



Public Health

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Northeast Ohio Public Health Partnership

CUYAHOGA COUNTY  
BOARD OF HEALTH



Cuyahoga County Public Health Collaborative

# Influenza Surveillance

## 2012-2013 Weekly Summary

### MMWR Week 14 (3/31/2013-4/6/2013)

This report is intended to provide an overview of influenza related activity occurring within Cuyahoga County while providing some general information on the state activity. It will be published on a weekly basis and can be found at the following web site:

<http://www.ccbh.net/flu-weekly-surveillance-report/>

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

#### Ohio's Activity Level: Regional Activity

Increased influenza like illness (ILI) OR institutional outbreaks (ILI or lab-confirmed) in  $\geq 2$  but less than half of the regions AND recent (within the past 3 weeks) lab-confirmed influenza in the affected regions.

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

4.2% of all deaths reported to the Cleveland Bureau of Vital Statistics were due to pneumonia. Adults 65 years old and older accounted for 70.0% of the pneumonia related deaths. No influenza related death occurred this week. (**Figure 1**).

#### Influenza-Like Illness Reports

Two ILI Sentinel Providers in Cuyahoga County reported 2.54% of patients had ILI symptoms this week. Statewide ILI Sentinel Providers reported 0.43% of patients had ILI symptoms (**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* during the school week (median = 7.0%). Data were reported by sentinel sites and other participating schools throughout Cuyahoga County.

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

Five confirmed case of influenza-associated hospitalizations in Cuyahoga County were reported this week, 8 in week 13, & 12 in week 12 (**Figure 4**). The state of Ohio reported 104 confirmed hospitalizations due to influenza, with four pediatric influenza related mortalities.

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

2.4% of all ED visits were for fever + ILI symptoms. Approximately 10 fewer patients visited EDs for fever and ILI symptoms this year compared to 2012 (**Figure 5**). **Figure 6** shows approximately 15 more OTC products per drugstore were purchased this year than in the same period in 2012. **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](http://www.cdc.gov/flu/weekly).

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

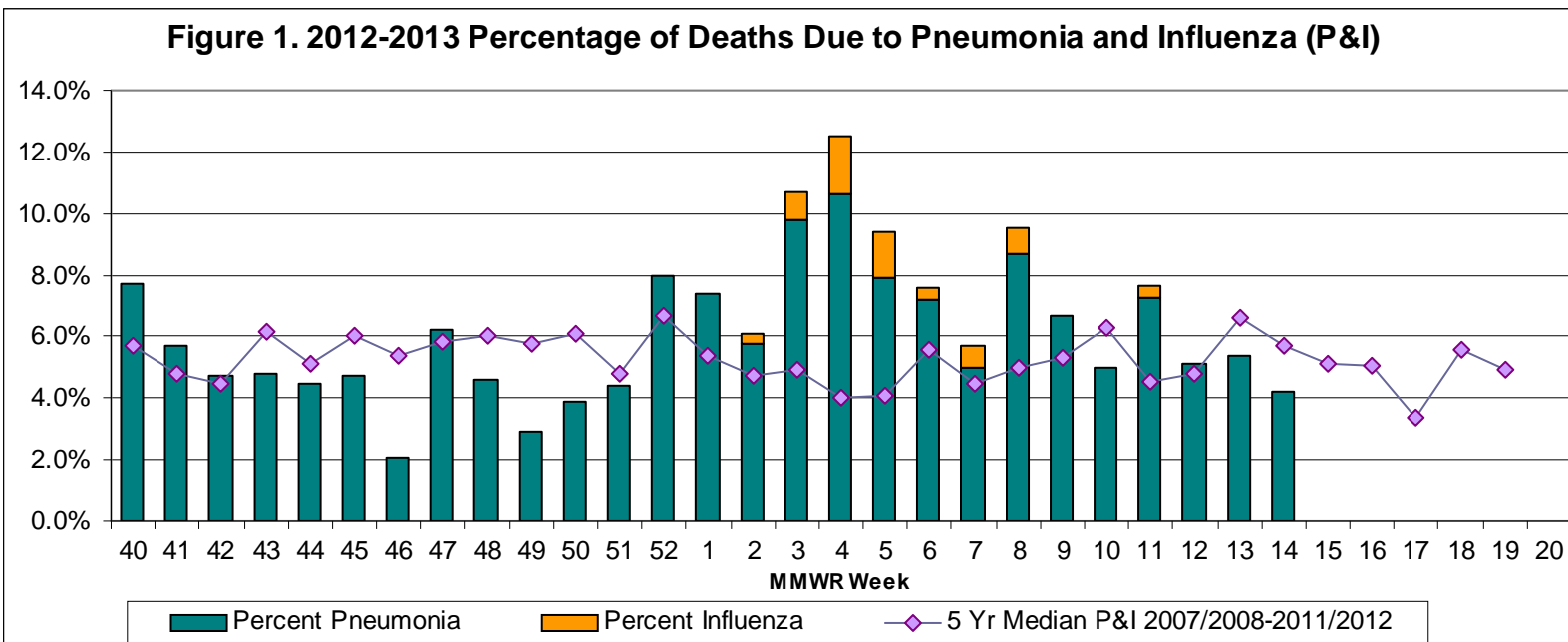
Influenza (Flu) Indicator	Current Activity Level	Activity Compared to Last Week	#Weeks <sup>123</sup> ▲ ● ▼	General Trend for the Season
Percentage of deaths due to influenza & pneumonia - Cleveland [Figure 1]	Pneumonia: 4.2% Influenza: 0.0%	(22.2%) Stable	▼1 ●2	High number of deaths during Jan & Feb of 2013 (Avg. ~ 5.9%). 21 flu related deaths - most in last 4 years.
Influenza like illness (ILI) doctor visits [Figure 2]	Cuyahoga: 2.54% Ohio: 0.43%	188.6% Stable	▲1 ●1	ILI averages significantly higher than 2011-12 flu season.
School absenteeism due to <b>ILLNESS ONLY</b> – sites recruited within last three years [Figure 3A]	Northeast: 1.8% Northwest: 2.1% Southeast: N/A Southwest: 3.5%	(5.3%) N/A N/A (39.7%)	●1 N/A N/A ▼1	More than 3% of Children missing school was due to illness in 6 of the last 8 weeks. Increases noted in the month of December then another step increase after the new year.
School absenteeism due to <b>ALL CAUSES</b> – sentinel sites [Figure 3B]	N/A	N/A	N/A	Absenteeism slightly lower than the 5 year median.
School absenteeism due to <b>ALL CAUSES</b> – sites recruited within last three years [Figure 3B]	Northeast: 7.3% Northwest: N/A Southwest: 5.0%	N/A N/A (3.8%)	N/A N/A ●2	Weekly average over 4% with the absenteeism rates slowly increasing throughout the flu season.
Influenza associated hospitalizations [Figure 4]	5	(3)	▼2	225 more hospitalizations this season than during H1N1 season (N = 945).
Emergency room visits due to ILI [Figure 5]	2.4%	20.0%	▲1	ED Visits significantly higher in the last 6 weeks. (Avg. ~ 175).
Sales of over-the-counter medications used to treat ILI. [Figure 6]	180	4.0%	●1	OTC sales slightly higher than last year. (Avg. ~ 190).
Congestion and cough complaints [Figure 8]	573	(6.4%)	●6	Congestion/cough higher than last yr (Avg. ~ 785).
Vomiting and nausea complaints [Figure 9]	766	(7.8%)	●9	Vomiting/nausea approximately the same as last yr (Avg. ~ 690).
Diarrhea complaints [Figure 10]	235	(13.9%)	▼1	Diarrhea slightly lower than last yr (Avg. ~ 170).

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

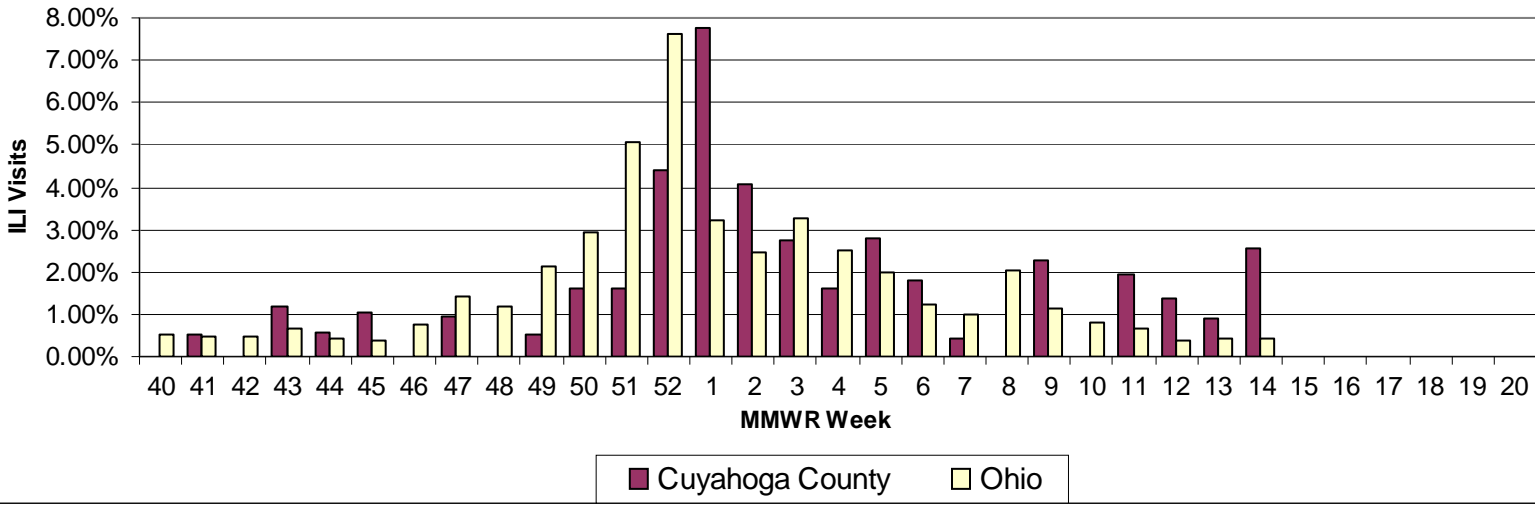
<sup>2</sup>For figures 1-3b, ▲ = (Increase ≥ 20%), ▼ = (Decrease ≥ -20%), ● = Stable (-19.9% to +19.9%)

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

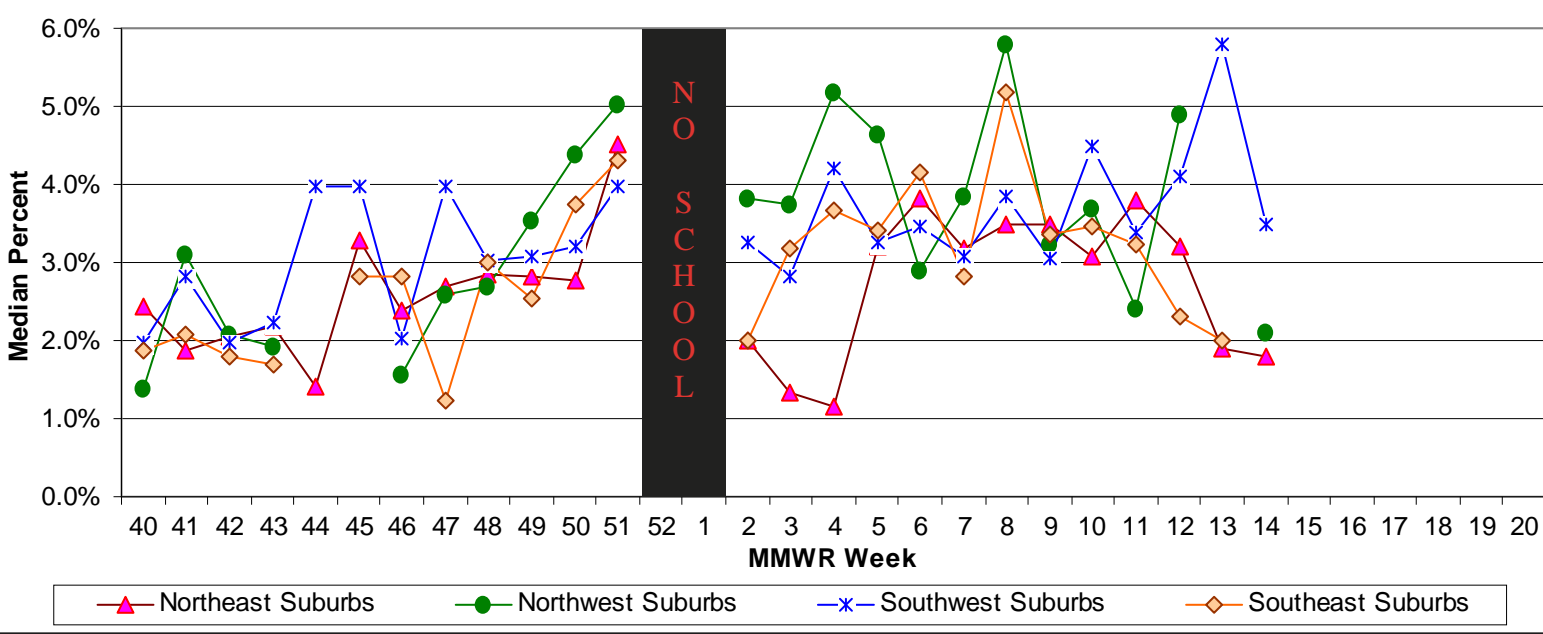
**Figure 1. 2012-2013 Percentage of Deaths Due to Pneumonia and Influenza (P&I)**



**Figure 2. Percent of Influenza-Like Illness (ILI) Visits, U.S. Influenza Sentinel Provider Surveillance Network 2012-2013**



**Figure 3A. School Absenteeism (Due to any Illness) in Cuyahoga County 2012 - 2013**



**Figure 3b. School Absenteeism (Due to any Reason) in Cuyahoga County 2012-2013**

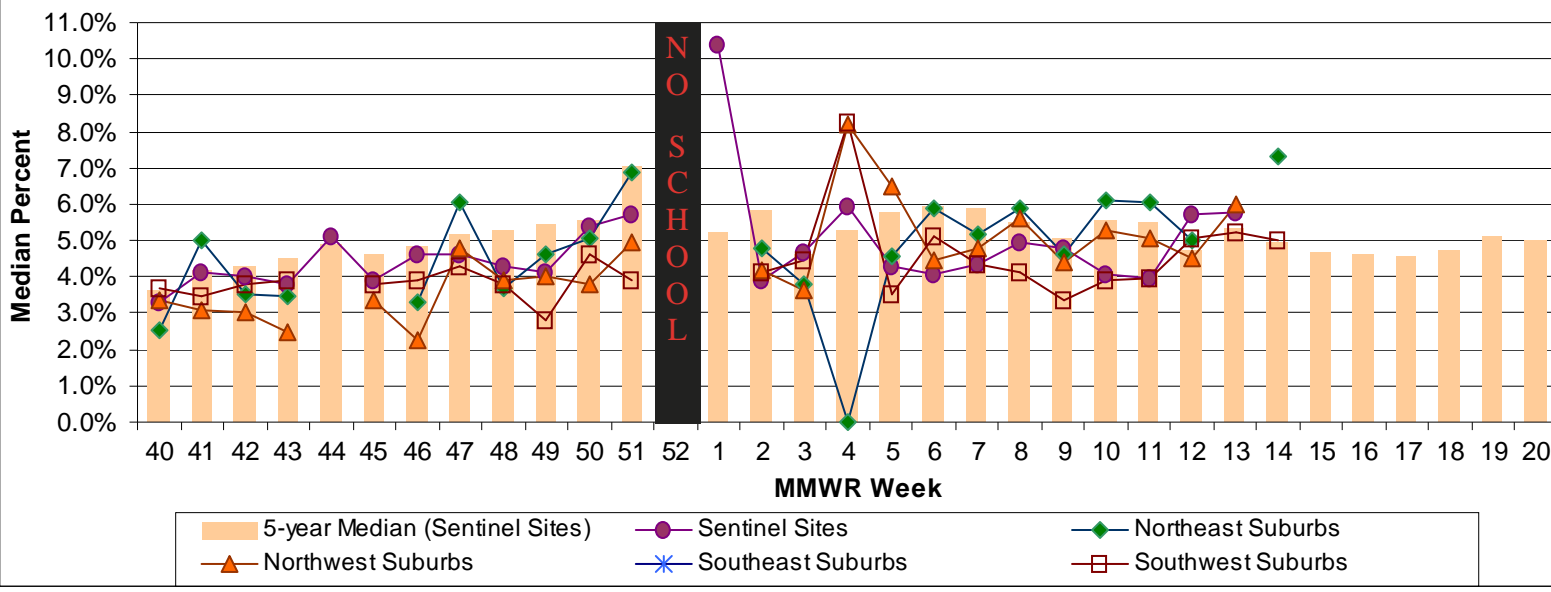
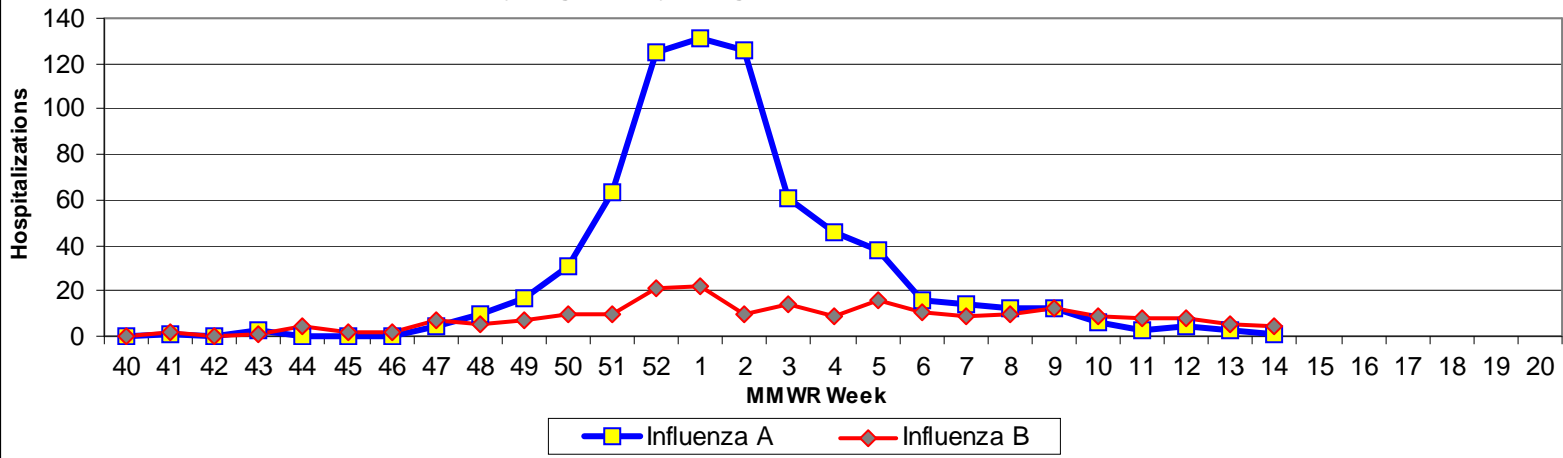
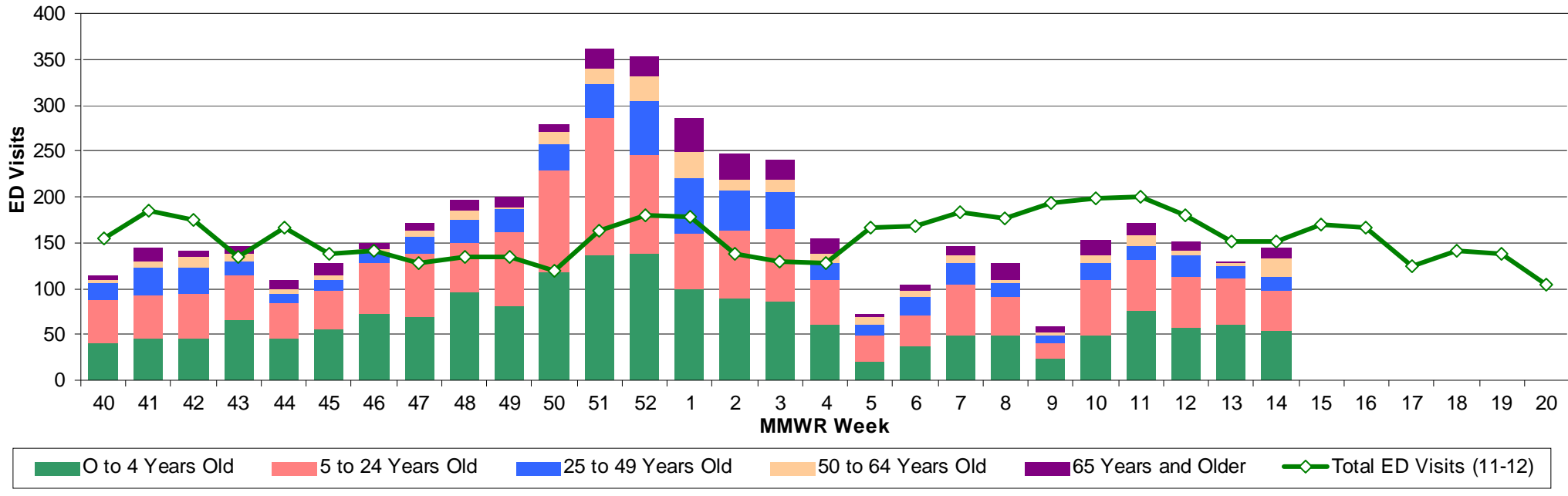


Figure 4. Number of Influenza-Associated Hospitalizations in Cuyahoga County (using reported to ODH date) 2012-2013



**Figure 5. Comparison of Cuyahoga County Hospital ED Visits for ILI & Fever Symptoms by Age Group 2011-12 vs. 2012-13**



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

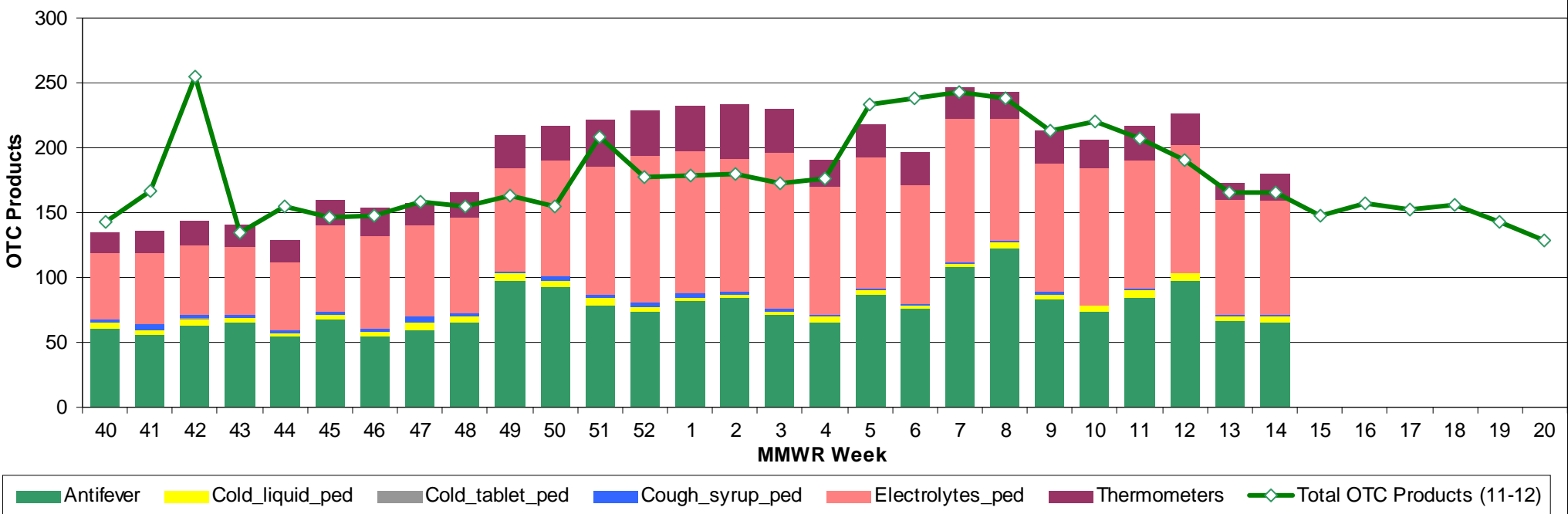


Figure 7 Frequency of Fever and Influenza-Like Illness Complaints by Zip Code

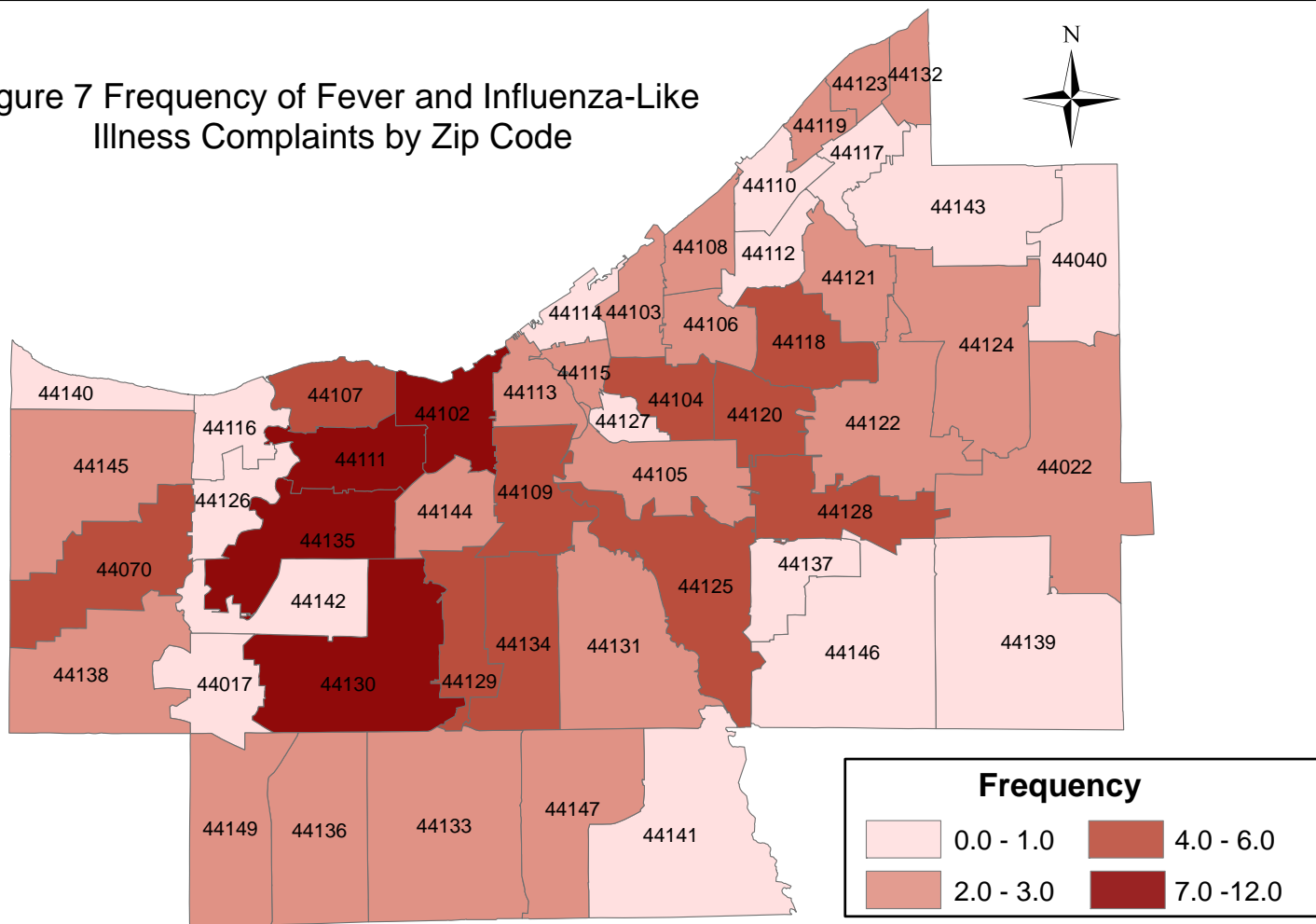


Figure 8 Frequency of Congestion and Cough Complaints by Zip Code

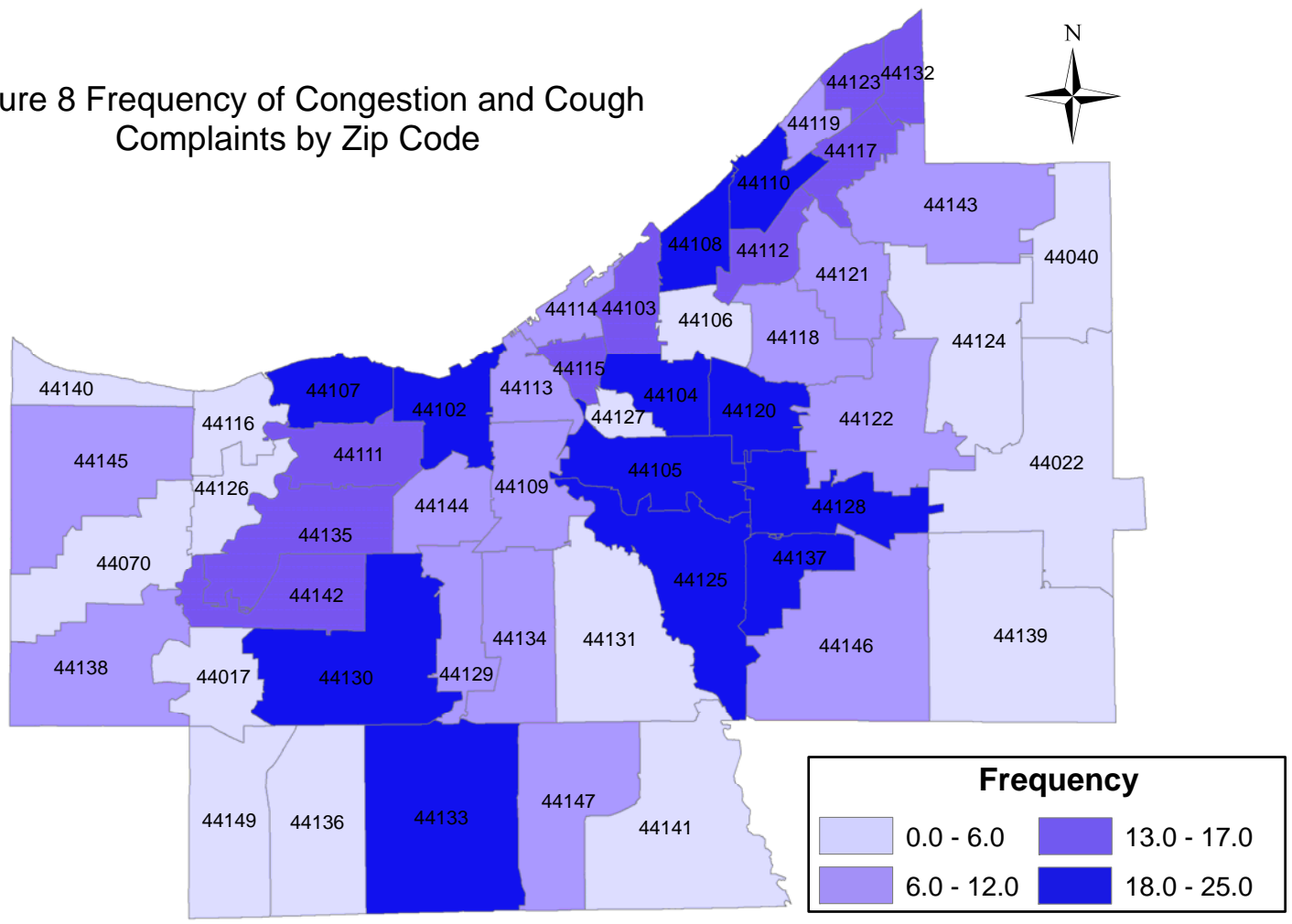


Figure 9 Frequency of Vomiting and Nausea Complaints by Zip Code

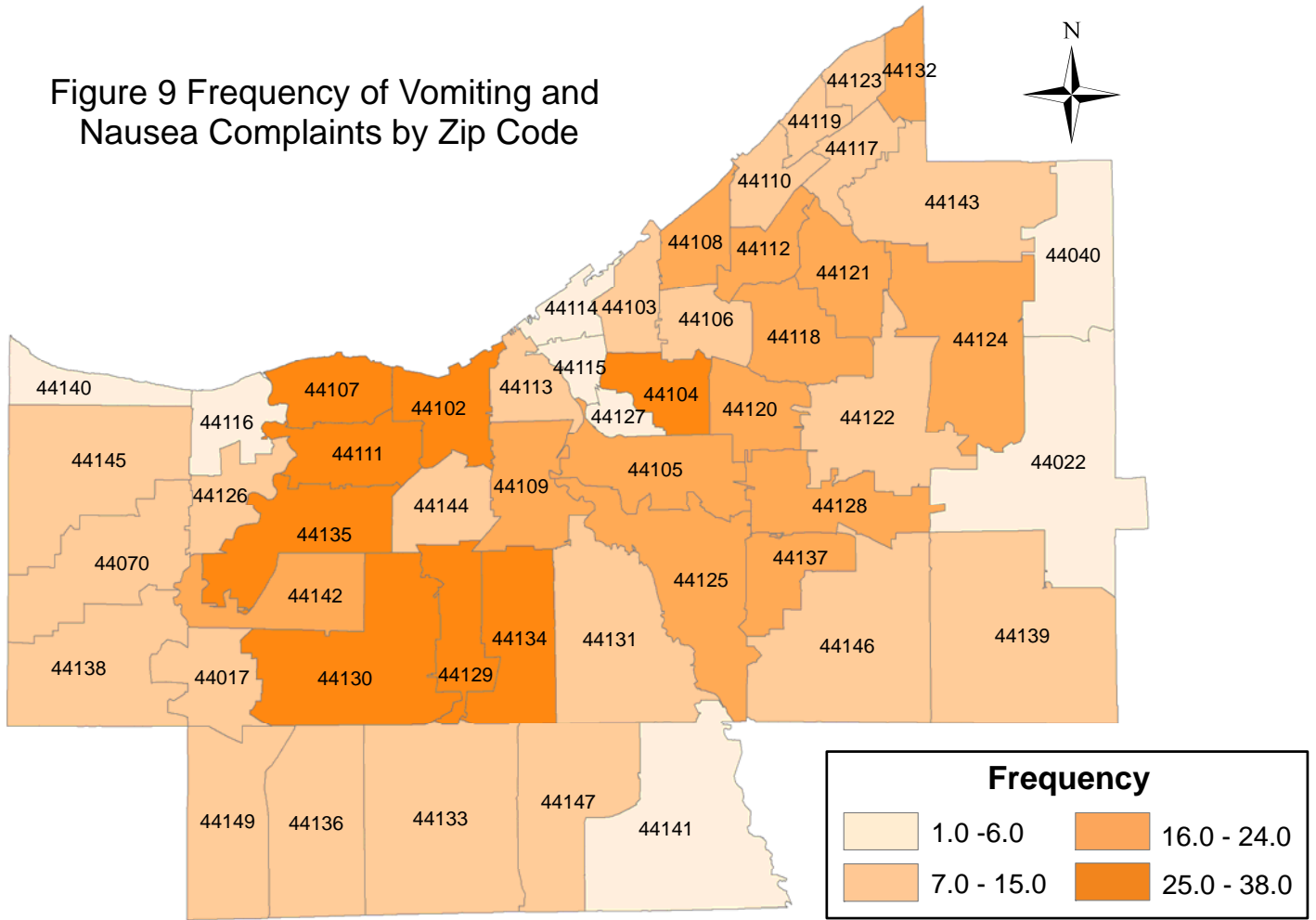
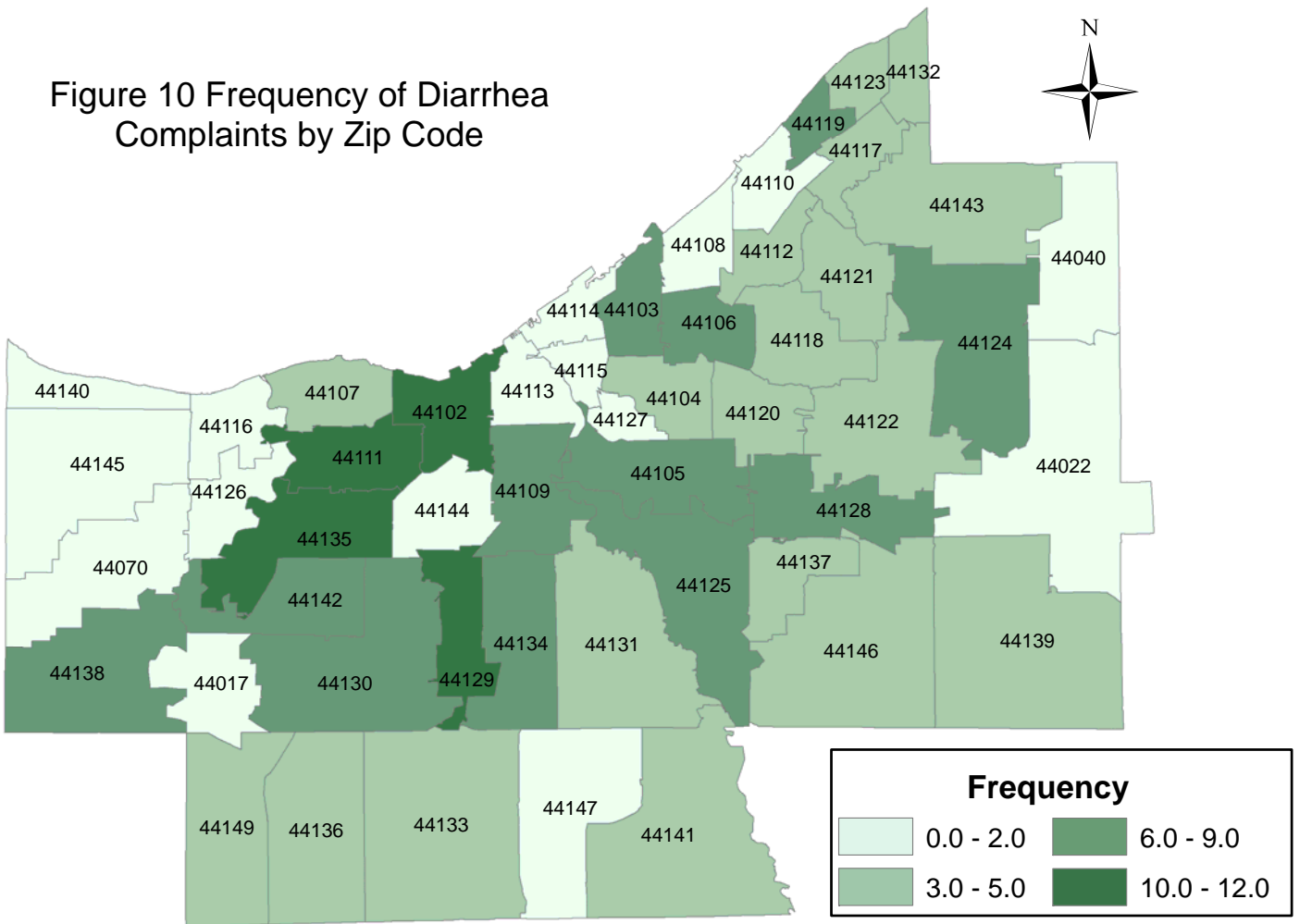


Figure 10 Frequency of Diarrhea Complaints by Zip Code



## 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: influenza activity level, 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 Activity Level:** ODH reports the state influenza activity level on a five point ranking system: no activity, sporadic, local, regional, and widespread.
  - B) **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.
  - C) **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.
  - D) **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.
  - E) **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 54 municipalities in Cuyahoga County (excludes Lakewood, East Cleveland, 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.