

## Summary

### September 2017

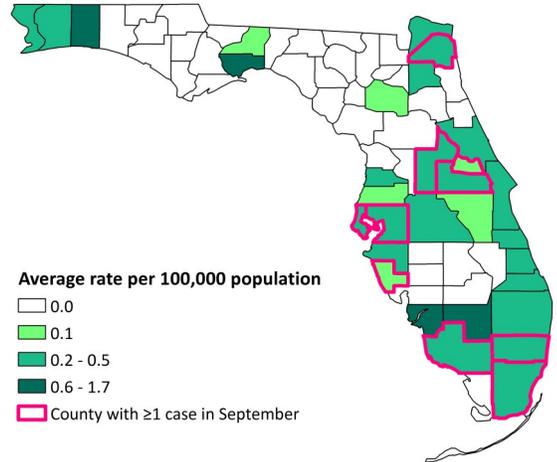
#### Statewide pertussis activity:

- **Twenty-two confirmed and probable pertussis cases** were reported among 10 counties in September.
  - Reported pertussis cases are starting to decrease after having been increased during the summer months. This is consistent with seasonal trends in past years.
  - Since January 1, 2017, 294 cases of pertussis were reported among 34 of Florida's 67 counties.
- There has been an overall trend of an increase in reported pertussis cases per year. Pertussis is naturally cyclic in nature with peaks in disease every 3-5 years.
- **There have been no recently reported outbreaks of pertussis.** However, in September, two cases were associated with each other through living in the same household.
  - For most pertussis cases, exposure to other known cases is never identified, and they are not able to be linked to outbreaks.
- **In September, for every pertussis case identified, there was an average of four exposed contacts who were recommended antibiotics to prevent illness.** Pertussis is a contagious disease that spreads person to person, usually through coughing or sneezing. For those diagnosed with pertussis, antibiotics can shorten the amount of time they are contagious to others. Antibiotics can also be used to prevent illness in those who have been exposed to pertussis cases while contagious.
- **Infants less than one year old had the highest incidence of pertussis.** This is consistent with national trends, which also show the highest incidence rate in infants less than one year old. **Infants less than two months old were also most severely affected by pertussis**, as measured by emergency department visits and inpatient hospitalizations. Infants are at greatest risk for getting pertussis and having serious complications from infection. Infants less than two months old are too young to receive vaccinations against pertussis, which is why vaccination of other age groups is so important to help prevent infection in infants.
- Vaccination is the best way to prevent pertussis infections. **In September, over a third of reported cases had not received the recommended number of pertussis vaccinations for their age.** In general, those who have received at least one pertussis vaccination have less severe outcomes than those who have never been vaccinated.
- To learn more about pertussis, please visit <http://www.floridahealth.gov/pertussis>.

#### National pertussis activity:

- The number of pertussis cases has been gradually increasing since the 1980s, peaking in 2012 at levels not seen since the 1950s. Since 2012, the number of pertussis cases has started to gradually decrease.
- Pertussis incidence has remained highest among infants less than one year old and lowest among those age 20 and older since the 1990s.

**Map 6** Average Pertussis Incidence Rates per 100,000 Population, June 1, 2017 through August 1, 2017



#### Pertussis surveillance goals:

- Pertussis surveillance is conducted to identify cases for treatment to prevent death, limit transmission in settings with infants or others who may transmit pertussis to infants, and identify and prevent outbreaks.
- Surveillance is also conducted to identify contacts of cases and recommend appropriate prevention measures, including exclusion, antibiotic prophylaxis and immunization and to monitor the effectiveness of immunization programs and vaccines. For more information on the data sources used in Florida for pertussis surveillance, see page 7 ►

## Pertussis Cases by Month Reported

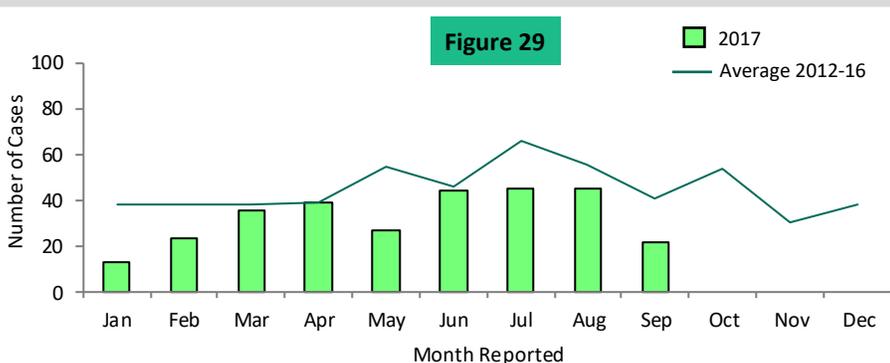


Figure 29 shows the number of confirmed and probable cases of pertussis reported into Merlin, January 2017 through September 2017 and the previous five-year average.

Thus far in 2017, the number of reported pertussis cases has been below average, except in April when two outbreaks occurred. In general, the number of reported pertussis cases tends to be highest during the summer months.

## Pertussis Outbreaks

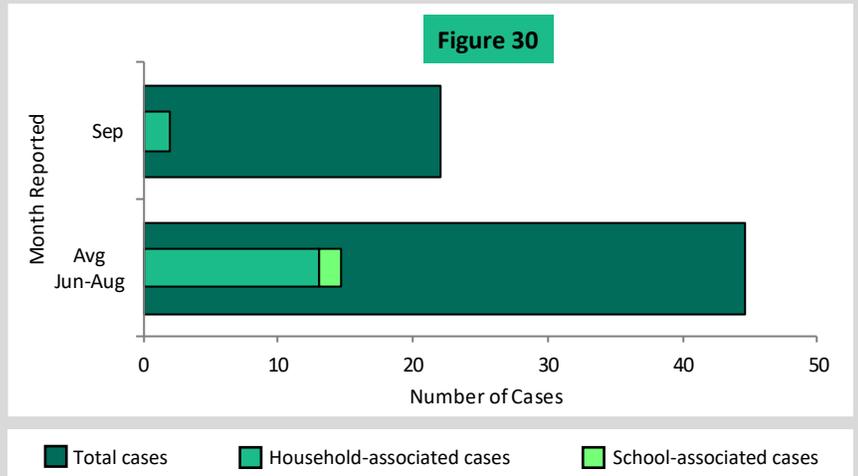
**Figure 30** shows the number of confirmed and probable cases that were associated with at least one other case and the total number of confirmed and probable cases as reported into Merlin, September 2017 and the previous three-month average. Cases associated with at least one other case are shown by type of association.

**Most pertussis cases were sporadic and not associated with other cases. However, in September, 2 cases were associated with a household cluster.**

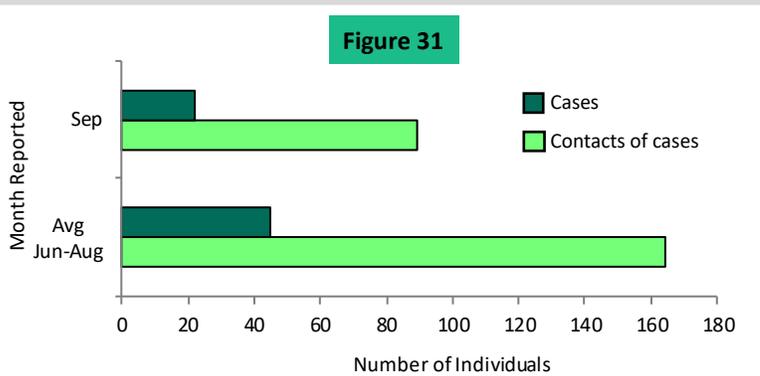
### Outbreak Summary:

**No outbreaks of pertussis were reported in September.**

However, four outbreaks of pertussis were reported earlier in the year in Pinellas (2 outbreaks in March), Nassau (1 outbreak in April), and Hillsborough (1 outbreak in April) Counties; all took place in a school setting.



## Pertussis Treatment and Contacts



**Figure 31** shows the number of confirmed and probable cases of pertussis, as reported into Merlin, September 2017 (n=22) and the previous three-month average. The figure also shows the number of contacts who were recommended antibiotics to prevent illness, September 2017 (n=89) and the previous three-month average.

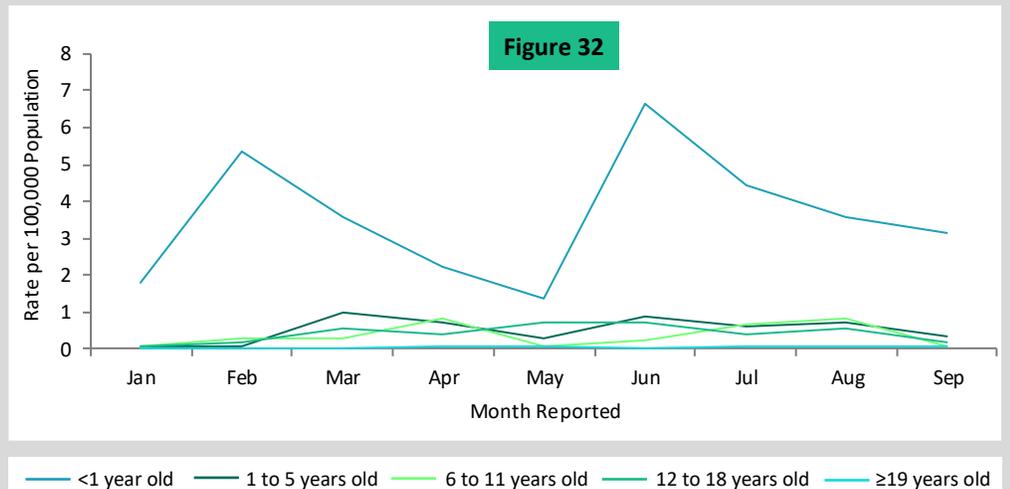
**In September, 89 contacts of cases were recommended antibiotics, bringing the total number of contacts this year to 1,126.**

On average, for each case there are four people exposed to the case who are recommended antibiotics to prevent illness.

## Pertussis Age-Specific Incidence Rates

**Figure 32** shows the age-specific incidence rates of confirmed and probable cases of pertussis, as reported into Merlin, January 2017 through September 2017.

**In September, the incidence rate was highest among infants <1 year old, which is consistent with previous months.** Infants experience the greatest burden of pertussis infections, not only in number of cases but also in severity. Infants less than two months old are too young to receive vaccinations against pertussis, which is why vaccination of other age groups is so important to help prevent infection in infants.

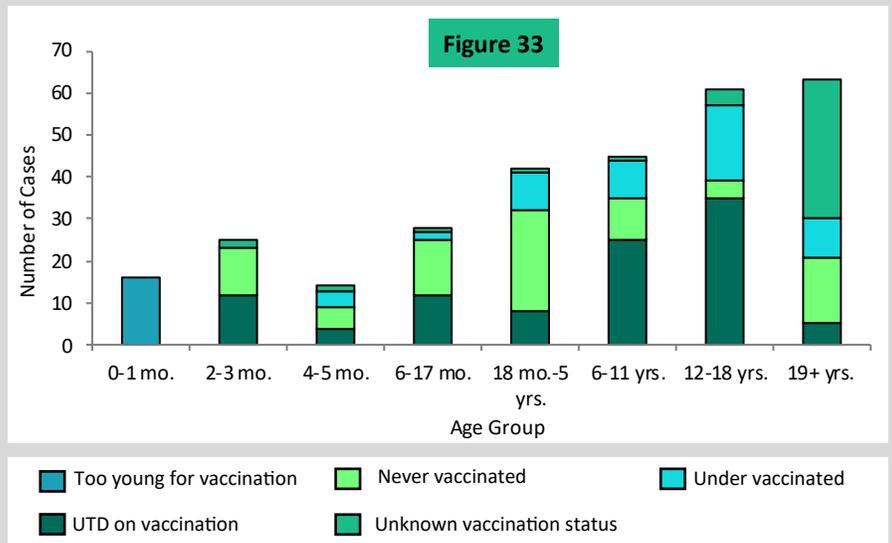


## Vaccination History for Pertussis Cases

UTD = up-to-date

**Figure 33** shows the vaccination status of pertussis cases by age group for confirmed and probable cases of pertussis, as reported into Merlin, January 1, 2017 through September 30, 2017 (n=294).

The majority of cases age 5 years and younger were not UTD on their pertussis vaccinations. The only age groups with more than half of cases up to date on pertussis vaccinations were school-aged children 6-18 years old.

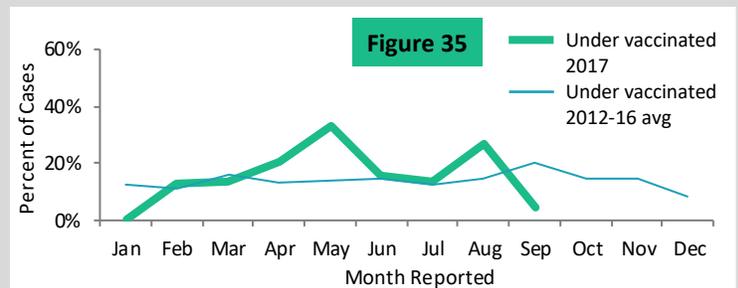
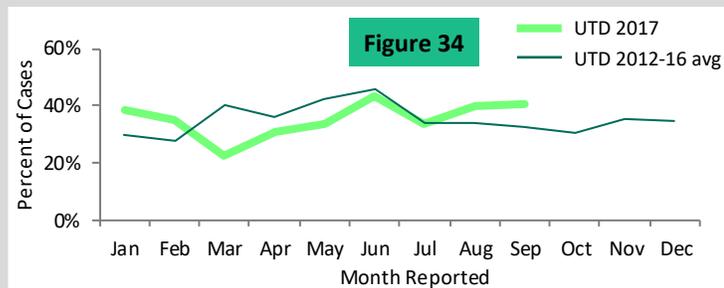


## Pertussis Cases in Vaccinated Individuals

UTD = up-to-date

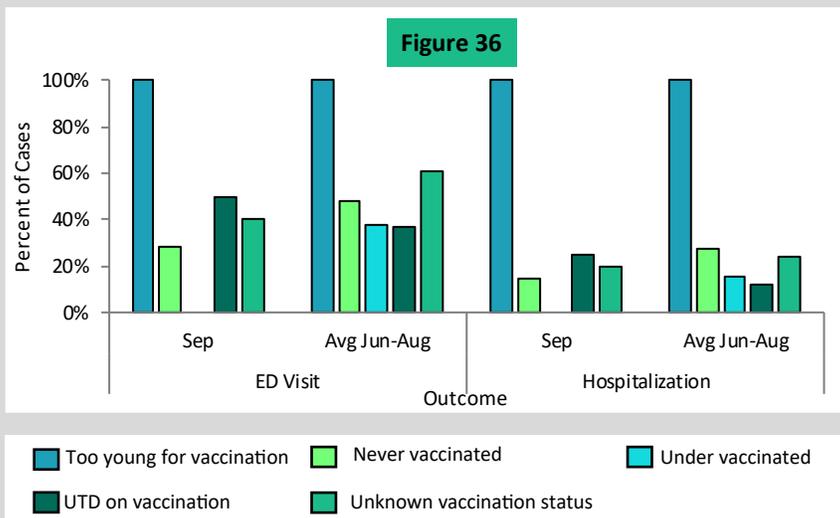
**Figure 33** shows the percent of confirmed and probable pertussis cases who were UTD on their pertussis vaccinations, as reported into Merlin, January 2017 through September 2017 and the previous five-year average. **Figure 34** shows the percent of these cases who were under vaccinated during the same time periods.

Although individuals who have been vaccinated can still get pertussis, vaccination remains the best way to prevent pertussis.



## Pertussis Outcomes

UTD = up-to-date, ED = emergency department



**Figure 35** shows the percent of confirmed and probable cases of pertussis with select outcomes by vaccination status, as reported into Merlin, September 2017 and the previous three-month average.

**Infants too young for vaccination (age 0-1 months) are most severely affected by pertussis, with 1 (100%) requiring an emergency department visit and inpatient hospitalization in September.**

In general, older individuals are more likely to experience paroxysmal cough while younger individuals are more likely to experience posttussive vomiting and whoop. Primarily infants less than one year old experience apnea.

## Case Data

- Pertussis and varicella are reportable diseases in Florida. Case information is documented by county health department (CHD) epidemiologists in Merlin, Florida's reportable disease surveillance system.
- CHD epidemiologists also report outbreaks of pertussis and varicella into Merlin. Outbreaks are defined as two or more cases associated with a specific setting outside of the home. Two or more cases among members of the same household are considered household-associated cases.
- Current case information is preliminary and may change as more data are received. The most recent data available are displayed in this report.
- For more information about reportable diseases, please visit [www.Floridahealth.gov/diseasereporting](http://www.Floridahealth.gov/diseasereporting).

## Population Data

- Population data used to calculate incidence rates are from FLHealthCHARTS (Community Health Assessment Resource Tool Set).
- For more information about FLHealthCHARTS, please visit [www.flhealthcharts.com](http://www.flhealthcharts.com).

## Vaccination Data

- Vaccination data are from Merlin, as reported by CHD epidemiologists.
- Vaccination status is determined using the Advisory Committee on Immunization Practices Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger, 2017.
- Cases are considered up-to-date if they have received the recommended number of doses of vaccine for a particular disease for their age at the time of their illness onset. Cases are considered under vaccinated if they have received at least one but not all doses of vaccine recommended for a particular disease for their age at the time of their illness onset.
- For more information about immunization schedules, please visit <https://www.cdc.gov/vaccines/schedules/index.html>.