



WEEKLY INFLUENZA SURVEILLANCE REPORT

April 9 - April 15, 2017 (MMWR Week 15)

Highlights

Flu activity rating was downgraded to 'low' this week. Week 13 activity was revised to 'moderate' from 'moderate low'. Pneumonia-related deaths accounted for 4.9% of all deaths. 1 flu related death was reported this week - 19th such death this season. 18 confirmed cases of flu associated hospitalizations were reported this week & 60 cases in week 14. 2.5% of emergency room visits were due to flu like illness this week. The weekly flu reports can be found here: <http://www.ccbh.net/flu-weekly-reports/>

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

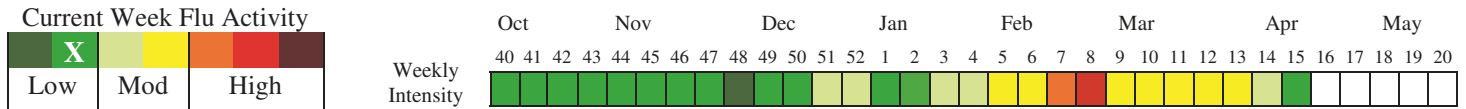


Table 1. Cuyahoga County Influenza Data Dashboard

Influenza (Flu) Indicator	Current Activity Level	Activity Compared to Last Week	#Weeks ¹²³⁴	2016-2017 Season Total/Trend
Percent of pneumonia deaths & number of flu related deaths - [Fig 1]	Pneumonia: 4.9% Flu: 1 death	(1.6%) Stable	▲ 1 ● 1	Pneumonia deaths near 5 year median. Flu deaths N=19.
Influenza like illness (ILI) doctor visits [Fig 2]	Cuyahoga: 1.28% athenahealth: 0.20%	(12.4%) (33.2%)	● 2 ▼ 1	Athenahealth data near the 5 year median.
Flu associated hospitalizations [Fig 3]	18	(42)	▼ 3	Above 5-year mdn. N=1,268
School absenteeism due to ILLNESS ONLY - [Fig 4A]	Northeast: 1.3% Northwest: 3.0% Southeast: N/A Southwest: 2.3%	Stable 7.1% N/A (17.9%)	● 1 ● 1 N/A ● 1	Data near the 5-year median for all locations.
School absenteeism due to ALL CAUSES - [Fig 4B]	Northeast: N/A Northwest: N/A Southeast: N/A Southwest: 3.8%	N/A N/A N/A 5.6%	N/A N/A N/A ● 1	Data above 5-year median.
Emergency room visit due to ILI [Fig 5]	2.5%	(16.3%)	▼ 1	Data higher than 5-year median
Sales of over-the-counter medications used to treat ILI. [Fig 6]	309	2.7%	● 6	Data higher than 5-year median.
Congestion & cough complaints [Fig 8]	12.7%	Stable	● 1	Above 5-yr median avg of 10.4%
Vomiting & nausea complaints [Fig 9]	9.9%	(5.0%)	● 9	Below 5-yr median avg of 10.4%
Diarrhea complaints [Fig 10]	2.8%	(7.0%)	● 12	Near 5-yr median avg of 2.6%

¹Due to small percentages, caution should be used while interpreting the 'Activity Compared to Last Week' box.

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

³For figures 1, 5-10, ▲ = (Increase ≥ 10%), ▼ = (Decrease ≥ -10%), ● = Stable (-9.9% to +9.9%)

⁴For flu related deaths (Fig 1) & Fig 3, ▲ = (Increase # of deaths/cases), ▼ = (Decrease # of deaths/cases), ● = Stable (Same # of deaths/cases)



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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-reports/>

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

Pneumonia and Influenza (P&I) Mortality

4.9% of all deaths reported to vital statistics departments in our county were due to pneumonia. Adults 45-64 years old accounted for 38.5% of all pneumonia related deaths. One flu related death occurred during week 15; 18 of the 19 flu related deaths reported this flu season were Cuyahoga County residents. (**Figure 1**).

Influenza-Like Illness (ILI) Reports

Athenahealth reported that 0.20% patients had ILI this week and 0.30% for week 14. One sentinel provider reported 1.29% of patients had ILI this week and two sentinel providers reported 1.46% of patients had flu-like illness in week 14 (**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

In Cuyahoga County, 18 confirmed cases of influenza-associated hospitalizations were reported this week, 60 cases in week 14, & 91 cases in week 13 (**Figure 3**). There were 307 statewide confirmed influenza associated hospitalizations were reported in week 15. Six pediatric, flu deaths reported this flu season in Ohio.

School Absenteeism

Participating schools in Cuyahoga County reported the percentage (median = 1.9%) of absenteeism *due to any illness* on Tuesday (**Figure 4A**). **Figure 4B** shows the total absenteeism *due to any reason* (median = 3.8%).

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

2.5% of all ED visits were for fever + ILI symptoms. Approximately 55 more patients visited EDs for fever and ILI symptoms this week compared to the previous 5-year weekly median (**Figure 5**). **Figure 6** shows approximately 135 more OTC products per drugstore were purchased this week than the previous 5-year weekly median.

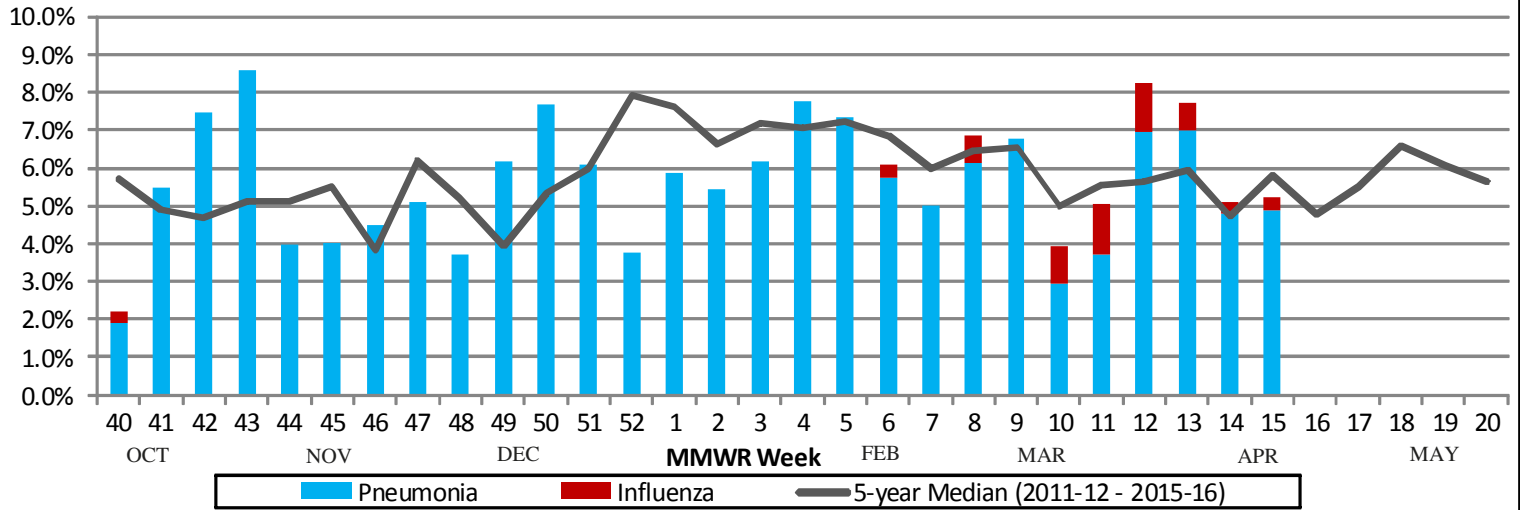
Three other maps show, by zip code, the frequency of ED visits for three symptoms that are common during the fall and winter seasons and are of interest to the general public: congestion and cough (**Figure 8**), vomiting and nausea (**Figure 9**), and diarrhea (**Figure 10**).

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

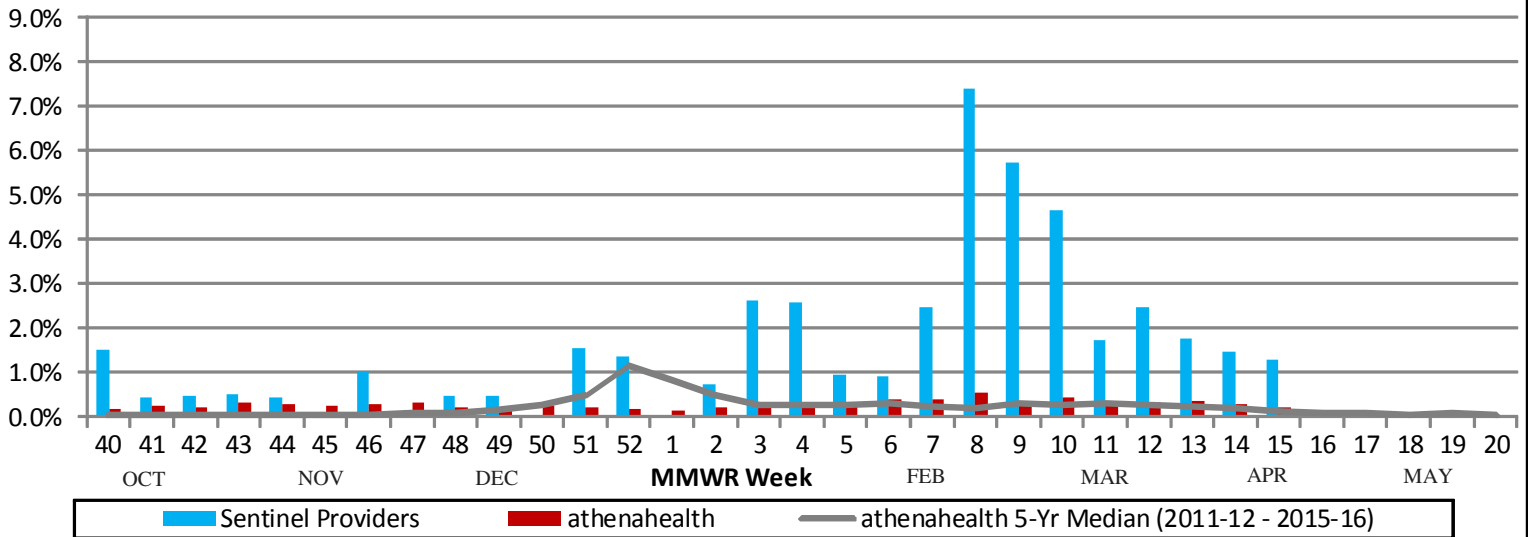
Additional Influenza Activity Links

- Weekly U.S. Influenza Surveillance Report – <http://www.cdc.gov/flu/weekly>
- Ohio Influenza Surveillance – <https://www.odh.ohio.gov/en/features/odhfeatures/seasflu/Ohio-Flu-Activity>
- HealthMap Flu Trends - <http://www.healthmap.org/flutrends/#>

**Figure 1: Percentage of Deaths Due to Pneumonia & Influenza (P&I)
Cleveland, Euclid, Lakewood, & Parma Vital Statistics Departments**



**Figure 2: Percent of Influenza-Like Illness (ILI) Visits Influenza Sentinel
Provider Surveillance Network and ILI Visits via athenahealth**



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

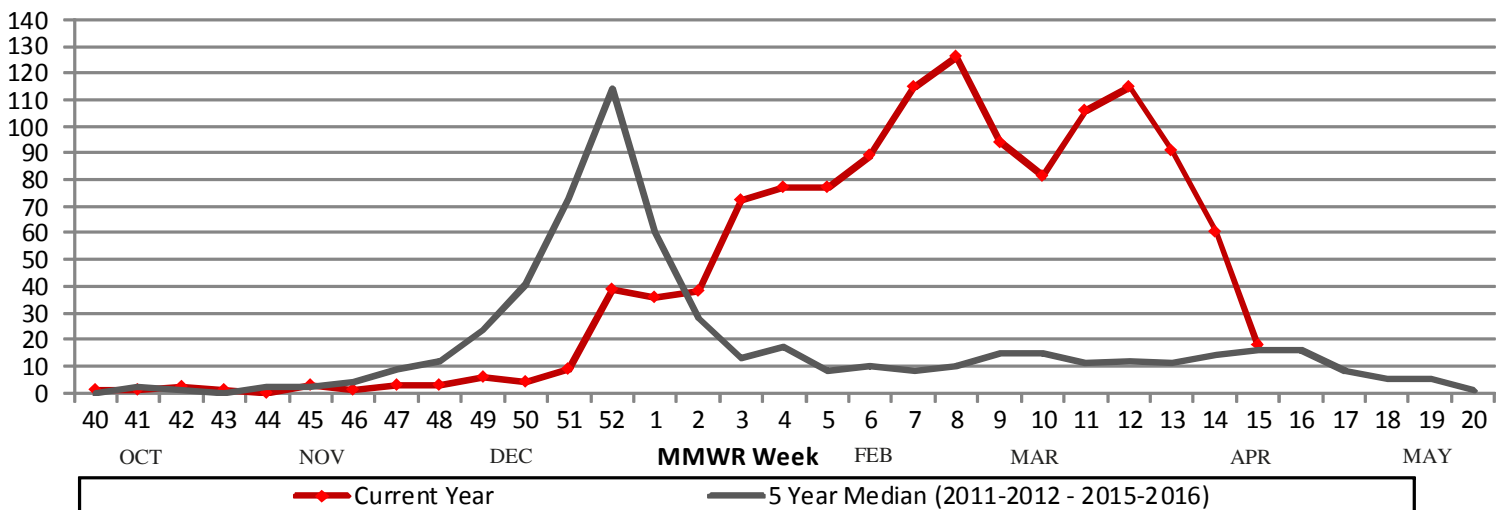


Figure 4A: School Absenteeism (due to any illness) in Cuyahoga County

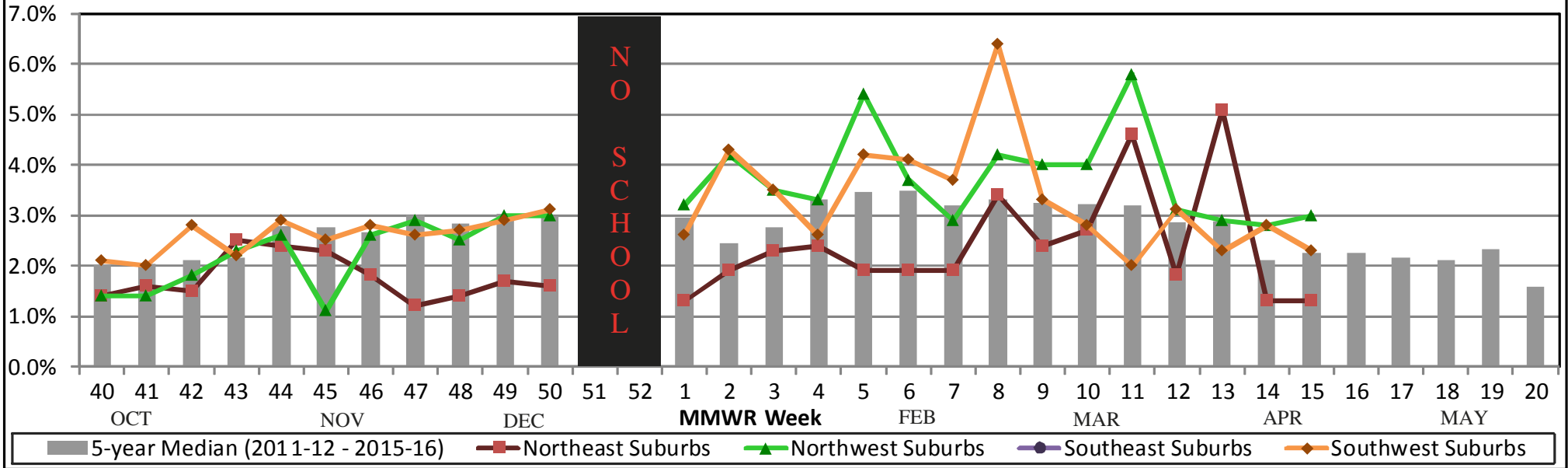


Figure 4B: School Absenteeism (due to any reason) in Cuyahoga County

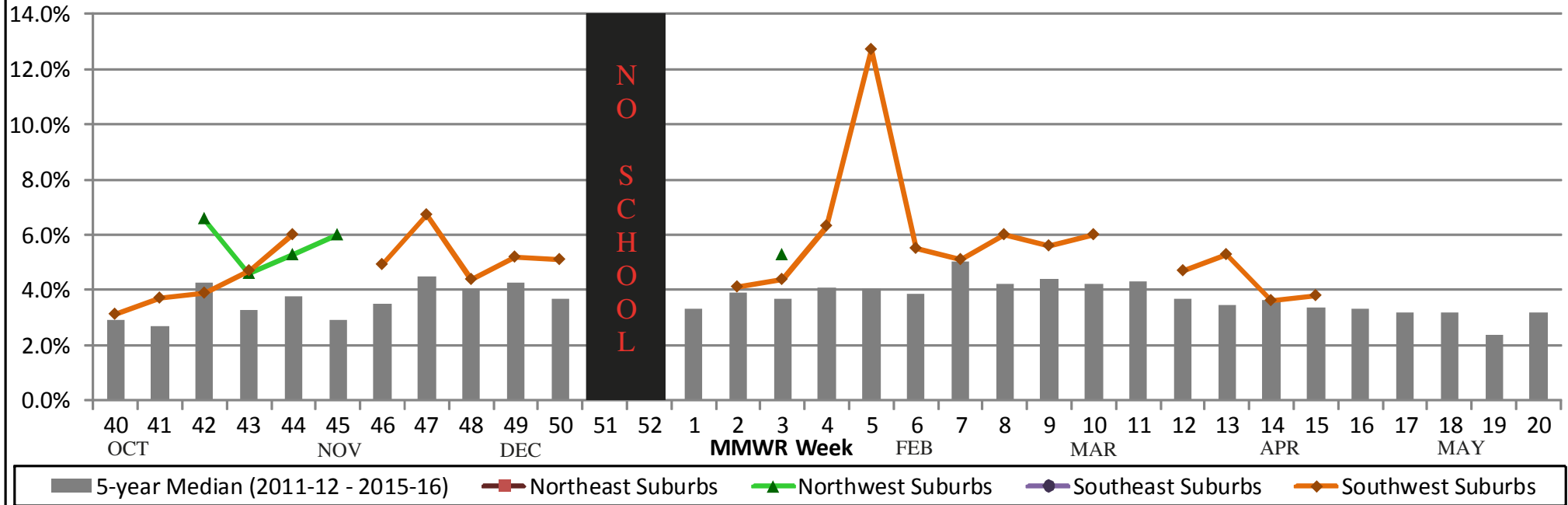


Figure 5: Cuyahoga County Hospital ED Visits for ILI & Fever Symptoms by Age Group

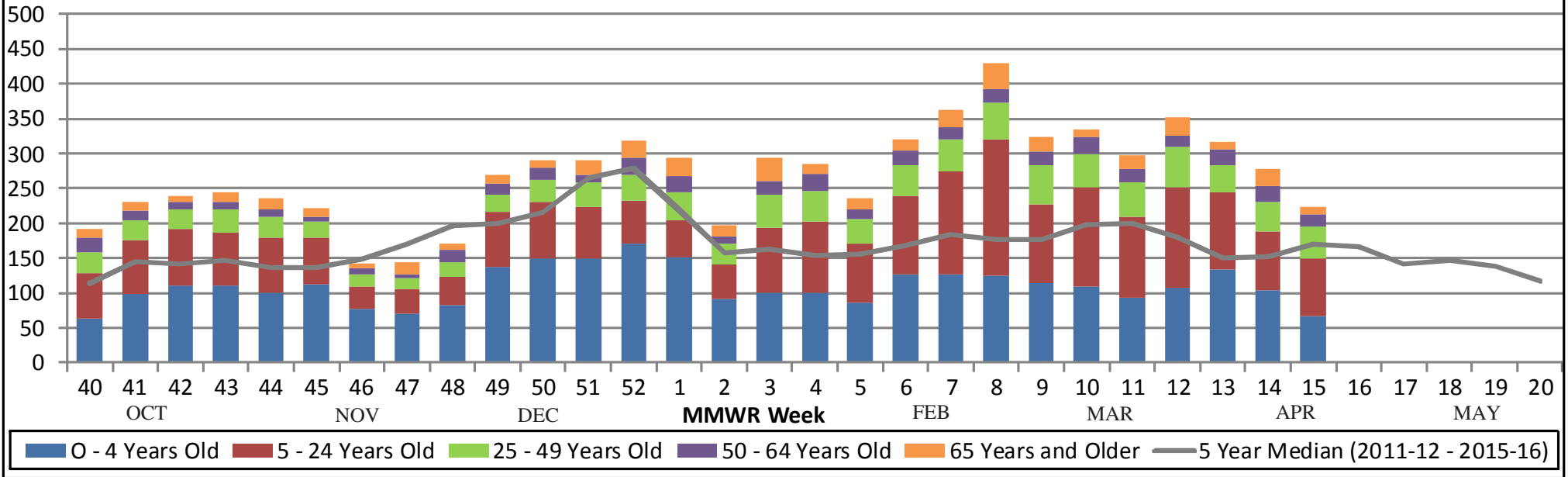


Figure 6: Comparison of Average Weekly OTC Products Sold in Cuyahoga County Drugstores

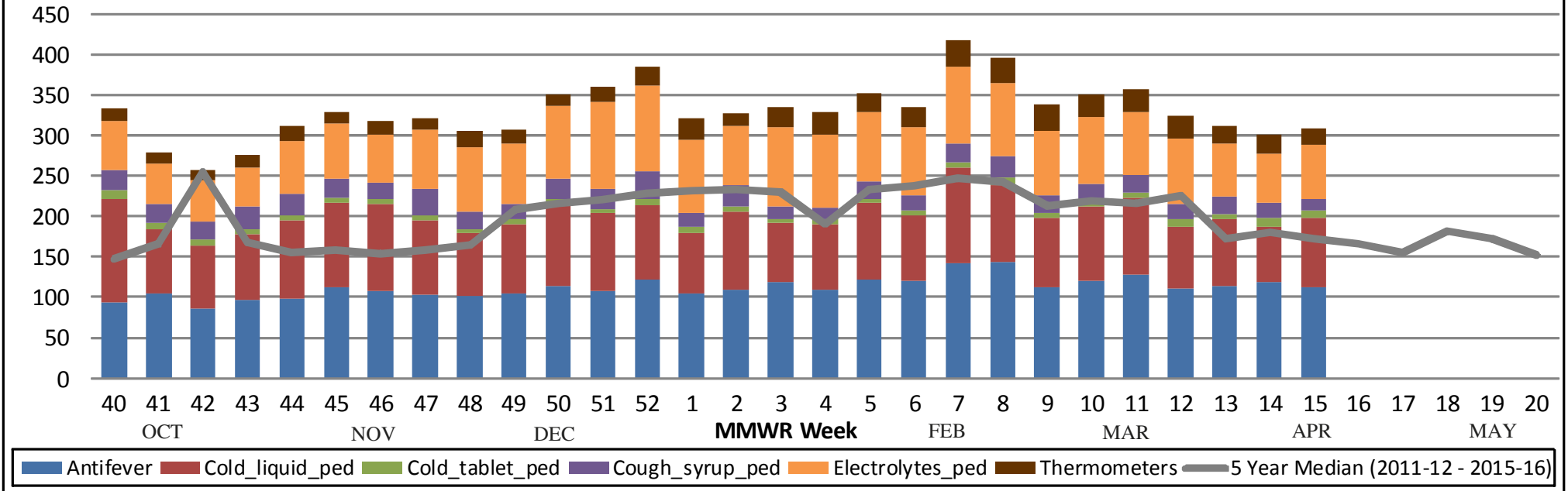
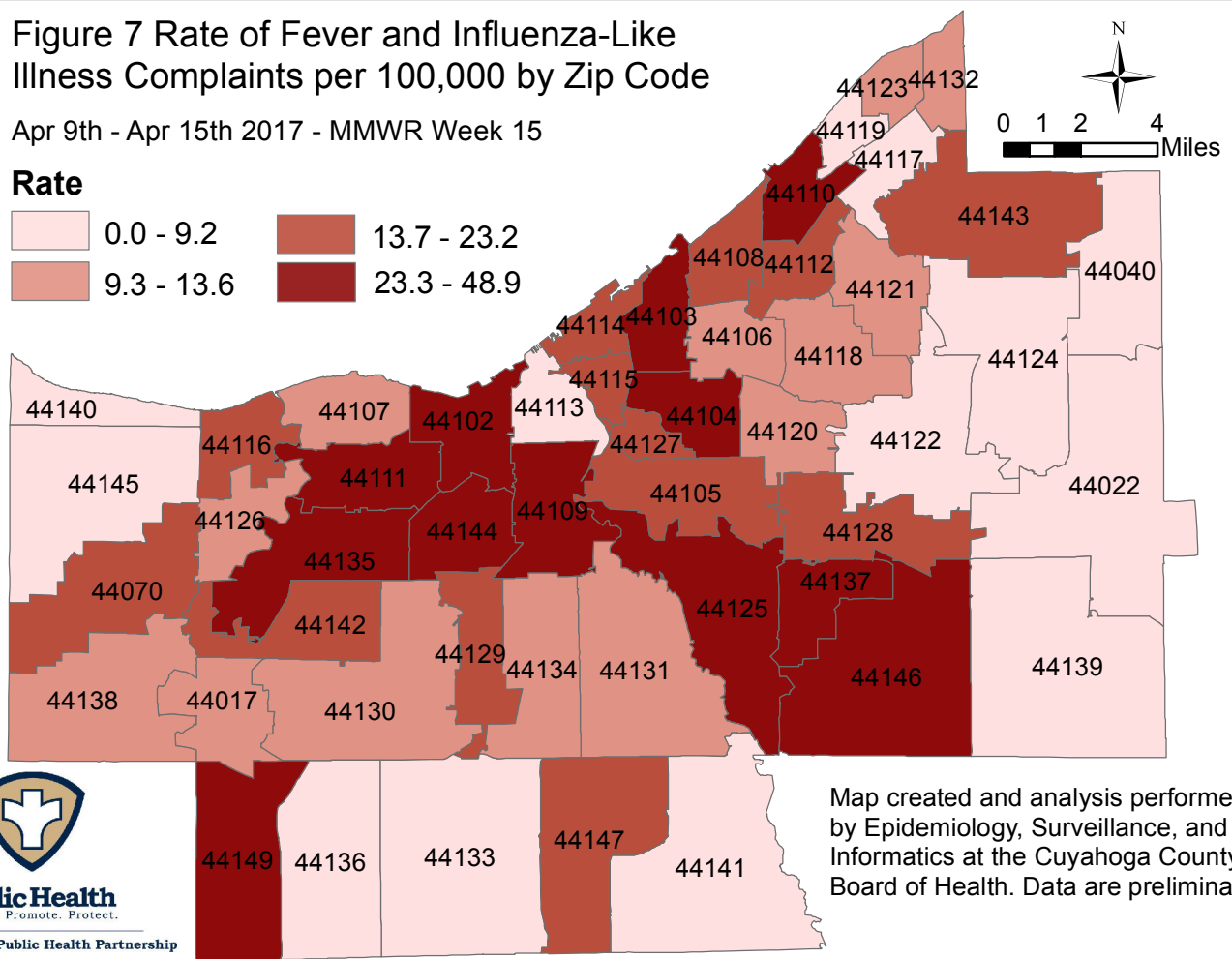
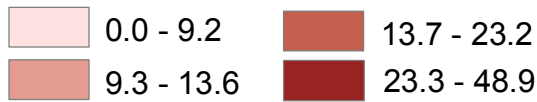


Figure 7 Rate of Fever and Influenza-Like Illness Complaints per 100,000 by Zip Code

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Rate



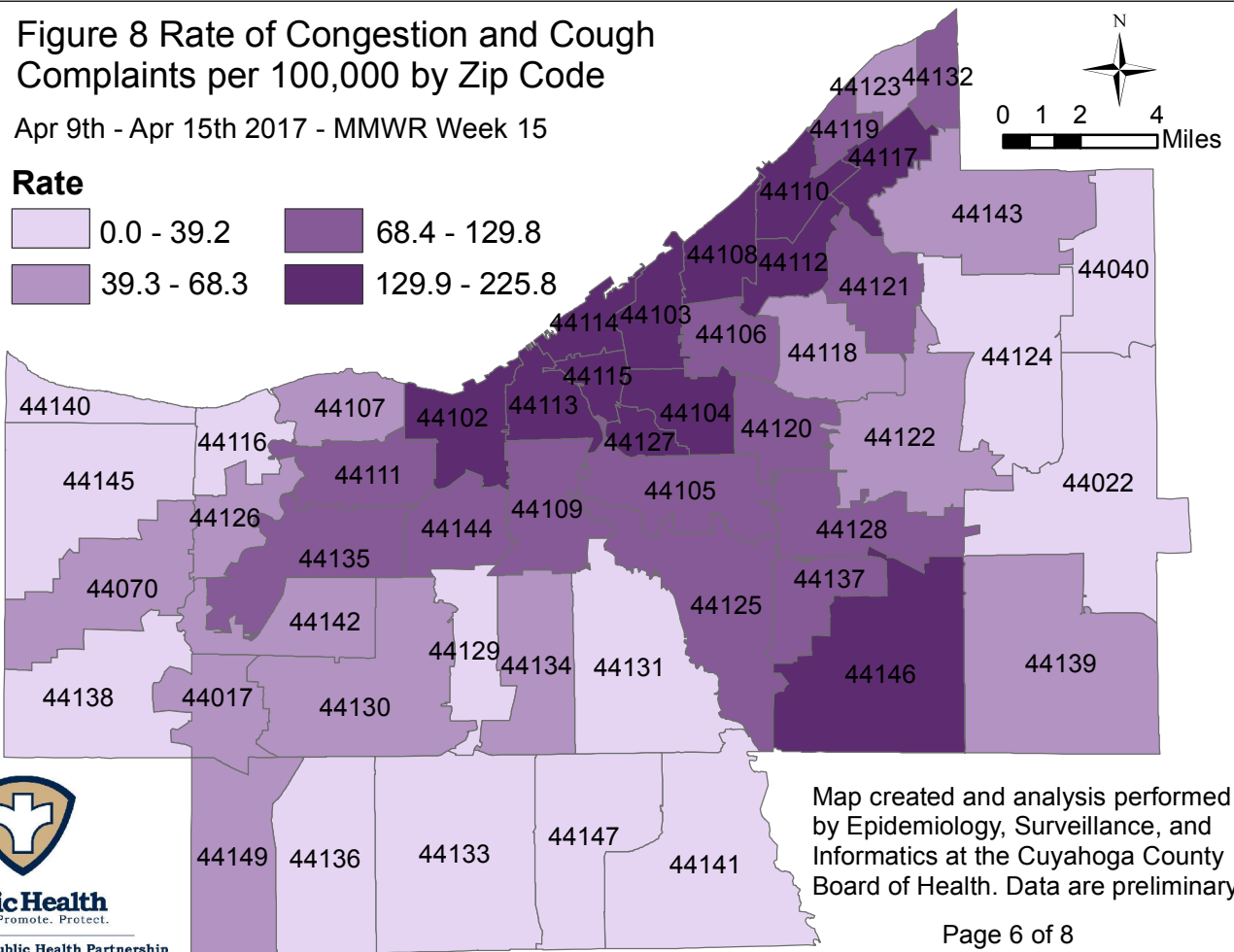
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Figure 8 Rate of Congestion and Cough Complaints per 100,000 by Zip Code

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Rate



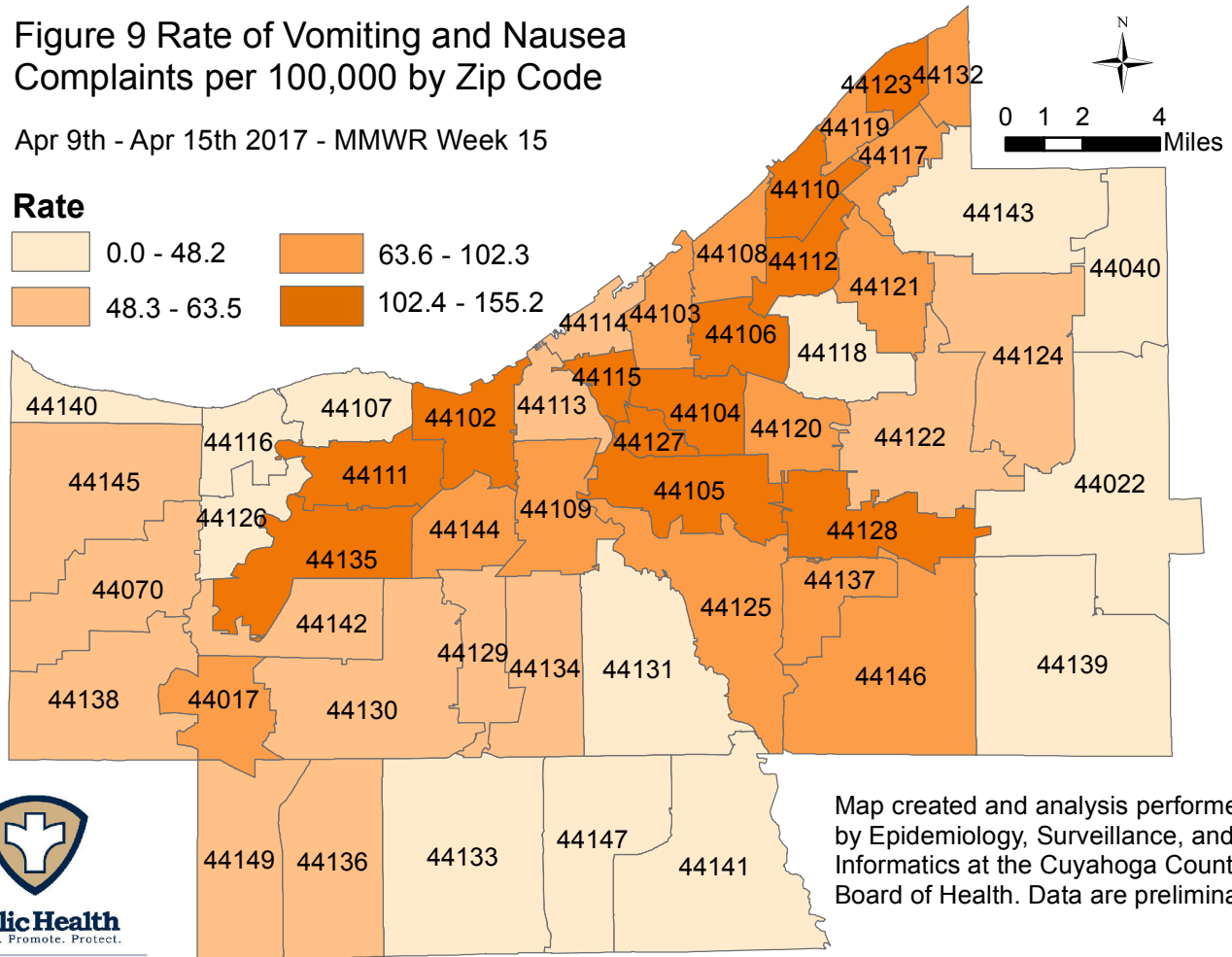
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Figure 9 Rate of Vomiting and Nausea Complaints per 100,000 by Zip Code

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Rate



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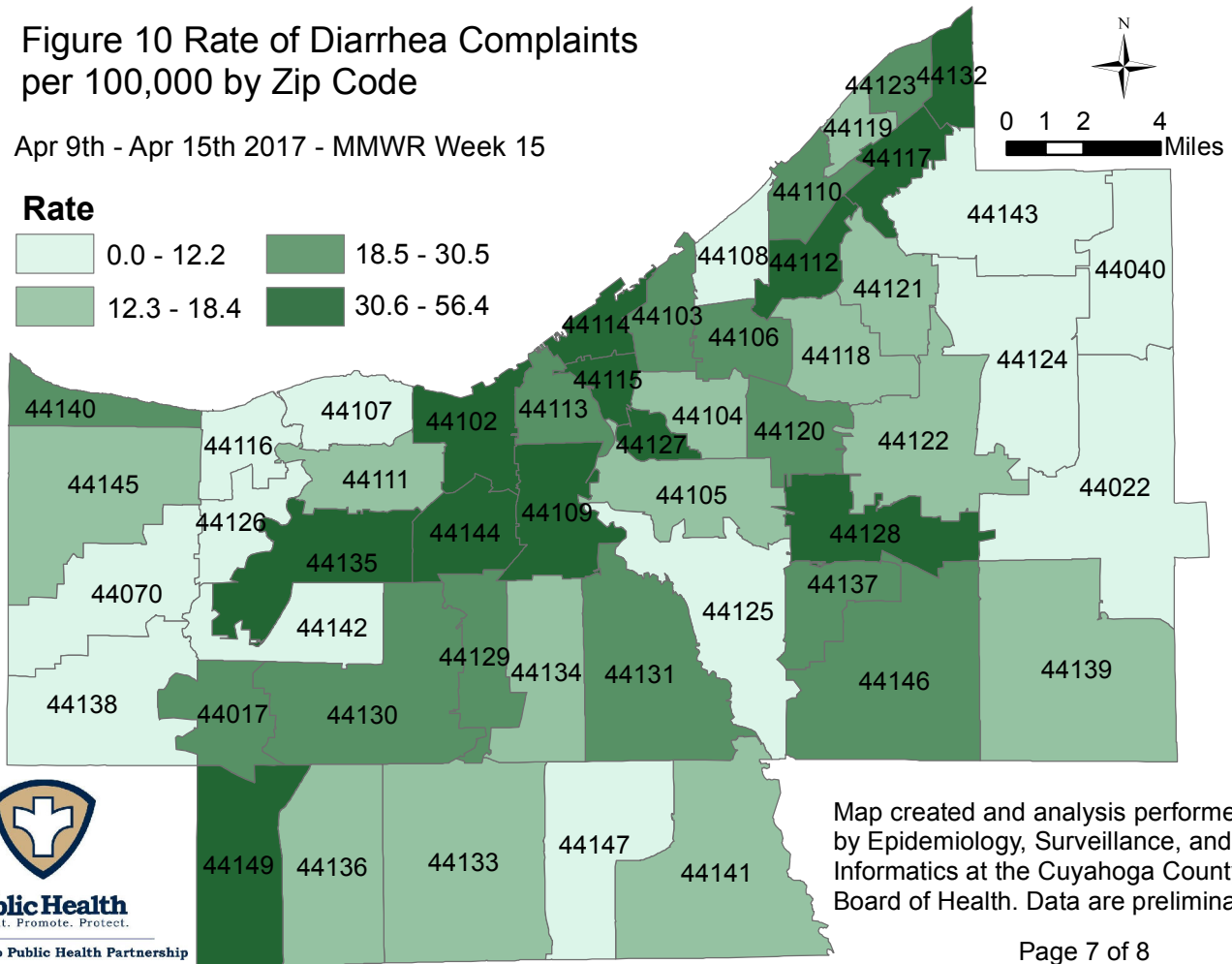
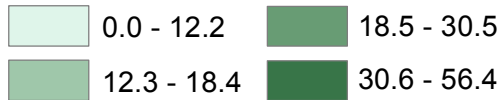
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Map created and analysis performed by Epidemiology, Surveillance, and Informatics at the Cuyahoga County Board of Health. Data are preliminary.

Figure 10 Rate of Diarrhea Complaints per 100,000 by Zip Code

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Rate



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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 2015-2016 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 (Vital Statistics):** Vital Statistics offices in Cuyahoga County (Cleveland, Euclid, Lakewood, & Parma) reports the percentage of deaths that are due to pneumonia or influenza that occur within their jurisdiction. Cleveland issues death certificates for 56 of the 59 cities in the county.
- 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, anti-fever 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. Rates for chief complaints regarding fever + ILI and other symptoms commonly detected during the winter are analyzed.