



Public Health

Prevent. Promote. Protect.

Northeast Ohio Public Health Partnership



# Influenza Surveillance

## 2011-2012 Weekly Summary

### MMWR Week 17 (4/22/2012-4/28/2012)

**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: Local Activity

Increased ILI in 1 region; ILI activity in other regions is not increased AND recent (within the past 3 weeks) lab evidence of influenza in region with increased ILI, OR 2 or more institutional outbreaks (ILI or lab confirmed) in 1 region; ILI activity in other regions is not increased AND recent (within the past 3 weeks) lab evidence of influenza in region with the outbreaks; virus activity is no greater than sporadic in other regions.

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

3.4% of all deaths reported to the Cleveland Bureau of Vital Statistics were due to pneumonia. Adults 65 years old and older accounted for 87.5% of the pneumonia related deaths. One influenza related death has occurred this season (**Figure 1**).

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

One ILI Sentinel Provider in Cuyahoga County reported no patients had flu-like symptoms. Statewide ILI Sentinel Providers reported 0.38% of patients had flu-like 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 = 2.2%) 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 = 3.2%). Data were reported by sentinel sites and other participating schools throughout Cuyahoga County.

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

Three confirmed cases of influenza-associated hospitalizations in Cuyahoga County were reported this week and 14 confirmed in week 16 (**Figure 4**). The state of Ohio reported 61 confirmed hospitalizations due to influenza, but no pediatric influenza related mortalities.

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

1.9% of all ED visits were for fever + ILI symptoms. Approximately 5 more patients visited EDs for fever and ILI symptoms this year compared to 2011 (**Figure 5**). **Figure 6** shows approximately 10 more of OTC products per drugstore were purchased this year than in the same period in 2011. **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).

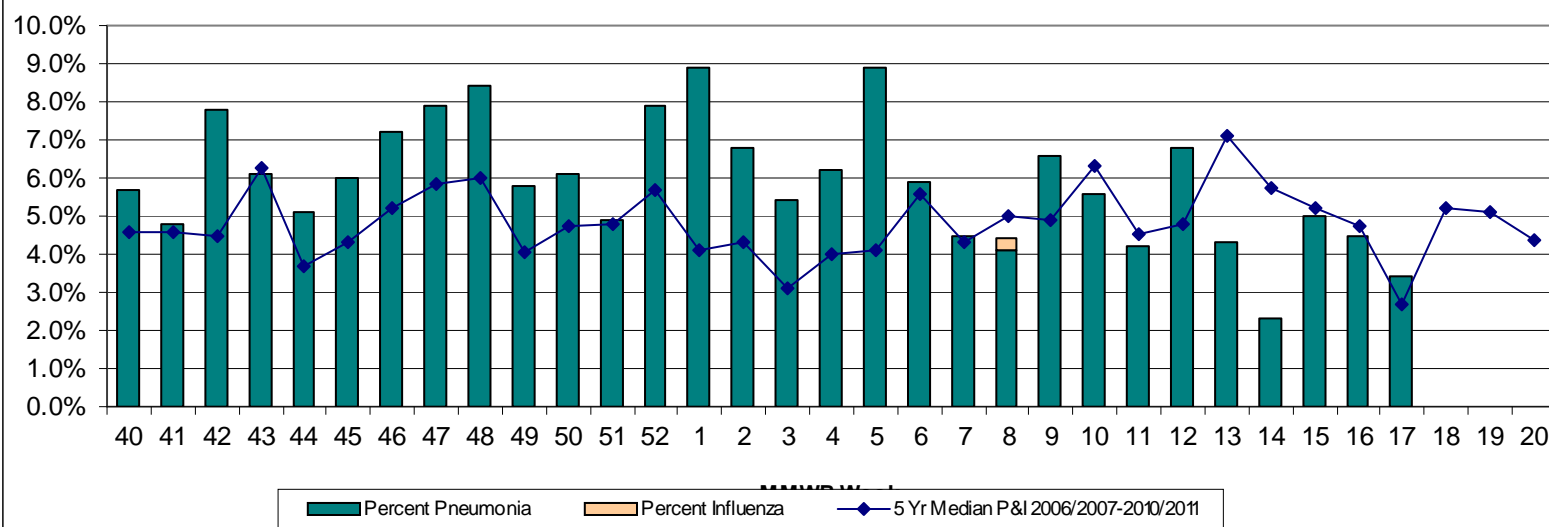
**Table 1. Summary of Cuyahoga County Influenza Data**

Influenza (Flu) Indicator	Current Activity Level	Activity Compared to Last Week	# Weeks <sup>12</sup> ▲ ● ▼	General Trend for the Season
Percentage of deaths due to influenza & pneumonia - Cleveland [Figure 1]	Pneumonia: 3.4% Influenza: 0.0%	(24%) Stable	▼2 ●8	Significantly more pneumonia related deaths in first half of 2011-2012 flu season (avg. ~ 6.0%).
Influenza like illness (ILI) doctor visits [Figure 2]	Cuyahoga: 0.0% Ohio: 0.38%	Stable (31%)	●7 ▼1	Ohio sentinel providers are seeing 0.50% of doctor visits are due to ILI.
School absenteeism due to <b>ILLNESS ONLY</b> – sites recruited within last three years [Figure 3A]	Northeast: 2.6% Northwest: 2.4% Southwest: 1.4%	18% 26% (13%)	▲3 ▲1 ▼1	The number of influenza absences has steadily increased throughout Cuyahoga County to about 3.5%.
School absenteeism due to <b>ALL CAUSES</b> – sentinel sites [Figure 3B]	3.7%	(18%)	▼2	Sentinel sites' absenteeism rates are close to 4.0% .
School absenteeism due to <b>ALL CAUSES</b> – sites recruited within last three years [Figure 3B]	Northeast: 2.8% Northwest: 3.5% Southwest: 3.2%	(18%) (19%) (20%)	▼2 ▼2 ▼1	Absenteeism rates due to any reason tend to be higher in the northwestern and southeastern suburbs with overall median trending over 4%.
Influenza associated hospitalizations [Figure 4]	3	(11)	▼2	75% of all cases occurred in weeks 9-16 (N=145).
Emergency room visits due to ILI [Figure 5]	1.9%	(21%)	▼1	Number of ED visits trending slightly above last year's total (avg. ~ 160).
Sales of over-the-counter medications used to treat ILI. [Figure 6]	152	(3.2%)	●2	Low sales of OTCs early in season, now close to last year. (avg. ~ 185).
Congestion and cough complaints [Figure 8]	486	(22%)	▼1	ED visits due to cough and congestion has been fairly consistent (avg. ~ 670)
Vomiting and nausea complaints [Figure 9]	613	(8.6%)	●5	ED visits due to vomiting and nausea has been fairly consistent (avg. ~ 665)
Diarrhea complaints [Figure 10]	118	(22%)	▼1	ED visits due to diarrhea has been fairly consistent (avg. ~ 150)

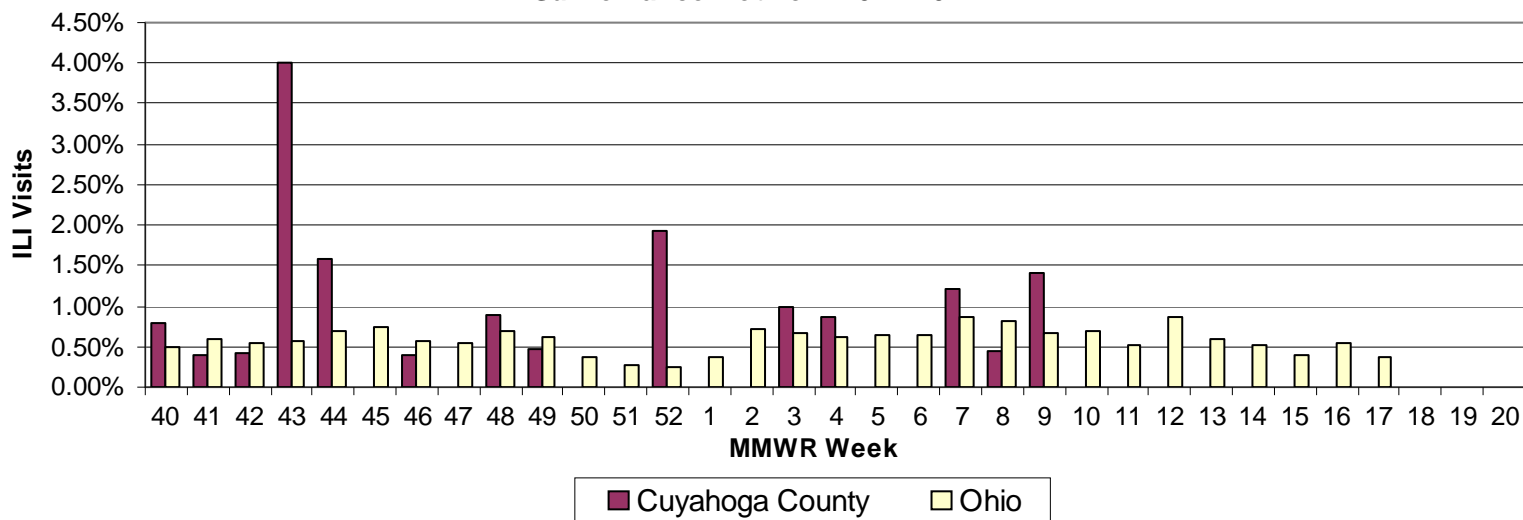
<sup>1</sup> Due to small percentages in figures 1-3b & figure 5, caution should be used while interpreting the 'Activity Compared to Last Week' box.

<sup>2</sup>For figures 1 – 6 & figures 8-10, ▲ = (Increase ≥ 10%), ▼ = (Decrease ≥ -10%), ● = Stable (-9.9% to +9.9%)

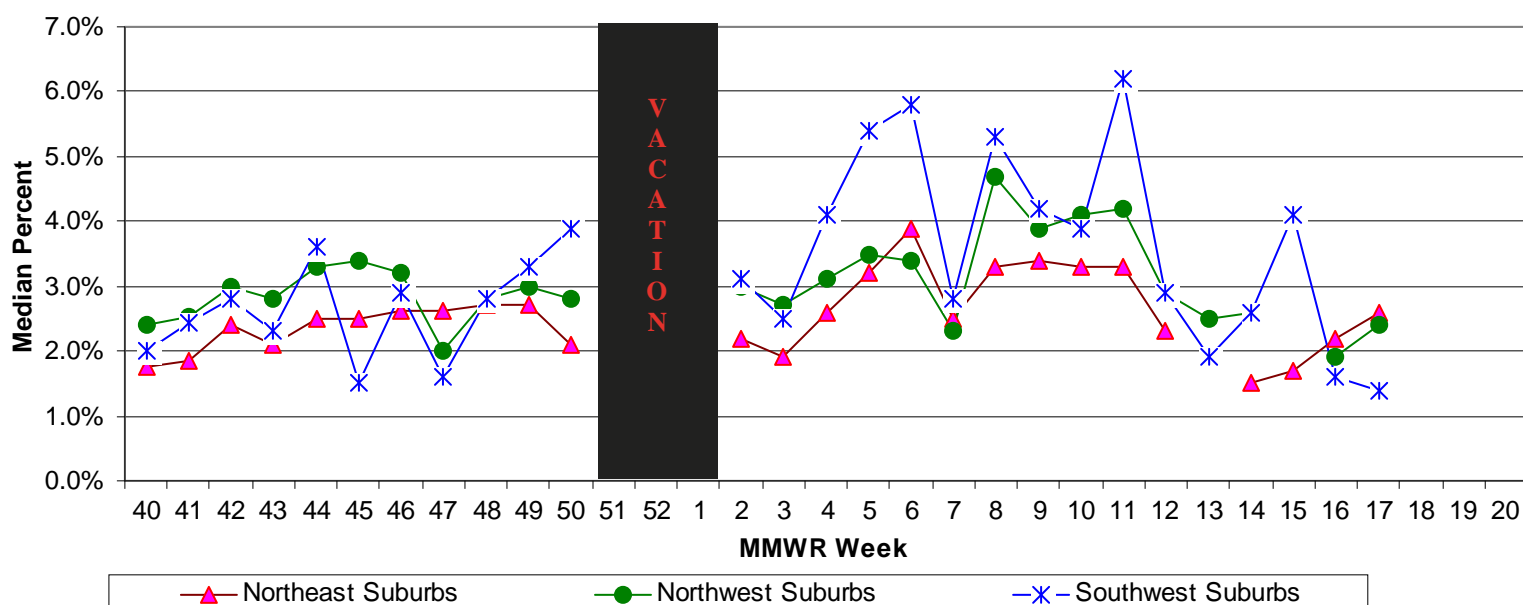
**Figure 1. Percentage of Deaths Due to Pneumonia and Influenza (P&I)  
Cleveland, Ohio 2011-2012**



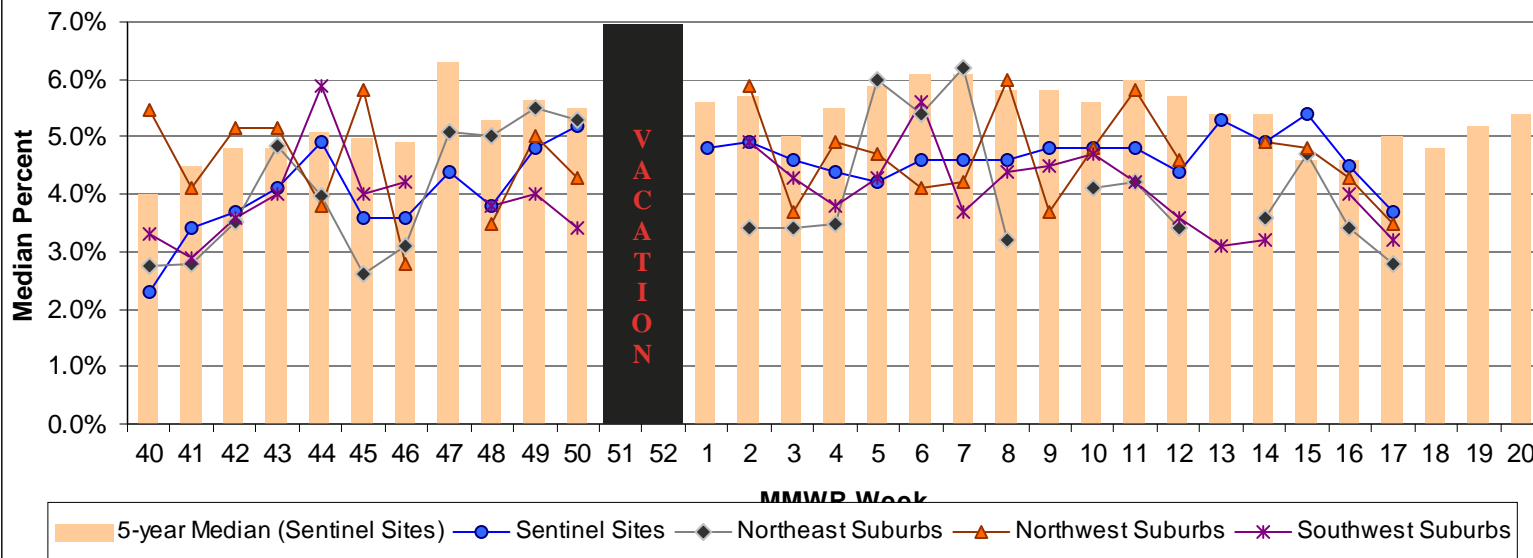
**Figure 2. Percent of Influenza-Like Illness (ILI) Visits, U.S. Influenza Sentinel Provider Surveillance Network 2011-2012**



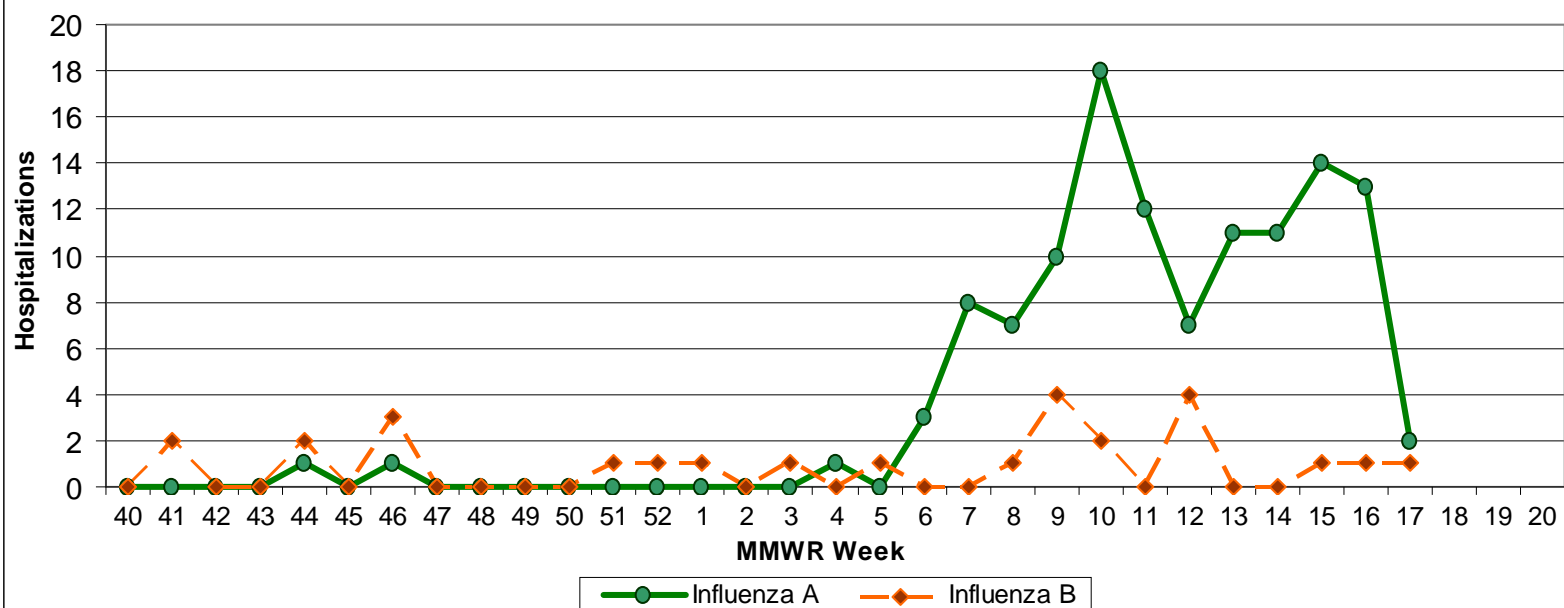
**Figure 3A. School Absenteeism (*Due to any Illness*) in Cuyahoga County 2011 - 2012**



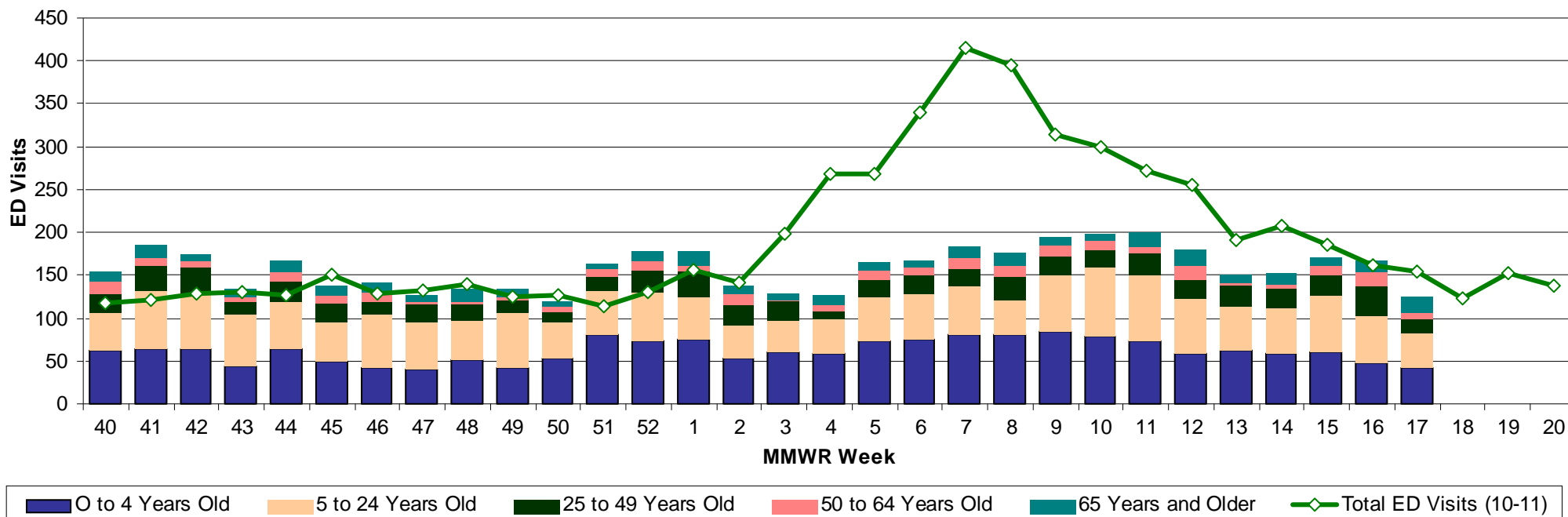
**Figure 3b. School Absenteeism (*Due to any Reason*) in Cuyahoga County 2011-2012**



**Figure 4. Number of Influenza-Associated Hospitalizations in Cuyahoga County (using reported to ODH date) 2011-2012**



**Figure 5. Comparison of Cuyahoga County Hospital ED Visits for ILI and Fever Symptoms by Age Group 2010-11 vs. 2011-12**



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

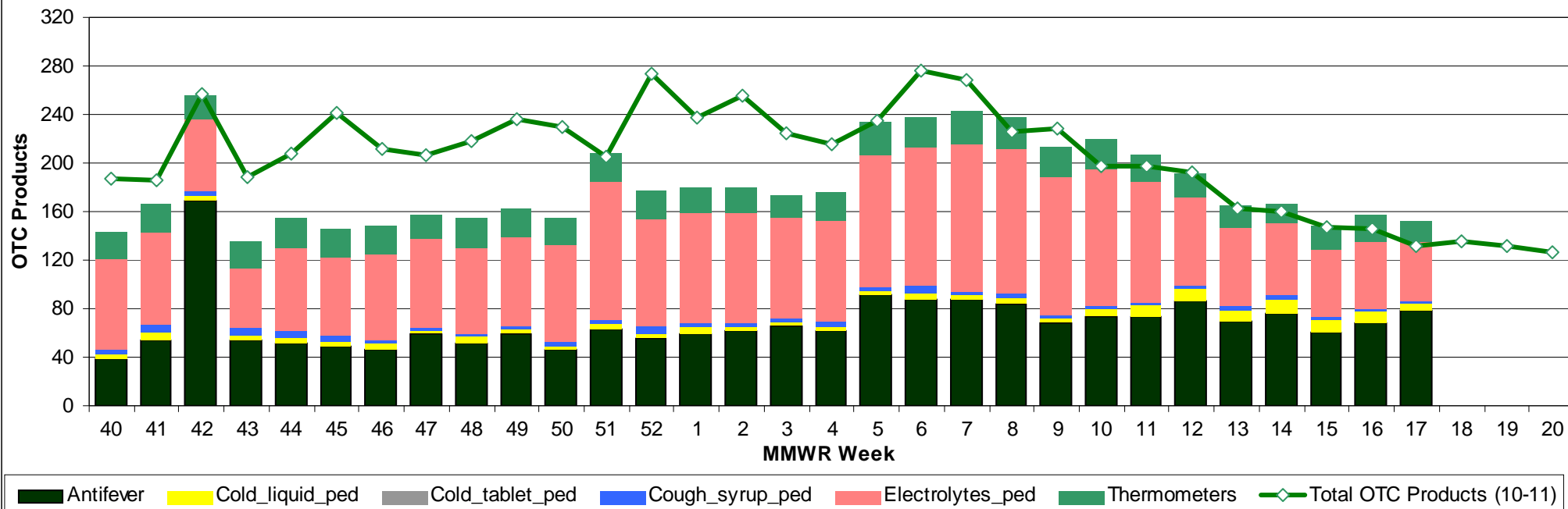


Figure 7 Frequency of Fever and Influenza-Like Illness Complaints by Zip Code

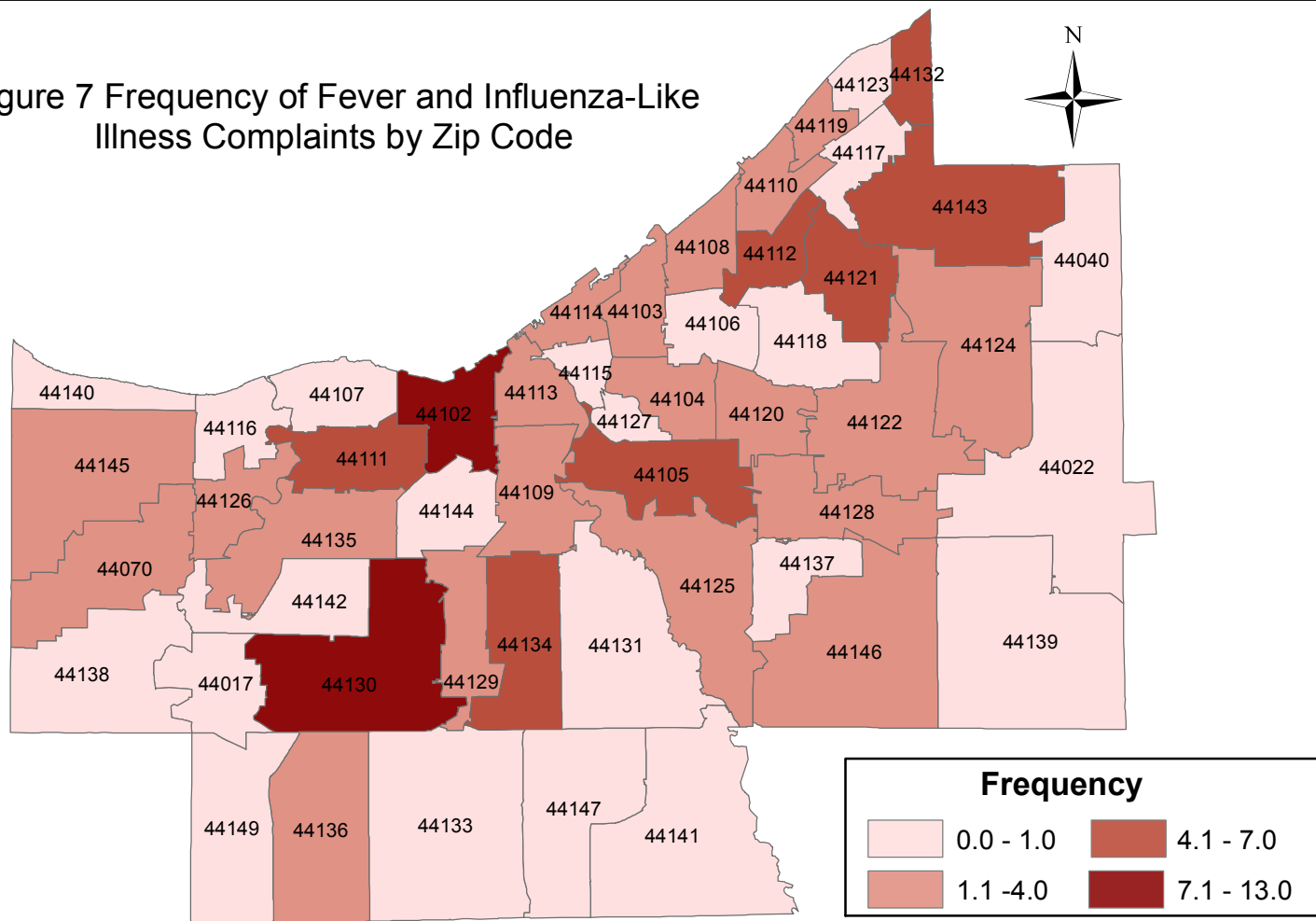


Figure 8 Frequency of Congestion and Cough Complaints by Zip Code

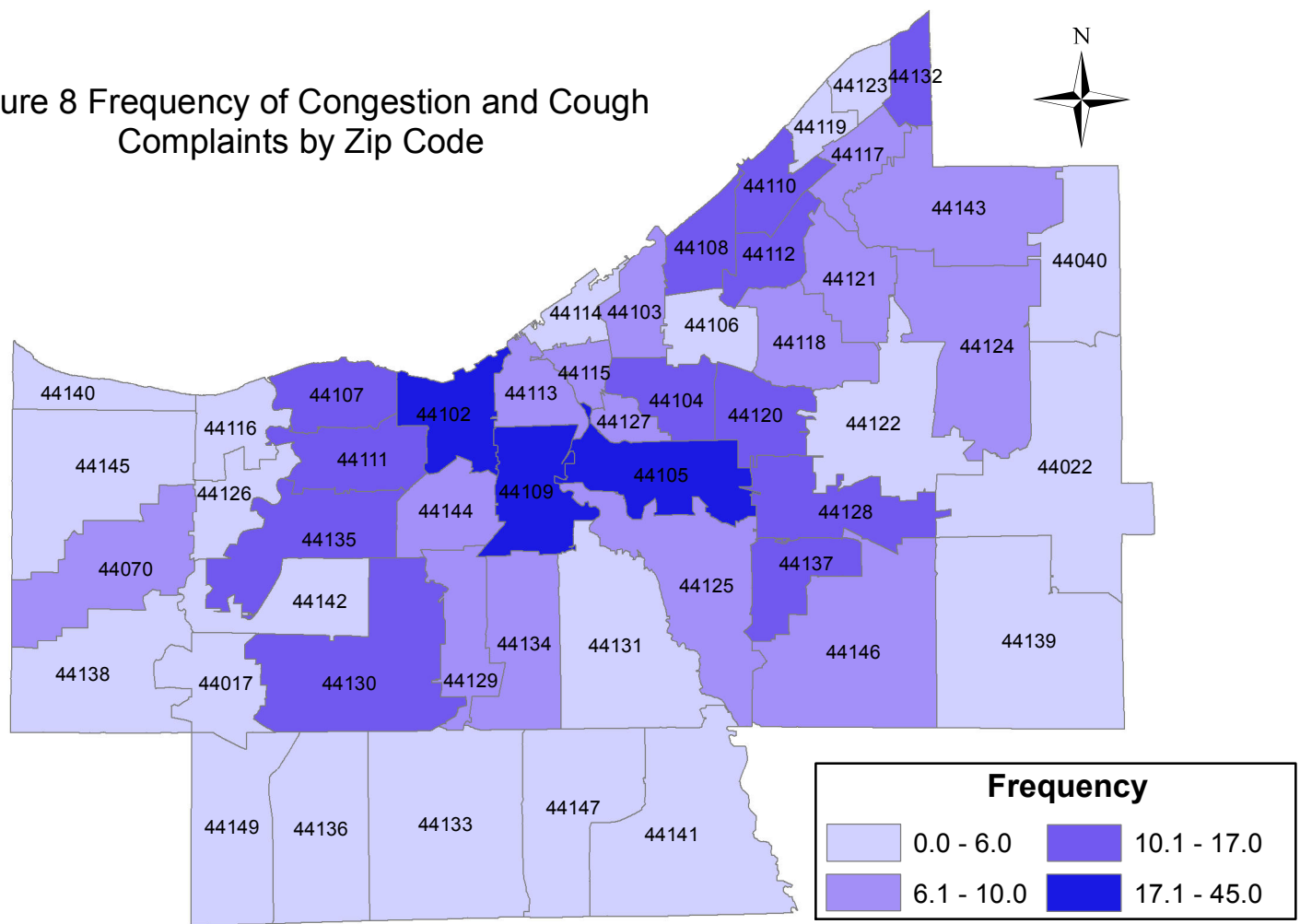


Figure 9 Frequency of Vomiting and Nausea Complaints by Zip Code

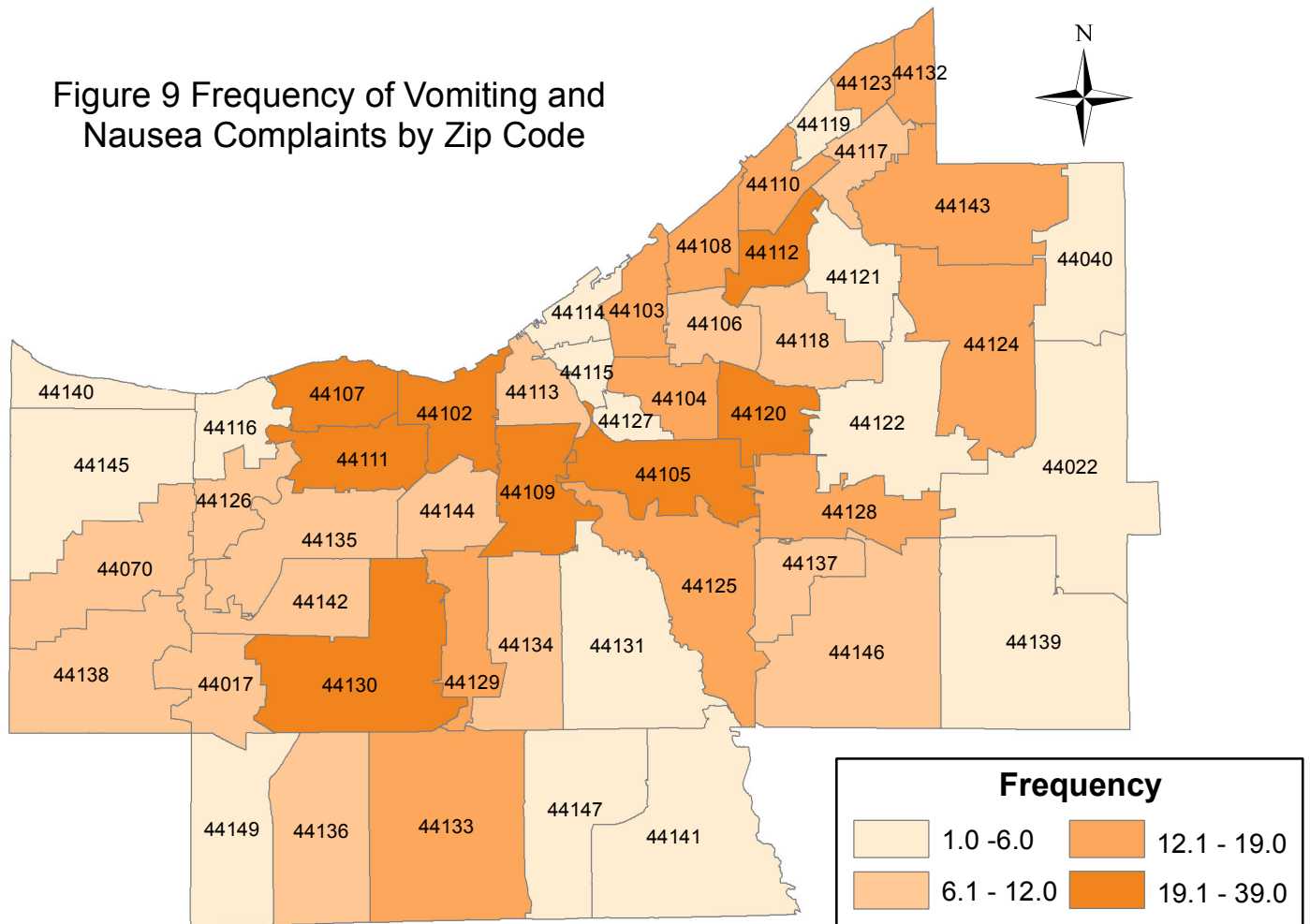
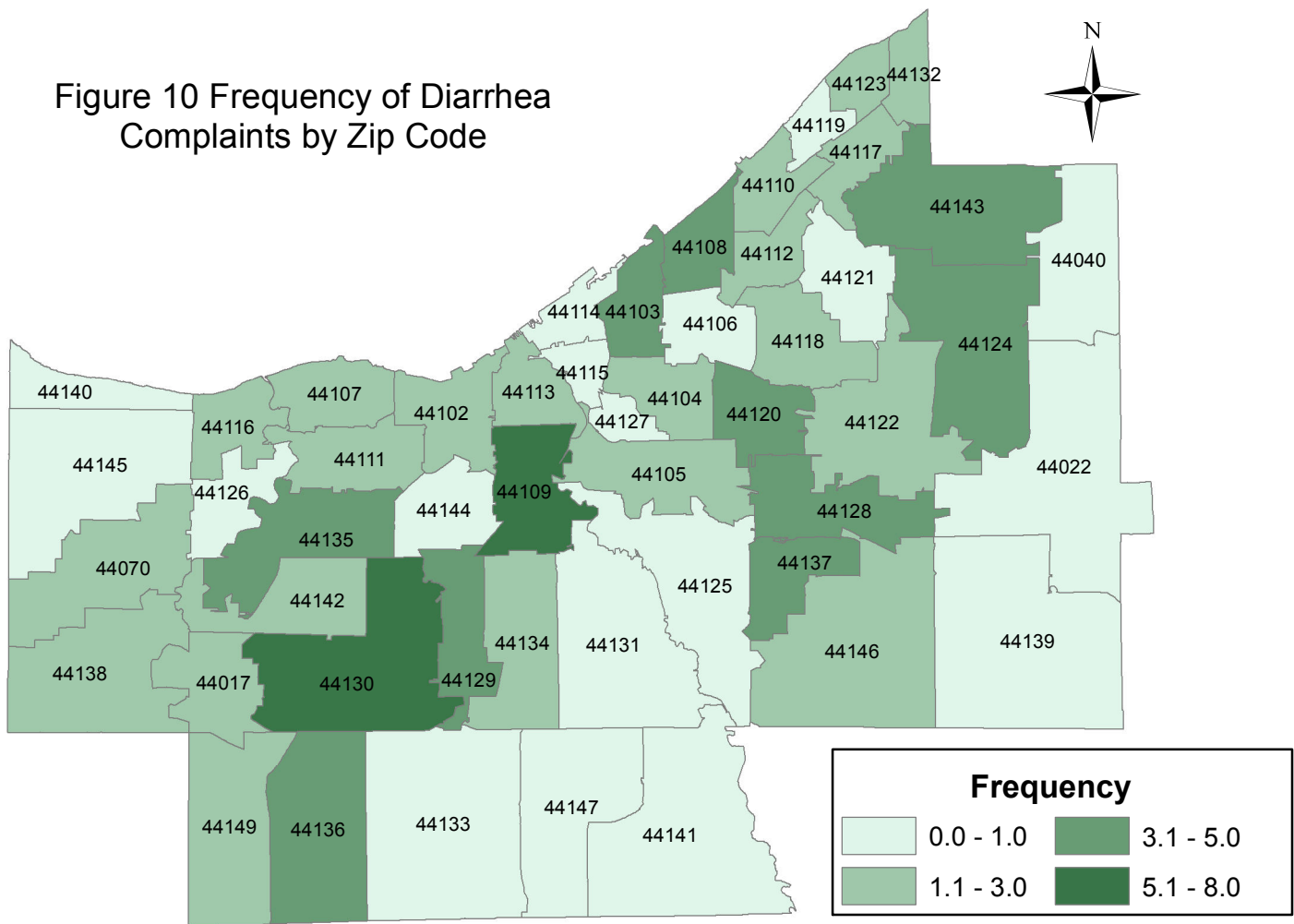


Figure 10 Frequency of Diarrhea Complaints by Zip Code



## 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 2009 due to the H1N1 pandemic virus.
  - 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 2011-2012 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 and seven other cities in Ohio participate in this reporting on a weekly basis. Vital statistics offices from across the country report the number of death certificates received, along with how many of those have pneumonia or influenza listed as an underlying or contributing cause of death.
- 3) **School Absenteeism data (due to illness and due to any reason):** Approximately 50 Cuyahoga County schools provide absenteeism data for each Tuesday on the number children absent due to any illness or due to any reason.
- 4) **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.
- 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