



Kent County Health Department

2013 COMMUNICABLE DISEASE SUMMARY

Communicable Disease Summary

SPECIAL POINTS OF INTEREST:

- Emerging diseases
- Influenza
- Invasive Group A Streptococcus
- Abnormal number of GI illness cases
- Giardiasis
- Trends in Sexually-transmitted Infections
- Vaccine preventable Diseases

This report summarizes trends for select communicable diseases reported to the Kent County Health Department (KCHD) in 2013.

The highlights of this report include data and information about influenza, invasive Group A *Streptococcus* and common gastrointestinal illnesses, with attention given to giardiasis in particular.

A section is included on sexually-transmitted infections (STIs). It is important to note that all confirmed cases of chlamydia, gonorrhea, syphilis and HIV must be reported to the health department. Health care providers can obtain information on how to report by calling (616) 632-7171. Additionally, the KCHD provides testing, treatment, and counseling for various STIs and offers assistance for contacting sexual partners of individuals that have been diagnosed with these infections.

Lastly, vaccine-preventable diseases are addressed, including data on Kent County vaccination coverage in comparison to CDC's Healthy People 2020 national target goals.

The purpose of this report is to provide valuable information to physicians, infection preventionists, laboratories, schools, daycare centers and camp facilities who report diseases to the local health department.

Prevention and control of communicable disease is a necessary and critical aspect of community health, and continues to be an affirmative responsibility of local public health departments. It is not only essential that local providers understand disease trends in our community but it is also critical to continue to report diseases as required under Michigan State Law (section 5111 Act. No. 368 of the Public Acts of 1978, as amended, being 333.511 of Michigan Compiled laws).

A complete list of communicable diseases that are required to be reported can be found at the following link:

http://www.michigan.gov/documents/Reportable_Disease_Chart_2005_122678_7.pdf

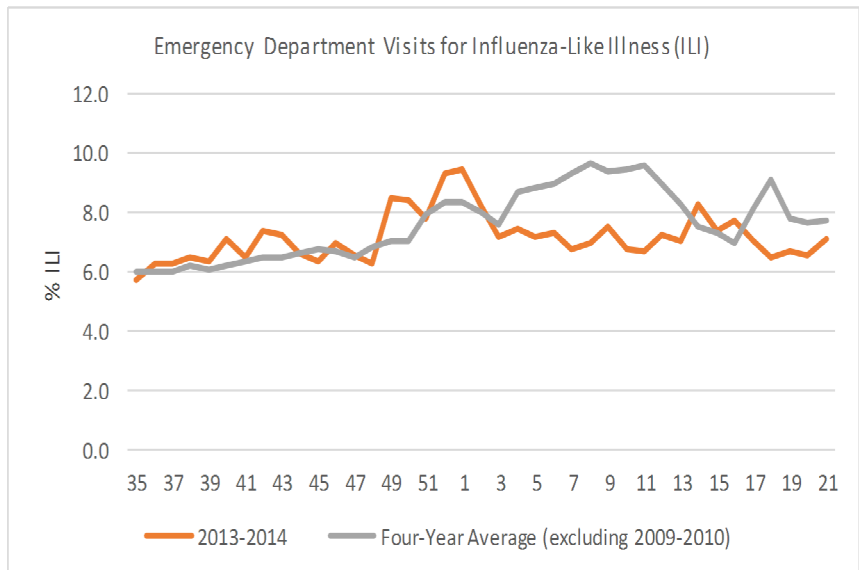
Emerging Diseases

Middle East Respiratory Syndrome (MERS) is a severe acute viral respiratory illness with a 30%-40% mortality rate. It was first reported in Saudi Arabia in 2012 and all cases have been linked to the Arabian Peninsula. Symptoms include fever, cough, and shortness of breath and the incubation period is 2-14 days. MERS has been found in camels in the region. Two cases have been imported to the US in healthcare providers. CDC is not recommending changing travel plans since no ongoing community spread has occurred and transmission is through close contact.

Chikungunya (CHIKV) is a viral disease spread by mosquitos that was first locally transmitted in the Americas late in 2013 in the Caribbean. Large outbreaks have occurred with high attack rates since the species of mosquito that transmit disease are aggressive daytime biters. CHIKV causes acute onset of fever and joint pain 3-7 days after exposure. Spread in the US could occur since the mosquito species that carry CHIKV exist in the US, mainly in the southeastern region of the country.

Influenza

Historically, February is the most common month for the peak of the seasonal influenza season. The 2013-2014 season peaked during the first week of January and influenza activity was lower than average in Kent County throughout the majority of the season. Of the confirmed cases reported, 88% were influenza type A, and most were suspected to be subtype 2009 H1N1. The new H1N1 subtype emerged in Spring 2009, causing the first influenza pandemic in 40 years. The 2009 H1N1 now seems to have replaced the previously circulating H1N1 influenza subtype. For more information about the 2013-2014 influenza season in Kent County, visit stickittotheflu.com.



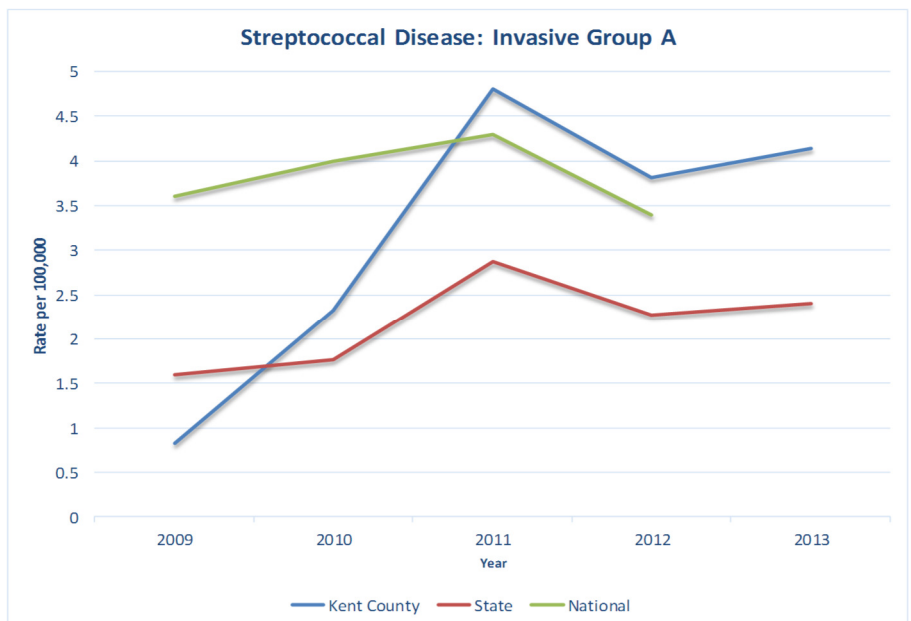
Streptococcus Pyogenes

Group A Strep

Streptococcus pyogenes, group A streptococcus (GAS), is a gram-positive circular bacteria that often resides on the skin and in the throat of people. It can cause infections such as strep throat, impetigo and scarlet fever.

Severe, sometimes life-threatening GAS disease may occur when these bacteria get into parts of the body where bacteria usually are not found, such as the blood, muscle, or the lungs (invasive GAS). According to the Centers for Disease Control and Prevention (CDC), death occurs in approximately 10-15% of invasive GAS cases.

Invasive GAS is a reportable disease. Incidence of invasive GAS in Kent County since 2011 has been higher than both the state and national rates. Locally reported rates of GAS have increased significantly in the past five years from 5



cases in 2009 to a high of 29 cases in 2011. Last year (2013), 25 cases were reported in Kent County.

Risk groups for invasive GAS include people who are elderly or immunosuppressed and those who have skin lesions, diabetes and chronic heart or lung disease. Healthy people are also susceptible to GAS. In Kent County, most cases of invasive GAS are seen among the population aged 5-9 and those 60 and older.

Gastrointestinal Illnesses

The trend of *Campylobacter*, *Salmonella*, and *Giardia* as the most commonly reported Gastrointestinal (GI) illnesses continued in 2013. While numbers for *Campylobacter* and *Salmonella* remained consistent, there was a dramatic increase in the number of *Giardia* cases reported in 2013.

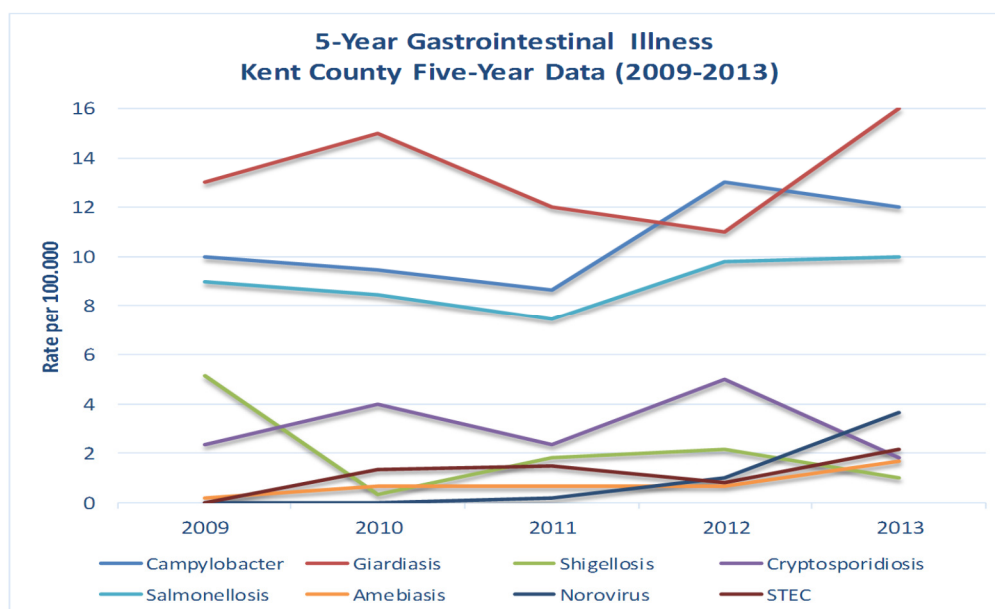
Campylobacter is the most common bacterial GI illness in the US with a national average of 14 cases per 100,000 each year. It causes diarrhea, cramping, abdominal pain, fever, nausea and vomiting. Infection with as few as 500 organisms can cause this bacterial illness and symptoms usually present within 2-5 days of exposure. Most often it is associated with consumption of raw or undercooked poultry or cross-contamination of utensils during

cooking.

Salmonella is a bacterial infection that causes diarrhea, fever, and abdominal cramps. Illness occurs within 6-72 hours after exposure and can last from 4-7 days. The timing of illness onset after exposure is often important for determining the type of GI illness because many of the signs and symptoms are similar. *Salmonella* is caused by the consumption of raw or under-

cooked foods contaminated with animal feces, such as beef, poultry, milk, and eggs. Thorough cooking and proper hand hygiene are vital for avoiding all GI.

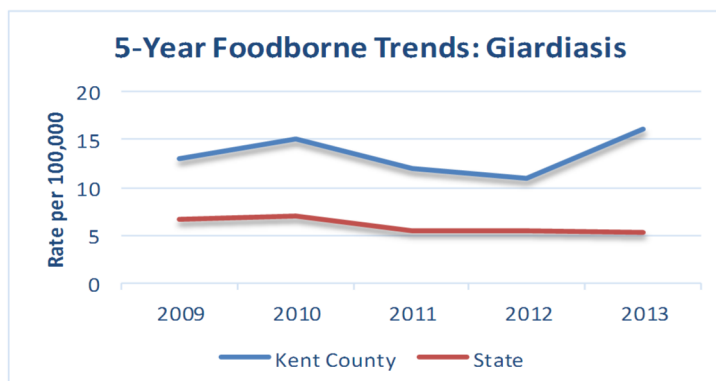
Norovirus and shiga toxin-producing *Escherichia coli* (STEC) had increased prevalence in 2013. Norovirus is highly contagious, while STEC can have serious complications such as hemolytic uremic syndrome.



Giardiasis

Even though infection with the parasite *Giardia lamblia* has been among the most common GI illnesses in Kent County in recent years, the rate of disease increased in 2013. Ninety-nine (99) cases were reported to KCHD in 2013, compared to 71 in 2012. Ingestion of as few as 10 *Giardia* cysts, which are shed in feces, from contaminated water or food can cause infection. Symptoms may not appear for 1-3 weeks and include greasy stool, foul flatulence, stomach cramps, weight-loss, and dehydration. Symptoms are not predictable of illness, however, because many people with *Giardia* are asymptomatic. In some instances, symptoms may last for 2-6 weeks but then spontaneously resolve. This can make *Giardia* difficult to diagnosis.

In Kent County, 57% of reported cases of *Giardia* between 2009 and 2013 were in the international refugee and adoptee population. This population presents with distinct differences than non-refugees or adoptee cases. Among



the diagnosed international refugee and adoptee population, 86% were asymptomatic, compared to 2% of non-refugees/adoptees. This is due in part to routine screening of refugees upon arrival to the US. Additionally, the average age of *Giardia* diagnosis in this population was 12 years, compared to 32 years in non-refugees/adoptees.

Sexually-Transmitted Infections

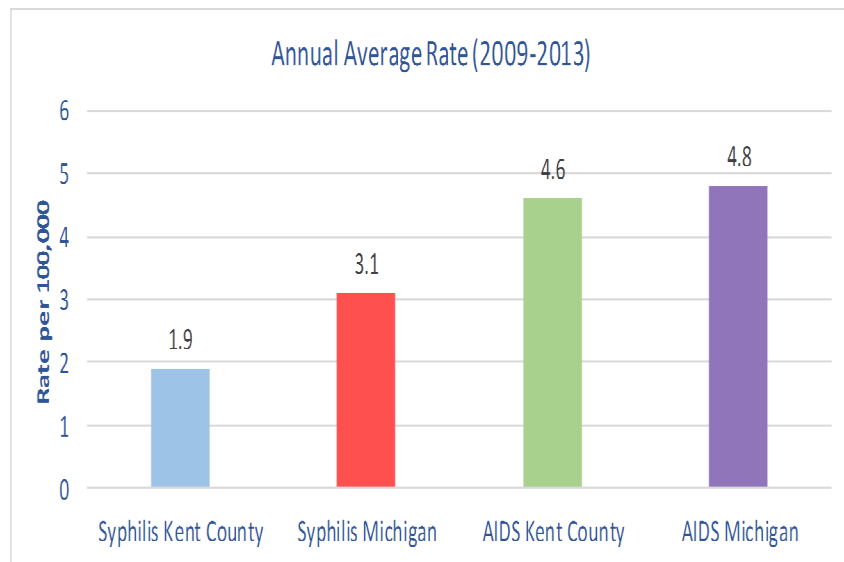
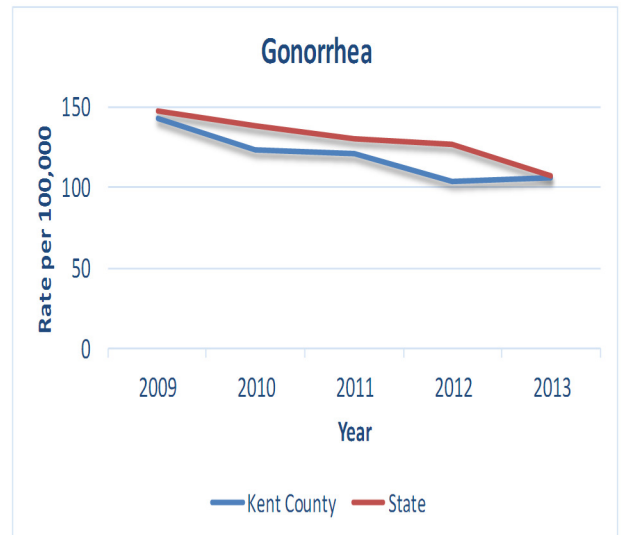
Gonorrhea rates in Kent County have declined over recent years but experienced a slight increase in 2013 to 642 cases, up from 628 in 2012. Symptoms of gonorrhea can include burning during urination, vaginal/penile discharge, pain and swelling of testicles in men, and vaginal bleeding between periods in women. It is not unusual for men to show no symptoms at all and for women to only experience mild symptoms. Gonorrhea may be hard to distinguish from other STIs without laboratory testing because many of the symptoms are the same. Clinicians treating gonorrhea should note that “patients infected with *N. gonorrhoeae* are frequently coinfecting with *Chlamydia trachomatis*; this finding has led to the recommendation that patients treated for gonococcal infection also be treated routinely with a regimen that is effective against uncomplicated genital *C. trachomatis* infection” (CDC).

In Kent County, both gonorrhea and chlamydia are most common among young people aged 15

to 24. Both are also reported overwhelmingly more in women than men for this age group.

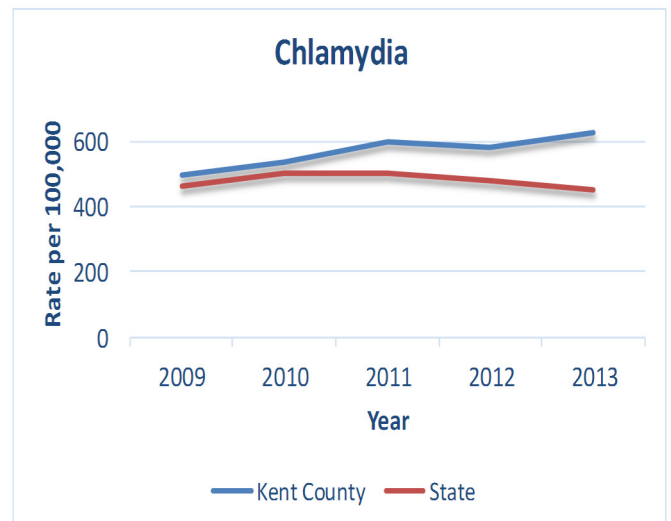
Syphilis rates in Kent County continue to be lower than the state. In the past five years, 95% of syphilis cases have been in men. The CDC claims, “in 2012, 75% of reported primary and secondary syphilis cases were among men who have sex with men.”

AIDS cases in Kent County in the last five years (4.6 per 100,000 population on average) have overwhelmingly been reported in men.



Chlamydia

Chlamydia continues to not only be the most common STI in Kent County, but according to the CDC it is also the most common STI in the US. Most people who are infected with chlamydia do not present with symptoms, making it difficult to diagnose. Onset of symptoms may occur after several weeks and may include the same symptoms as gonorrhea. Treatment is with antibiotics, but it is important that women be re-tested after 3 months to ensure treatment was successful. Untreated women are susceptible to pelvic inflammatory disease which can cause permanent damage to the reproductive system, difficulty becoming pregnant, or cause ectopic pregnancy.



Vaccine-Preventable Diseases

While the rates of some vaccine-preventable diseases (VPDs) have decreased locally and throughout the US, there remains work to do to ensure the population is protected. Infants and young children typically are fully vaccinated due to awareness of the importance of vaccines and national assistance programs to fund vaccinations. However, segments of the population, often adolescents and adults, are under-vaccinated.

This lack of proper immunization may be the result of inadequate information regarding vaccinations, misinformation, religious beliefs, or fear of adverse side-effects from vaccinations. Particularly, as VPDs have become less common, the population does not understand the dangers posed by these diseases. Research continues to demonstrate that education from healthcare providers contributes significantly to vaccination status, so it is important for clinicians to educate patients of all ages about the necessity and safety of immunizations.

Measles is a highly contagious viral respiratory disease that presents with rash over the whole body and is spread in the air by breathing, coughing, and sneezing. According to the CDC, "it is so contagious that any child who is exposed to it and is not immune will probably get the disease." Large outbreaks of measles have occurred in the recent years in the US.

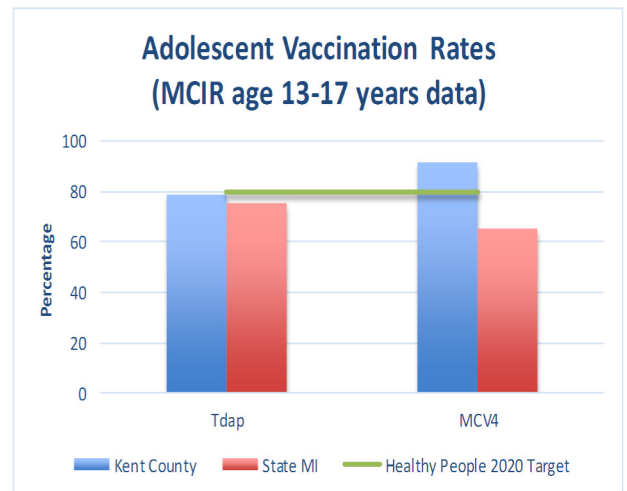
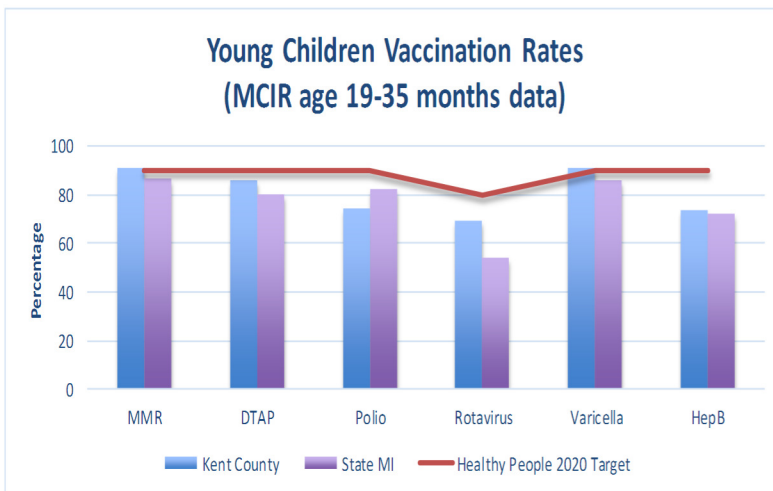
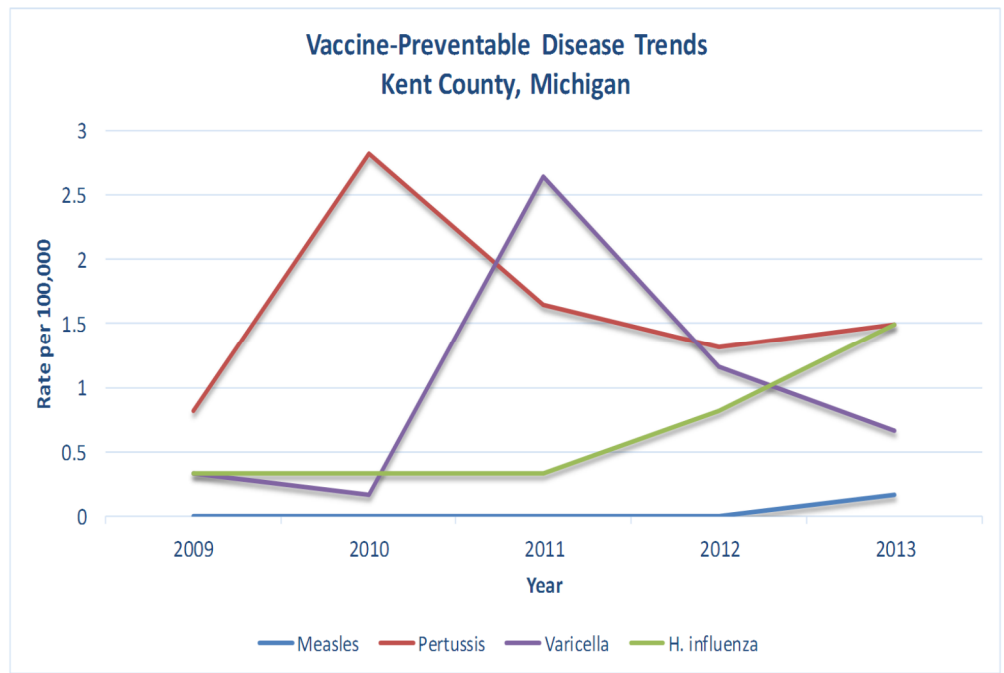
In 2013, Kent County had its first

reported case of measles in more than 10 years. The first dose of the measles, mumps and rubella (MMR) vaccine is recommended for children between 12 and 15 months of age, with a second dose given between 4-6 years of age.

Even though Kent County has not had a reported case of mumps since 2009, like measles, outbreaks occurring across the US have prompted the need for additional focus on increasing MMR vaccination coverage. MMR vaccination rates in Kent County are just over 91%, according to the Michigan Care Improvement Registry (MCIR).

MCIR data show that some Kent County vaccination rates do not meet the national Healthy People 2020 target goals for coverage. CDC recommends single doses of MMR and varicella vaccine for young children, as well as, 4 doses of DTaP and 3 doses of polio, rotavirus, and Hepatitis B vaccine. Booster doses of most vaccines should be given between the ages of 4 and 6.

Diligent and timely vaccinations will help prevent the potential for outbreaks locally. Therefore, it is important that every clinical visit addresses vaccination status to protect the entire population from VPDs.



Vaccine-Preventable Diseases

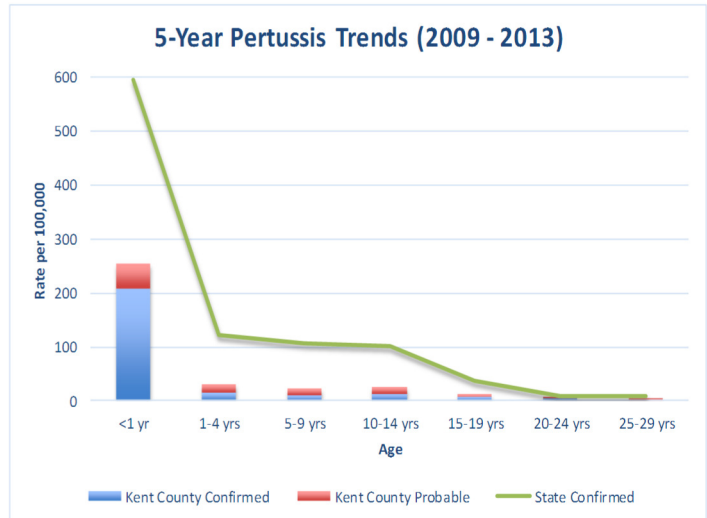
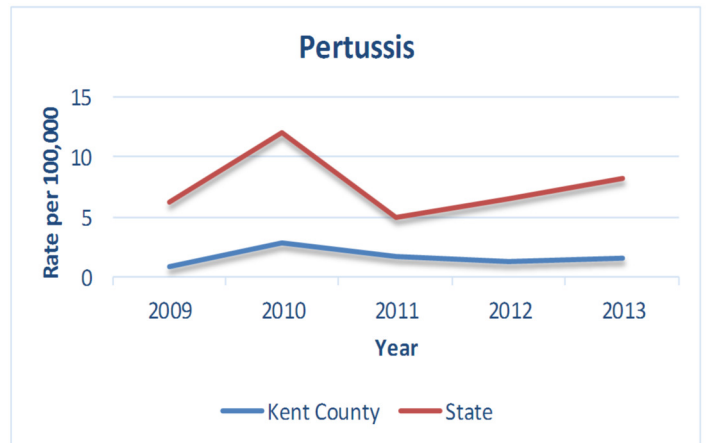
Pertussis

Whooping cough, caused by *Bordetella pertussis*, is a highly contagious vaccine-preventable disease that causes acute respiratory illness. It has an insidious onset followed by 2-6 weeks of a paroxysmal cough with a distinctive inspiratory whoop. Non-paroxysmal cough can linger for an additional 2-6 weeks.

Rates of pertussis in Kent County have continued to be significantly lower than in the state of Michigan overall. This may be due to diagnoses being based solely on clinical symptoms and the lack of confirmatory laboratory testing required for reporting to KCHD. Clinicians need to consider pertussis in the differential diagnosis for any cough illness that persists for more than 2 weeks. Early symptoms are similar to other upper respiratory infections - low grade fever, and mild cough - however, infants may also present with apnea.

Pertussis can be life-threatening for infants under the age of one year - the population that continues to experience the highest rate of reported illness. During the past 5 years, 37.5% of the reported cases of pertussis in Kent County were among children under one year of age. According to the CDC, approximately 50% of infants under one year of age diagnosed with pertussis are subsequently hospitalized.

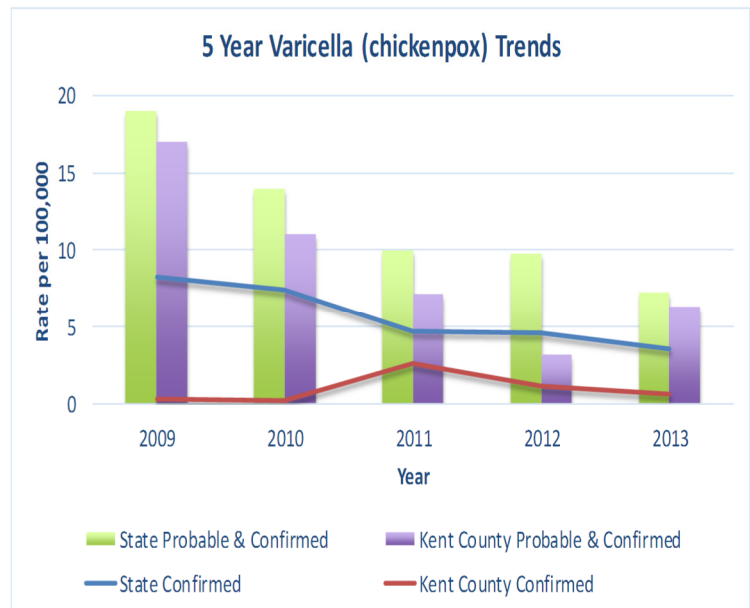
The waning immunity from the childhood DTaP vaccine caused the CDC to change vaccine recommendations in recent years. In 2005, Tdap was approved in a single dose for children aged 11-18 because this population is typically a reservoir of the disease. In 2010, Tdap was recommended for a single use booster in under-vaccinated children ages 7-10 years, since it was determined that DTaP vaccine was waning even in this population and contributing to outbreaks across the country.



Chicken Pox

While the annual incidence of chicken pox decreased in Kent County since it became a reportable disease in 2005, incidence increased in 2013. Only 4 confirmed cases of chicken pox were reported in 2013, but a total of 34 probable cases were reported. This compared to 7 confirmed and 12 probable in 2012. The vast majority of cases (25) in 2013 were among the those 1 to 14 years of age.

The January 2010 requirement for two doses of varicella vaccine for entry into kindergarten and sixth grade have likely contributed to the decrease in cases of chicken pox. In Kent County, varicella vaccination rates have been about 91% for young children ages 13-15 months, according to the MCIR. CDC recommends that the first dose of the vaccine be given between 12-15 months of age and the second dose between 4-6 years of age, before entry into kindergarten.





Kent County Health Department

Communicable Diseases/Epidemiology Unit

**700 Fuller Avenue NE
Grand Rapids., MI 49503**

**Phone: (616) 632- 7228
Fax: (616) 632- 7085**

Check our website at:
www.accesskent.com/Health

Resources

Monthly Kent County Communicable Disease Reports

www.accesskent.com/health/commndisease/reports.htm

The Center for Disease Control and Prevention A-Z Index

www.cdc.gov/az/

Michigan Department of Community Health Communicable Disease Information

www.michigan.gov/cdinfo

Michigan Emerging Diseases Website

www.michigan.gov/emergingdiseases

Federal Food Safety Information

www.foodsafety.gov

Michigan mosquito Control Association

www.mimosq.org

Data source: Michigan Disease Surveillance System