

Florida Department of Health in Collier County 2018 Epidemiology Annual Report



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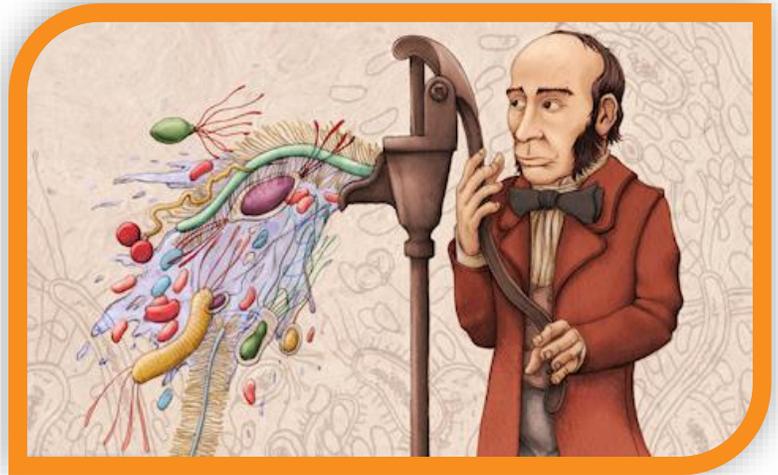
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Summary

The epidemiology program conducts investigations of reportable diseases and conditions in accordance with Section 381.0011 of the *Florida Statutes* and Chapter 64D-3 of the *Florida Administrative Code* with a goal to intervene in the spread of infectious diseases. The program also investigates outbreaks of illness, complaints of foodborne illness, and potential exposures to the rabies virus. Surveillance is conducted to monitor disease trends in the community.

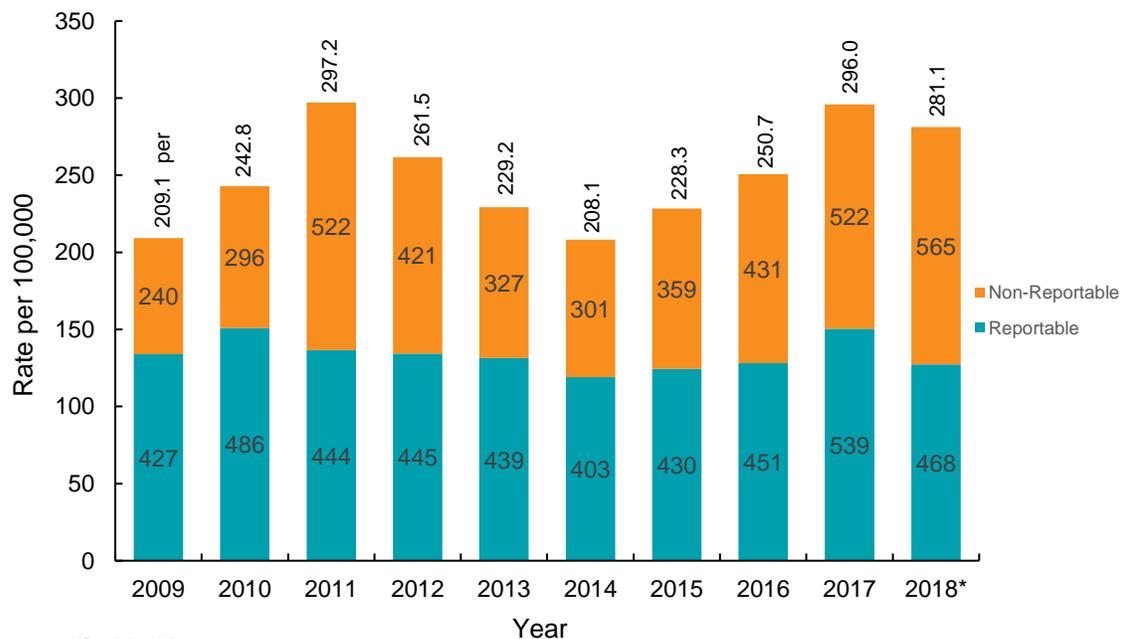


Disease Reporting

During 2018 the epidemiology program investigated and reported 468 diseases and conditions (excluding HIV/AIDS, STDs and tuberculosis), 49 outbreaks of illness, 71 complaints of foodborne illness, and 565 cases that did not meet criteria for reporting to the Florida Department of Health.

The number of cases investigated (reportable and non-reportable) per 100,000 population in Collier County increased by 34.4 percent between 2009 and 2018. The rate for reportable diseases during the same time period decreased by 4.9 percent, while the rate for cases requiring an investigation but determined to be not reportable increased by 104.2 percent (Figure 1). This trend is projected to increase at a steady slope upward as emerging viruses, such as Zika and other diseases, present threats to public health.

Figure 1. Total Number of Cases Investigated^{a)} and Rates per 100,000, Collier County, 2009–2018



*Provisional data
a) Excluding HIV/AIDS, STDs, and Tuberculosis

The diseases and conditions, excluding sexually-transmitted infections, of highest incidence which accounted for 83.9 percent of all cases reported in Collier County are listed in Table 1. Salmonellosis was the leading cause of morbidity in Collier County and accounted for 26.9 percent of reportable diseases during 2018. The Centers for Disease Control and Prevention reports most people infected with *Salmonella* recover without treatment, but the elderly, infants, and those with impaired immune systems are more likely to have a severe illness. Enteric diseases (Salmonellosis, Shigellosis, Giardiasis, Campylobacteriosis, Hepatitis A and *Escherichia coli* [Shiga-toxin producing]) accounted for 51.9 percent of all reportable diseases.

Table 1. Leading Reportable Diseases (Excluding HIV/AIDS, STDs, Tuberculosis), Collier County, 2017–2018

Disease by Rank Order, 2018	2018	% of All Reportables	2017	% of All Reportables	Percentage Rate of Change 2017 to 2018 Per 100,000 Population
Salmonella	126	26.6%	147	27.3%	16.4%
Campylobacter	79	16.9%	87	16.1%	11.4%
Rabies, possible exposure PEP recommended	68	14.5%	89	16.5%	25.5%
Lead Poisoning	29	6.2%	10	1.9%	-182.9%
Zika Fever	24	5.1%	12	2.2%	-95.1%
Giardia	17	3.6%	17	3.2%	2.4%
Varicella	16	3.4%	10	1.9%	-56.1%
Hepatitis B in Pregnant Women	15	3.2%	13	2.4%	-12.6%
Shigella	10	2.1%	10	1.9%	2.4%
Legionella	9	1.9%	19	3.5%	53.8%

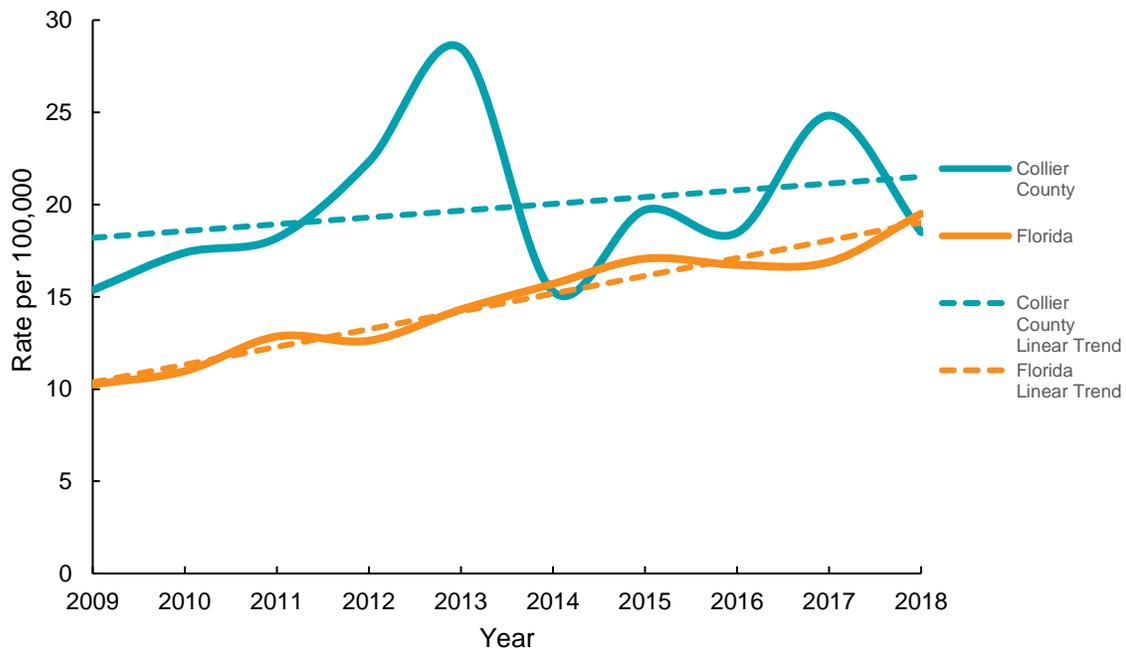
Source: DOH-Collier Epidemiology

During 2018 the epidemiology program investigated 133 potential exposures to the rabies virus resulting in recommendations that 68 persons receive rabies post-exposure prophylaxis (PEP). Possible exposure to rabies virus was the third most frequently reported condition in Collier County in 2018. Table 2 shows the number of rabies investigations by source of exposure, and Figure 2 shows an increasing trend for rabies PEP during the period 2009 to 2018 for both Collier County and Florida. The rate of reported animal bite cases with PEP recommended in Collier County increased by 20.1 percent between 2009 and 2018. This is due to a combination of population growth, particularly toward the eastern portion of the county near the Everglades, as well as a greater awareness of human rabies risk within the community.

Table 2. Rabies Investigations by Source of Exposure, 2018

Source of Exposure	Number of Rabies Investigations
Dog	84
Cat	22
Bat	13
Raccoon	9
Other	5

Figure 2. Reported Animal Bite Cases (Post Exposure Prophylaxis Recommended), Collier County and Florida, 2009–2018



Vaccine preventable diseases have always accounted for some of the leading causes of infectious disease morbidity in Collier County. Varicella was the seventh leading cause of infectious disease morbidity with 16 cases in 2018 and a rate of 4.4 per 100,000 population. Pertussis did not rank in the top ten leading causes of infectious disease morbidity in 2018. Although the pertussis case rate in Collier County decreased by 57.6 percent between 2017 and 2018, the trend has been increasing for the past 10 years. Figure 3 shows the trend of reported pertussis cases increasing in Collier County over the last ten years. During 2018, 60 percent of pertussis cases in Collier County had received at least one pertussis vaccine; 40 percent of cases were less than one year of age (Figure 4).

Figure 3. Reported Pertussis Cases, Collier County and Florida, 2009–2018

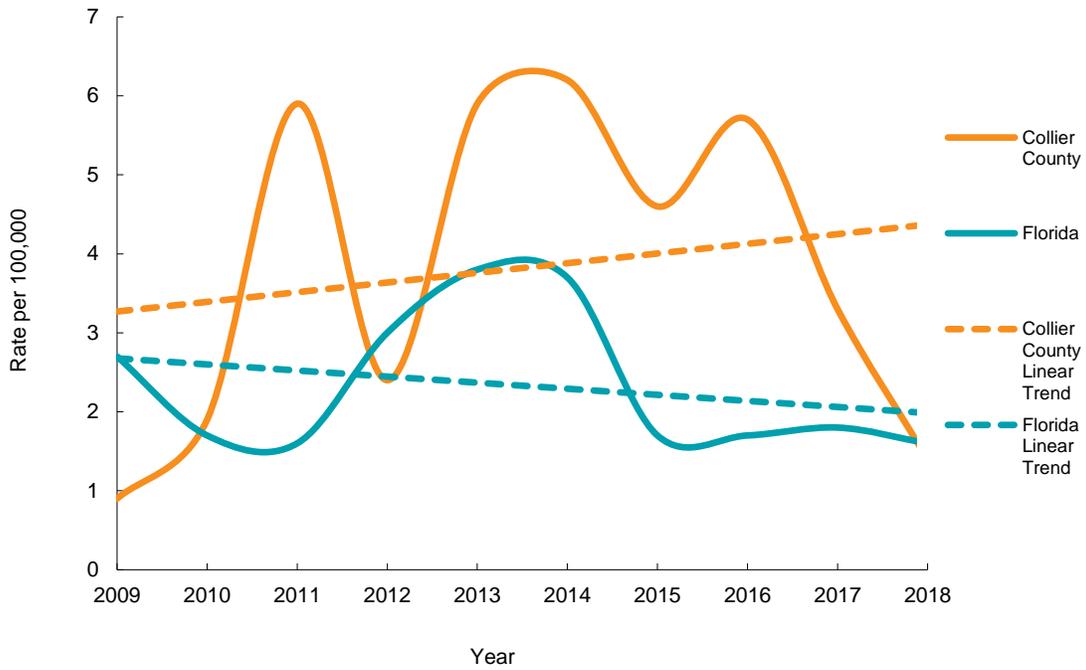
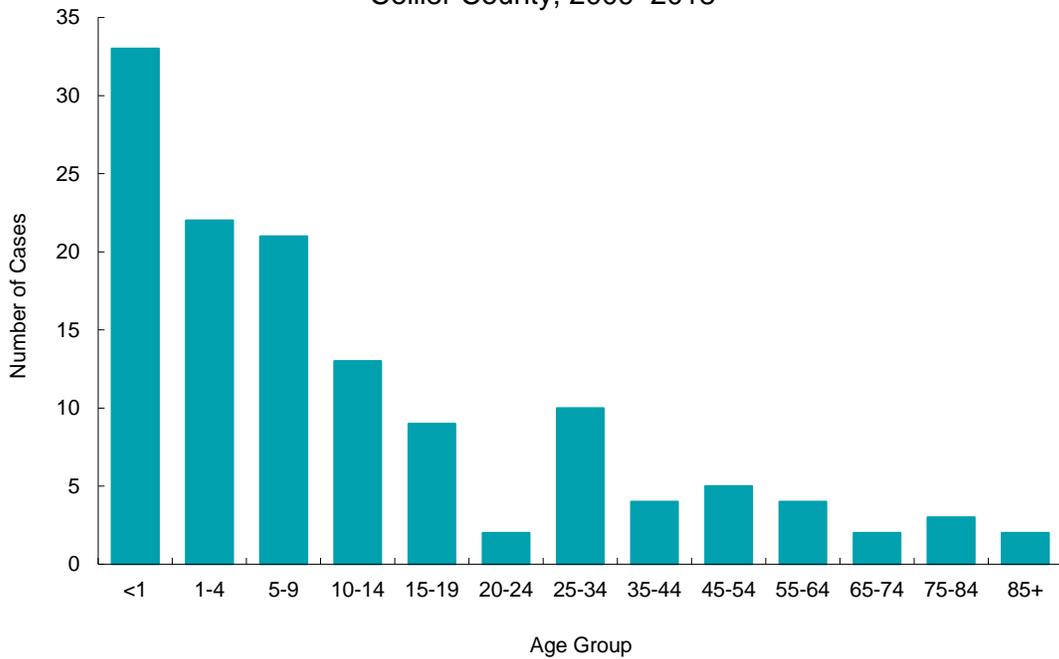


Figure 4. Reported Pertussis Cases, by Age Groups, Collier County, 2009–2018



Outbreak Investigations

The epidemiology program investigated 49 outbreaks/clusters of illness in various settings. Diseases and conditions investigated included influenza-like illness, gastrointestinal illness, pertussis, varicella, and enteric diseases. Outbreak investigation settings are listed in Table 3. Clusters of illness in schools accounted for 63.3 percent of the outbreaks investigated during 2018.

Table 3. Outbreak Investigation Settings, Collier County, 2018

Outbreak Setting	Number of Outbreaks
Schools	31
Long Term Care Facilities	7
Family Clusters	7
Other	3
Childcare Centers	1

Zika Virus

In 2016 the epidemiology program began surveillance and reporting of Zika fever in Collier County. A total of 174 possible Zika virus investigations were initiated during 2018, and 24 cases of imported Zika infection were reported to CDC. The epidemiology staff responded to numerous telephone calls from concerned residents and visitors. The epidemiology program manager provided Zika virus presentations in the community.

Investigation of Interest – Rabid Bat Exposure

On January 10, 2018, the epidemiology program was notified by a local wildlife rehabilitation center of a bat that was brought from a local veterinary clinic. The bat appeared ill and was euthanized. Per the veterinary clinic, the bat was brought in by a Swiss couple estimated to be aged 50 to 70. No other identifying information was obtained from the couple. On January 15, the bat tested positive for rabies by the direct fluorescent antibody test at the Florida Department of Health Public Health Laboratory.

Multiple efforts to identify the couple, including a press release, were unsuccessful. The Centers for Disease Control and Prevention (CDC) was contacted as the couple was thought to have returned to their native Switzerland. The CDC Poxvirus and Rabies Branch and the Division of Global Migration and Quarantine contacted the national focal point in Switzerland identified through the International Health Regulations (IHR) network maintained by World Health Organization (WHO) to inform the Swiss government of the incident.

On January 25, the Swiss Federal Office of Public Health issued a national press release and was contacted by the couple within five hours. The couple was interviewed to assess risk. Although no bites or scratches were reported, the bat was handled with bare hands; therefore, rabies post-exposure prophylaxis was recommended. That same day, the couple started the prophylactic treatment.

Surveillance

Syndromic surveillance is conducted 7 days a week and includes review of syndromes associated with hospital emergency department chief complaints and daily student attendance from Collier County Public Schools.

Trainings and Community Education

Epidemiology staff attended the NACCHO Vector Control Summit and the Sterling Conference in Orlando.

The epidemiology program creates a quarterly newsletter that is distributed to DOH – Collier staff and community partners, and is also placed on the DOH-Collier website. Due to the recent increase in case investigations, only one newsletter was published in 2018. Multiple on camera and radio interviews were given to local media to provide infectious disease information to the community.