



# **2018**

## **COMMUNICABLE DISEASE REPORT**

**RIVERSIDE UNIVERSITY  
HEALTH SYSTEM - PUBLIC HEALTH**



## ACKNOWLEDGEMENTS

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## FOREWORD

The control of communicable disease is one of the oldest disciplines of public health, and while modern prevention in the developed world focuses more on the morbidity and mortality from chronic diseases, the importance of communicable disease control has by no means diminished. Despite the advent of effective therapies for many of these diseases, their burden even in counties such as our own continues to reverberate, and the worldwide resurgence of antibiotic-resistant infections and vaccine-preventable diseases prove we still have a great deal of work to do. The first step to resolving a problem is to define it, and we hope that the statistics in this report will inform you, the reader, of the magnitude of our task with communicable disease control in Riverside County and hopefully suggest steps we can further take towards a healthier future.

Cameron Kaiser, MD, MPH, FAAFP  
Public Health Officer

## INTRODUCTION

Control of communicable disease is a core function of public health. Understanding the interactions among host, environment, and infectious agents are critical to effectively dealing with emerging and re-emerging infections. Disease surveillance, monitoring disease trends and timely response to outbreaks are all important methods for maintaining a healthy community.

The *County of Riverside Communicable Disease Report 2018* provides a snapshot in time of disease activity in Riverside County, shows trends over the past few years, and where appropriate compares disease activity to California rates and Healthy People 2020 objectives. The data presented are a starting point and used for targeted public health programs. There are many factors in the environment, in the patient, and in the nature of the disease itself that complicate the situation, especially since the interactions and individual characteristics change over time. The data in this document come from the mandated reporting of 'reportable' diseases by health care providers and laboratories. Figures and appendix tables in this 2018 edition have been updated retrospectively and supersede those in previous publications.

This report describes selected diseases and is organized by mode of transmission: sexually-transmitted and blood-borne diseases, vaccine-preventable diseases, diseases spread by food and water (i.e., enteric), diseases spread by close personal contact and diseases spread by vectors such as rats, ticks and mosquitos.

Several key terms common in epidemiology are used throughout these pages. *Incidence* refers to newly diagnosed cases in a population during a specific time period. *Rate per 100,000 population* is a method used to proportionally compare the burden of a disease across populations of differing sizes, ages, genders and races. For more information on incidence rate methodology please go to the 'Definitions' section on page 43.

## REGIONAL BREAKDOWN

For this report, Riverside County is divided into four regions.

**West:** includes Corona, Eastvale, Jurupa Valley, Mira Loma, Moreno Valley, Norco, Nuevo, Perris, Riverside and Sun City/Romoland (zip code 92585).

**South:** includes Canyon Lake, Lake Elsinore, Menifee (zip codes 92584 & 92586), Murrieta, Temecula and Wildomar.

**Mid:** includes Aguanga, Anza, Banning, Beaumont, Calimesa, Hemet, Homeland, Idyllwild, San Jacinto and Winchester.

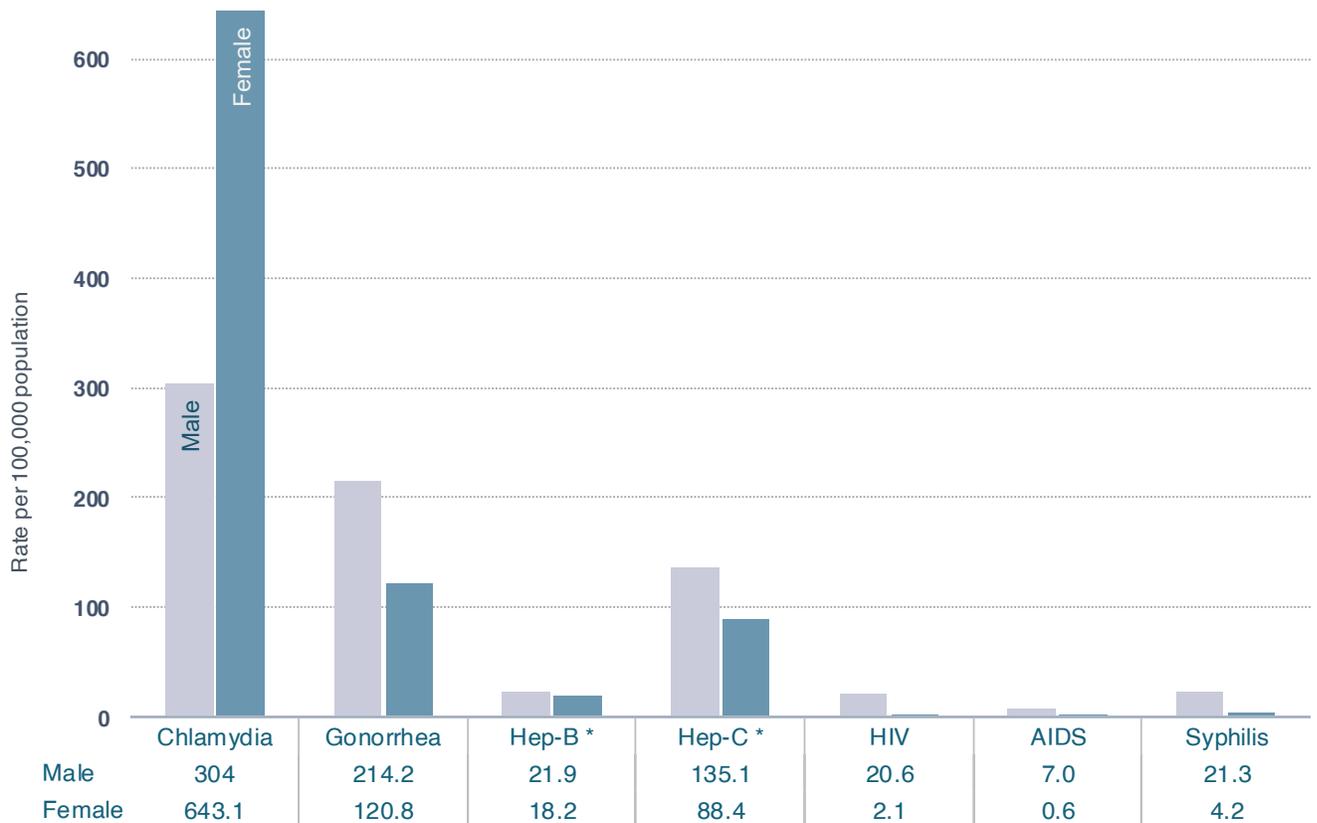
**East:** includes Blythe, Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Mecca, Palm Desert, Palm Springs, Rancho Mirage, Thermal and Thousand Palms.

# SEXUALLY TRANSMITTED & BLOODBORNE DISEASES

## Highlights

- Chlamydia remained the most commonly reported communicable disease in Riverside County with the highest incidence rate among females 20 to 24 years of age followed by females 15 to 19. Overall, the chlamydia rate increased 2.3% compared to 2017.
- Incidence of reported gonorrhea has more than doubled since 2010. Although the overall rate increased 22% compared to 2017, gonorrhea rates actually decreased 24% in both the Black and Native-American communities.
- Case reporting for chronic hepatitis C increased in 2018 despite de-duplication efforts and removal of incarcerated cases by the State.
- The number of chronic hepatitis C cases in hotspot cities like Hemet, Palm Springs and Indio have more than doubled since 2012.
- Since 2012, the overall County incidence rates for primary and secondary syphilis have more than doubled. Palm Springs, in the eastern region of Riverside County, continues to be a hotspot.
- There were 10 confirmed cases of congenital syphilis, or infants born with syphilis, reported in 2018.

## Incidence Rates of Sexually Transmitted & Bloodborne Diseases by Sex, Riverside County 2018



\* Includes both chronic and acute cases.

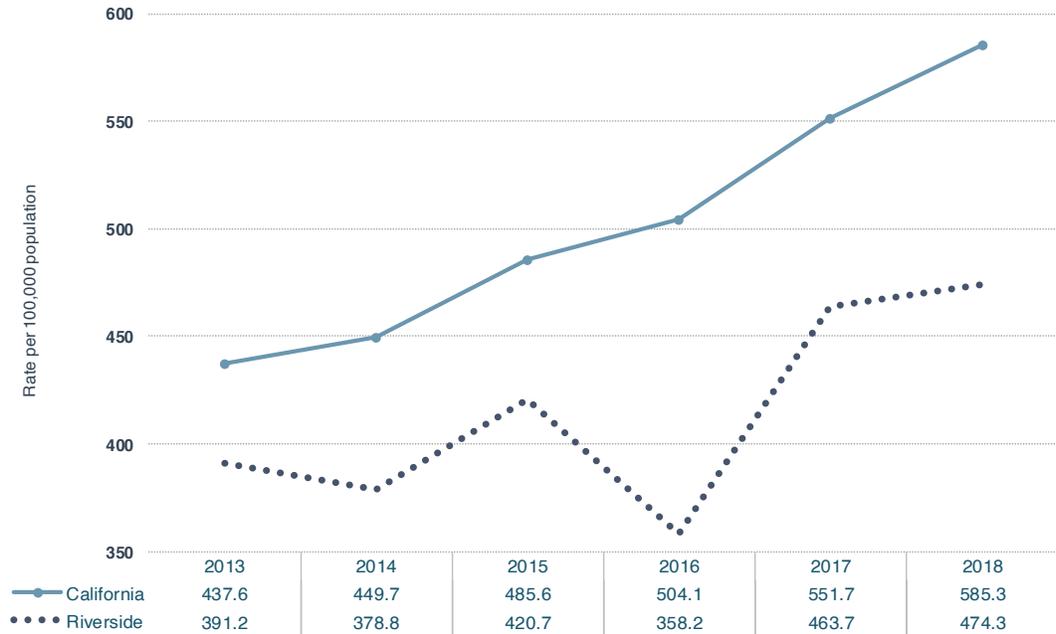
# Chlamydia

Chlamydia continued to be the most commonly reported disease in Riverside County and California. In 2018, there were 11,507 reported chlamydia cases in Riverside County. This was a 4% increase compared to the number of cases reported in 2017. Rates of chlamydia remained elevated compared to levels in the previous decade (Appendix Table 2). Although Riverside County rates remain below California rates (Figure 2), the number of cases continue to rise in cities like Riverside, Moreno Valley, Corona, Perris and Indio.

**Chlamydia Incidence Rates by Year**

**Riverside County 2013—2018**

Figure 2

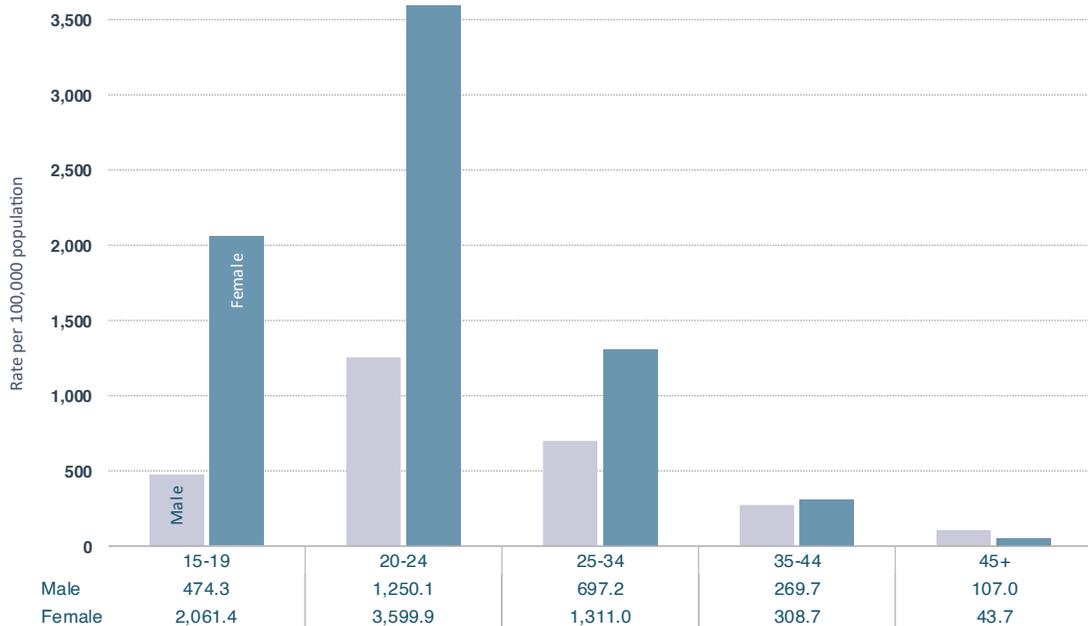


The rate of chlamydia infection remained highest among young adults. In 2018, the highest incidence rate was among females 20 to 24 years old (with 3,599.9 cases per 100,000) followed by females 15 to 19 years old (with 2,061.4 cases per 100,000). The rate of chlamydia infection in females is significantly higher than males across most age groups (Figure 3). The overall incidence rate among females is almost 72% higher than the male incidence rate. This difference might reflect higher rates of screening and diagnosis among females. Since chlamydia is often asymptomatic, many males go untested and untreated for the disease.

**Chlamydia Incidence Rates by Age & Sex**

**Riverside County 2018**

Figure 3



In Riverside County, non-Latinx Black residents are disproportionately affected by chlamydia. The rate of chlamydia among Black residents in 2018 was 393 cases per 100,000 population. This was almost four times the rate of non-Latinx White residents. However, compared to 2017, rates in the Black and Native-American communities dropped 10% and 32% respectively. Latinx and non-Latinx White residents experienced a slight increase of 16% and 12% respectively compared to 2017. Due to the small size of the Native-American population in Riverside County, numbers should be interpreted with caution.

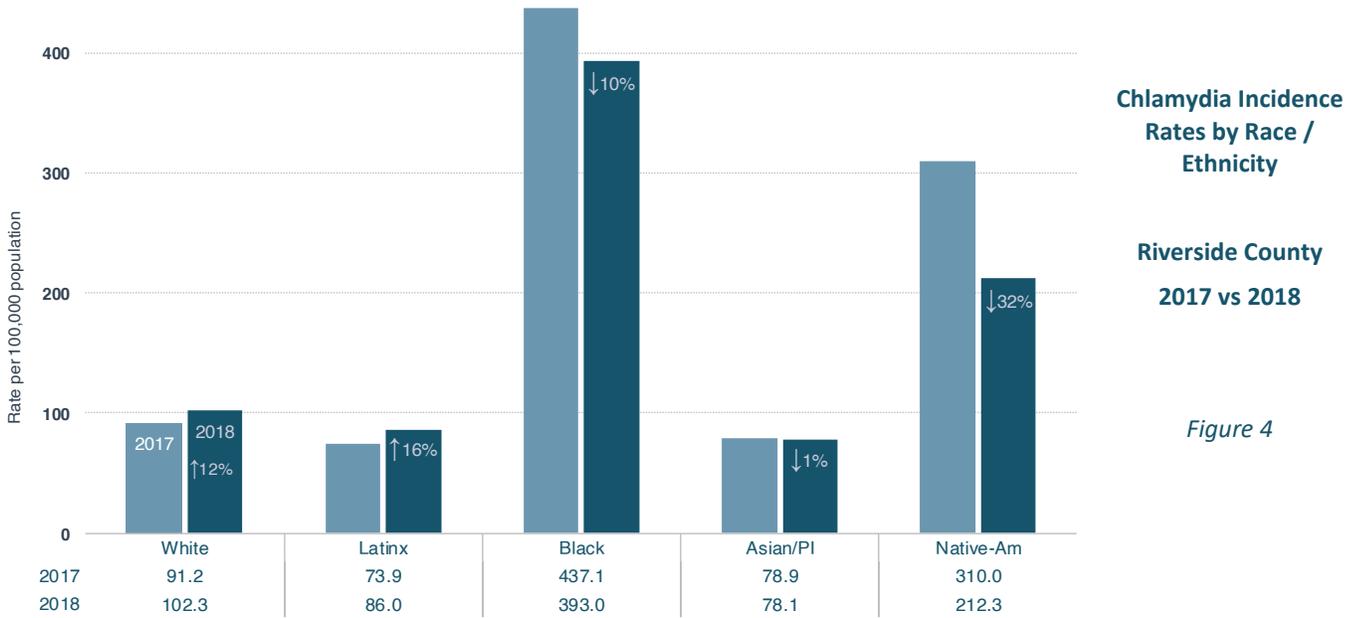
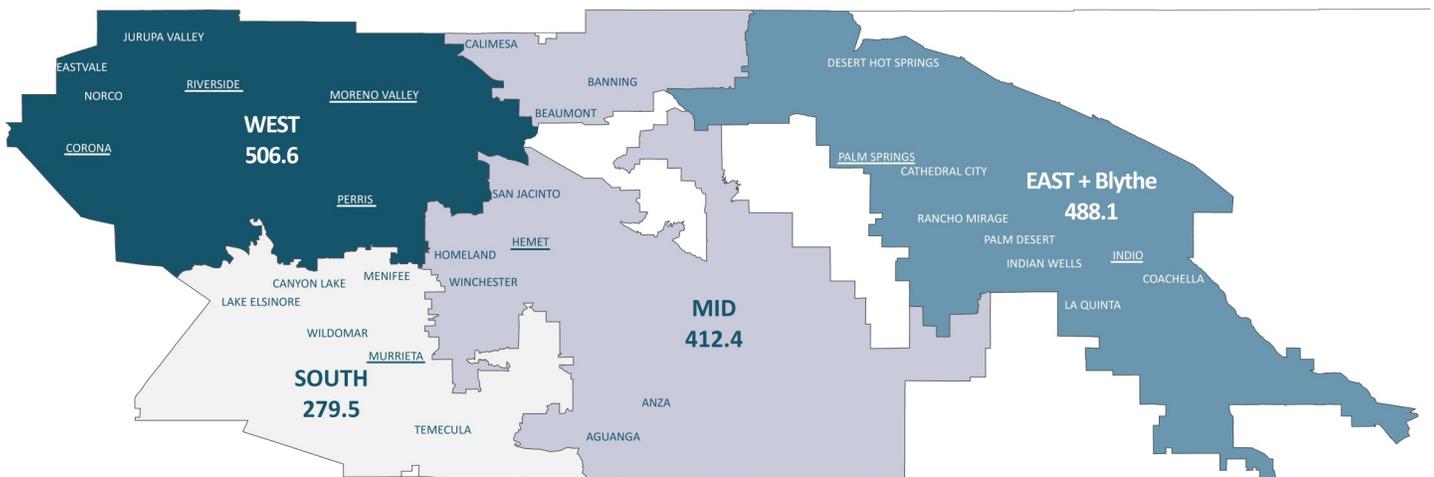


Figure 4

While cases of chlamydia infection were reported throughout the County, the majority of cases occurred among residents of the west and east regions. Incidence rates were highest in the west region (with 506.6 cases per 100,000) and lowest in the south region (with 279.5 cases per 100,000). The cities of Riverside, Moreno Valley, Corona and Perris continue to be hotspots. In 2018, the city of Palm Springs reported a 30% increase in new cases compared to 2017. Again, it's important to note that chlamydia is often asymptomatic and overall numbers may actually be higher.

Chlamydia Incidence Rates per 100,000 population by Region, Riverside County 2018



## Gonorrhea

In 2018, gonorrhea was the second most frequently reported infectious disease in Riverside County, with 4,058 cases reported and an incidence rate of 167.3 cases per 100,000 population. The gonorrhea incidence rate for Riverside County increased 22% between 2017 and 2018. Although the trend line mirrors incidence rates for California during the same time period, Riverside County has maintained lower gonorrhea rates (Figure 5).

**Gonorrhea Incidence Rates by Year**

**Riverside County 2013—2018**

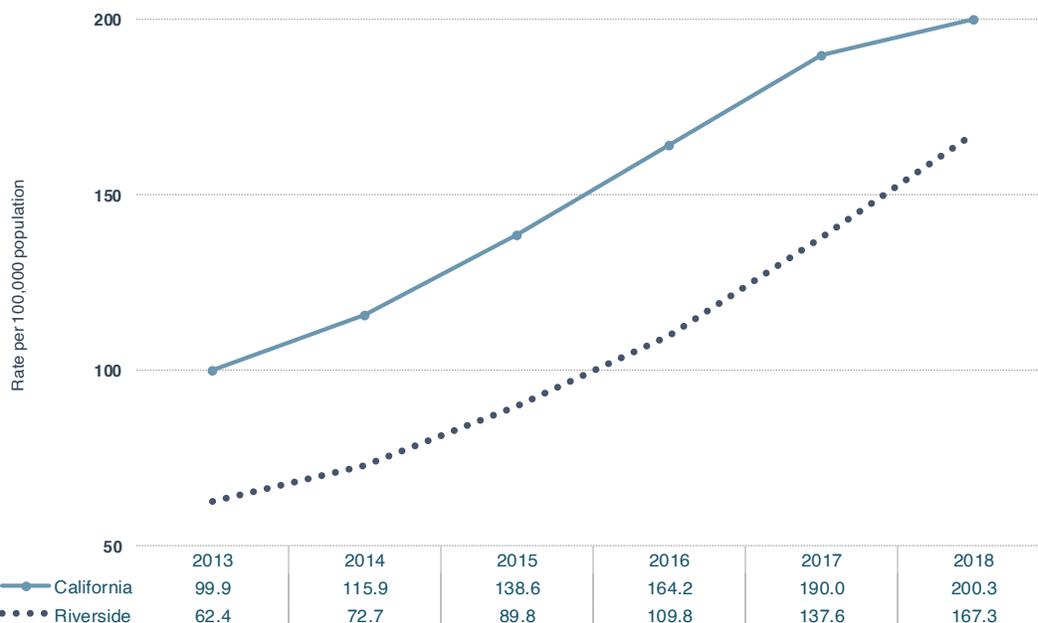


Figure 5

Gonorrhea rates remain highest among young adults aged 20 to 24 years (with 495.4 cases per 100,000) and adults aged 25 to 34 years (with 456.3 cases per 100,000). For the first time, rates for adults aged 35 to 44 rose above those of teens aged 15 to 19 (Figure 6). In 2018, males accounted for 64% of new gonorrhea cases with 2,586 male cases and 1,472 female cases. Males between the ages of 20 to 24 years had the highest rate across all age groups and genders (with 453.9 cases per 100,000).

**Gonorrhea Incidence Rates by Age Group**

**Riverside County 2018**

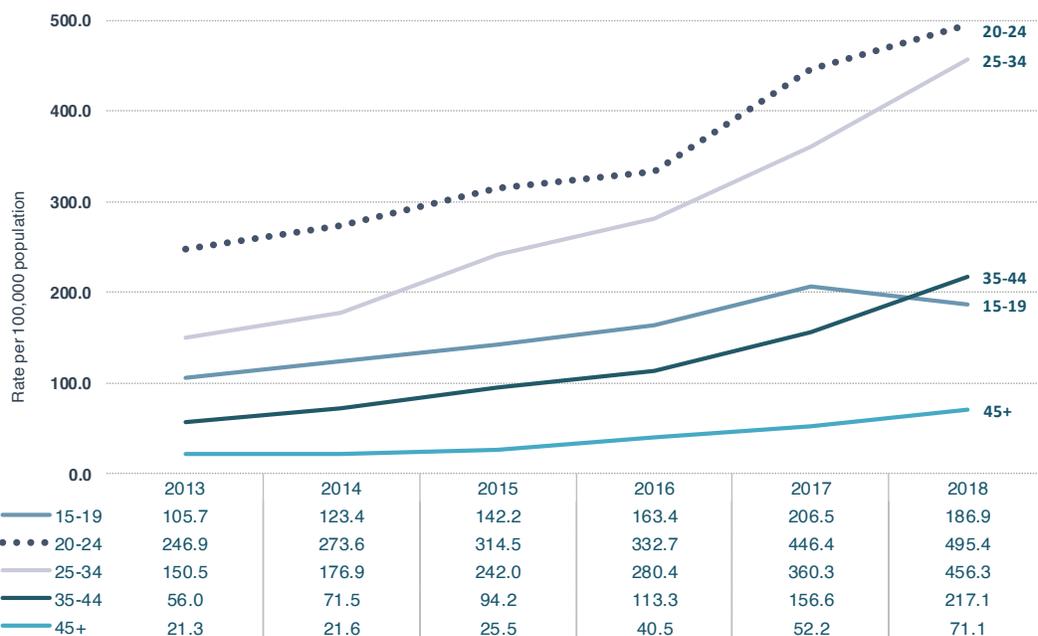


Figure 6

In 2018, non-Latinx Black residents continued to experience one of the highest rates of gonorrhea with 138.2 cases per 100,000 population (Figure 7). However this represented a 24% decrease compared to the 2017 incidence rate of 182.6 cases per 100,000 population. Rates increased among White (up 23%) and Asian/Pacific-Islander residents (up 20%). The gonorrhea incidence rate among Native-Americans appears to have significantly declined in 2018 to 144.3 cases per 100,000 population. In 2017, 189.4 cases per 100,000 population were reported. In the previous decade, rates for Native-Americans rarely exceeded 40 cases per 100,000 population. Due to the small size of the Native-American population in Riverside County, numbers should be carefully interpreted.

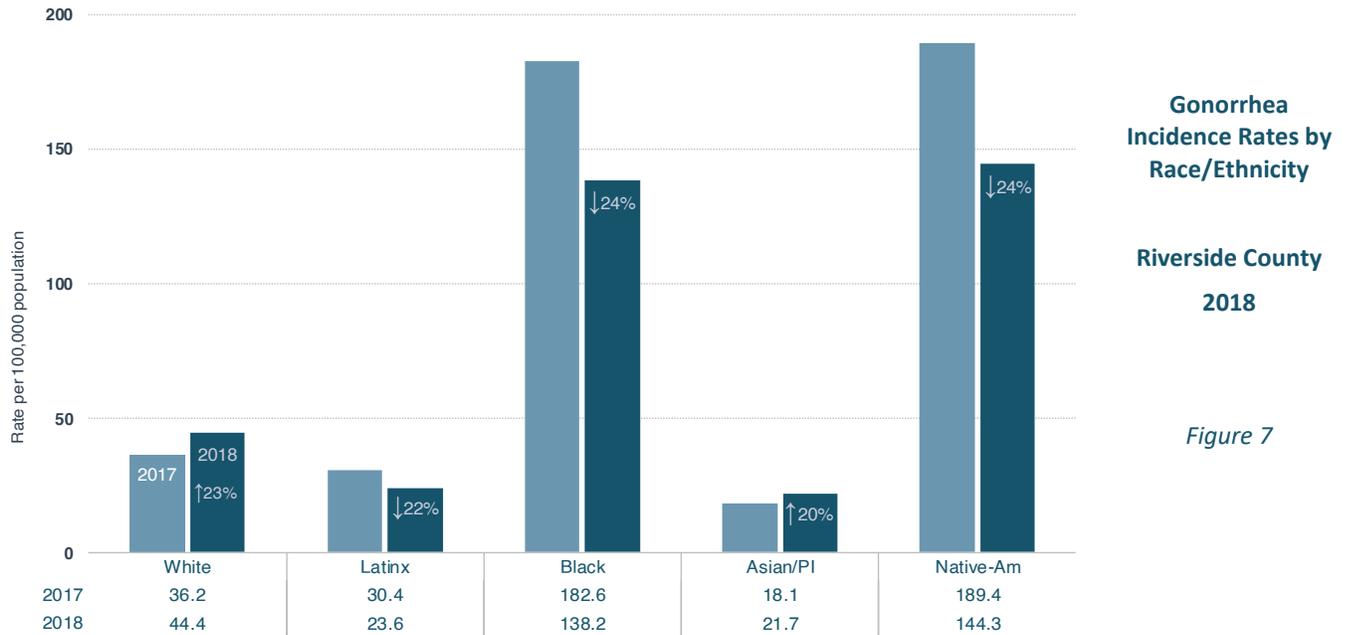
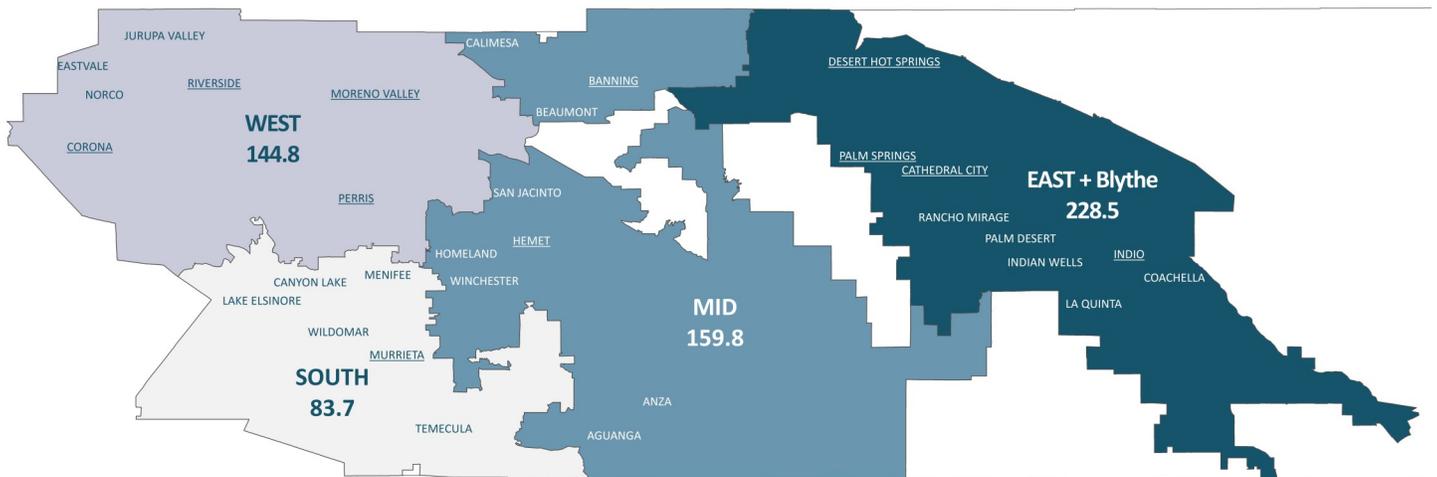


Figure 7

Although the west region reported the most cases of gonorrhea (1,631 reported new cases), the east region had the highest incidence rate with 228.5 cases per 100,000 population. Incidence rates for the west, south and mid county regions were 144.8, 83.7 and 159.8 cases per 100,000 population, respectively. The cities of Riverside, Moreno Valley, Palm Springs, Corona, Hemet and Perris reported the highest numbers of new cases and should be considered hotspots within their respective regions. In 2018, the city of Palm Springs reported a 38% increase in new gonorrhea cases compared to 2017.

Gonorrhea Incidence Rates per 100,000 population by Region, Riverside County 2018



## Hepatitis B

In 2018, incidence rates per 100,000 population were 0.0 for acute hepatitis B and 20.0 for chronic hepatitis B. Since 2008, the incidence rate for acute hepatitis B declined and has remained below the Healthy People 2020 objective of 1.5 cases per 100,000 population (Figure 8). Since 2007, rates of chronic Hepatitis B have fluctuated between 8 and 20 cases per 100,000 population (Appendix Table 2). In 2018, the rate for chronic hepatitis B was 20 cases per 100,000. Furthermore, nine death certificates indicated Hepatitis B as an underlying cause of death. Overall, widespread use of hepatitis B vaccine has contributed to declines in the number of reported new cases of hepatitis B.

**Hepatitis-B  
Incidence Rates by  
Year**  
  
**Riverside County  
2013—2018**

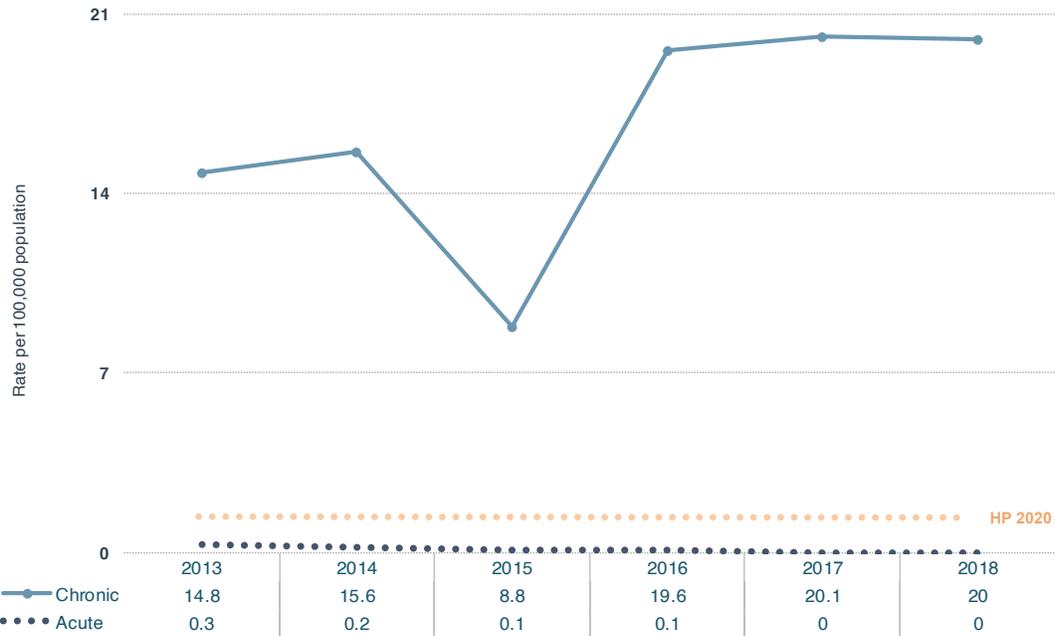


Figure 8

One case of *acute* hepatitis B was reported in 2018; however, a total of 486 *chronic* hepatitis B cases were reported. Adult females ages 35 to 44 years and males 45 years and over had the highest rates of chronic hepatitis B (41.2 and 39.5 cases per 100,000 population, respectively). Rates of chronic hepatitis B for both males and females ages 25 and over have remained consistently higher than the youngest age groups (Figure 9).

**Chronic Hepatitis-B  
Incidence Rates by  
Age and Sex**  
  
**Riverside County  
2018**

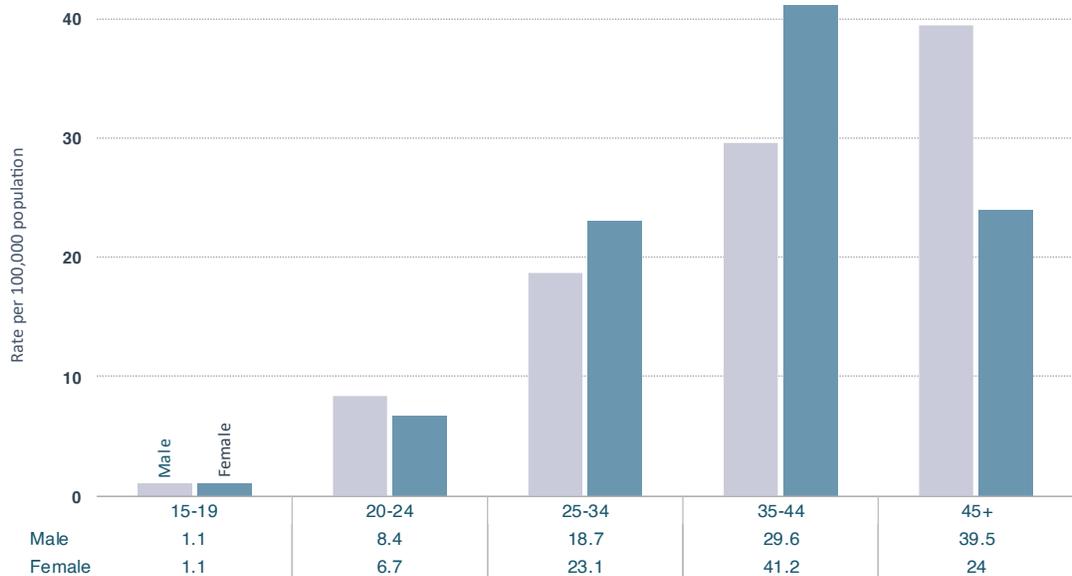
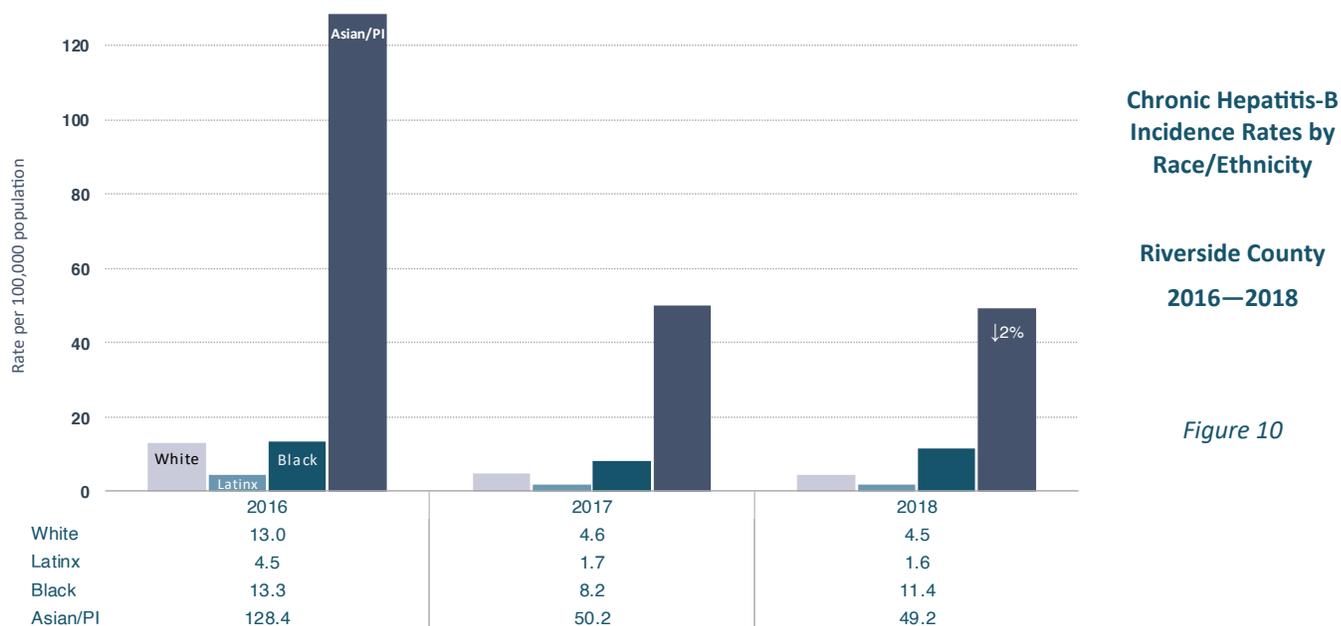


Figure 9

Asian and Pacific-Islander residents account for the highest proportion of reported chronic hepatitis B disease. In 2018, where race was indicated, Asian and Pacific-Islander residents accounted for 49% of new chronic hepatitis B cases. As with previous years, Asian and Pacific-Islanders were disproportionately affected in 2018 with an incidence rate of 49.2 cases per 100,000 population. However, compared to 2017, the Asian/Pacific-Islander rate decreased 2% (Figure 10). According to the Centers for Disease Control and Prevention, “Asian Americans and Pacific Islanders make up less than 5% of the total population in the US, but account for more than 50% of nearly one million Americans living with chronic hepatitis B.” The CDC points out that the burden of chronic hepatitis B in the US is greater among people born in regions with high or moderate prevalence of chronic hepatitis B, including much of Asia and the Pacific Islands.

Reported race numbers for 2017 and 2018 may be lower than usual due to omission or non-completion of the race-ethnicity fields on electronic lab reports. Although reported race numbers remain proportional across years, interpret with caution.



In Riverside County, regional rates per 100,000 population of chronic hepatitis B infection are about evenly distributed: 22.5 in the west region, 15.2 in the south region, 16.1 in the mid region and 18.7 in the east region. The cities of Riverside and Corona were hotspots in 2018.

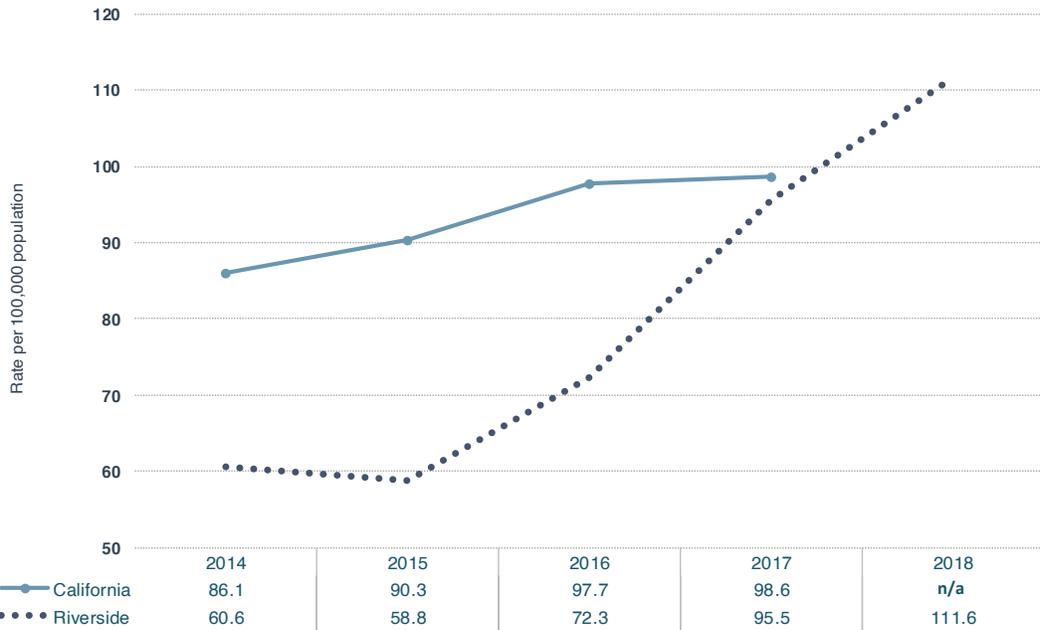
## Hepatitis C

In 2018, the incidence rate of chronic hepatitis C was 111.6 cases per 100,000 population and was the third most reported disease in Riverside County, with 2,708 probable and confirmed new cases. Despite the removal of incarcerated cases, the rate of chronic hepatitis C in Riverside County has increased 84% since 2014. As a result, the gap between State and Riverside County rates has narrowed (Figure 11). Different than hepatitis B, the predominant risk factors for hepatitis C infection are injection drug use, needlestick injuries and getting tattoos with unsterilized equipment. People who received blood transfusions or organ transplants before 1992 are also at risk. In 2018, 164 death certificates indicated Hepatitis C as an underlying cause of death—57% were between 45 and 64 years old.

**Chronic Hepatitis-C Incidence Rates by Year**

**Riverside County 2015—2018**

Figure 11

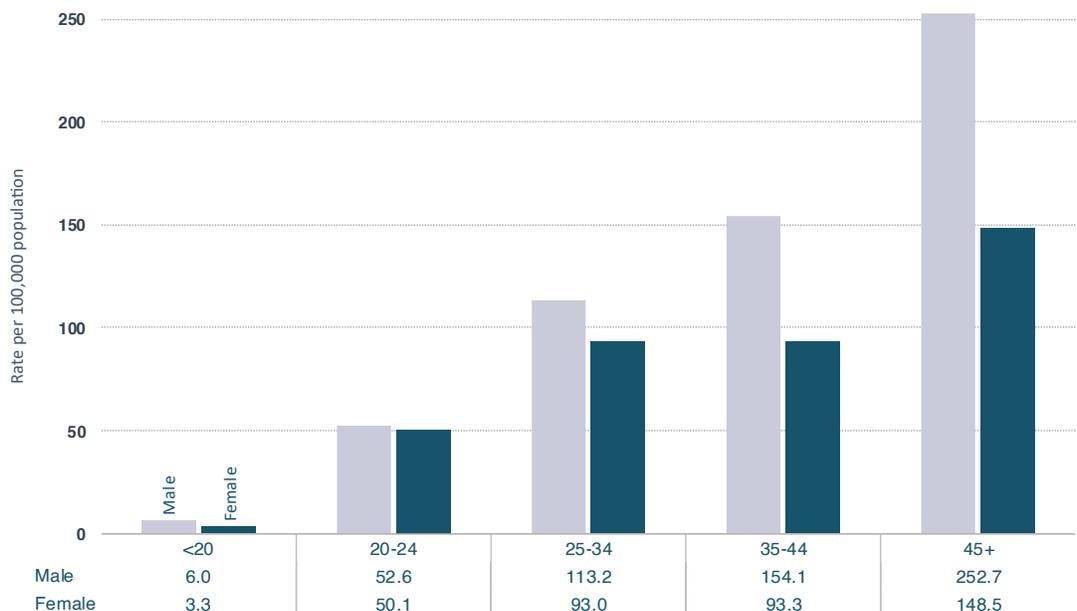


In 2018, males aged 45 years and older continued to have the highest overall incidence rate with 252.7 cases per 100,000 population (Figure 12). The overall combined incidence rate of chronic hepatitis C was also highest among those 45 years and older with an incidence rate of 198.2 cases per 100,000. The lowest incidence rates were reported among young adults under 20 with 4.7 cases per 100,000 population. Over the past decade, the male-to-female ratio of chronic hepatitis C in Riverside County has remained constant. In 2018, there were 1.5 male cases for each reported female case. However, the gender gap in those 24 years of age and under has narrowed.

**Chronic Hepatitis-C Incidence Rates by Age and Sex**

**Riverside County 2018**

Figure 12



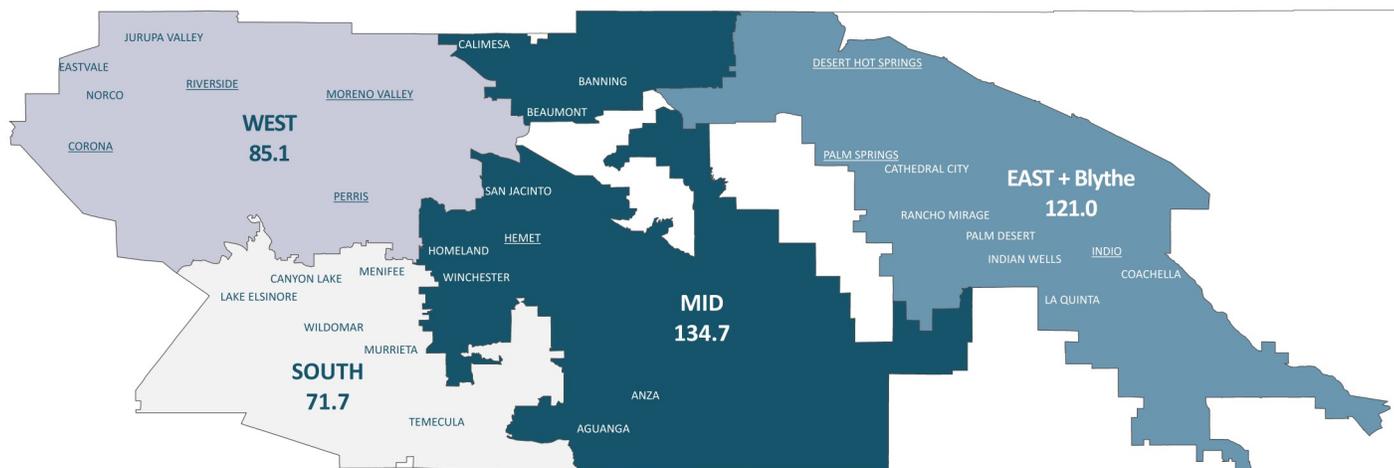
Approximately 78% of chronic hepatitis C cases had an unknown race or ethnicity. Reports of hepatitis C indicating race or ethnicity may not offer a truly representative sample of each respective race or ethnicity. Trends must therefore be interpreted with caution. Among cases where race or ethnicity was specified, non-Latinx Black residents had the highest rate with 53 cases per 100,000 population. Furthermore, the rates for non-Latinx White and Black residents increased 32% and 29% respectively when compared to 2017 (Figure 13). Overall, Latinx and Asian/Pacific-Islander rates have remained well below those of non-Latinx White and Black residents.



Figure 13

For the second time in a row, chronic hepatitis C incidence rates were highest in the mid region of Riverside County, with 134.7 cases per 100,000 population. This was followed by the east county region with 121 cases per 100,000 population, west region with 85.1 cases per 100,000 population and south region with 71.7 cases per 100,000 population. Countywide, the city of Riverside was the biggest hotspot in 2018 with 446 non-incarcerated cases of chronic hepatitis C reported. The city of Hemet reported the second biggest number of new non-incarcerated cases with 230 (a 37% increase compared to the previous year).

Chronic Hepatitis C Incidence Rates per 100,000 population by Region, Riverside County 2018



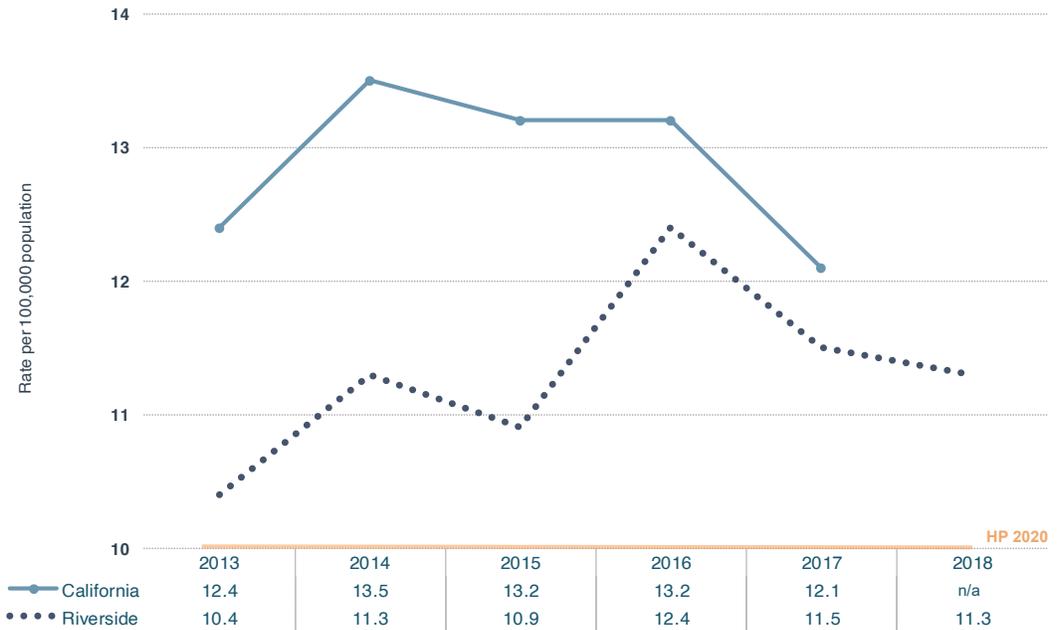
## HIV/AIDS

In 2018, there were 274 **incident** (or newly diagnosed) HIV cases and 91 **incident** AIDS cases. Of the newly diagnosed HIV cases, 73% indicated they were gay, bisexual, or men who have sex with men (MSM). Since 2013, HIV incidence rates in Riverside County remained lower than the California rate but higher than the Healthy People 2020 goal of 10 cases per 100,000 population (Figure 14). The **prevalence** rate for HIV/AIDS, or **number of people currently living with HIV regardless of year of diagnosis or stage of disease**, was 394.8 cases per 100,000 population. In 2018, there were 9,578 people living with HIV/AIDS in Riverside County. These numbers are significantly higher than previously reported. Recent improvements in HIV surveillance at the State level have led to higher but more accurate prevalence numbers.

HIV Incidence Rates by Year

Riverside County  
2013—2018

Figure 14

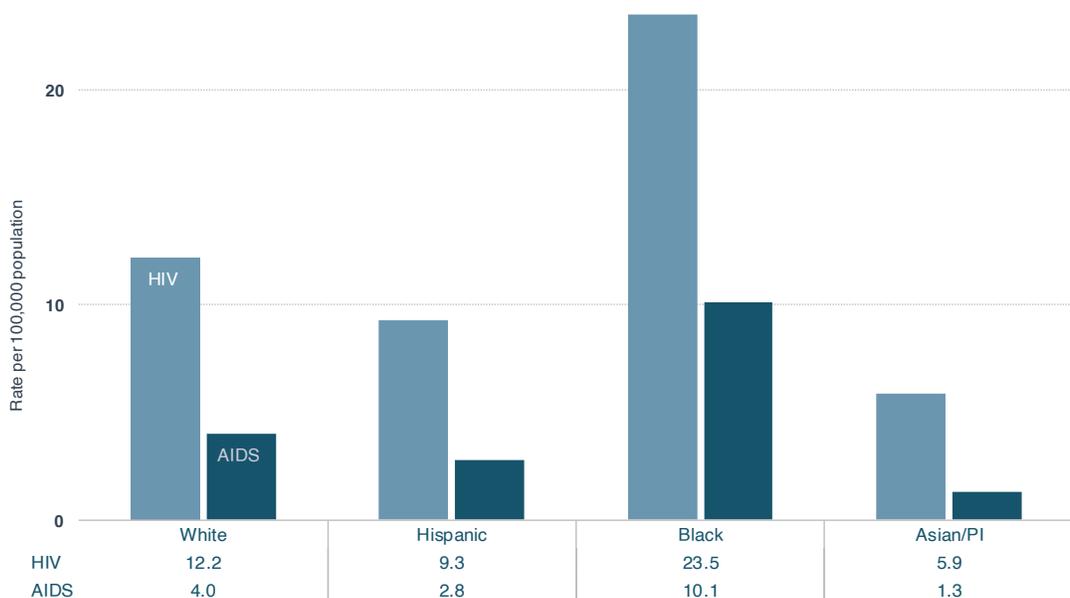


Since the introduction of highly effective antiretroviral therapy (HAART) in the mid-90s, AIDS (HIV Stage 3) rates have generally declined among all racial and ethnic groups. However non-Latinx Black residents in Riverside County experienced disproportionately higher incidence rates of both AIDS and HIV in comparison to non-Latinx White and Latinx residents (Figure 15). Since 2007, AIDS and HIV incidence rates in the Black community have remained higher than all other racial and ethnic groups.

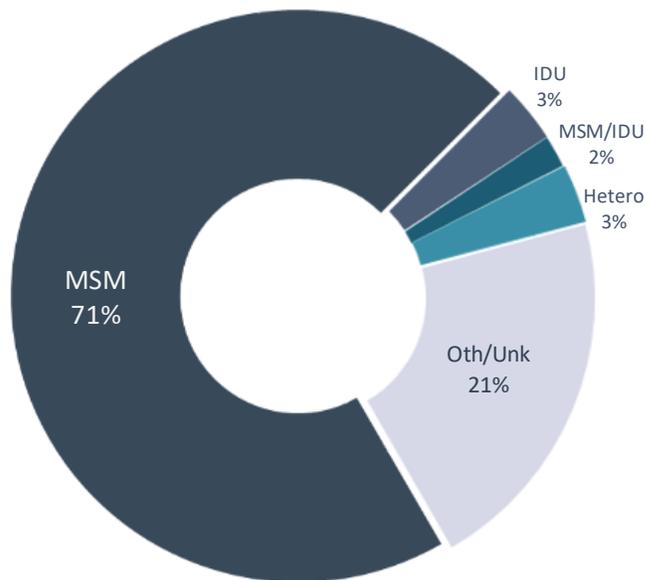
HIV and AIDS Incidence Rates by Race/Ethnicity

Riverside County  
2018

Figure 15



Unprotected sex among gay, bisexual, or other men having sex with men (MSM) was the sole and primary reported risk factor in 71% of reported HIV infections in 2018 (with an additional 2% indicating injection drug use). Injection drug use, or IDU, was a risk factor in 5% of new HIV infections. The predominant risk factor for women was heterosexual contact. The majority of HIV and AIDS cases in Riverside County were male. Among newly reported HIV cases, males had an incidence rate of 20.6 cases per 100,000 population and females had an incidence rate of 2.1 per 100,000 population. In 2018, 91% of all newly reported HIV cases were male.



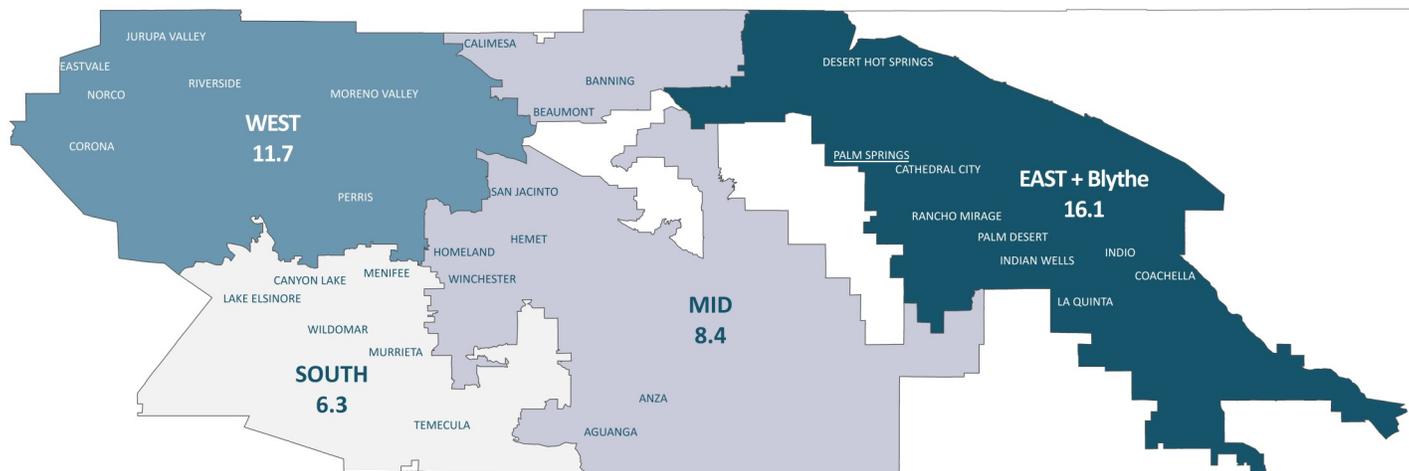
**Risk Factors for HIV Infection**

**Riverside County 2018**

Figure 16

In 2018, regional HIV incidence rates were distributed as follows: west (11.7 new cases per 100,000), south (6.3 new cases per 100,000), mid (8.4 new cases per 100,000) and east (16.1 new cases per 100,000). The east region continues to have the highest rates of HIV in Riverside County. Palm Springs and its neighboring cities continue to be hotspots in the east region and Riverside County in general.

Human Immunodeficiency Virus (HIV) Incidence Rates per 100,000 population by Region, Riverside County 2018



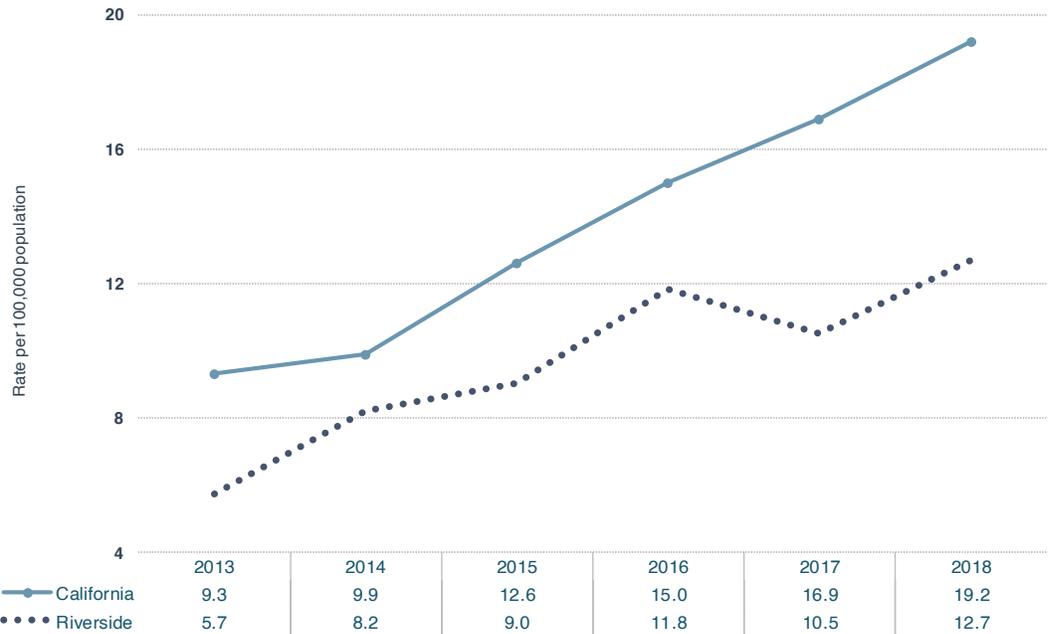
# Syphilis

In 2018, the incidence rate of primary and secondary syphilis was 12.7 cases per 100,000 population. This was a 21% increase compared to 2017 (Figure 17). Out of 308 reported new cases, 83% were male. In 2018, nearly 29% of new cases were co-infected with HIV. The increases in syphilis cases are mostly observed in HIV positive gay, bisexual or other men who have sex with men (MSM). The Healthy People 2020 objective sets annual targets of 1.3 cases per 100,000 females and 6.7 cases per 100,000 males. In 2018, Riverside County was over the HP 2020 annual target for females with an incidence rate of 4.2 cases per 100,000 females. The incidence rate for males was 21.3 cases per 100,000 population — triple the HP 2020 target.

## Primary & Secondary Syphilis Incidence Rates by Year

### Riverside County 2013—2018

Figure 17

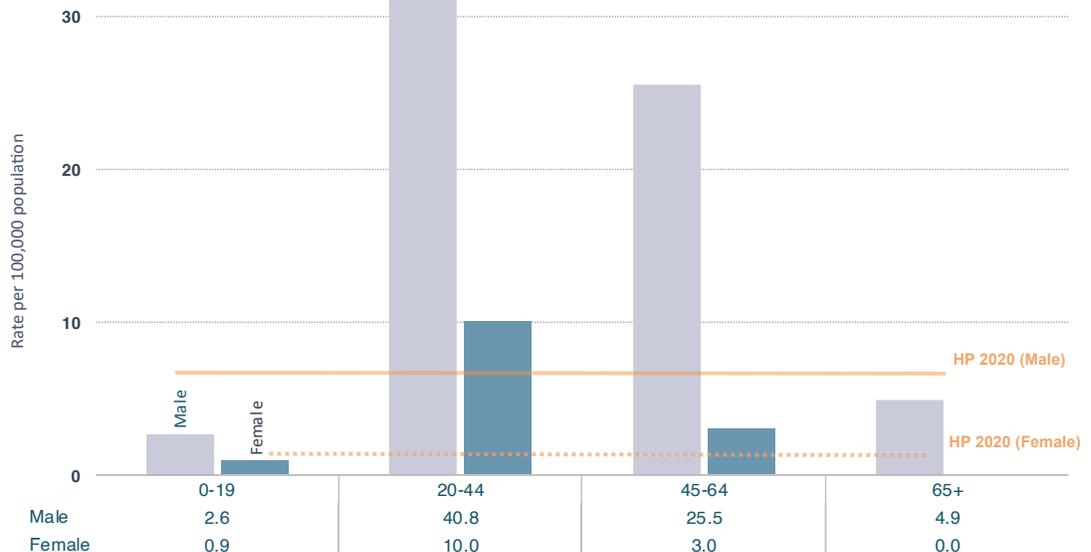


The median age of reported new primary and secondary syphilis cases was 37 years old. Adult males aged 20 to 44 years had the highest incidence of syphilis, accounting for 54% of all reported new cases. In 2018, the incidence rate for adult males aged 20 to 44 years was 40.8 cases per 100,000 population (Figure 18). Since 2000, almost all new cases of primary and secondary syphilis were male. In 2018, approximately 71% of male syphilis cases indicated having sexual contact with other men.

## Primary & Secondary Syphilis Incidence Rates by Age and Sex

### Riverside County 2018

Figure 18



In 2018, non-Latinx Black residents had the highest incidence rate with 20.1 cases per 100,000 population (Figure 19). Non-Latinx White residents accounted for 44% of these new cases. Before 2016, incidence rates per 100,000 population for non-Latinx White residents had been the highest among all racial and ethnic groups. However, starting in 2016, non-Latinx Black resident rates were the highest. In 2018, rates for non-Latinx White and Black residents rose 24% and 23% respectively. Risk factors associated with syphilis infection include unprotected sex and having multiple sex partners.

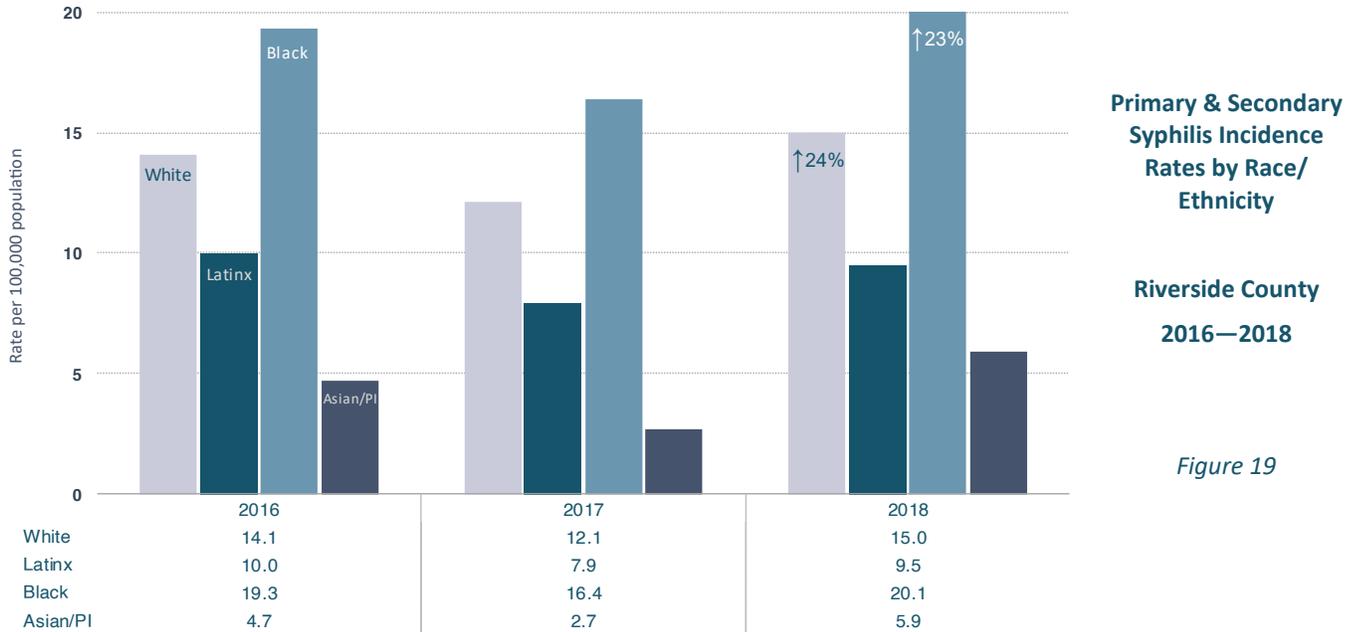
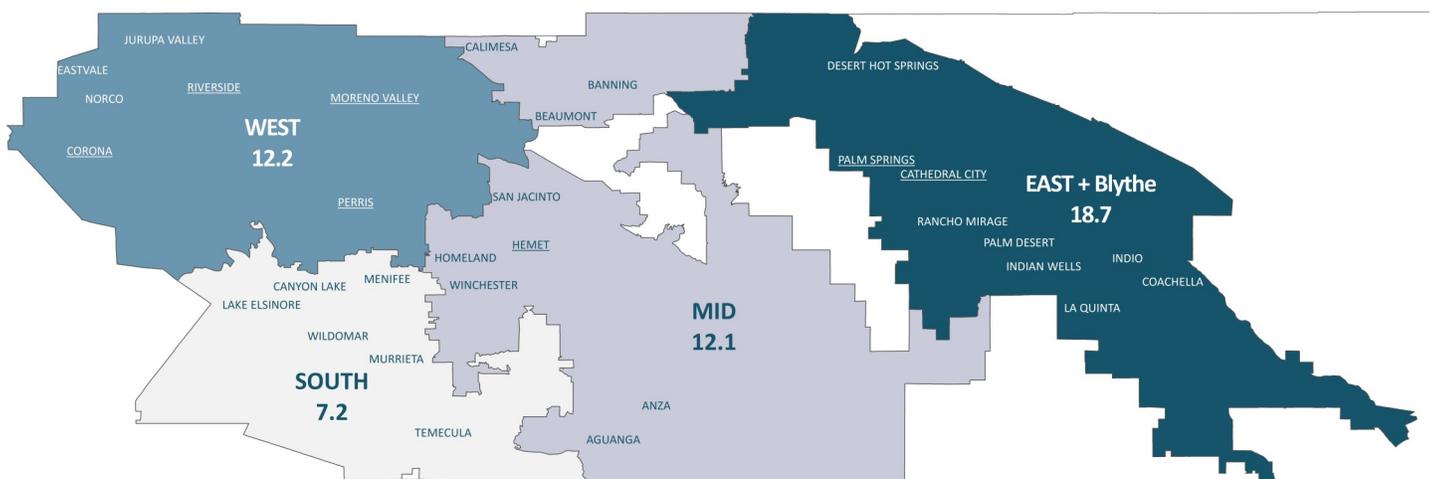


Figure 19

Of all new primary and secondary syphilis cases, 31% reported living in the east region of Riverside County. The 2018 incidence rate in this region was 18.7 cases per 100,000 population but represented a 23% decrease compared to 2017. The city of Palm Springs reported the second highest number of new syphilis cases and continues to be a hotspot. Countywide, 17% of all new cases in 2018 resided in Palm Springs. In 2018, the city of Riverside reported the highest number of new cases with 64—representing a 60% increase compared to 2017. Increases in the number of new cases compared to previous years were also observed in Moreno Valley, Perris and Corona. Overall, the west region saw a significant 82% increase compared to the previous year.

Primary and Secondary Syphilis Incidence Rates per 100,000 population by Region, Riverside County 2018



## VACCINE PREVENTABLE DISEASES

### Highlights

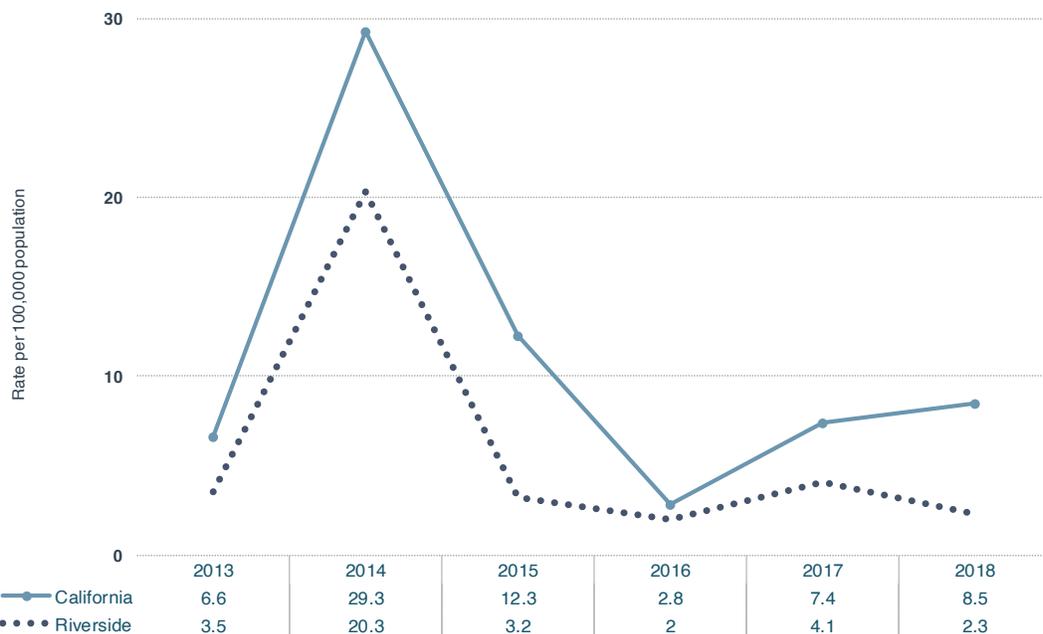
- Incidence of vaccine preventable diseases in Riverside County are at historically low levels. In order to continue this trend, immunization coverage must remain high.
- Three cases of hepatitis A were reported in 2018. This was an 82% decrease compared to 2017 and the lowest number of cases reported since 2011.
- In 2018, one measles case was acquired while the patient was visiting a country with an ongoing measles outbreak.
- Fifty-six cases of pertussis were reported in 2018. This was almost half the number of cases compared to 2017.
- Based on the California Kindergarten Immunization Assessment (School Year 2017-2018), 96.3% of Riverside County children are fully immunized by kindergarten entrance.

Table 1: Incidence of Reportable Vaccine Preventable Diseases, Riverside County 2013-2018

Disease	2013	2014	2015	2016	2017	2018
Diphtheria	0	0	0	0	0	0
Haemophilus Influenza	5	2	5	5	1	1
Hepatitis A	13	13	12	11	17	3
Hepatitis B, acute	6	4	2	2	0	1
Hepatitis B, perinatal	0	0	0	0	0	0
Meningococcal Disease	3	2	2	1	5	1
Measles	1	5	8	0	0	1
Mumps	3	4	0	1	1	1
Pertussis	80	461	135	47	97	56
Polio	0	0	0	0	0	0
Rubella	0	0	0	0	1	0
Tetanus	0	0	0	0	0	0

## Pertussis

In 2018, 56 cases of pertussis were reported in Riverside County, with an incidence rate of 2.3 cases per 100,000 population. In general, Riverside County rates remain below California rates (Figure 20). Cyclical spikes like the one seen in 2014 are expected every three to five years.

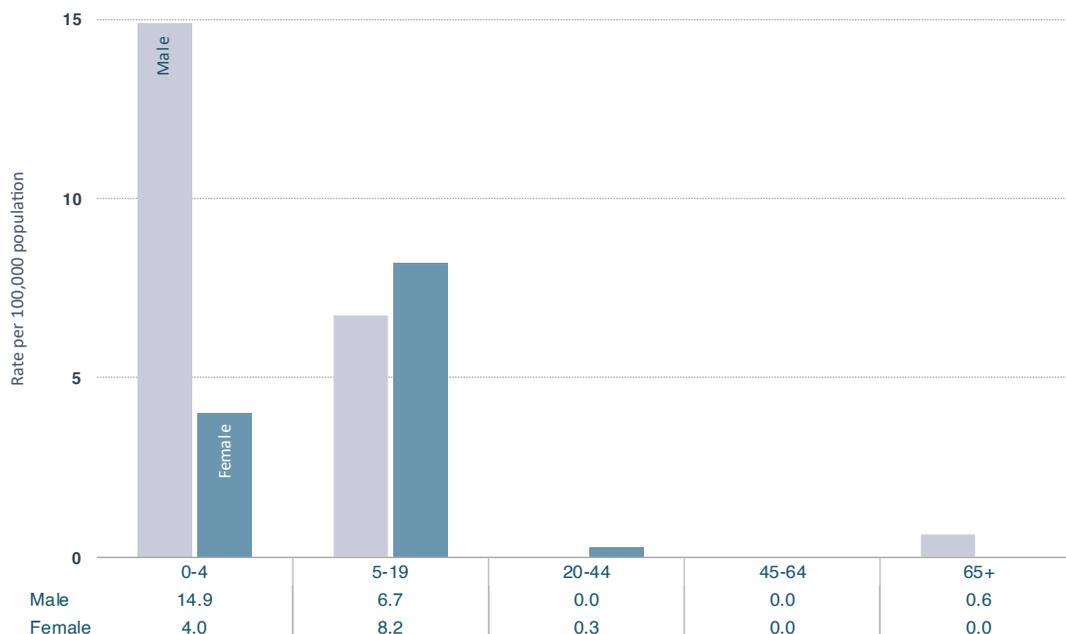


**Pertussis Incidence Rates by Year**

**Riverside County 2013—2018**

*Figure 20*

Pertussis, or whooping cough, usually presents with a predictable clinical manifestation following the onset of an irritating cough that gradually becomes paroxysmal and can last up to two months. Paroxysmal coughing is repeated violent coughing, followed by a high-pitched ‘whoop’. Unvaccinated infants, especially infants younger than two months who are not yet able to be fully vaccinated, are the most susceptible to acquiring pertussis. In Riverside County, 96% of all reported new cases were young people under the age of twenty. In 2018, male infants and toddlers between the ages of 0 to 4 years had the highest incidence rate across all genders and age groups with 14.9 cases per 100,000 population (Figure 21).



**Pertussis Incidence Rates by Age and Sex**

**Riverside County 2018**

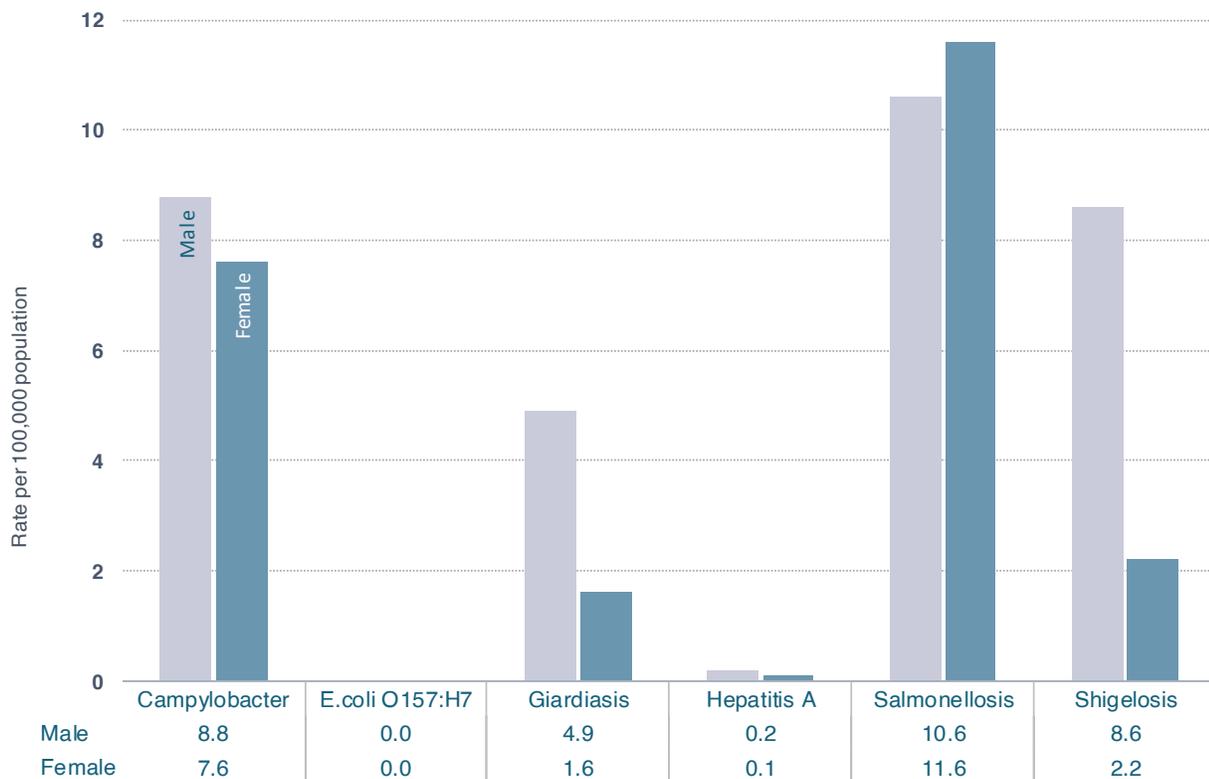
*Figure 21*

## ENTERIC DISEASES

### Highlights

- Enteric diseases are diseases spread via food and water contaminated with animal or human waste. In 2018, campylobacteriosis and salmonellosis were the most commonly reported enteric diseases.
- In 2018, the number of new campylobacteriosis cases decreased 38% compared to 2017. Though not as drastic, the number of giardia cases also declined 11%. However, the number of new cases increased for both salmonellosis (up 6%) and shigellosis (up 20%).
- Traditionally, rates for enteric infections—many of which are avoidable with good hand washing—are highest among the youngest age groups. In the past couple of years, rates for enteric diseases among the oldest age groups are similar to or exceed the youngest age groups.
- Rates per 100,000 for shigellosis increased again in 2018 with the highest rate per 100,000 among men 45 to 64 years of age. Almost half of new shigellosis cases were reported among males ages 45 years and up. An increase in drug resistant shigella flexneri was noted in men who have sex with men (MSM).
- Three cases of hepatitis A were reported in 2018. Low incidence rates compared to the previous decade, may be due to the recommendation for routine hepatitis A vaccination of children aged 12 months and older. Implementation of routine hepatitis A vaccination for children began in the mid 1990s.

Incidence Rates of Enteric Diseases by Sex, Riverside County 2018



## Campylobacteriosis

There were 199 cases of campylobacteriosis reported in 2018, with an incidence rate of 8.2 cases per 100,000 population. This was a 39% decrease compared to the previous rate of 13.5 cases per 100,000 in 2017. In 2018, Riverside County incidence rates for campylobacteriosis were below the Healthy People 2020 objective of 8.5 cases per 100,000 population (Appendix Table 6). Riverside County incidence rates also continue to remain significantly below California rates (Figure 23).

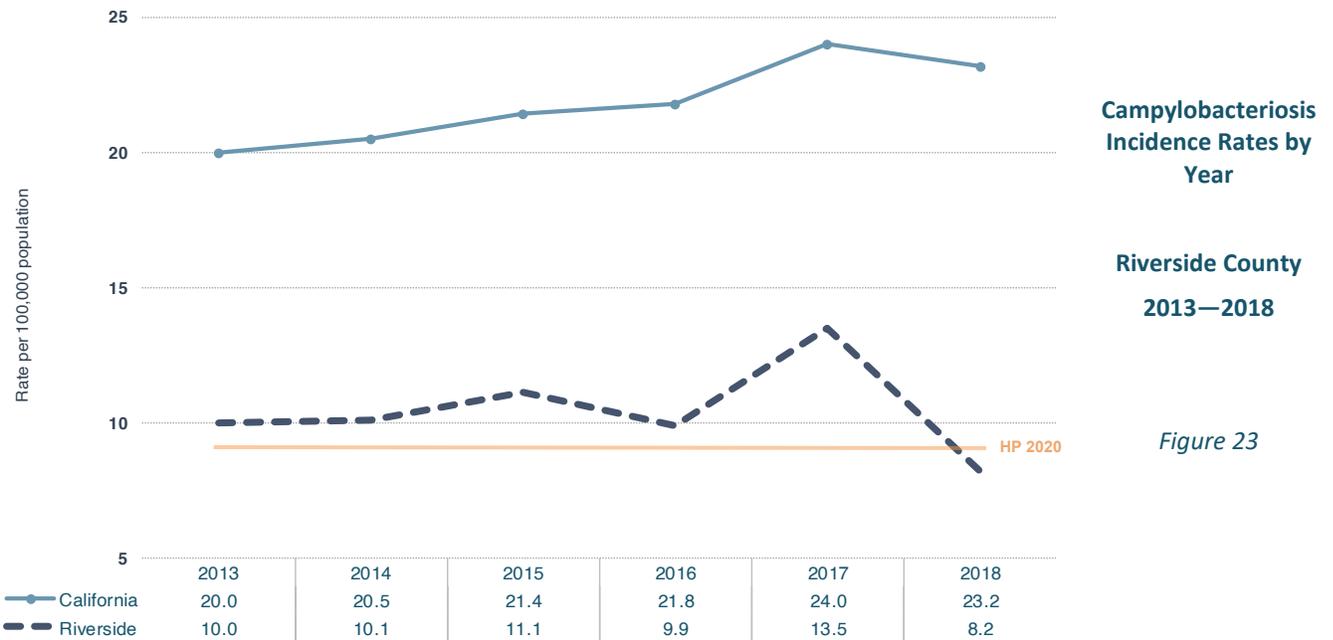


Figure 23

## E. Coli O157:H7

Since 2011, Riverside County has reported an average of 6.7 cases of *E. Coli O157:H7* per year. Incidence rates remain below both California rates and the Healthy People 2020 goal of 0.6 cases per 100,000 population (Figure 24). There were no cases reported in 2018.

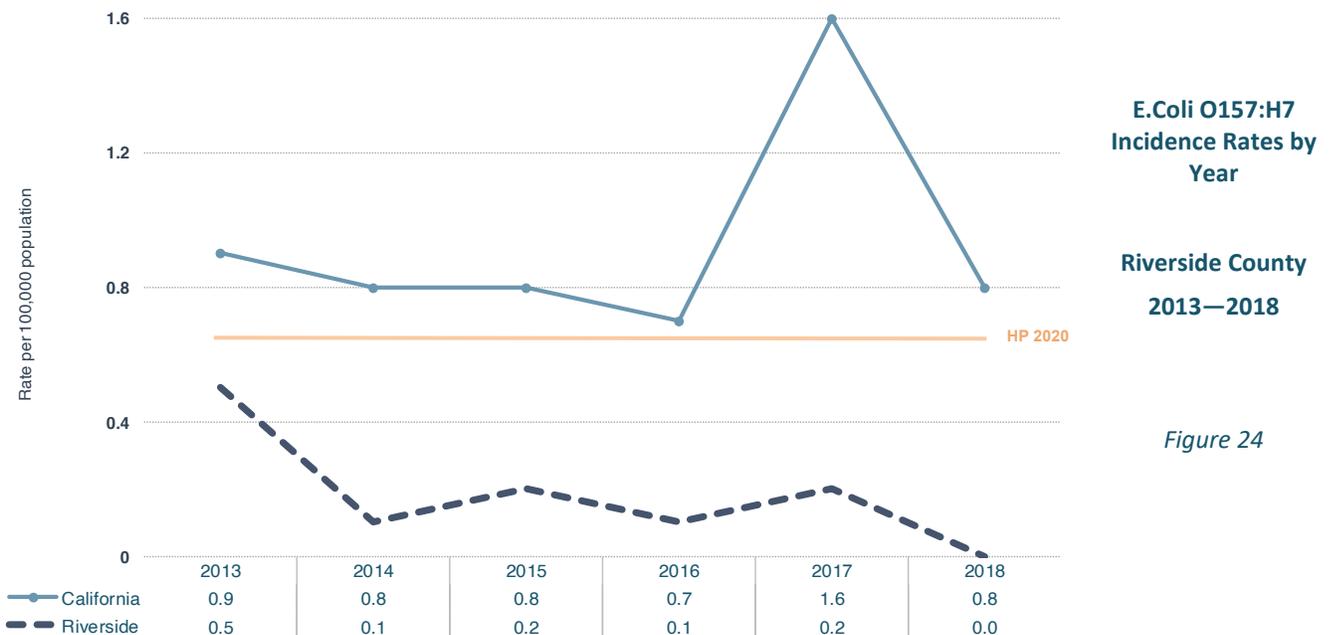


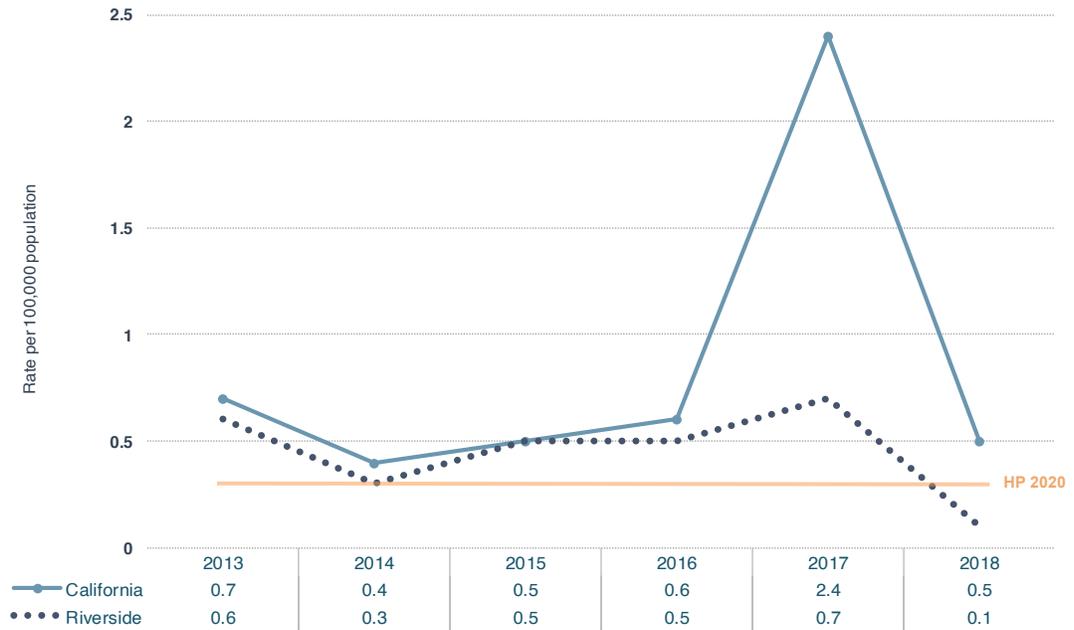
Figure 24

## Hepatitis A

Hepatitis A incidence rates have decreased from a peak of 27.3 cases per 100,000 population in 1996 to 0.1 cases per 100,000 population in 2018. None of the three cases reported in 2018 indicated a source of exposure. Common risk factors for hepatitis A include food-borne exposure, foreign travel and intravenous drug use. Historically, the incidence of hepatitis A peaks every five to seven years. In 2018, Riverside County met the Healthy People 2020 objective of 0.3 cases per 100,000 population (Figure 25). California numbers also declined but remained above the HP 2020 objective.

**Hepatitis A  
Incidence Rates by  
Year**  
  
**Riverside County  
2013—2018**

Figure 25

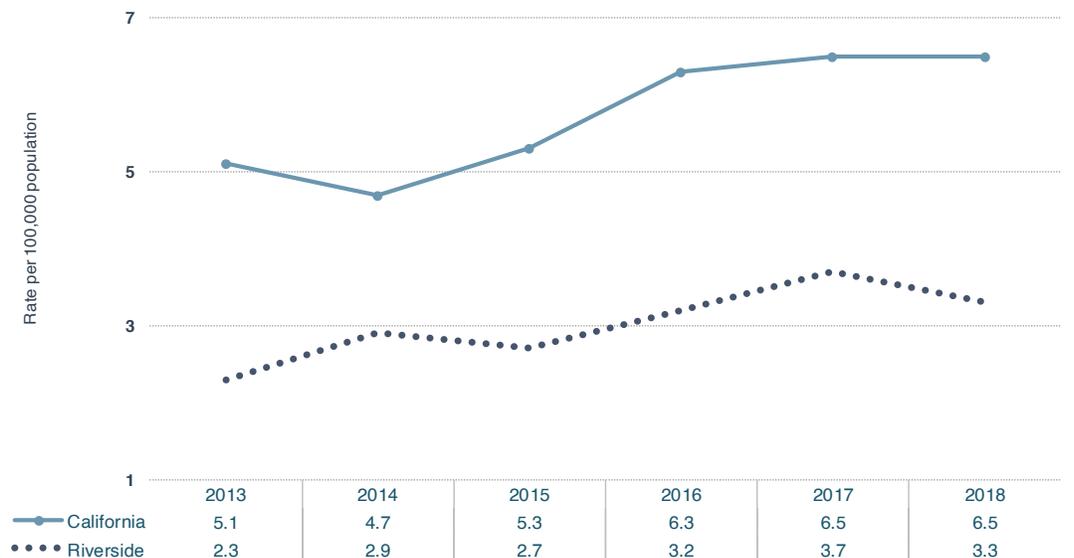


## Giardiasis

Seventy-nine cases of giardiasis were reported in 2018, with an incidence rate of 3.3 cases per 100,000 population. Riverside County incidence rates per 100,000 population remain significantly below California rates. Incidence rates of giardiasis decreased 11% compared to the previous year (Figure 26). The highest rates are seen among men between the ages of 45 to 64 and 65 years and up (Appendix Table 14).

**Giardiasis  
Incidence Rates by  
Year**  
  
**Riverside County  
2013—2018**

Figure 26



## Salmonellosis

In 2018, 269 cases of salmonellosis were reported in Riverside County, with an incidence rate of 11.1 cases per 100,000 population. Children aged 4 years and younger had the highest incidence rate with 31.6 cases per 100,000 population. Rates in Riverside County remain below both California rates and the Healthy People 2020 objective of 11.4 cases per 100,000 population. However, since 2015 Riverside County rates have steadily increased and could soon exceed the HP 2020 objective.



Figure 27

*Salmonella* infection presents with a range of clinical manifestations. Milder disease often goes undiagnosed or unreported, masking the true incidence of the disease. In addition to poor hand hygiene common among young children, parents of symptomatic children are more inclined to seek medical care which may account for the increased rates in these age groups. In Riverside County, 34% of reported new cases in 2018 were children and teens from 0 to 19 years of age. Out of 269 reported new cases, risk factors were indicated as follows: foodborne exposure (51% of cases), travel abroad (37% of cases) and animal exposure (12% of cases).

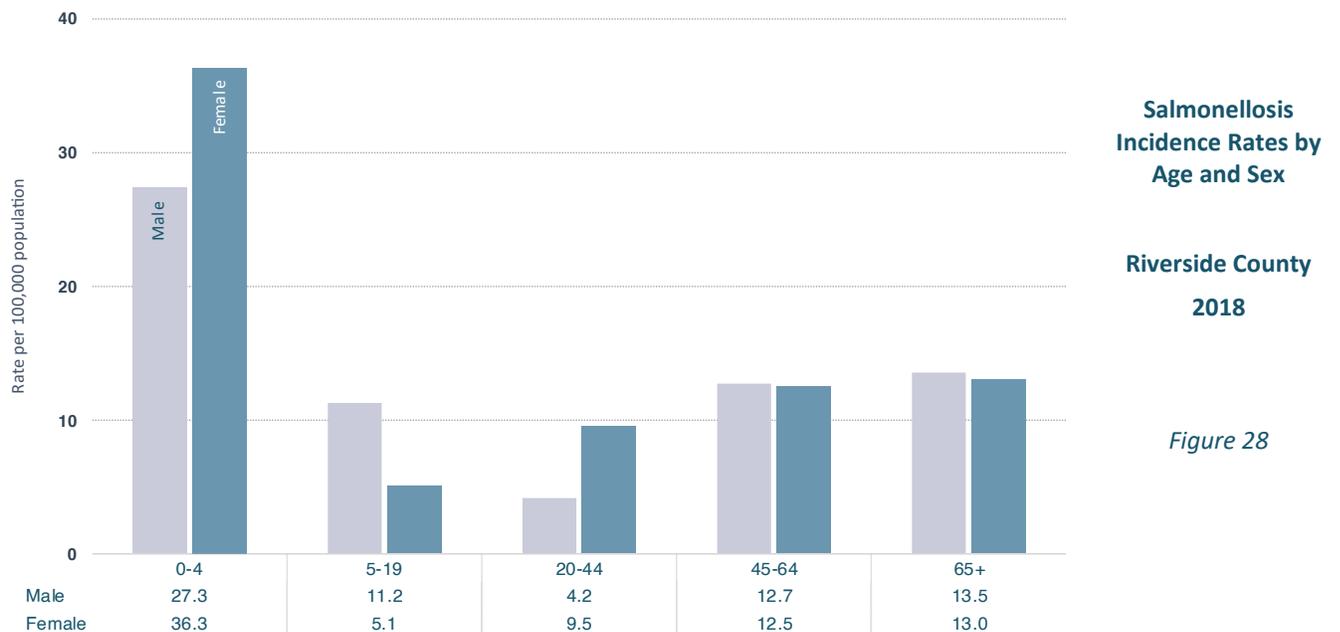


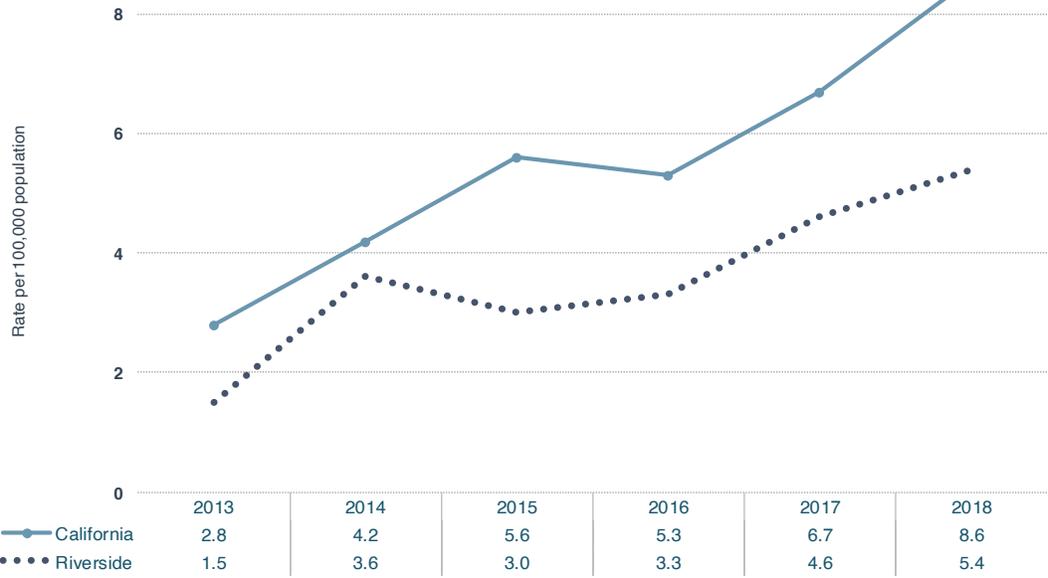
Figure 28

## Shigellosis

In 2018, shigellosis was the third most commonly reported gastrointestinal disease in Riverside County, with 131 reported cases and an incidence rate of 5.4 cases per 100,000 population. Young children traditionally make up the bulk of reported new cases in Riverside County; however, adult men aged 45 years and older accounted for nearly 68% of all new cases in 2018. Since 2012, rates for both Riverside County and the State have increased 130%. Similar to California and the United States, the most commonly reported species of *shigella* in Riverside County were serogroups *B* and *D*.

**Shigellosis Incidence Rates by Year**  
**Riverside County 2013—2018**

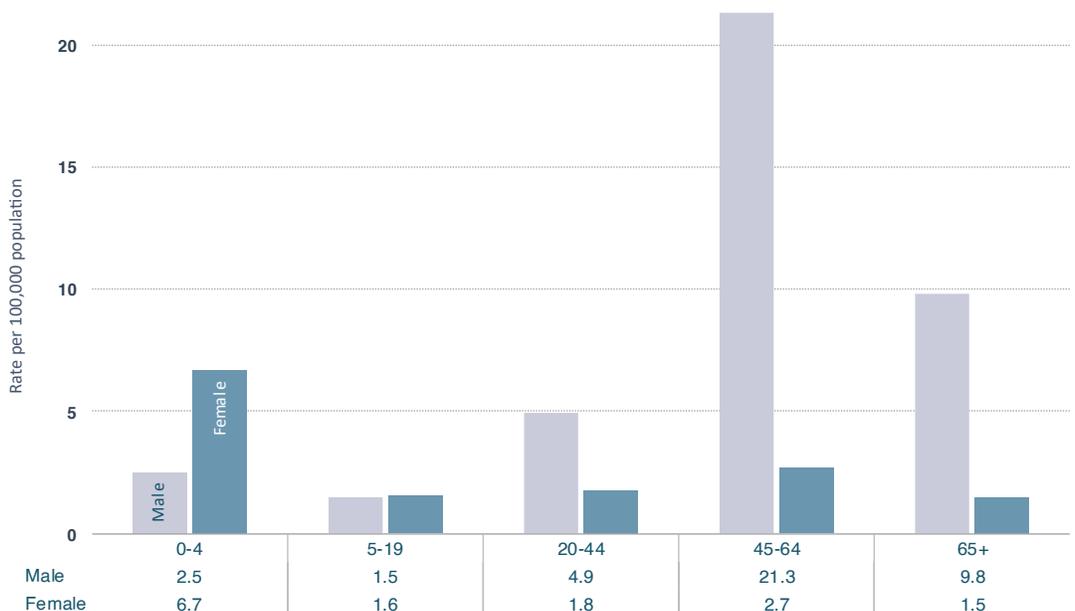
Figure 29



High incidence rates of shigellosis were reported in female children ages 0 to 4 years with 6.7 cases per 100,000 (Figure 30). Poor hand hygiene, swimming in lakes and attending day care are often reported as risk factors for transmission of *shigella* in these younger age groups. In recent years, the number of new cases among males aged 45 years and older has surpassed the youngest age groups. In 2018, approximately 67% of shigellosis cases originated in the east region of Riverside County. The east region also had the highest overall incidence rate with 17.3 cases per 100,000 population. The average rate for the remaining regions was 2.3 cases per 100K.

**Shigellosis Incidence Rates by Age and Sex**  
**Riverside County 2018**

Figure 30

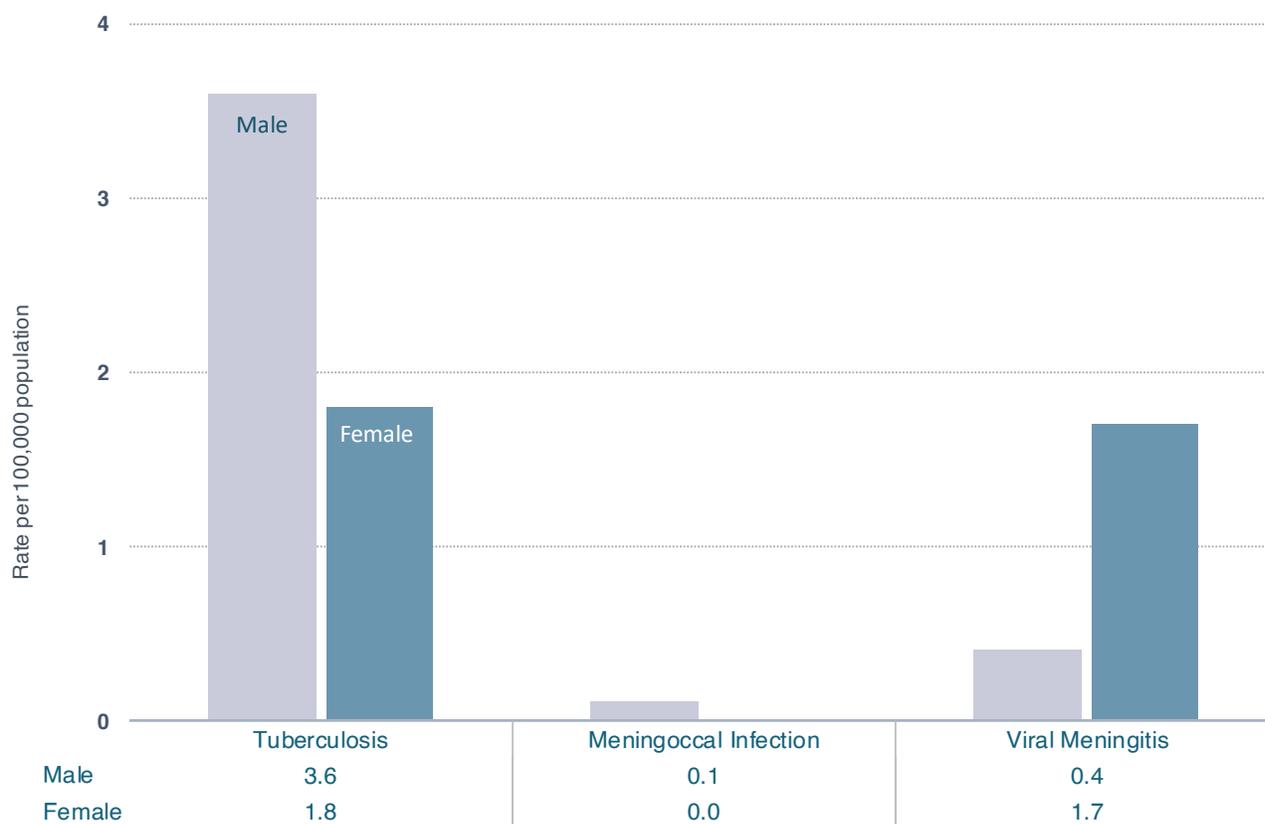


## DISEASES SPREAD BY CLOSE PERSONAL CONTACT

### Highlights

- Although TB incidence rates have decreased in Riverside County since 2008, overall they continue to exceed the Healthy People 2020 objective of one case per 100,000 population.
- Sixty-five new cases of tuberculosis were reported in 2018. One of these cases was identified as multi-drug resistant (or MDR-TB).
- The Advisory Committee on Immunization Practices now recommends routine meningococcal vaccination for 11-12 year olds. Although meningococcal disease is rare, the mortality rate can be high without prompt diagnosis and treatment.
- Riverside County's last major outbreak of viral meningitis occurred in 2008 with 5.1 cases per 100,000 population. Annual rates since 2008 have fluctuated between one to two cases per 100,000 population. In 2018, only 26 new cases of viral meningitis were reported with an incidence rate of 1.1 cases per 100,000.

### Incidence Rates of Diseases Spread by Close Personal Contact, Riverside County 2018



## Meningococcal Disease

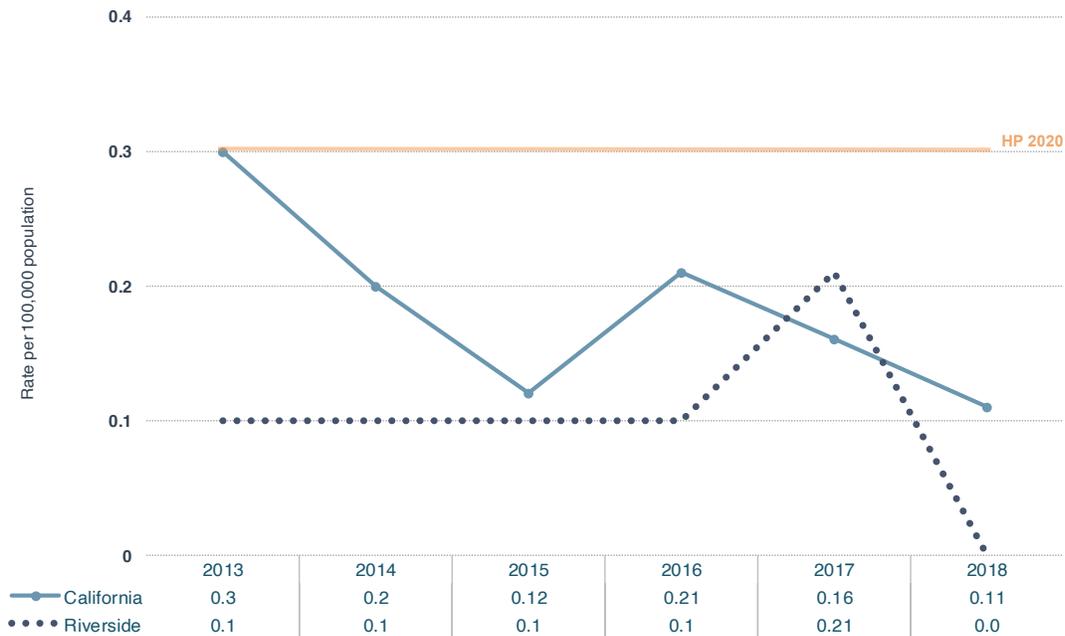
Of all reportable diseases acquired through close personal contact, meningococcal disease is the least common in Riverside County. In 2018, one case of unknown serotype was reported. After exceeding State rates in 2017, Riverside County rates dropped to virtually zero in 2018 (Figure 32). Young adults and young children are usually at highest risk for meningococcal disease due to their tendency to live or spend time in crowded facilities (e.g., schools, dormitories or malls). Since 2002, the rate of meningococcal disease in Riverside County has remained at or below the Healthy People 2020 objective of 0.3 new cases per 100,000 population.

According to the CDC, *meningococcus* bacteria are spread through the exchange of respiratory and throat secretions like saliva. Living in close quarters and kissing are common means of infection. Seniors living in nursing homes and young adults living in college dormitories are examples of populations vulnerable to meningococcal disease.

### Meningococcal Disease Incidence Rates by Year

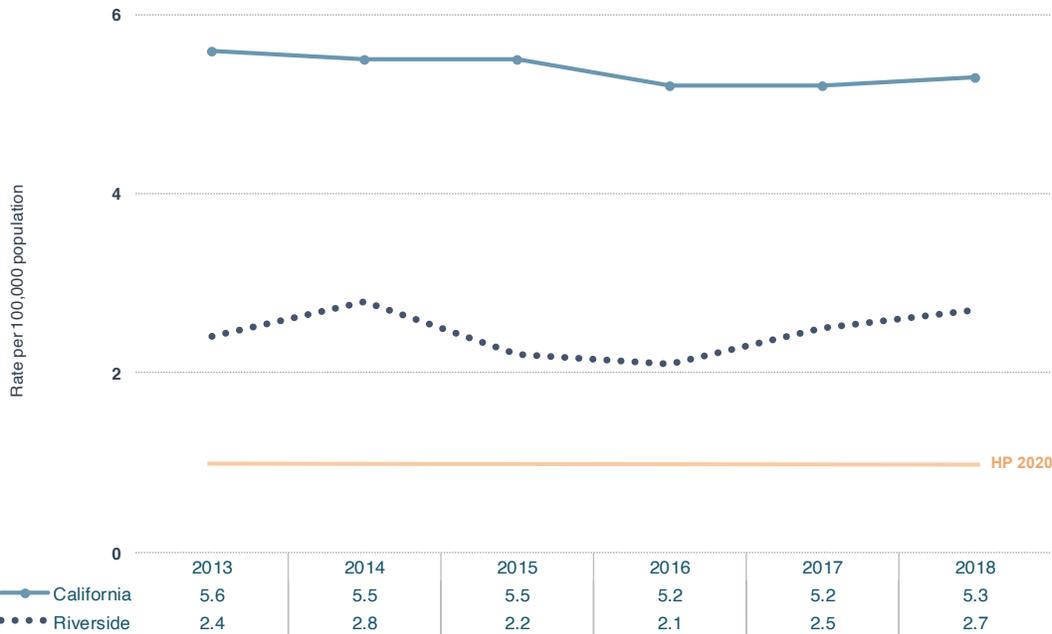
#### Riverside County 2013—2018

Figure 32



## Tuberculosis

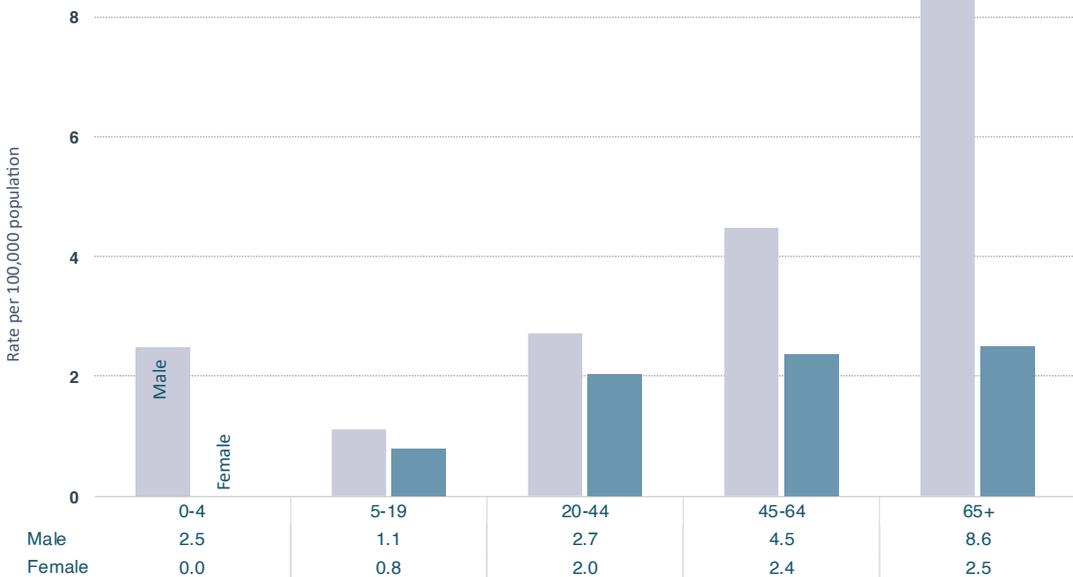
In 2018, there were 65 reported new cases of tuberculosis, with an incidence rate of 2.7 cases per 100,000 population. Since 2012, reported tuberculosis rates in Riverside County have remained significantly below California rates (Figure 33). Unfortunately, Riverside County rates still remain above the Healthy People 2020 objective of one case per 100,000 population.



**Tuberculosis Incidence Rates by Year**  
**Riverside County 2013—2018**

Figure 33

The rate of tuberculosis was highest among adults aged 65 years and older with an overall incidence rate of 5.2 cases per 100,000 population. In 2018, males had the highest rates across all age groups (Figure 34). Elevated rates in older populations may be due to reactivation of untreated latent infection related to decreased immune system function as age progresses.



**Tuberculosis Incidence Rates by Age and Sex**  
**Riverside County 2018**

Figure 34

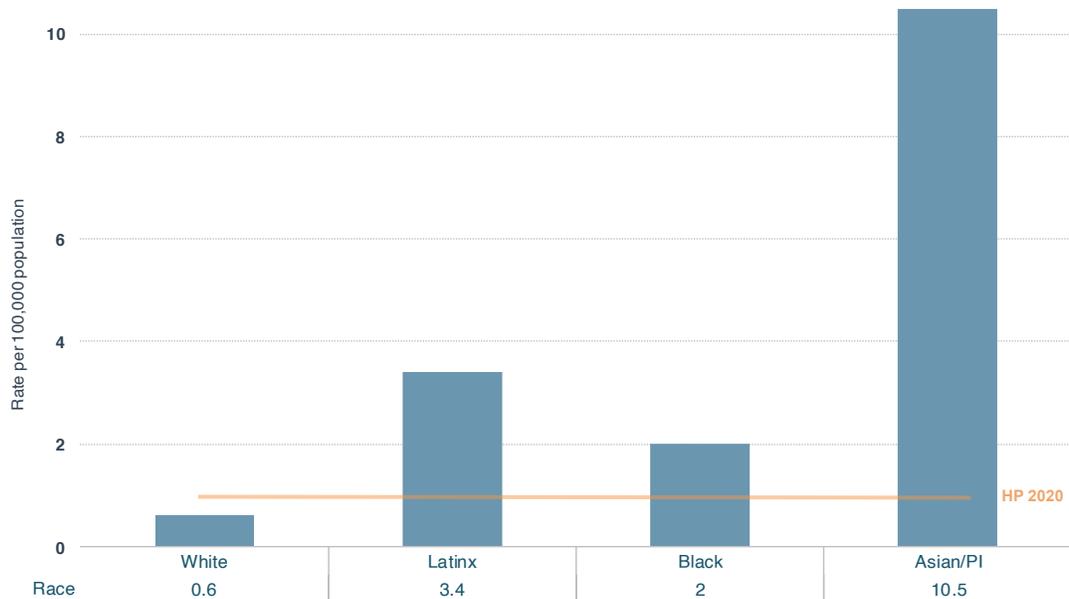
In Riverside County, tuberculosis disproportionately affects racial minorities, with the highest incidence occurring in Asian/Pacific Islanders (10.5 cases per 100,000 population) followed by Latinx (3.4 cases per 100,000 population). The rate among non-Latinx White residents in Riverside County was below the overall Healthy People 2020 goal of one case per 100,000 population (Figure 35).

In 2018, the majority of new reported cases were 60% Latinx, 25% Asian/Pacific-Islander and 8% non-Latinx White. Half of reported tuberculosis cases were among immigrants. Most of these non-U.S. born cases originated in Mexico (55%), the Philippines (24%) and India (3%).

The incidence rates for tuberculosis were distributed throughout Riverside County in 2018 with the west region having the highest rate at 3.3 cases per 100,000 followed by the east region with 3.1 cases per 100,000 population, the mid region with 2.2 cases per 100,000 population and the south region with 0.8 cases per 100,000 population.

**Tuberculosis  
Disease Incidence  
Rates by  
Race/Ethnicity**  
  
**Riverside County  
2018**

Figure 35



## Viral Meningitis

In 2018, there were 26 reported cases of viral meningitis, with an incidence rate of 1.1 cases per 100,000 population (Figure 36). This decade, the biggest outbreak occurred in 2010 with 4.4 cases per 100,000 population. Since then, Riverside County rates have declined but cycle every three years.

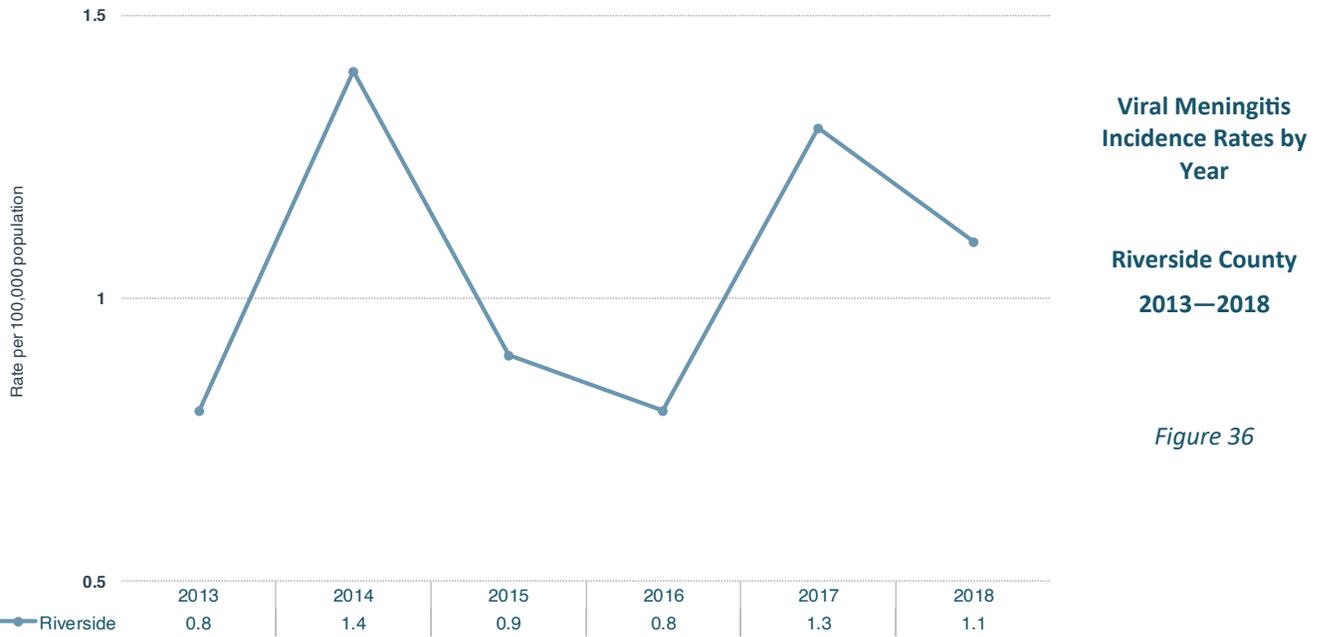


Figure 36

In 2018, female children aged 0 to 4 years were disproportionately affected by viral meningitis with an incidence rate of 12.1 cases per 100,000 population (Figure 37). Although rates for males in all age groups were about evenly distributed, male children 0 to 4 years had a high incidence rate of 2.5 cases per 100,000. Geographically, the west region had the highest incidence of viral meningitis with 1.4 new cases per 100,000 population, followed by the south (1.3), mid (0.9) and east region with 0.2 cases per 100,000 population.

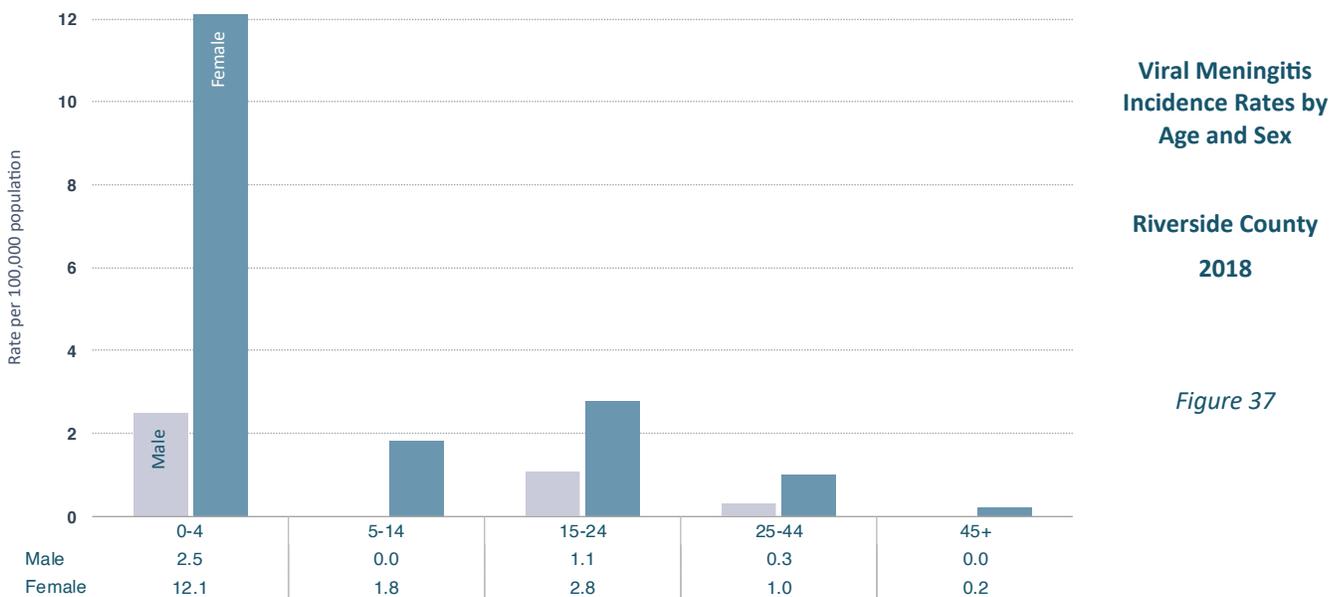


Figure 37

## DISEASES SPREAD BY VECTORS

### Highlights

- **Malaria** had the biggest decrease in the number of reported new cases. Numbers went down 70% compared to the previous year.
- Three cases of malaria were reported in 2018 among Riverside County residents. All three cases originated outside the United States.
- **West Nile Virus** had the second biggest decrease in the number of reported vector-borne cases. Numbers went down from 21 cases in 2017 to 9 cases in 2018—a 57% drop.
- One case of **Lyme Disease** was reported in Riverside County in 2018.
- There were no cases of **Zika** or **Chikungunya** reported in 2018.

### Introduction

Vector-borne diseases are spread by insects or arthropods carrying an infectious bacteria, parasite, or virus either on or inside them. Many insects like fleas, mosquitoes, and sand flies can spread disease when they bite a human in search of a blood-meal. In doing so, they may transmit an infectious organism inadvertently to a human or another animal. While there are many vector-borne diseases worldwide, only a few are seen in Riverside County with any notable frequency. Though extremely rare, the diagnosis of vector-borne diseases like plague, yellow fever or other viral hemorrhagic fever is a very important public health event that should be reported immediately to the health department.

In 2018, Riverside County did not report any cases of Zika, a mosquito-borne virus with devastating consequences to expectant mothers and their newborns. Three cases were reported the previous year with one female case reporting being pregnant at the time of diagnosis.

Table 2: Incidence for Diseases Spread by Vectors, Riverside County 2013 - 2018

Disease	2013	2014	2015	2016	2017	2018
Lyme disease	3	3	0	3	1	1
Malaria	6	1	5	4	10	3
West Nile Virus	40	15	138	7	21	9
Zika	-	-	-	10	3	0

## Appendix

Appendix Table 1: Reported Cases of Selected Sexually Transmitted & Bloodborne Diseases  
Riverside County 2008-2018

Disease	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AIDS	159	179	122	96	151	132	109	111	120	134	91
HIV	196	226	210	215	257	240	264	269	296	276	274
Chlamydia	6,101	5,835	6,434	8,641	9,248	8,869	8,717	9,786	8,583	11,082	11,507
Gonorrhea	830	698	732	891	1,172	1,397	1,667	2,086	2,566	3,288	4,058
Syphilis (P&S)	116	97	122	120	102	129	186	211	284	251	308
Hepatitis B, Acute	29	19	10	3	18	6	4	2	2	0	1
Hepatitis B, Chronic	338	340	349	284	312	337	361	205	479	480	486
Hepatitis C, Acute	8	1	4	2	0	6	1	1	0	4	0
Hepatitis C, Chronic	3,619	2,717	2,422	2,218	1,071*	998*	1,392*	1,363*	1,700*	2,283*	2,708*

\* Numbers reflect inclusion of probable cases and removal of incarcerated cases.

Appendix Table 2: Rates per 100,000 population of Selected Sexually Transmitted & Bloodborne Diseases  
Riverside County 2008-2018

Disease	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AIDS	7.5	8.3	5.1	4.2	6.3	5.4	4.6	4.4	3.8	5.6	3.8
HIV	11.5	11.3	9.2	9.6	11.3	10.4	11.3	10.9	12.4	11.5	11.3
Chlamydia	292.1	274.3	323.6	393.3	405.4	391.2	378.8	420.7	358.2	463.7	474.3
Gonorrhea	39.4	32.8	35.3	40.4	52.2	62.4	72.7	89.8	107.1	137.6	167.3
Syphilis (P&S)	5.6	4.6	5.4	5.8	4.9	5.7	8.1	9.1	11.9	10.5	12.7
Hepatitis B, Acute	1.4	0.9	0.4	0.1	0.8	0.3	0.2	0.1	0.1	0.0	0.0
Hepatitis B, Chronic	16.2	16.0	15.6	12.3	13.2	14.8	15.6	8.8	20.0	20.1	20.0
Hepatitis C, Acute	0.4	0.1	0.2	0.1	0.0	0.3	0.0	0.0	0.0	0.2	0.0
Hepatitis C, Chronic	173.3	127.7	108.2	96.4	47.8*	44.1*	60.6*	58.8*	72.3*	95.5*	111.6*

\* Numbers reflect inclusion of probable cases and removal of incarcerated cases.

Appendix Table 3: Reported Cases of Selected Vaccine Preventable Diseases  
Riverside County 2008-2018

Disease	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Diphtheria	0	0	0	0	0	0	0	0	0	0	0
Haemophilus Influenza	3	2	1	3	2	5	2	5	5	1	1
Hepatitis B, perinatal	0	0	0	0	0	0	1	0	0	0	0
Measles	0	0	0	1	1	1	5	8	0	0	1
Mumps	3	0	3	0	0	3	4	0	1	1	1
Pertussis	15	49	462	135	23	48	352	135	47	97	56
Polio	0	0	0	0	0	0	0	0	0	0	0
Rubella	0	0	0	0	0	0	0	0	0	1	0
Tetanus	0	0	0	0	0	0	0	0	0	0	0

Appendix Table 4: Rates per 100,000 population of Selected Vaccine Preventable Diseases  
Riverside County 2008-2018

Disease	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Diphtheria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haemophilus Influenza	0.1	0.1	0.0	0.1	0.1	0.2	0.1	0.2	0.2	0.0	0.0
Hepatitis B, perinatal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Measles	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.3	0.0	0.0	0.0
Mumps	0.1	0.0	0.1	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0
Pertussis	0.7	2.3	21.3	7.5	2.0	3.5	20.3	3.2	2.0	4.1	2.3
Polio	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rubella	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tetanus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Appendix Table 5: Reported Cases of Selected Enteric Diseases  
Riverside County 2008-2018

Disease	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Campylobacteriosis	149	123	145	166	276	227	234	258	238	323	199
E. coli O157:H7	12	11	3	11	7	12	2	4	3	5	0
Giardiasis	40	32	31	21	49	52	66	62	76	89	79
Hepatitis A	22	15	18	4	10	13	8	12	11	17	3
Salmonellosis	183	178	206	144	207	224	228	216	234	254	269
Shigellosis	50	43	42	37	42	33	81	69	80	109	131

Appendix Table 6: Rates per 100,000 population of Selected Enteric Diseases  
Riverside County 2008-2018

Disease	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Campylobacteriosis	7.1	5.8	6.8	7.2	11.7	10.0	10.1	11.1	9.9	13.5	8.2
E. coli O157:H7	0.6	0.5	0.1	0.5	0.3	0.5	0.1	0.2	0.1	0.2	0.0
Giardiasis	1.9	1.5	1.4	0.9	2.1	2.3	2.9	2.7	3.2	3.7	3.3
Hepatitis A	1.1	0.7	0.8	0.2	0.4	0.6	0.3	0.5	0.5	0.7	0.1
Salmonellosis	8.8	8.4	9.2	6.5	9.2	9.7	10.0	9.3	9.8	10.6	11.1
Shigellosis	2.4	2.0	1.9	1.7	2.0	1.5	3.6	3.0	3.3	4.6	5.4

Appendix Table 7: Reported Cases of Diseases Spread by Close Personal Contact or Vectors  
Riverside County 2008-2018

Disease	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Meningococcal Infection	2	2	1	7	2	3	2	2	1	5	1
Tuberculosis	79	69	74	68	56	54	65	52	51	60	65
Viral Meningitis	106	87	99	53	16	19	33	21	18	30	26
West Nile Virus	62	5	0	10	17	40	15	138	7	21	9

Appendix Table 8: Rates per 100,000 population of Diseases Spread by Close Personal Contact or Vectors  
Riverside County 2008-2018

Disease	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Meningococcal Infection	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.0	0.2	0.0
Tuberculosis	3.8	3.2	3.3	2.9	2.4	2.4	2.8	2.2	2.1	2.5	2.7
Viral Meningitis	5.1	4.1	4.4	2.3	0.7	0.8	1.4	0.9	0.8	1.3	1.1
West Nile Virus	3.0	0.2	0.0	0.4	0.7	1.8	0.7	5.9	0.3	0.9	0.4

Appendix Table 9: Reported Cases of Selected Sexually Transmitted & Bloodborne Diseases by Age & Sex  
Riverside County 2018

Disease	0-19		20-44		45-64		65+	
	M	F	M	F	M	F	M	F
AIDS	1	0	44	3	33	4	6	0
HIV	13	0	164	20	57	5	15	0
Chlamydia	445	1,884	2,783	5,728	425	214	60	3
Gonorrhea	152	204	1,845	1,172	536	89	47	3
Syphilis (P&S)	9	3	166	39	74	9	8	0
Hepatitis B, Acute	0	0	1	0	0	0	0	0
Hepatitis B, Chronic	3	1	82	102	132	82	47	37
Hepatitis C, Acute	0	0	4	0	0	0	0	0
Hepatitis C, Chronic	21	11	462	326	849	547	297	190

Appendix Table 10: Rates per 100,000 population of Sexually Transmitted & Bloodborne Diseases by Age & Sex  
Riverside County 2018

Disease	0-19		20-44		45-64		65+	
	M	F	M	F	M	F	M	F
AIDS	0.3	0.0	10.8	0.8	11.4	1.3	3.7	0.0
HIV	3.7	0.0	40.3	5.1	19.6	1.7	9.2	0.0
Chlamydia	128.1	569.8	673.6	1,463.2	146.3	72.1	36.8	1.5
Gonorrhea	43.8	61.7	453.9	299.4	184.5	30	28.9	1.5
Syphilis (P&S)	2.6	0.9	40.8	10	25.5	3	4.9	0.0
Hepatitis B, Acute	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Hepatitis B, Chronic	0.9	0.3	20.2	26.1	45.4	27.6	28.9	18.5
Hepatitis C, Acute	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hepatitis C, Chronic	6.0	3.3	113.7	83.3	292.2	184.2	182.3	95.2

Appendix Table 11: Reported Cases of Selected Vaccine Preventable Diseases by Age & Sex  
Riverside County 2018

Disease	0-19		20-44		45-64		65+	
	M	F	M	F	M	F	M	F
Diphtheria	0	0	0	0	0	0	0	0
Haemophilus Influenza	1	0	0	0	0	0	0	0
Hepatitis B, perinatal	0	0	0	0	0	0	0	0
Measles	0	0	0	0	1	0	0	0
Mumps	0	0	0	0	1	0	0	0
Pertussis	30	24	0	1	0	0	1	0
Polio	0	0	0	0	0	0	0	0
Rubella	0	0	0	0	0	0	0	0
Tetanus	0	0	0	0	0	0	0	0

Appendix Table 12: Rates per 100,000 population of Selected Vaccine Preventable Diseases by Age & Sex  
Riverside County 2018

Disease	0-19		20-44		45-64		65+	
	M	F	M	F	M	F	M	F
Diphtheria	0	0	0	0	0	0	0	0
Haemophilus Influenza	0.3	0	0	0	0	0	0	0
Hepatitis B, perinatal	0	0	0	0	0	0	0	0
Measles	0	0	0	0	0.3	0	0	0
Mumps	0	0	0	0	0.3	0	0	0
Pertussis	8.6	7.3	0	0.3	0	0	0.6	0
Polio	0	0	0	0	0	0	0	0
Rubella	0	0	0	0	0	0	0	0
Tetanus	0	0	0	0	0	0	0	0

Appendix Table 13: Reported Cases of Selected Enteric Diseases by Age & Sex  
Riverside County 2018

Disease	0-19		20-44		45-64		65+	
	M	F	M	F	M	F	M	F
Campylobacteriosis	29	28	23	28	31	21	23	16
E.coli O157:H7	0	0	0	0	0	0	0	0
Giardiasis	8	4	16	7	27	6	8	3
Hepatitis A	0	0	2	1	0	0	0	0
Salmonellosis	52	40	17	37	37	37	22	26
Shigellosis	6	9	20	7	62	8	16	3

Appendix Table 14: Rates per 100,000 population of Selected Enteric Diseases by Age & Sex  
Riverside County 2018

Disease	0-19		20-44		45-64		65+	
	M	F	M	F	M	F	M	F
Campylobacteriosis	8.3	8.5	5.7	7.2	10.7	7.1	14.1	8.0
E.coli O157:H7	0	0	0	0	0	0	0	0
Giardiasis	2.3	1.2	3.9	1.8	9.3	2.0	4.9	1.5
Hepatitis A	0	0	0.5	0.3	0	0	0	0
Salmonellosis	15	12.1	4.2	9.5	12.7	12.5	13.5	13
Shigellosis	1.7	2.7	4.9	1.8	21.3	2.7	9.8	1.5

Appendix Table 15: Reported Cases of Diseases Spread by Close Personal Contact / Vectors by Age & Sex  
Riverside County 2018

Disease	0-19		20-44		45-64		65+	
	M	F	M	F	M	F	M	F
Meningococcal Infection	0	0	0	0	1	0	0	1
Tuberculosis	5	2	11	8	13	7	14	5
Viral Meningitis	3	14	2	6	0	1	0	0
West Nile Virus	0	0	0	0	3	2	2	2

Appendix Table 16: Rates per 100K population of Diseases Spread by Close Personal Contact / Vectors by Age & Sex  
Riverside County 2018

Disease	0-19		20-44		45-64		65+	
	M	F	M	F	M	F	M	F
Meningococcal Infection	0	0	0	0	0.3	0	0	0.5
Tuberculosis	1.4	0.6	2.7	2.0	4.5	2.4	8.6	2.5
Viral Meningitis	0.9	4.2	0.5	1.5	0	0.3	0	0
West Nile Virus	0	0	0	0	1.0	0.7	1.2	1.0

Appendix Table 17: Reported Cases & Rates per 100K of Selected Sexually Transmitted & Bloodborne Diseases by Race  
Riverside County 2018

Disease	White Not Latinx	Latinx	Black Not Latinx	Asian / Pacific-Islander
AIDS	36 (4.0)	33 (2.8)	15 (10.1)	2 (1.3)
HIV	109 (12.2)	108 (9.3)	35 (23.5)	9 (5.9)
Chlamydia	917 (102.3)	999 (86.0)	586 (393.0)	119 (78.1)
Gonorrhea	398 (44.4)	274 (23.6)	206 (138.2)	33 (21.7)
Syphilis (P&S)	134 (15.0)	110 (9.5)	30 (20.1)	9 (5.9)
Hepatitis B, Acute	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Hepatitis B, Chronic	40 (4.5)	19 (1.6)	17 (11.4)	75 (49.2)
Hepatitis C, Acute	0 (0.0)	1 (0.1)	0 (0.0)	0 (0.0)
Hepatitis C, Chronic	376 (42.0)	111 (9.6)	79 (53.0)	25 (16.4)

Appendix Table 18: Reported Cases & Rates per 100K of Selected Vaccine Preventable Diseases by Race  
Riverside County 2018

Disease	White Not Latinx	Latinx	Black Not Latinx	Asian / Pacific-Islander
Diphtheria	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Haemophilus Influenza	0 (0.0)	1 (0.1)	0 (0.0)	0 (0.0)
Hepatitis B, perinatal	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Measles	1 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)
Mumps	0 (0.0)	0 (0.0)	1 (0.7)	0 (0.0)
Pertussis	21 (2.3)	9 (0.8)	1 (0.7)	2 (1.3)
Polio	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Rubella	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Tetanus	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

Appendix Table 19: Reported Cases & Rates per 100K of Selected Enteric Diseases by Race  
Riverside County 2018

Disease	White Not Latinx	Latinx	Black Not Latinx	Asian / Pacific-Islander
Campylobacteriosis	50 (5.6)	32 (2.8)	4 (2.7)	3 (2.0)
E.coli O157:H7	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Giardiasis	15 (1.7)	3 (0.3)	3 (2.0)	0 (0.0)
Hepatitis A	0 (0.0)	3 (0.3)	0 (0.0)	0 (0.0)
Salmonellosis	96 (10.7)	97 (8.4)	5 (3.4)	10 (6.6)
Shigellosis	44 (4.9)	20 (1.7)	4 (2.7)	0 (0.0)

Appendix Table 20: Reported Cases & Rates per 100K of Diseases Spread by Close Personal Contact & Vectors by Race  
Riverside County 2018

Disease	White Not Latinx	Latinx	Black Not Latinx	Asian / Pacific-Islander
Meningococcal Infection	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Tuberculosis	5 (0.6)	39 (3.4)	3 (2.0)	16 (10.5)
Viral Meningitis	6 (0.7)	10 (0.9)	0 (0.0)	0 (0.0)
West Nile Virus	6 (0.7)	2 (0.2)	0 (0.0)	0 (0.0)

## NOTES

### Racial/Ethnic Category Labels

Please note that the following racial/ethnic categories were used to coalesce the data:

- White, not Latinx
- Black, not Latinx
- Latinx (gender-neutral alternative to Latino or Latina)
- Asian/Pacific Islander
- American Indian/Alaska Native

In an effort to save space on graphs and tables, however, the following labels were used:

- White
- Black

### Definitions

*Place of Occurrence:* The place where the event occurred (regardless of place of residence).

*Place of Residence:* The place where a person lives or maintains legal residency.

For purposes of this report, all totals used are based on “Residence” in the County of Riverside.

*Incidence:* The number of new cases of a specific illness diagnosed or reported during a stated period of time, usually one year.

*Incidence Rate:* **Number of new cases diagnosed within a specified time period**

**Estimated total population at risk**

**x 100,000**

### Data Limitations

Readers of this publication should observe caution when interpreting rates based on few events and/or small populations (e.g., Native-Americans). For more information, please refer to *Guidelines for Statistical Analysis of Public Health Data with Attention to Small Numbers, Revised, July 2003*. You can find this publication on the California Department of Public Health website at:

[www.cdph.ca.gov/data/dataresources/Documents/Guidelines%20for%20Statistics%200723031\\_Small\\_Num.pdf](http://www.cdph.ca.gov/data/dataresources/Documents/Guidelines%20for%20Statistics%200723031_Small_Num.pdf)

## SOURCES

California Reportable Disease Information Exchange (CalREDIE) for Riverside County disease data (except for HIV/AIDS).

State of California, Department of Finance, Report P-3: State and County Population Projections by Race/Ethnicity, Detailed Age & Gender, 2010 - 2060. December 15, 2018.

California Department of Public Health for California disease data. [www.cdph.ca.gov/HealthInfo](http://www.cdph.ca.gov/HealthInfo)

HIV/AIDS Data provided by the California Department of Public Health, Enhanced HIV/AIDS Reporting System (eHARS).



County of Riverside  
RUHS Public Health

DISEASE REPORTING REQUIREMENTS

**DISEASES TO BE REPORTED IMMEDIATELY BY TELEPHONE**

ANTHRAX, human or animal+	<i>ESCHERICHIA COLI</i> : shiga toxin producing (STEC) including <i>E. coli</i> O157 *+	SHIGA TOXIN (detected in feces)+
BOTULISM (Infant, Foodborne, Wound)+	HEMOLYTIC UREMIC SYNDROME	SMALLPOX (Variola)+
BRUCELLOSIS, human +	INFLUENZA NOVEL STRAINS,(human)+	TULAREMIA, human+
BRUCELLOSIS, animal(except infections due to <i>Brucella canis</i> )+	MEASLES (Rubeola) +	VIRAL HEMORRHAGIC FEVERS, human or animal (e.g., Crimean-Congo, Ebola, Lassa and Marburg Viruses) +
CHOLERA*	MENINGOCOCCAL INFECTION	YELLOW FEVER+
CIGUATERA FISH POISONING	NOVEL VIRUS INFECTION with pandemic potential**	ZIKA VIRUS INFECTION+
(Community acquired only)	PARALYTIC SHELLFISH POISONING	OCCURRENCE OF ANY UNUSUAL DISEASE
DENGUE+	PLAGUE, Human or Animal +	OUTBREAKS OF ANY DISEASE (including Foodborne and any diseases not listed in Section 2500. Specify if institutional and/or community setting. Two or more cases from separate households = an outbreak.)
DIPHThERIA+	RABIES, Human or Animal +	
DOMOIC ACID POISONING (Amnesic shellfish poisoning)	SCOMBROID FISH POISONING	

**DISEASES OR SUSPECTED DISEASES TO BE REPORTED WITHIN ONE DAY OF IDENTIFICATION**

AMEBIASIS*	HEPATITIS A, acute infection * <sup>1</sup> +	SALMONELLOSIS (Other than Typhoid Fever)*+
BABESIOSIS+	HUMAN IMMUNODEFICIENCY VIRUS (HIV), ACUTE INFECTION**	SHIGELLOSIS*+
CAMPYLOBACTERIOSIS*+	LISTERIOSIS+	STREPTOCOCCAL INFECTIONS (Outbreaks of any type and individual cases in Food Handlers and Dairy Workers only)
CHICKEN POX (Only Hospitalizations and Deaths)	MALARIA+	SYPHILIS+
CHIKUNGUNYA+	MENINGITIS, Specify Etiology: Viral, Bacterial, Fungal, Parasitic	TRICHINOSIS+
CRYPTOSPORIDIOSIS+	PERTUSSIS (Whooping cough)+	TUBERCULOSIS*+ <sup>3</sup>
ENCEPHALITIS+, Specify Etiology: Viral, Bacterial, Fungal, Parasitic	POLIOVIRUS INFECTION+	TYPHOID FEVER, Cases and Carriers*+
FOODBORNE DISEASE	PSITTACOSIS+	<i>VIBRIO</i> INFECTION **
<i>HAEMOPHILUS INFLUENZAE</i> , Invasive Disease	Q FEVER+	WEST NILE VIRUS (WNV) infection, acute +
all serotypes(report an incident of < 5 years of age)+	RELAPSING FEVER+	YERSINIOSIS+
HANTAVIRUS INFECTION+		

**DISEASES TO BE REPORTED WITHIN SEVEN CALENDAR DAYS**

ANAPLASMOSIS+	GONOCOCCAL INFECTION	LEPROSY (Hansen's Disease)+
BRUCELLOSIS, animal (except dogs) +	HEPATITIS B (Specify acute case or chronic) <sup>1</sup> +**	LEPTOSPIROSIS+
CHANCROID+	HEPATITIS C (Specify acute case or chronic) <sup>2</sup> +	LYME DISEASE
<i>CHLAMYDIA TRACHOMATIS</i> Infection+ including Lymphogranuloma Venereum (LGV)	HEPATITIS D (Delta)(Specify acute case or chronic) <sup>1</sup> +	MUMPS+
COCCIDIOIDOMYCOSIS+	HEPATITIS E, acute infection <sup>1</sup> +	RESPIRATORY SYNCYTIAL VIRUS (RSV) (only report deaths in a patient < 5 years of age)
CREUTZFELDT-JAKOB DISEASE (CJD) and other Transmissible Spongiform Encephalopathies (TSE)	HUMAN IMMUNODEFICIENCY VIRUS (HIV), (Non-acute infection)	RICKETTSIAL DISEASES (non-Rocky Mountain Spotted Fever), including Typhus and Typhus-like Illness)+
CYCLOSPORIASIS+	HUMAN IMMUNODEFICIENCY VIRUS (HIV) HIV stage 3 (formerly AIDS)	ROCKY MOUNTAIN SPOTTED FEVER+
CYSTICERCOSIS OR TAENIASIS	INFLUENZA (Deaths in laboratory-confirmed cases for ages 0-64 years)	RUBELLA (German Measles)+
EHRlichiosis+	LEGIONELLOSIS+	RUBELLA SYNDROME, Congenital
GIARDIASIS+		TETANUS
		TULAREMIA, animal+

**REPORTABLE NON-COMMUNICABLE DISEASES AND CONDITIONS**

ALZHEIMER'S DISEASE AND RELATED CONDITIONS	DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS (SEE REVERSE)	PESTICIDE EXPOSURE (SEE REVERSE)
ANIMAL BITE (SEE REVERSE)	MICROCEPHALY (ANY CAUSE)***	

\* Essential to include occupation

+ Must also be reported by Laboratories

<sup>1</sup> Viral Hepatitis: All Hepatitis reports must include lab results and the date of onset. Hepatitis A: include occupation. Hepatitis B: if pregnant, include EDC.

<sup>2</sup> Please differentiate Acute Hepatitis C cases on the CMR. Chronic Hepatitis C indicated by positive anti-HCV test in an asymptomatic person should still be reported, and should include confirmatory test results and supporting labs.

<sup>3</sup> Special Requirements for TB:

1. Health care provider is responsible for reporting TB results from out-of-state labs.

2. Laboratories that isolate *Mycobacterium tuberculosis* from a patient's specimen must follow requirements for submission of a culture to the Public Health Lab and drug susceptibility testing (Copy of requirements available upon request).

3. Active or suspected cases require approval of the Health Officer (or designee) prior to discharge/transfer from a health care facility.

4. Newly infected persons listed below must be reported:

a) TB Converters: Those with an increase in the size of the tuberculin reaction by at least 10 mm of induration within 2 years from a documented negative to positive TST, or those who have a documented negative IGRA followed by a positive IGRA within a 2 year period.

b) Children 3 years of age or younger with a positive TB skin test (5mm or greater).

\*\* Pandemic potential: The potential ability of a pathogen to spread easily and efficiently in the human population, crossing international borders, and usually affecting many people. Such pathogens may be associated with severe illness and death.

+ Acute HIV Infection: Detectable HIV-1 RNA or p24 antigen in serum or plasma in the setting of a negative or indeterminate HIV-1 antibody test result for patients tested using a currently approved HIV test algorithm, as defined in section 2641.57.

\*\*\* Locally reportable by order of the Riverside County Public Health Officer

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**Title 17, California Code of Regulations (CCR) §2500, §2593, §2641-2643, and §2800-2812  
Reportable Diseases and Conditions**

**State law requires that health care providers report diseases of public health importance. Physicians, nurses, dentists, coroners, laboratory directors, school officials and other persons knowing of a CASE OR SUSPECTED CASE of any of the following diseases or conditions are required to report them to the local Department of Public Health.**

- §2500(b) It shall be the duty of every health care provider, knowing or in attendance on a case or suspected case of any of the diseases or conditions listed on the front, to report to the local health officer for the jurisdiction where the patient resides. Where no health care provider is in attendance, any individual having knowledge of a person who is suspected to be suffering from one of the diseases or conditions listed on the front may make such a report to the local health officer for the jurisdiction where the patient resides.
- §2500(c) The administrator of each health facility, clinic or other setting where more than one health care provider may know of a case, a suspected case or an outbreak of disease within the facility shall establish and be responsible for administrative procedures to assure that reports are made to the local health officer.
- §2500(a)(14) "Health care provider" means a physician and surgeon, a veterinarian, a podiatrist, a nurse practitioner, a physician assistant, a registered nurse, a nurse midwife, a school nurse, an infection control practitioner, a medical examiner, a coroner or dentist.

**HOW TO REPORT ALL DISEASES, EXCEPT HIV CASES:**

**Extremely urgent conditions:** (i.e., Anthrax, Botulism, Brucellosis, Cholera, Dengue, Diphtheria, Outbreaks of any kind - including Foodborne, Plague, Rabies, Relapsing Fever, and Smallpox) are to be reported immediately by telephone, 24 hours a day, to the appropriate number.

**Urgent conditions:** Foodborne illnesses should be reported by telephone or fax within one (1) working day of identification of the case or suspected case.

**Non-urgent conditions:** are to be reported within seven (7) calendar days from the time of identification.

*Although it is not mandatory at this time, health care providers are encouraged to enroll in the California Reportable Disease Exchange (CalREDIE) and submit reports electronically.*

The appropriate Confidential Morbidity Report (CMR) form must be completely filled out. All of the requested information is essential, including the lab information for selected diseases. All phone, fax, and mailed reports are to be made to the Disease Control Office, with the following exceptions: Reports of sexually transmitted diseases are to be faxed to (951) 358-6007 or mailed to the STD Program Office.

Confidential Morbidity Report (CMR) forms are available online at [www.rivco-diseasecontrol.org](http://www.rivco-diseasecontrol.org).

**Disease Control**  
P.O. Box 7600  
Riverside, CA 92513-7600  
**Phone: (951) 358-5107**  
**Confidential Fax: (951) 358-5102**

**HIV/STD Program**  
P.O. Box 7600  
Riverside, CA 92513-7600  
**Phone: (951) 358-7820**  
**Fax: (951) 358-6007**

<b>NIGHT AND WEEKEND EMERGENCIES (951) 782-2974</b>
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**HOW TO REPORT ALL HIV CASES:**

Mail in a double envelope stamped "Confidential" TO:

**FAX to (951) 358-6007**

If faxing, please call (951) 358-7820 to confirm receipt

**HIV/STD Surveillance Unit**  
**P. O. Box 7600**  
**Riverside, CA 92513-7600**

**OR**

**ALWAYS use CDPH form 8641-A rev. 05/13 (Adult), CDPH form 8641-P rev. 05/07 (Pediatric) Confidential Case Report**

*\*It is recommended that mailed reports are sent via Certified or Registered mail for tracking purposes.*

**ANIMAL BITE:** Animal bites by a species subject to rabies are reportable in order to identify persons potentially requiring prophylaxis for rabies. Additionally, vicious animals identified may be controlled by this regulation and local ordinances (California Administration Code, Title 17, Sections 2606 et seq.; Health and Safety Code Sections 121575-120435). Reports can be filed with the local Animal Control Agency or Humane Society. The County Animal Control office may assist in filing your report. Call (951) 358-7327 or (951) 358-7387. Report form is available at [www.rivco-diseasecontrol.org](http://www.rivco-diseasecontrol.org)

**PESTICIDE EXPOSURE:** The Health and Safety Code, Section 105200, requires that a physician who knows or who has reason to believe that a patient has a pesticide-related illness or condition must report the case to the local County Health Office by phone within 24 hours. For occupational exposure there is an additional requirement to send the "Doctor's First Report of Occupational Injury or Illness" to the Department of Public Health within 7 days. Phone reports may be made to (951) 358-5107; or faxed to (951) 358-5102. Copies of the required report forms (OEH-700 [Rev. 9/06] and California Form 5021 [Rev. 4] 1992) may be obtained from the same office. Report form is available at <http://www.oehha.ca.gov/pesticides/programs/Pestrpt.html>

**REPORTING DISORDERS CHARACTERIZED BY LAPSES OF CONSCIOUSNESS:** Health and Safety Code 103900 requires: Every physician and surgeon shall report immediately to the local health officer in writing, the name, date of birth, and address of every patient at least 14 years of age or older whom the physician and surgeon has diagnosed as having a case of a disorder characterized by lapses of consciousness. However, if a physician and surgeon reasonably and in good faith believes that the reporting of a patient will serve the public interest, he or she may report a patient's condition even if it may not be required under the department's definition of disorders characterized by lapses of consciousness pursuant to subdivision (d).

Rev. 06/16





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