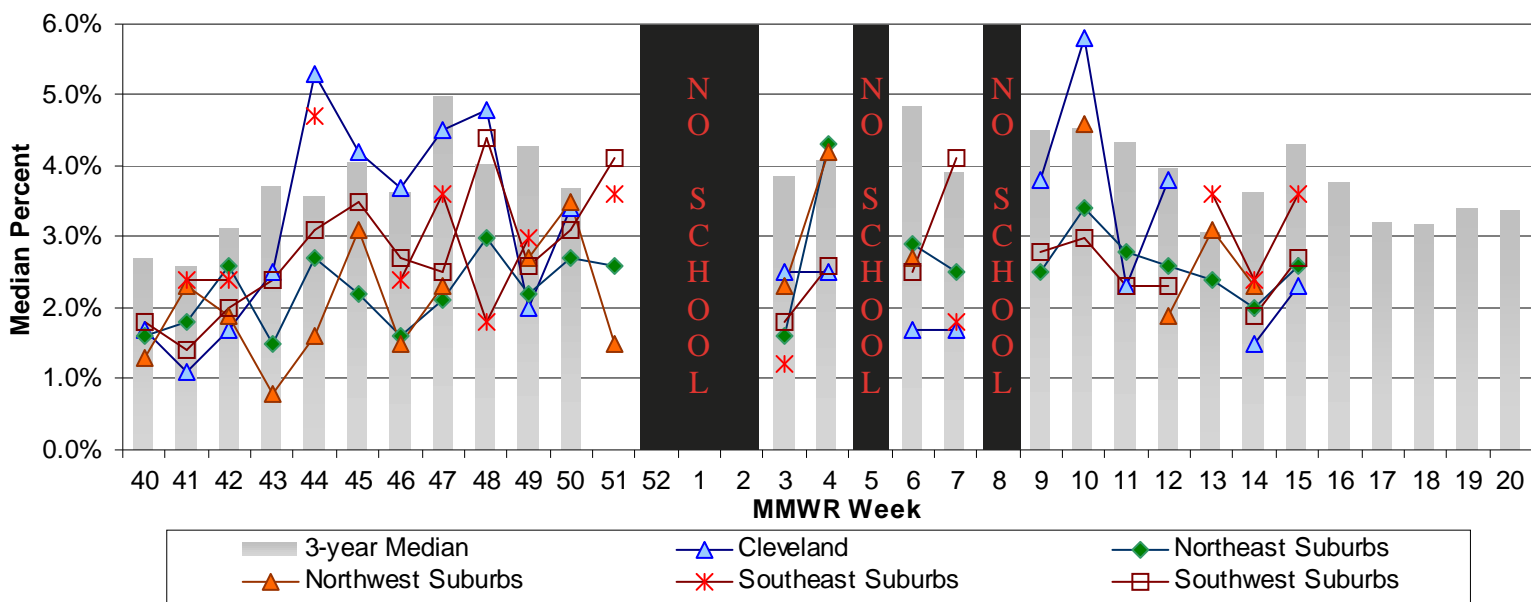


Figure 3b. School Absenteeism (Due to any Reason) in Cuyahoga County

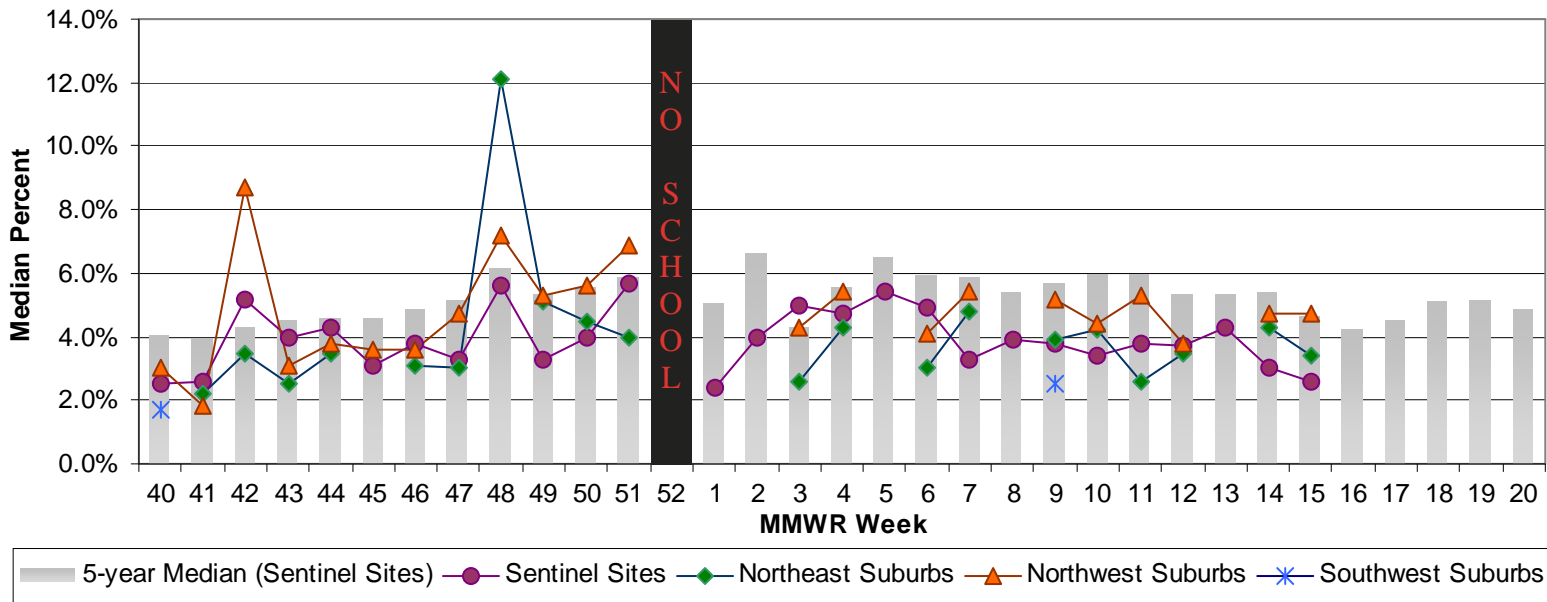


Figure 4. Number of Influenza-Associated Hospitalizations in Cuyahoga County (using event date)

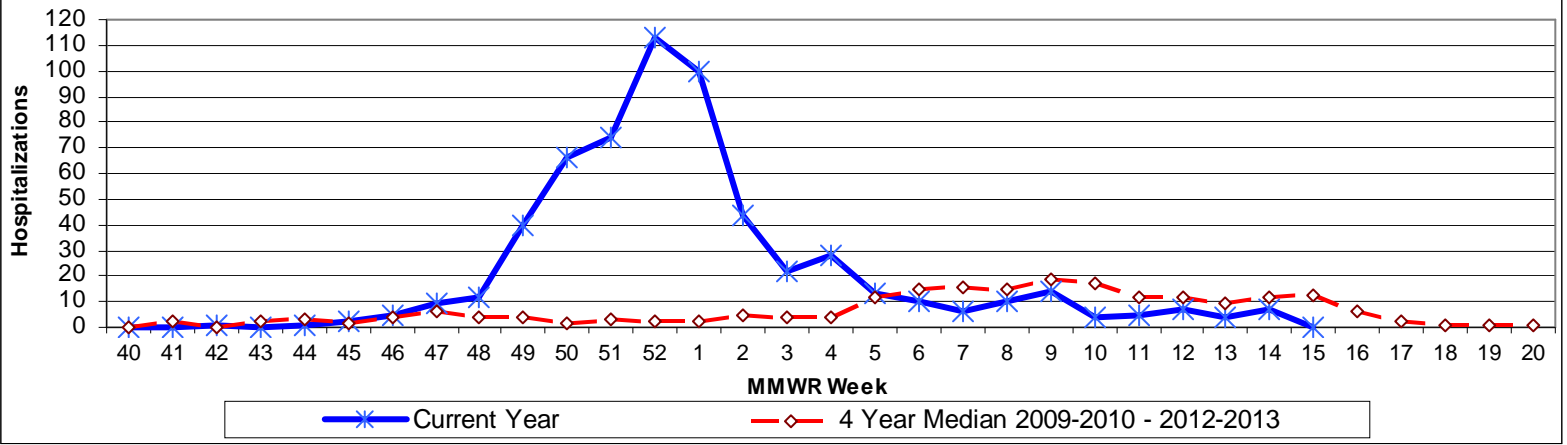


Figure 5. Cuyahoga County Hospital ED Visits for ILI & Fever Symptoms by Age Group

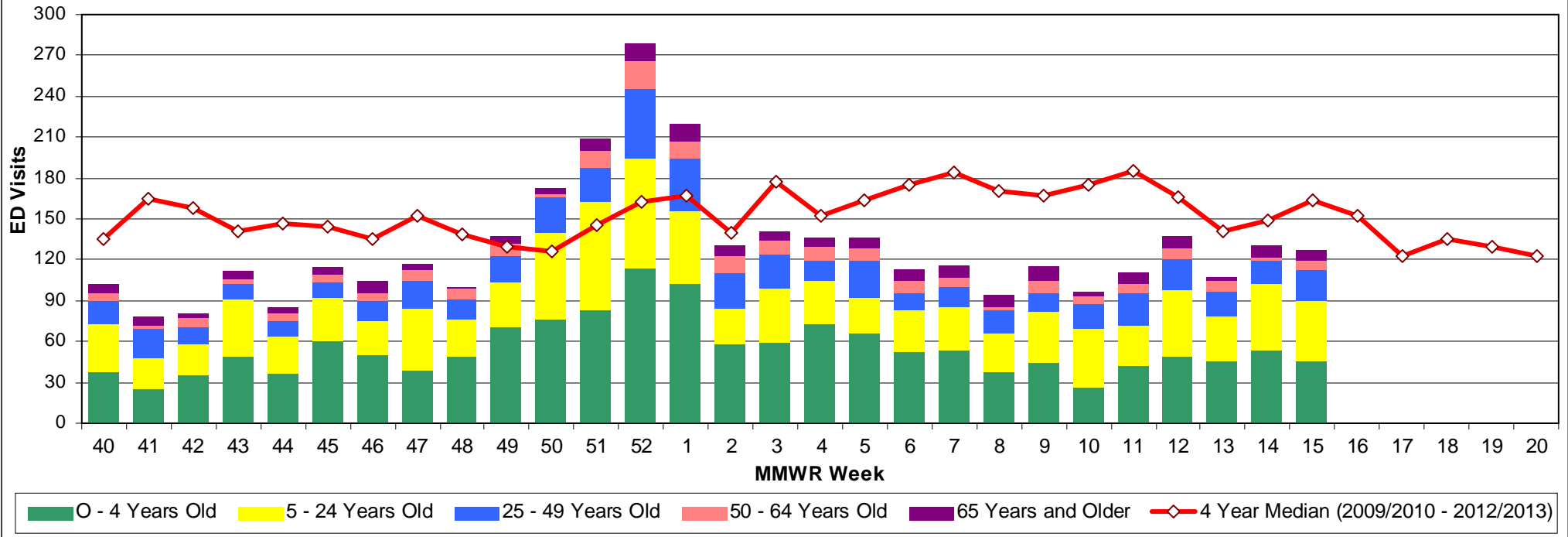


Figure 6. Comparison of Average Weekly OTC Products Sold in Cuyhaoga County Drugstores

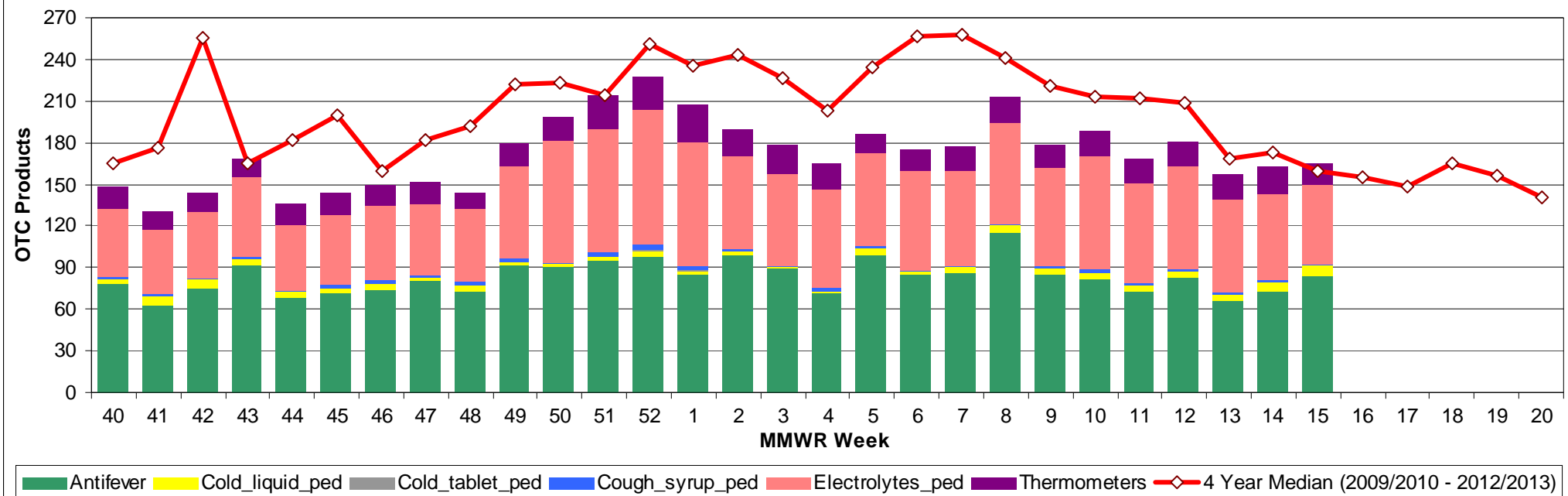


Figure 7 Frequency of Fever and Influenza-Like Illness Complaints by Zip Code

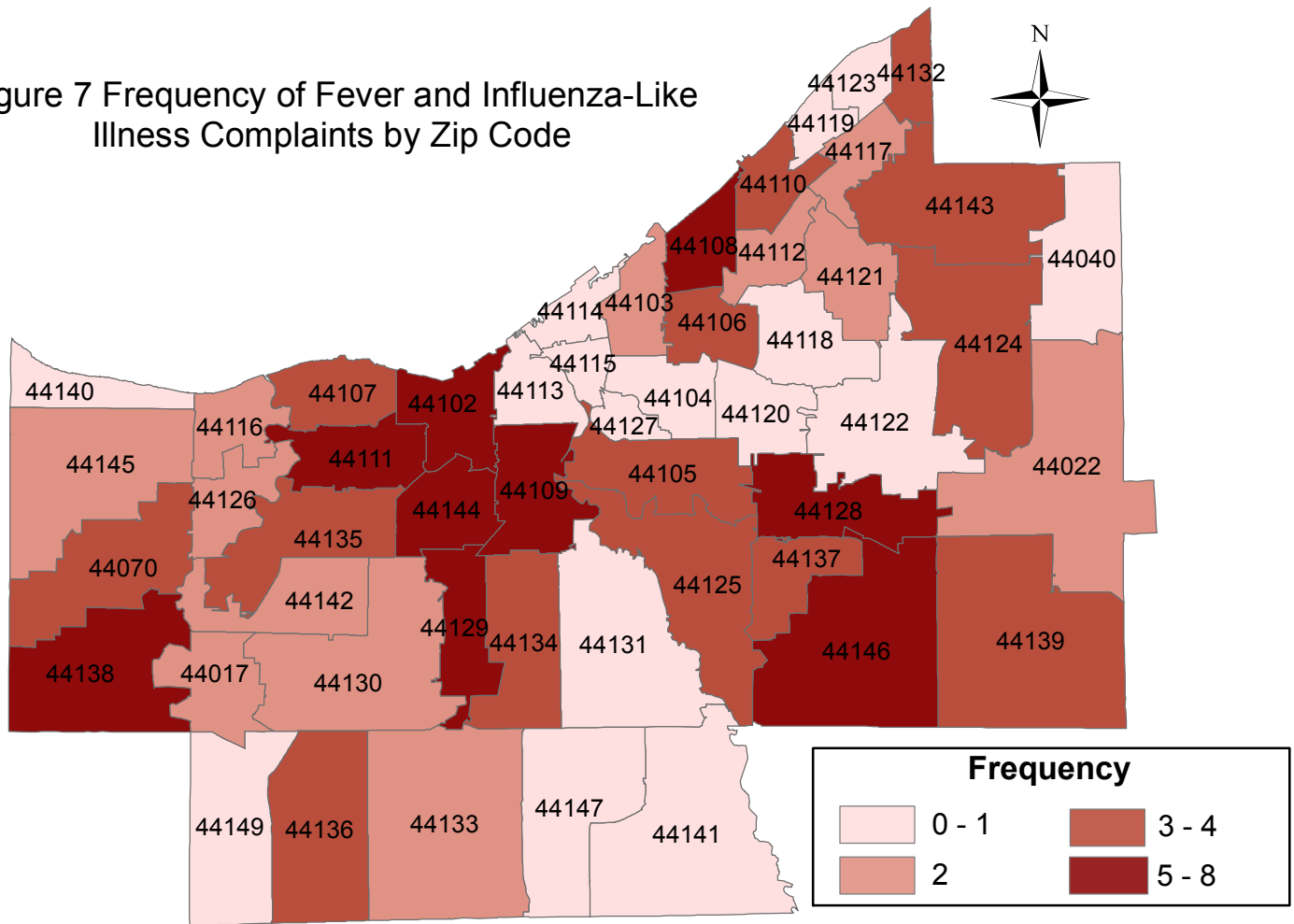


Figure 8 Frequency of Congestion and Cough Complaints by Zip Code

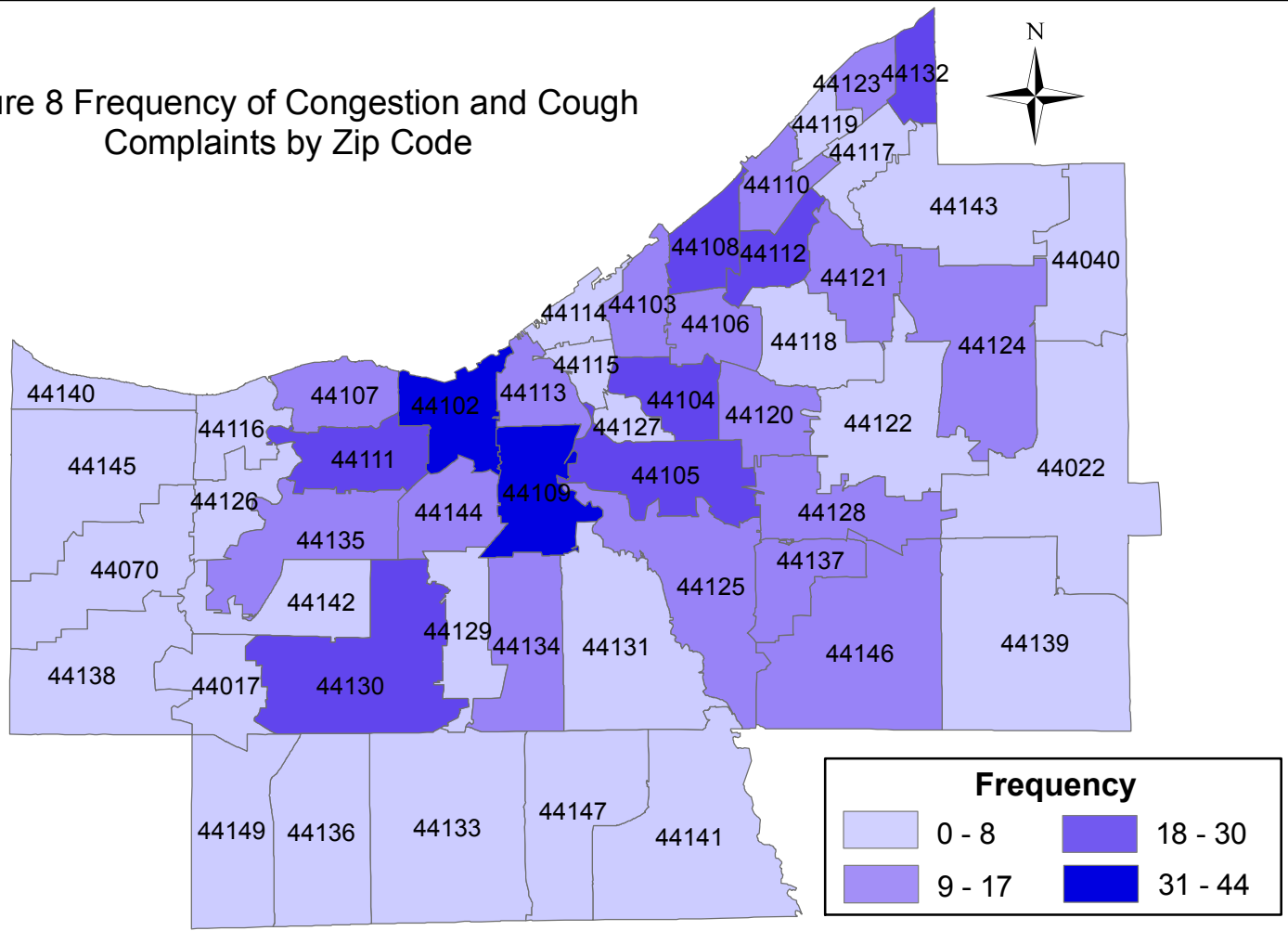


Figure 9 Frequency of Vomiting and Nausea Complaints by Zip Code

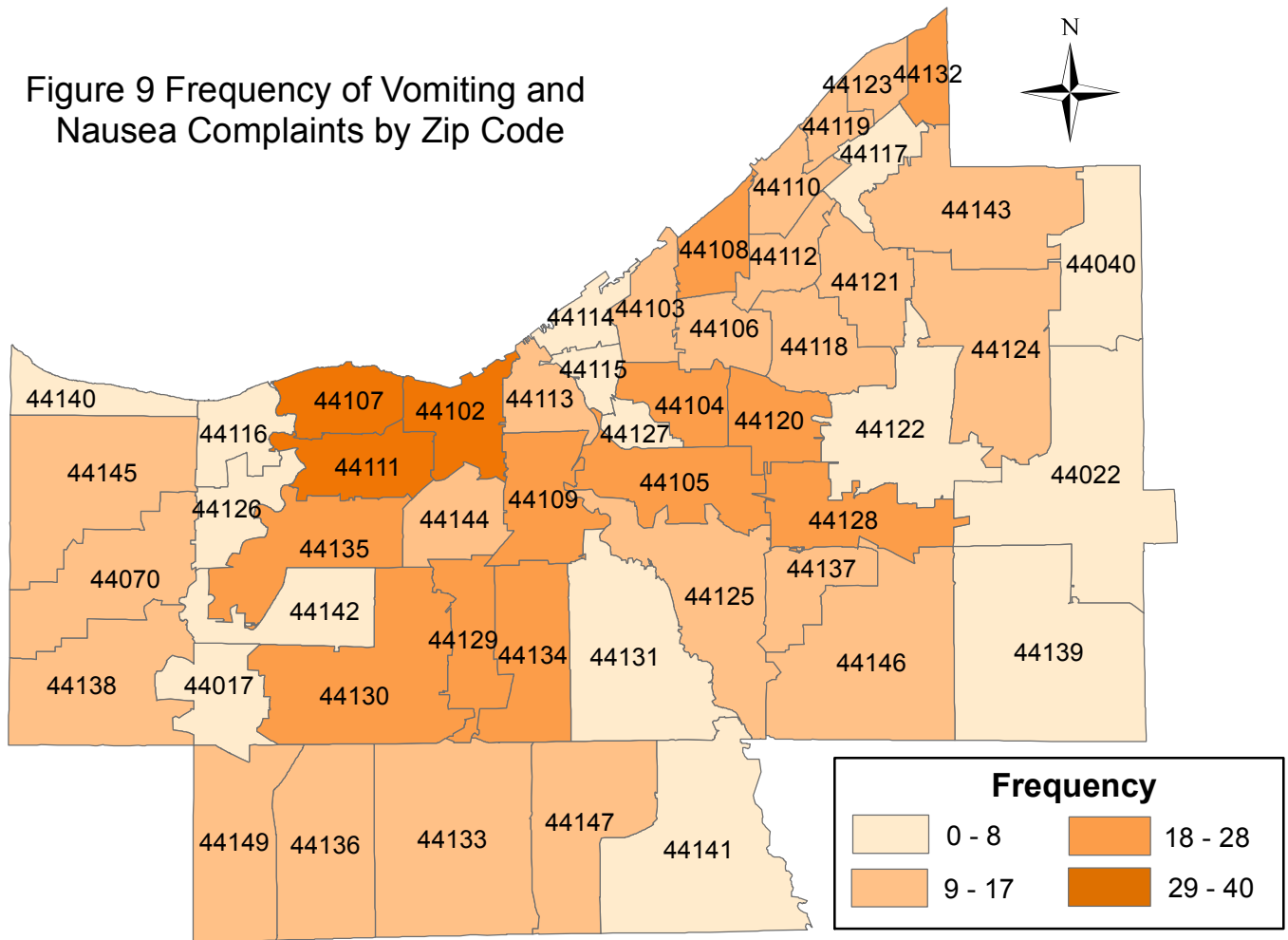
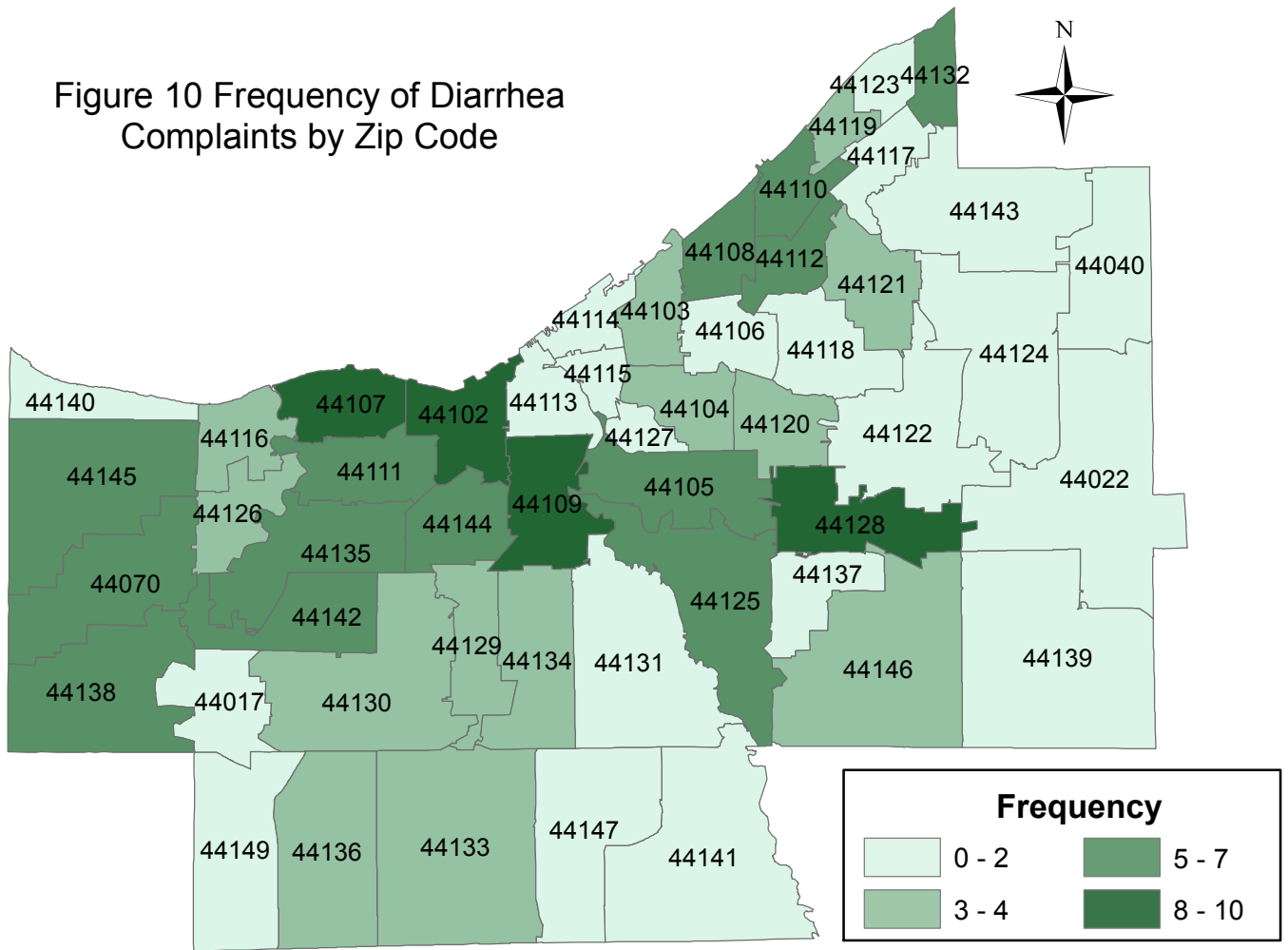


Figure 10 Frequency of Diarrhea Complaints by Zip Code



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 2 sentinel providers enrolled in Cuyahoga County for the 2012-2013 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) **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.
- 4) **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.
- 5) **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.