CUYAHOGA COUNTY PUBLIC HEALTH COLLABORATIVE

CUYAHOGA COUNTY BOARD OF HEALTH
YOUR TRUSTED SOURCE FOR PUBLIC HEALTH INFORMATION

WEEKLY INFLUENZA SURVEILLANCE REPORT
January 5-January 11, 2014 (MMWR Week 2)

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
5.4% of all deaths reported to the Cleveland Bureau of Vital Statistics were due to pneumonia. Adults 75 years old and older accounted for 61.1% of the pneumonia related deaths. Two influenza related deaths occurred this week (**Figure 1**).

Influenza-Like Illness (ILI) Reports
One ILI sentinel provider reported 0.86% of patients had ILI symptoms for week 2. Statewide ILI sentinel providers reported 2.05% of patients had flu-like symptoms for week 1 (**Figure 2**). ILI is defined as a fever (≥ 100◦ F), **and** cough and/or sore throat.

School Absenteeism
All schools were closed due to severe weather on Tuesday (**Figure 3A & Figure 3B)**. Data were reported by sentinel schools throughout Cuyahoga County.

Influenza-Associated Hospitalizations and Influenza-Associated Pediatric Mortality
Fifteen confirmed case of influenza-associated hospitalization in Cuyahoga County was reported this week, 74 in week 1, and 103 in week 52 (**Figure 4)**. State of Ohio reported 301 confirmed hospitalizations due to influenza in week 1, but no pediatric influenza related mortalities.

Emergency Department (ED) visits and Over-the-Counter Medication Sales
2.2% of all ED visits were for fever + ILI symptoms. Approximately 10 fewer patients visited EDs for fever and ILI symptoms this year compared to 2013 **(Figure 5). Figure 6** shows approximately 55 fewer 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: 5.4% Flu: 2 deaths	(21.7%) (2)	▼1 ▼1	Pneumonia close to the 5 yr median. 7 flu deaths this yr.
Influenza like illness (ILI) doctor visits *[Figure 2]* Ohio data 1 week behind	Cuyahoga: 0.86% Ohio: 2.05%	∞ 58.9%	▲1 ▲1	Cuyahoga sentinel ILI trending higher than state ILI data.
School absenteeism due to **ILLNESS ONLY** – *[Figure 3A]*	Cleveland: N/A Northeast: N/A Northwest: N/A Southeast: N/A Southwest: N/A	N/A N/A N/A N/A N/A	N/A N/A N/A N/A N/A	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]*	2.9%	N/A	N/A	Generally trending below the five year median.
School absenteeism due to **ALL CAUSES** – *[Figure 3B]*	Northeast: N/A Northwest: N/A Southeast: N/A Southwest: N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	Trending below the five year median; western suburbs have higher absenteeism rate than eastern suburbs.
Influenza associated hospitalizations [*Figure 4]*	15	59	▼2	345 more flu related hospital stays than 4 yr median N=398.
Emergency room visits due to ILI *[Figure 5]*	2.2%	(35.3%)	▼2	Significant increase since week 48. Average ~ 135
Sales of over-the-counter medications used to treat ILI. *[Figure 6]*	190	(8.2%)	●4	Significant increase since week 48. Average ~ 170
Congestion and cough complaints *[Figure 8}*	886	(24.6%)	▼1	Significant increase since week 48. Average ~ 715
Vomiting and nausea complaints *[Figure 9]*	535	(11.7%)	▼1	Significant increase since week 48. Average ~ 540
Diarrhea complaints [*Figure 10]*	136	(7.5%)	●2	Significant increase since week 48. Average ~ 110

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

[2]For figures 1-3b, ▲ = (Increase ≥ 20%), ▼ = (Decrease ≥ -20%), ● = Stable (-19.9% to +19.9%)

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

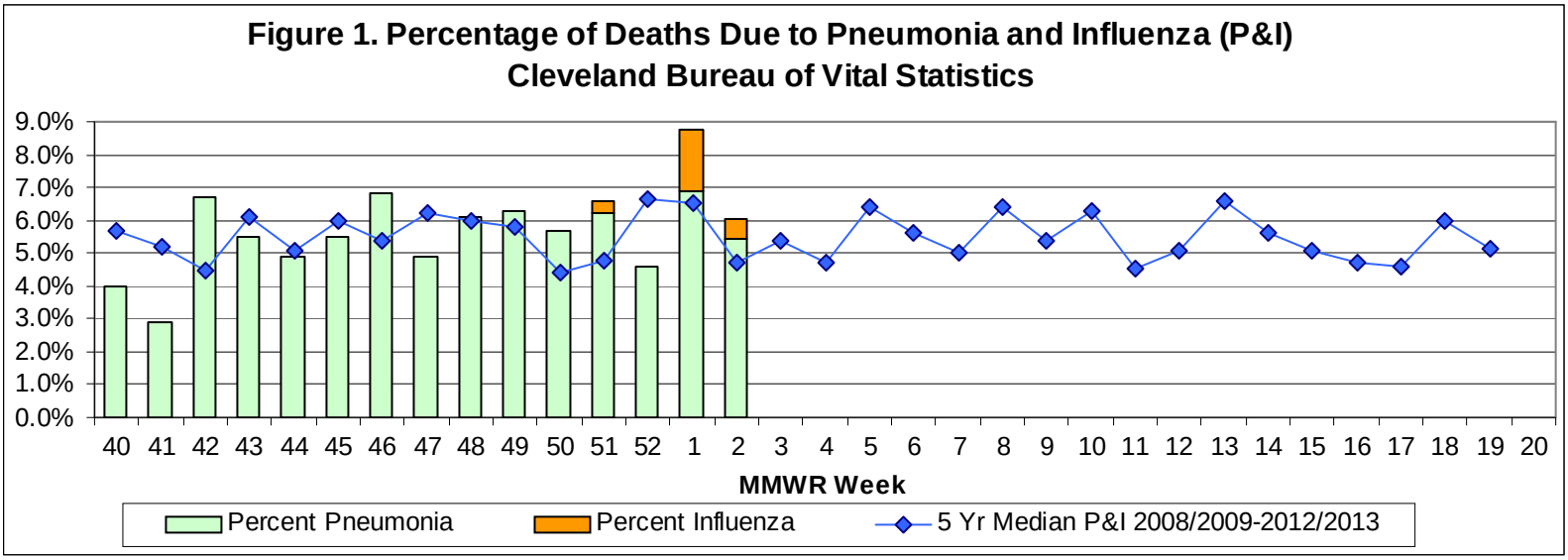


Figure 2. Percent of Influenza-Like Illness (ILI) Visits
U.S. Influenza Sentinel Provider Surveillance Network

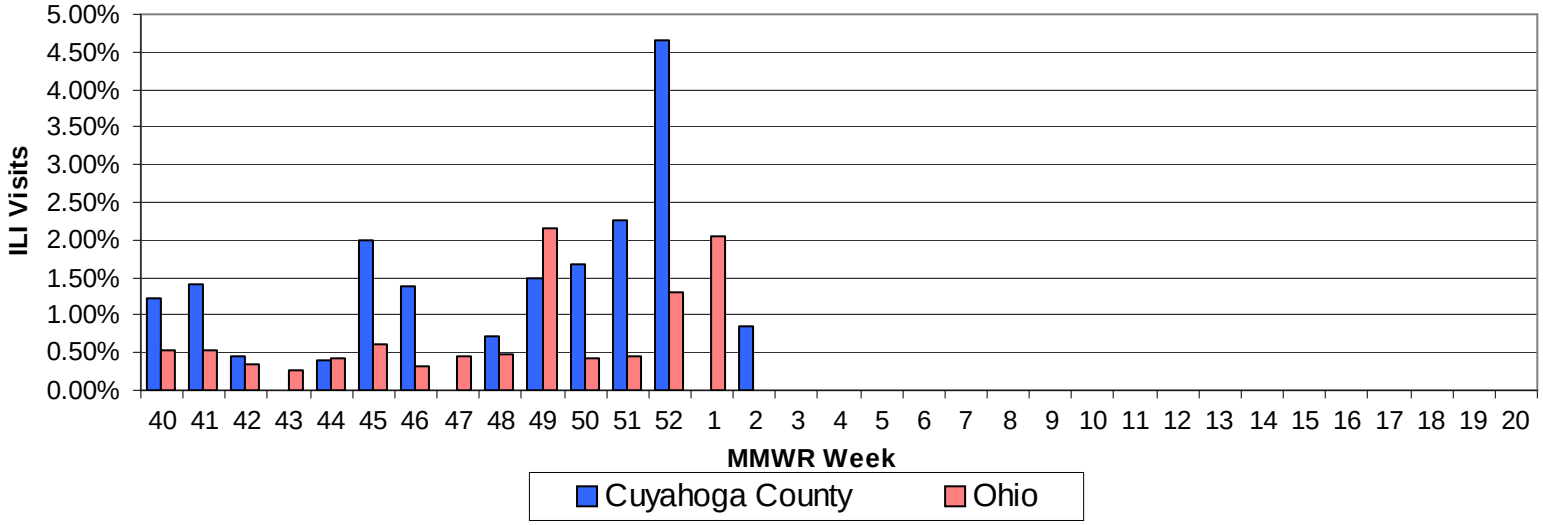


Figure 3a. School Absenteeism (*Due to any Illness*) in Cuyahoga County

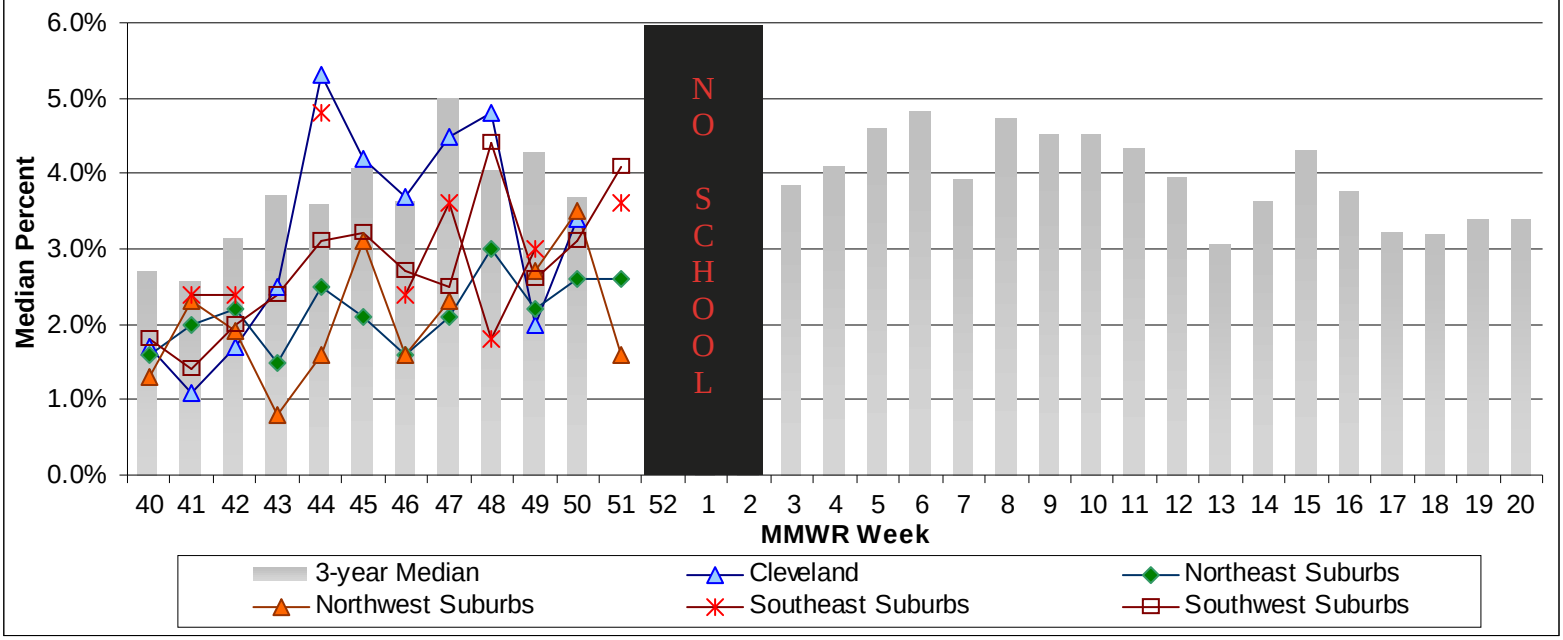


Figure 3b. School Absenteeism (*Due to any Reason*) in Cuyahoga County

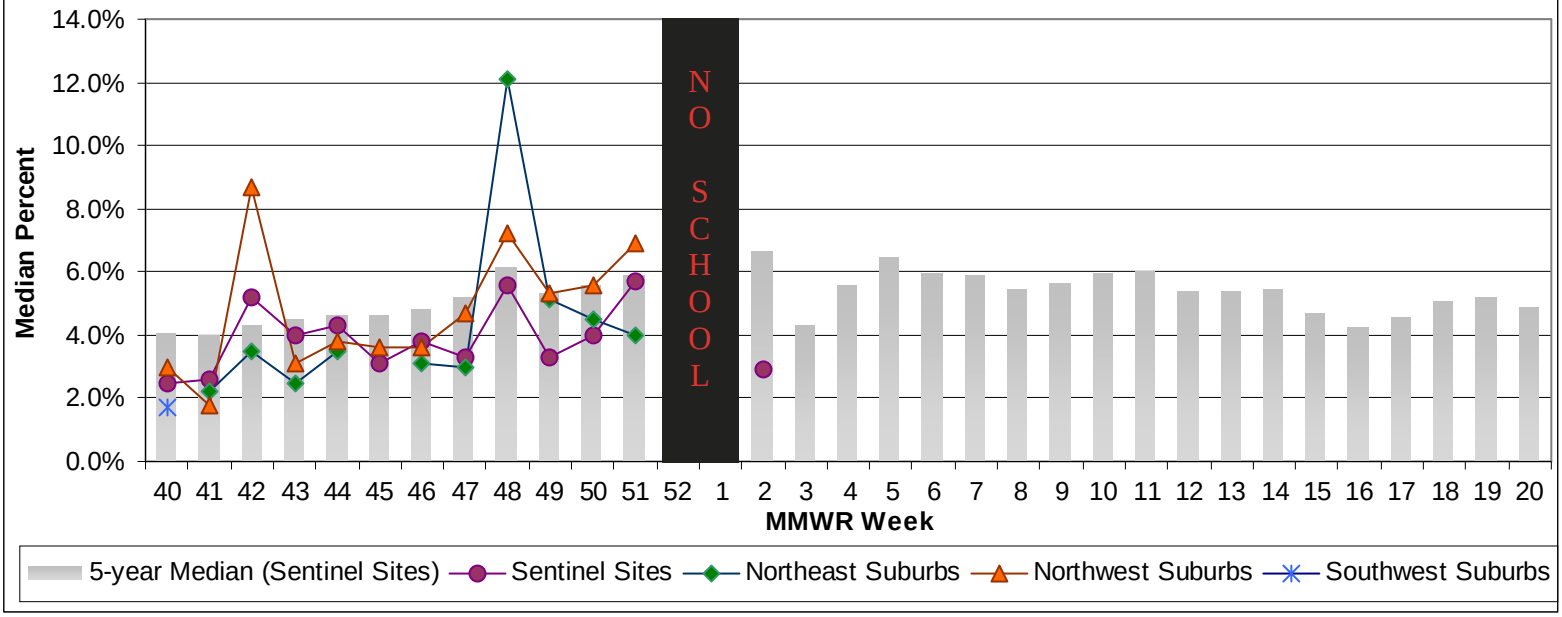


Figure 4. Number of Influenza-Associated Hospitalizations in Cuyahoga County (using event date)

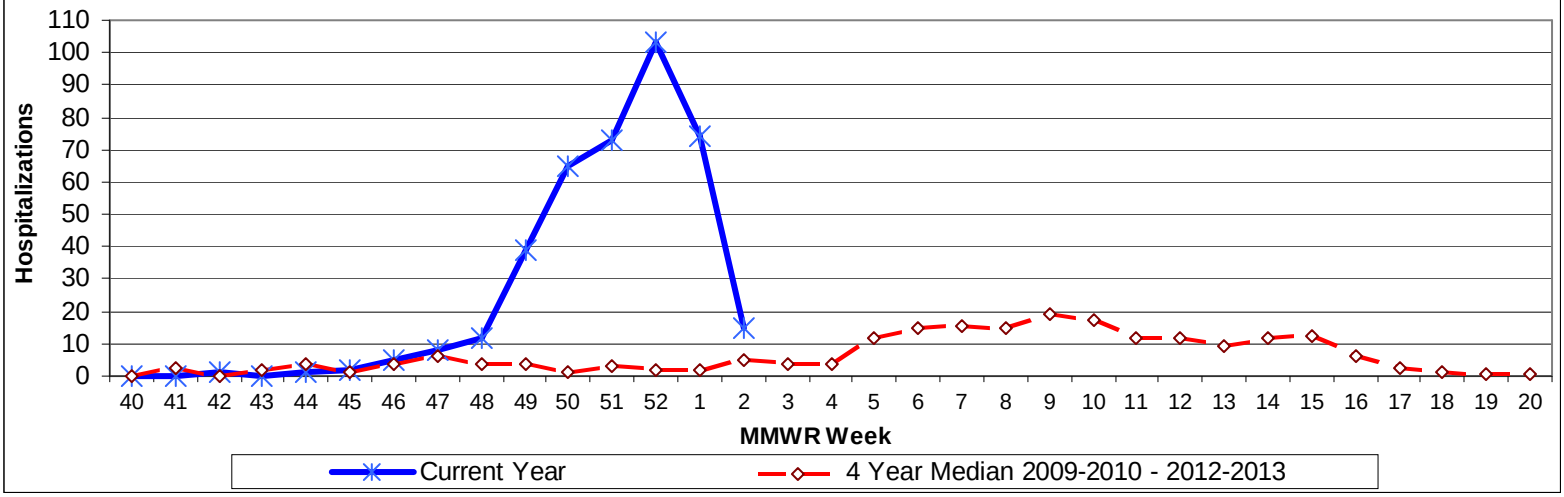


Figure 5. Cuyahoga County Hospital ED Visits for ILI & Fever Symptoms by Age Group

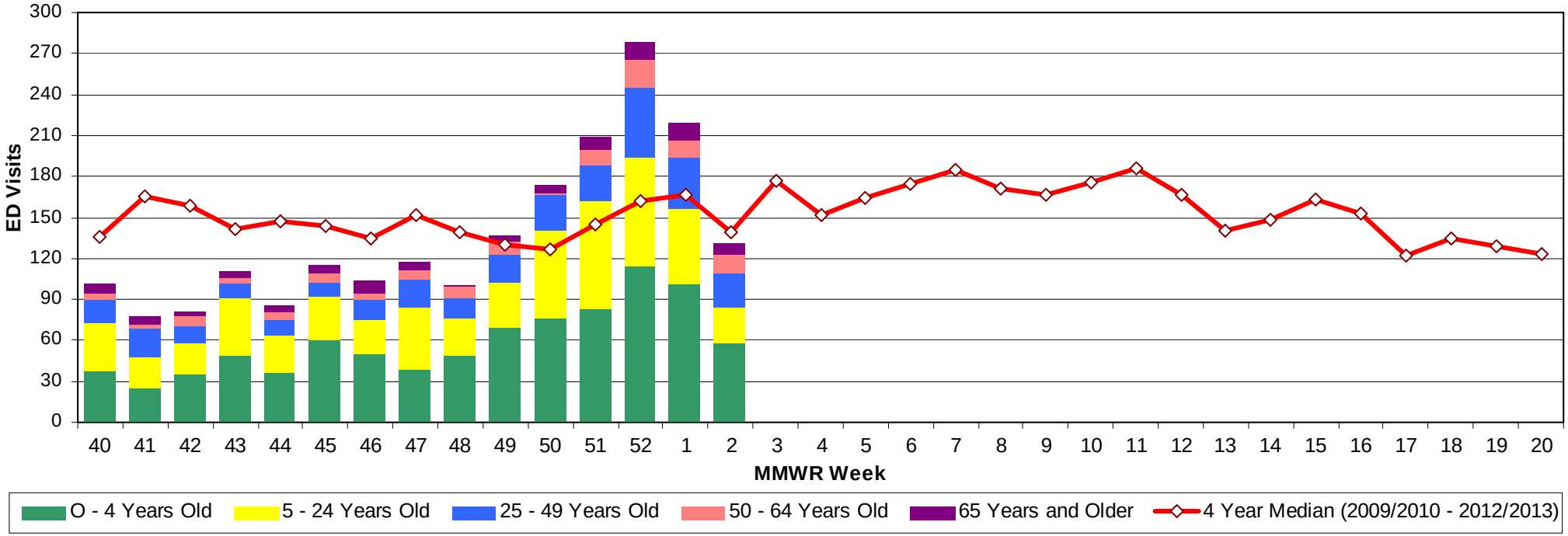


Figure 6. Comparison of Average Weekly OTC Products Sold in Cuyhaoga County Drugstores

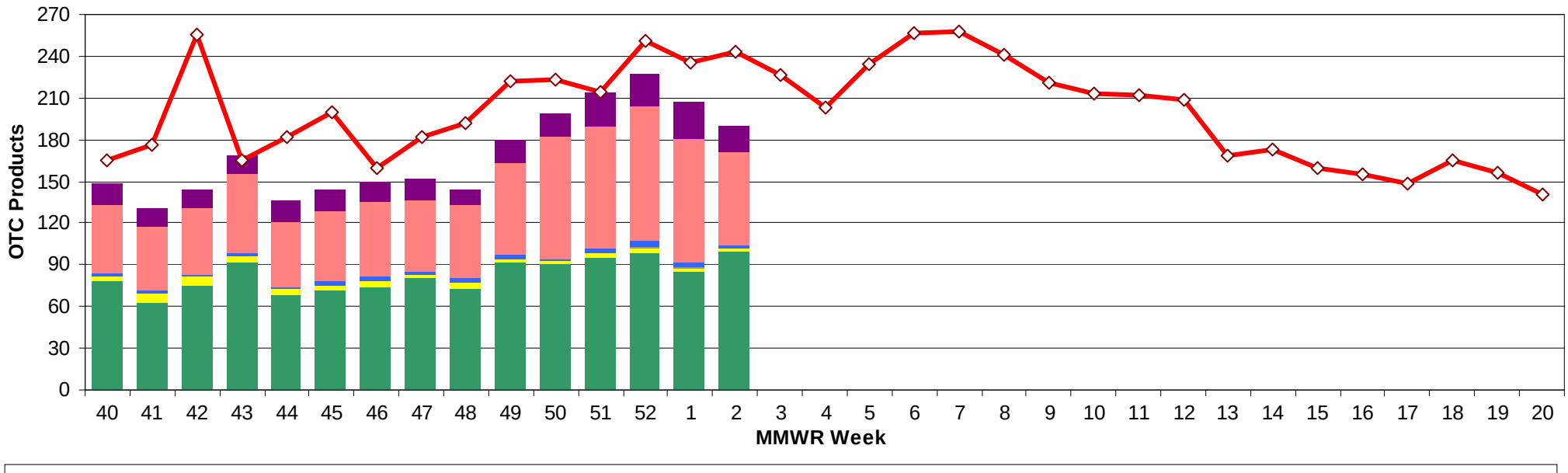


Figure 7 Frequency of Fever and Influenza-Like Illness Complaints by Zip Code

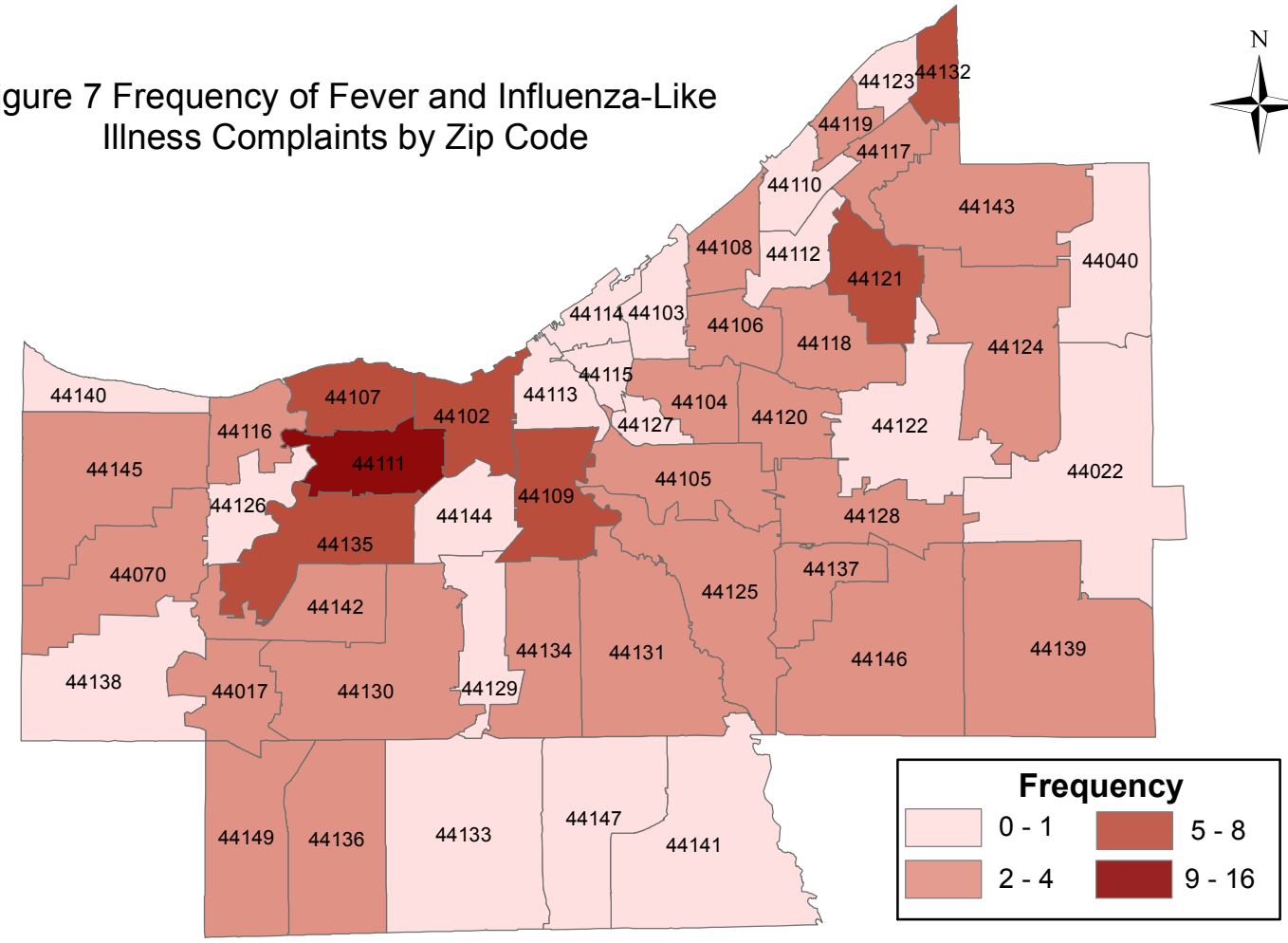


Figure 8 Frequency of Congestion and Cough Complaints by Zip Code

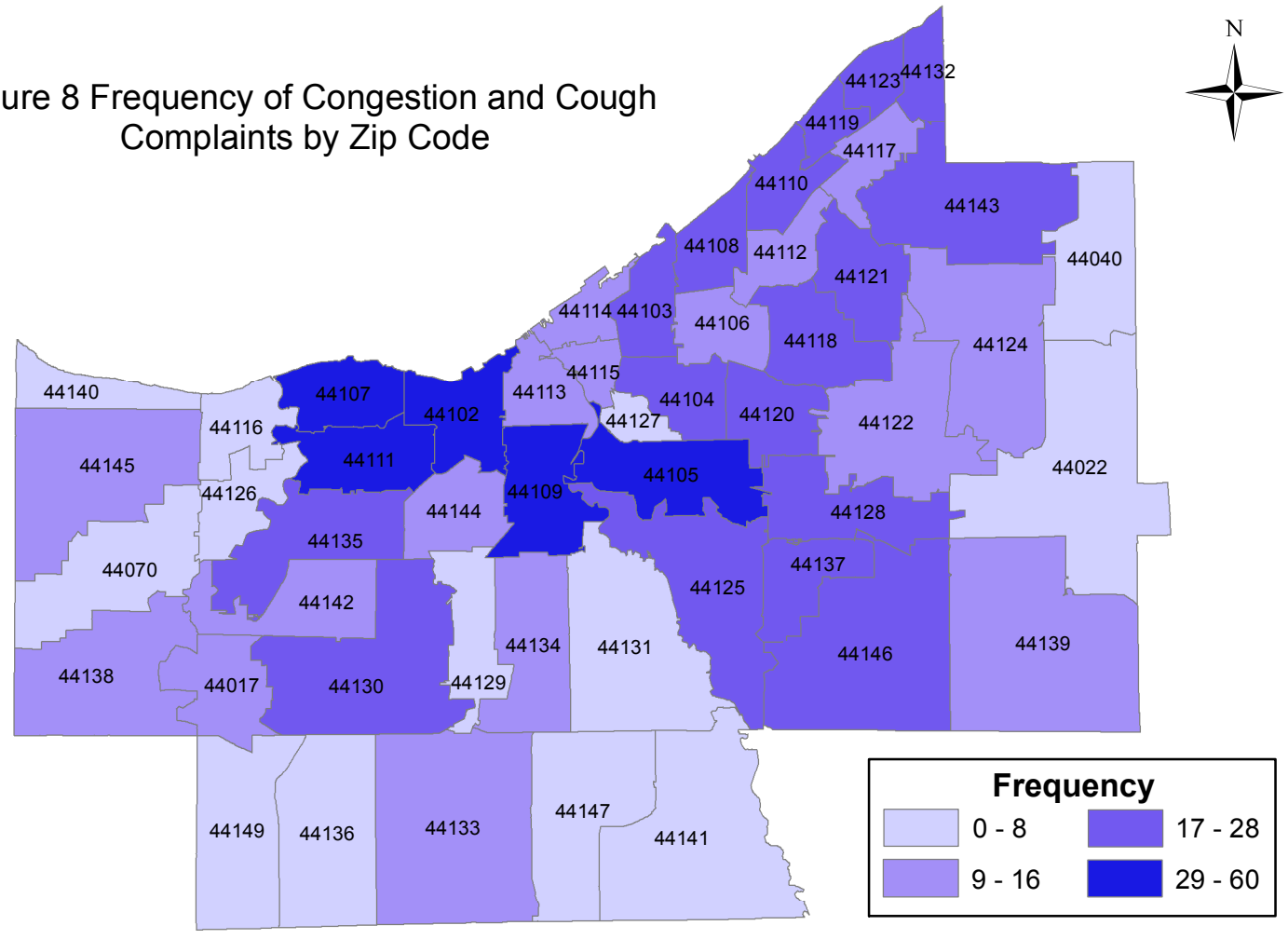


Figure 9 Frequency of Vomiting and Nausea Complaints by Zip Code

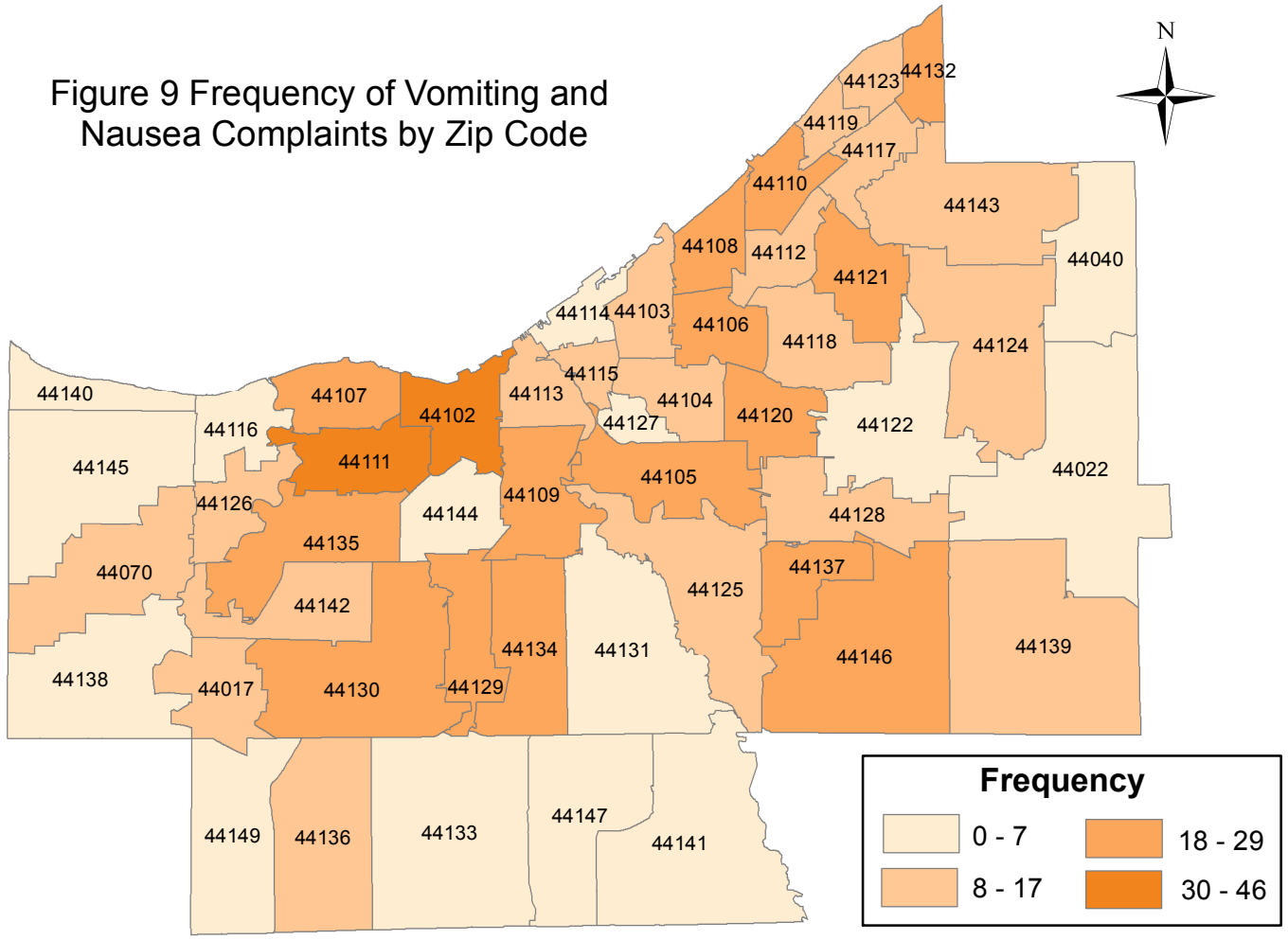
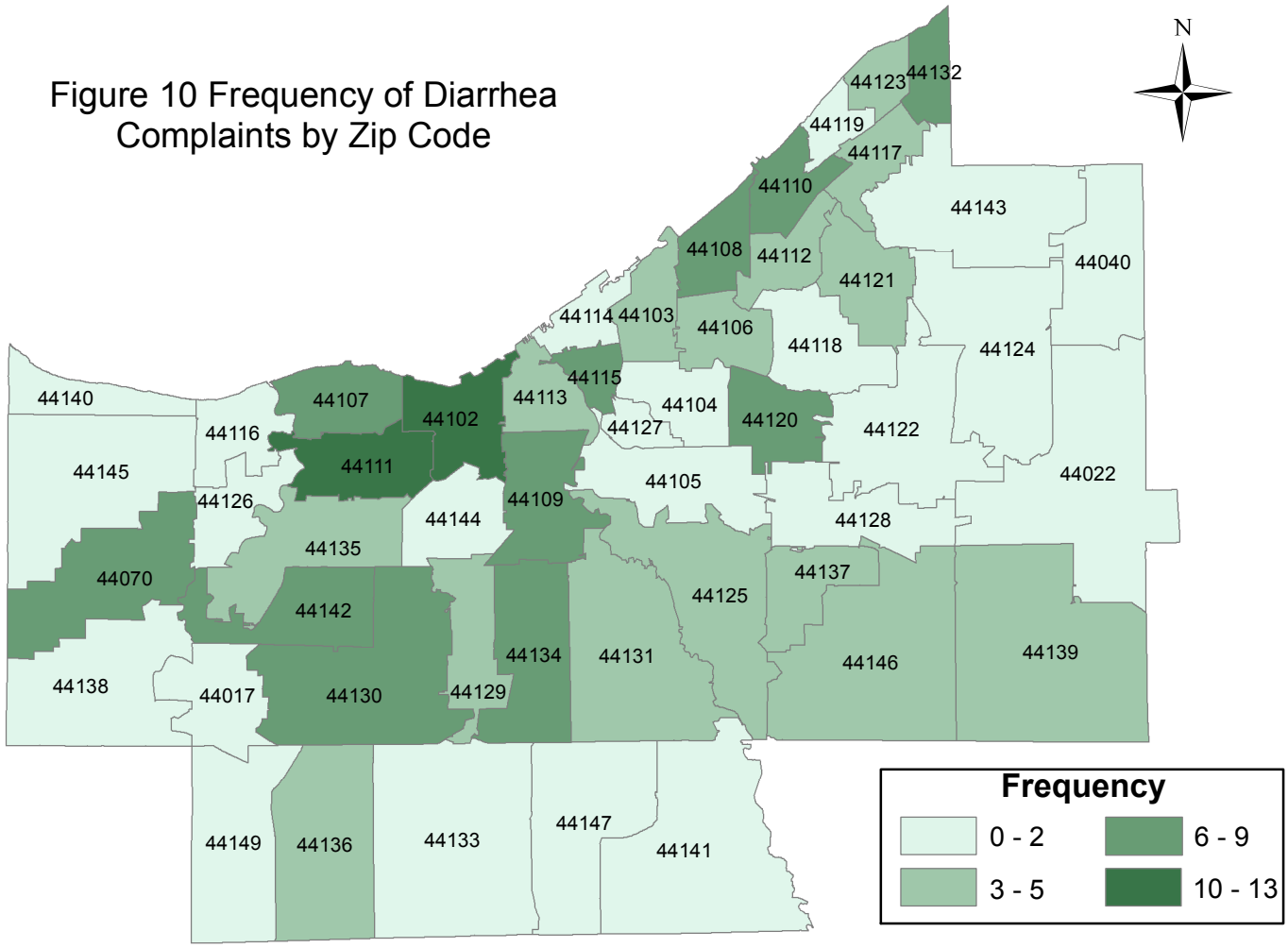


Figure 10 Frequency of Diarrhea Complaints by Zip Code



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.