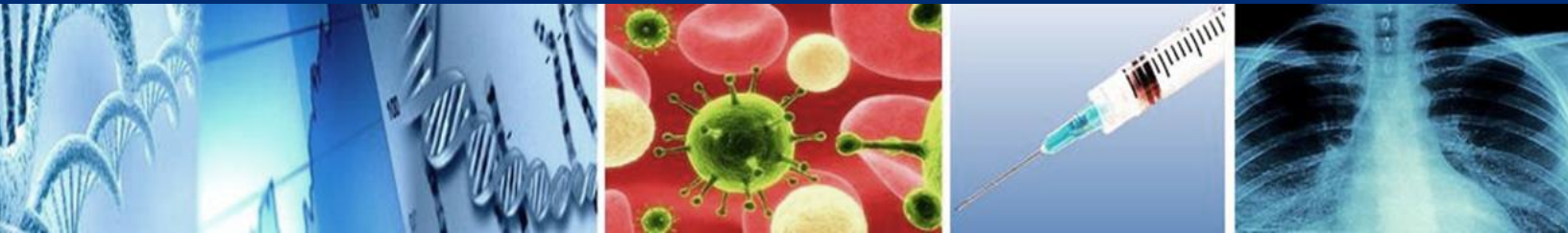




**Department of Public Health  
Communicable Disease Section**



# 2016 Annual Morbidity Report

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## ACKNOWLEDGEMENTS

This report was prepared by Diana Ibrahim, MPH, of the Communicable Disease Section (CDS), Kim Woods, MPH, (CDS), Marcus Heisler, MD, Loma Linda University Medical Center (LLUMC), Fiyin Fawole, MD, LLUMC, and Brandy Liu, DO, LLUMC. Others contributing to this report include: Maxwell Ohikhuare, MD, Health Officer; Susan Strong, NP, MSN, CDS Program Manager; Lea Morgan, MPH, CDS Program Coordinator; and other members of CDS including: Carmen Arias Zubia, Margie Castañeda, Linda Castañon, Maria Cota, Becky Fierro-Vidana, Heather Griffis, Nancy Jagggers, RN, Laura Guevara, Pilar Guillén, Jenny Hernandez, BSN, Maricela Hernandez, Bac Lam, Tanya Martinez, Suzanna Martinez, Katherine Myers, Leticia Navarette, Mayra Parga, Denise Ramirez, Jennifer Rosales, Celia Saucedo, Terri Serna, RN, Olubukola Teiko, RN, Beverly Villa, Vicki Williams, Jasmine Winn and Sidra Wilson, LVN.

This report presents a summary of communicable diseases reported in San Bernardino County in 2016. The contents are divided into two sections:

### Section 1 – Summary of Reported Communicable Diseases

- Reported Communicable Diseases by Age Group
- Reported Communicable Diseases by Race/Ethnicity

### Section 2 – Incidence Rates for Selected Diseases by Primary Mode of Transmission

- Vaccine Successes
- Diseases Transmitted by Fecal-Oral Route
- Diseases Transmitted by Sexual Contact
- Diseases Transmitted by Respiratory Secretions
- Diseases Associated with Environmental Factors
- Diseases Transmitted by Mammalian Vectors
- Diseases Transmitted by Arthropod Vectors
- Diseases of Global Importance

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Comments regarding the report are welcome and may be addressed to:

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This and other reports published by the San Bernardino County Department of Public Health are available at the following web site:

<http://www.sbcounty.gov/dph/publichealth/Default.aspx>

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## INTRODUCTION

*"In public health, we can't do anything without surveillance. That's where public health begins."*


David Satcher, MD, PhD, U.S. Surgeon General, 1998-2002

Public health surveillance is the continuous, systematic collection, analysis and interpretation of health-related data needed for the planning, implementation, and evaluation of public health practice.

The Communicable Disease Section of the San Bernardino County Department of Public Health has the responsibility for the collecting, monitoring and control of communicable disease information. State law requires medical providers, hospitals, and laboratories to report selected diseases and conditions to the local health department. The local health department is then required to investigate the extent of these illnesses, report to the California Department of Public Health the number of said diseases, and apply control measures when necessary. As part of the investigation process, interviews of the affected persons and, in some instances, family members, friends and associates are conducted. The San Bernardino County Department of Public Health uses a confidential database to track reportable diseases and conditions, record investigations and report to the California Department of Public Health.

Surveillance with analysis and interpretation helps identify demographic groups at higher risk of illness, disease trends and disease outbreaks shaping public health interventions. We hope that you find this data useful.

Thank you for your interest,

  
Susan Strong, NP, M.S.N.

Communicable Disease Program Manager

### Why Reporting of Communicable Disease is Important

The San Bernardino County Department of Public Health is charged by California Code of Regulations (CCR) Title 17 with protection of the health of the County's visitors and more than two million residents. To fulfill this responsibility, the Department carries out a broad and comprehensive public health program which includes public health services mandated by the State of California, a substantial range of personal health services requested by the people and chosen as priority matters by the San Bernardino County Board of Supervisors.

Physicians and other healthcare providers, laboratory personnel, schools, daycare centers and other residential facilities are obligated by law to report certain communicable diseases to the local department of public health. Monitoring reports of communicable disease in a community allows the Department of Public Health to fulfill its mandate of protecting the health of its residents. With timely disease reporting, the Department of Public Health can evaluate the impact of a given disease and make appropriate recommendations to limit its further spread.

Delay or failure to report communicable diseases has contributed to serious outbreaks in the past. Failure to report can result in increased disease in the community, time lost from work or school, increased costs for diagnosis and treatment, hospitalization, and possibly death.

When reporting does occur, removing persons from sensitive occupations, (e.g. food handlers) prevents the spread of diseases such as salmonellosis and hepatitis A. The early detection and appropriate treatment of patients with tuberculosis, the identification of asymptomatic carriers of typhoid, the immunization of persons exposed to vaccine-preventable diseases and alerting healthcare providers about prevalent infections are just a few of the benefits derived by the entire community when reporting is timely and accurate.

### Purpose of the Communicable Disease Report

The San Bernardino County Department of Public Health summary of communicable disease promotes the wellness element of the Countywide Vision by describing the health and safety of the County's residents and visitors. For more information about the Countywide Vision, Job Statement and Paradigm, visit [www.sbcounty.gov](http://www.sbcounty.gov). This report describes the extent and prevalence of various reported illnesses for the residents in this County. Where the impact of a certain disease in a particular group of individuals appears high, this information can be used to redirect disease control efforts. The report helps evaluate the effectiveness of the County's disease prevention and control programs by comparing San Bernardino County rates with those of California and the U.S. It represents an evolving effort by several disease control programs in the County. As the communicable disease concerns of our residents change, the data collected and summarized in this report will also change.

## DATA LIMITATIONS

The obligation for health care professionals to report designated diseases and conditions to their local department of public health is mandated by Title 17, Sections 2500, 2504 and 2505 of the California Code of Regulations. The data presented in this report were tabulated from disease reports received from laboratories, hospitals, physicians, schools and other healthcare providers throughout the County. The cases were reported through a passive surveillance system. For this reason, two major limitations must be acknowledged when interpreting these data.

The first major limitation is the underrepresentation of the true burden of disease. It is clear that not every reportable disease or condition is actually identified by or reported to the Department of Public Health. Individuals may not be ill enough to require medical care or the healthcare provider may not request testing of the patient at the time of the office visit. Diseases and conditions reportable only by healthcare providers (see Appendix C) are significantly underreported. Illnesses that are fatal, require prophylaxis for prevention, or those that are reportable by both laboratories and physicians are more likely to be reported.

Additionally, public health data may not reflect County residents' true risk of exposure to a particular pathogen. Individuals identified as having a notifiable condition are reported by place of residence, not by place of exposure. Immigrants and other individuals who travel both domestically and abroad may acquire an unusual illness or other condition at the location of travel. These individuals are nevertheless counted in San Bernardino County morbidity data if their address of residence is within the County at the time of their illness. Conversely, residents who visit the County of San Bernardino may acquire an infection here and subsequently be reported by the health jurisdiction in which they permanently reside.

Finally, one other important note regarding changes in our communicable disease data: prior to June of 2011, disease morbidity was calculated based on the date the case investigation was closed and reported to the California Department of Public Health. Beginning in June 2011, cases were counted by an "Episode Date." This date is calculated as the earliest of the following dates (if the dates exist): Date Received, Date of Diagnosis, Date of Onset, Specimen Collection Date, or Date Created. This change in methodology may only affect comparison of previous years' data in diseases where seasonality is relevant.



# HOW TO INTERPRET THIS REPORT

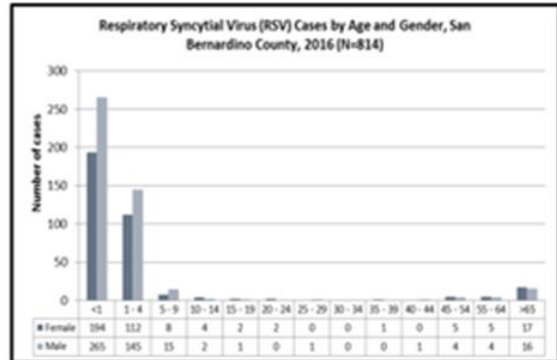
This report contains epidemiological descriptions of reportable diseases as well as a ten-year incidence rate analysis of the disease stratified by race/ethnicity and age. The features of the disease pages are described below.

Although many communicable diseases may be transmitted by more than one mechanism, in this report they are categorized by *primary* mode of transmission.

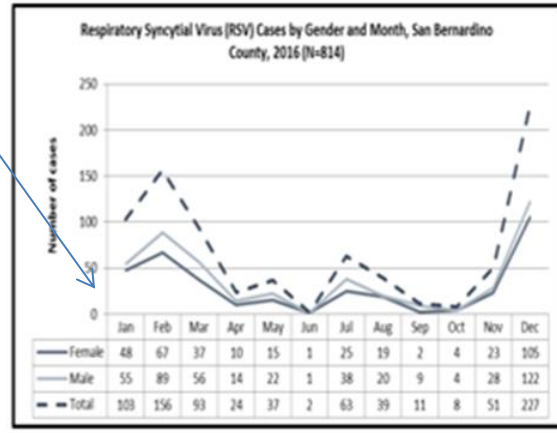
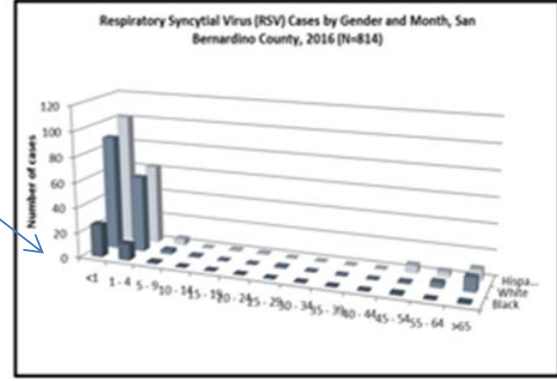
Each selected disease is accompanied by a commentary section that includes general disease facts and local epidemiological insight.

## RESPIRATORY SYNCYTIAL VIRUS (RSV)

**Infectious Agent:** Respiratory syncytial virus (RSV)  
**Mode of Transmission:** Through airborne respiratory droplets spread by an infected person coughing or sneezing or by direct or indirect contact with respiratory secretions from an infected person  
**Incubation Period:** 4-6 days (range: 2-8 days)  
 Symptoms: decrease in appetite; coughing, usually develop 1 to 3 days later. Wheezing among infants, irritability, decreased breathing difficulties may be the only symptoms.  
<http://www.cdc.gov/RSV/>



- The numbers of reported cases increased by 25.7% from 2015 to 2016. Incidence appears to be decreasing slightly since 2004.
- Children 4 years and under accounted for 88.0% of County cases in 2016 with an incidence rate (409.7) 33 times that of the next highest age group (5-9; 14.2).
- The greatest proportion of cases occurred among Hispanics (39.1%) and Whites (36.1%) where race/ethnicity was identified. Whites had the highest incidence rate at 28.0 followed by Blacks (23.4).
- Males comprised 50.3% of all cases.
- Infected infants most commonly manifest with cold-like symptoms. However 25-40% will show signs of pneumonia or bronchiolitis.
- Most children hospitalized are under 6 months of age.
- Almost all children have had RSV by 2 years of age.
- Infected individuals are contagious 3-8 days.
- Individuals at higher risk of complications include premature infants, those with chronic lung or heart disease and those with weakened immune systems.
- One child younger than 5 years of age died due to RSV.
- Increases in reported cases are seen in winter. In 2016, 59.7% of cases fell in the winter months, 18.9% in spring, 12.8% in summer, and 8.6% in fall.
- RSV can survive on hard surfaces such as tables and crib rails for hours.



# HOW TO INTERPRET THIS REPORT (CONTINUED)

## RESPIRATORY SYNCYTIAL VIRUS (RSV)

San Bernardino County Communicable Disease Report 2016

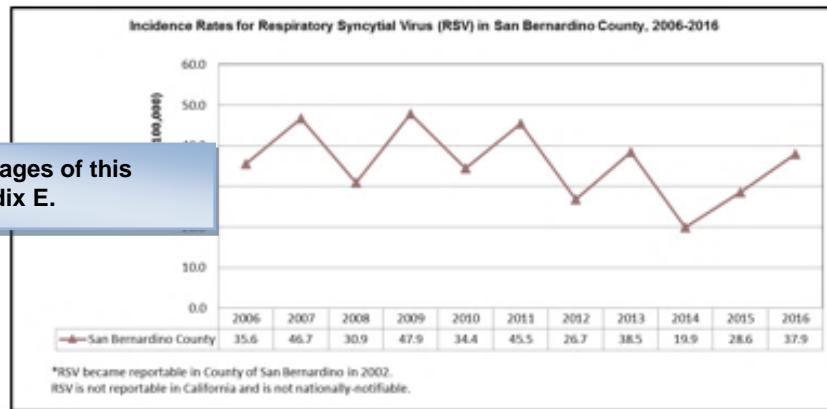
For each selected disease, a ten-year (2006-2016) trending of race/ethnicity distribution among all reported cases is presented in a data table.

RSV Cases by Race/Ethnicity											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
White	191	243	124	144	166	259	152	201	68	116	176
Black	40	60	44	60	65	97	67	58	22	43	42
Hispanic	307	404	290	359	321	438	243	326	120	247	191
Asian/Pi	8	7	12	13	10	18	7	10	5	11	14
Native Am.	0	0	0	0	1	4	0	1	1	0	2
Other	2	0	0	0	2	2	20	35	14	15	23
Unknown	156	228	165	426	185	191	63	172	188	173	366
<b>Total</b>	<b>704</b>	<b>942</b>	<b>635</b>	<b>1002</b>	<b>750</b>	<b>1009</b>	<b>552</b>	<b>803</b>	<b>418</b>	<b>605</b>	<b>814</b>

For each selected disease, a ten-year (2006-2016) trending of age distribution among all reported cases is presented in a data table.

RSV Cases by Age											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1 - 4	137	205	127	301	276	852	164	210	100	243	257
5 - 9	12	3	6	14	15	20	11	20	11	19	23
10 - 14	1	1	2	5	1	4	2	7	4	4	6
15 - 19	0	2	0	1	3	1	2	1	1	3	3
20 - 24	0	0	0	1	0	1	1	1	0	0	2
25 - 29	0	0	0	0	0	0	0	0	0	2	1
30 - 34	0	0	0	0	0	0	0	0	0	1	0
35 - 39	0	0	0	0	0	0	0	0	1	2	1
40 - 44	1	0	0	1	0	0	0	2	1	1	1
45 - 64	0	0	0	0	1	0	0	1	0	3	9
65 - 84	0	0	0	0	1	2	0	1	3	9	9
>85	1	1	1	1	1	3	0	11	14	31	33
Unknown	0	0	0	0	0	0	0	5	5	6	10
<b>Total</b>	<b>704</b>	<b>942</b>	<b>635</b>	<b>1002</b>	<b>750</b>	<b>1009</b>	<b>552</b>	<b>803</b>	<b>418</b>	<b>605</b>	<b>814</b>

Data sources applicable to all pages of this report are referenced in Appendix E.



## SECTION 1

# SUMMARY OF REPORTED COMMUNICABLE DISEASES

**TABLE 1\*: REPORTED COMMUNICABLE DISEASES BY AGE GROUP (IN YEARS)  
SAN BERNARDINO COUNTY, 2016**

Disease Category	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-64	>65	Unk	Total
AIDS	0	0	0	0	0	10	15	11	14	10	8	15	25	1	0	109
Amebiasis	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	3
Animal bite/exposure	0	0	1	0	2	2	2	0	0	0	0	0	2	3	1	13
Botulism, Infant	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Botulism, Wound	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3
Brucellosis	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Campylobacteriosis	8	35	14	15	13	19	10	13	9	9	11	17	20	18	0	211
Chikungunya Virus Infection	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	2
Chlamydial Infections (1)	3	0	0	50	2492	4522	2307	1066	509	219	143	62	74	11	49	11507
Coccidioidomycosis	0	0	1	1	1	3	4	2	5	3	2	3	9	11	0	45
Creutzfeldt-Jakob Disease	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	3
Cryptosporidiosis	0	0	1	0	0	2	2	0	0	0	0	1	2	1	0	9
Cyclosporiasis	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Cysticercosis	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
Dengue Virus Infection	0	0	0	0	0	0	1	1	1	1	1	2	0	1	0	8
DMV Reportable	0	0	0	1	95	205	241	202	178	139	141	121	162	190	26	1701
E. coli O157:H7 without HUS	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Encephalitis - Unknown Etiology	0	0	0	2	0	0	1	0	0	0	0	1	0	0	0	4
Encephalitis-Viral	0	1	0	0	0	0	0	0	1	0	0	2	1	0	0	5
Giardiasis	0	10	6	0	1	3	4	6	5	3	2	3	5	4	0	52
Gonococcal Infections (1)	0	0	0	12	521	1047	793	421	256	139	84	55	49	6	1	3384
Haemophilus influenzae (invasive), all serotypes (3)	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Hepatitis A	0	0	0	0	0	0	0	1	1	1	0	1	0	1	0	5
Hepatitis B, Acute	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	4
Hepatitis B, Chronic	0	0	0	2	2	12	48	65	89	39	44	52	76	49	0	478
Hepatitis C, Acute	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	4
Hepatitis C, Chronic (4)	12	0	4	5	37	200	288	309	343	290	379	601	1396	718	18	4600
Hepatitis E, Acute	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
HIV (6)	0	0	0	0	5	42	52	28	18	19	15	18	11	5	0	213
Influenza	37	59	37	27	18	41	22	25	27	31	29	20	64	124	17	578
Influenza ICU Hospitalization/Death	2	5	5	0	1	4	2	0	2	3	3	6	9	0	0	42
Kawasaki Syndrome	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Legionellosis	0	0	0	0	1	0	0	0	1	0	4	6	12	25	0	49
Leptospirosis	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Listeriosis	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
Lyme Disease	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
Malaria	0	0	0	0	0	1	0	0	2	1	0	2	1	1	0	8
Meningitis - Bacterial (5)	3	0	0	2	1	1	0	2	0	1	4	0	2	4	0	20
Meningitis - Fungal	0	0	0	0	0	0	2	1	3	2	1	0	1	0	0	10
Meningitis - Unknown Etiology	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Meningitis - Viral	10	1	4	1	6	5	6	9	2	4	7	8	7	8	0	78
Meningococcal Disease (Invasive)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Methicillin-resistant Staphylococcus aureus (MRSA)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Mumps	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Outbreak, Foodborne	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Outbreak, Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Outbreak, Respiratory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Pelvic Inflammatory Disease (1)	0	0	0	0	5	5	4	1	4	1	0	0	1	0	0	21

\* See Appendices D and E for Footnotes and Data Sources for Table 1

**TABLE 1\*: REPORTED COMMUNICABLE DISEASES BY AGE GROUP (IN YEARS)  
SAN BERNARDINO COUNTY, 2016 (CONTINUED)**

Disease Category	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-64	>65	Unk	Total
Pertussis	7	8	4	7	6	0	0	0	0	0	0	0	0	0	0	32
Pneumococcal Disease, Invasive	1	2	2	0	1	0	0	0	3	3	6	3	13	13	0	47
Q Fever	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2
Rabies (Animal)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9
Respiratory Syncytial Virus (RSV) (7)	460	257	23	6	3	2	1	0	1	1	1	8	9	33	10	815
Salmonellosis (Other than Typhoid Fever)	22	32	15	17	10	13	7	19	6	10	14	16	21	32	0	234
Shiga toxin + feces without HUS	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2
Shigellosis, Group B (Flexneri)	0	1	1	1	0	1	0	2	1	1	0	1	1	0	0	10
Shigellosis, Group C (Boydii)	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Shigellosis, Group D (Sonnei)	0	3	4	2	0	3	3	0	2	0	2	2	1	3	0	25
Shigellosis, Unspecified	0	1	0	1	2	0	0	1	1	1	1	0	0	1	0	9
STEC non-O157 without HUS	0	3	0	0	2	0	0	0	0	0	0	0	0	0	0	5
Streptococcal Infections (Invasive Group A)	0	0	0	0	0	0	0	0	0	1	0	0	2	1	0	4
Syphilis (Congenital)	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
Syphilis (Early Latent)	0	0	0	0	9	37	29	22	16	12	13	6	5	0	0	149
Syphilis (Late Latent)	0	0	0	0	9	40	47	29	40	20	27	19	22	5	0	258
Syphilis (Latent, Unknown Duration)	0	0	0	0	5	51	55	39	10	1	1	2	0	1	0	165
Syphilis (Primary)	0	0	0	0	4	18	25	8	10	7	4	4	3	0	0	83
Syphilis (Secondary)	0	0	0	0	2	27	17	16	8	3	3	5	2	1	0	84
Tuberculosis, Clinically Active	2	1	0	0	2	5	1	5	4	3	4	9	11	20	0	67
Typhoid Fever	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Typhus and Other Non-Spotted Fever Rickettsioses	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Varicella (Chickenpox)	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
Varicella Hospitalization/Death	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	4
Vibrio Infections (Non-Cholera) (2)	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
West Nile virus - Neuroinvasive	0	0	0	0	0	0	0	0	0	0	0	1	1	6	0	8
Yersiniosis	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	3
Zika Virus Infection	0	0	0	1	0	0	1	2	3	5	1	1	2	2	0	18

\* See Appendices D and E for Footnotes and Data Sources for Table 1

**TABLE 2\*: REPORTED COMMUNICABLE DISEASES BY RACE/ETHNICITY**  
**SAN BERNARDINO COUNTY, 2016**

Disease Category	American Indian/Alaska Native	Asian/Pacific Islander	Black/African American	Hispanic	White	Other	Unknown	Total
AIDS	1	3	22	53	24	2	4	109
Amebiasis	0	0	0	1	2	0	0	3
Animal bite/exposure	0	0	1	1	7	0	4	13
Botulism, Infant	0	0	0	2	0	1	0	3
Botulism, Wound	0	0	0	2	1	0	0	3
Brucellosis	0	0	0	1	0	0	0	1
Campylobacteriosis	0	7	7	35	51	56	55	211
Chikungunya Virus Infection	0	0	0	1	1	0	0	2
Chlamydial Infections (1)	39	174	1269	2280	1027	1011	5707	11507
Coccidioidomycosis	1	9	6	13	9	2	5	45
Creutzfeldt-Jakob Disease	0	0	0	1	1	0	1	3
Cryptosporidiosis	0	0	2	5	0	0	2	9
Cyclosporiasis	0	0	0	1	0	0	0	1
Cysticercosis	0	0	0	2	0	0	0	2
Dengue Virus Infection	0	0	1	5	1	0	1	8
DMV Reportable	2	13	268	390	452	21	555	1701
E. coli O157:H7	0	0	0	1	0	0	0	1
Encephalitis - Unknown Etiology	0	1	0	1	1	0	1	4
Encephalitis- Viral	0	0	0	4	0	0	1	5
Giardiasis	0	0	3	1	8	4	36	52
Gonococcal Infections (1)	10	28	562	679	366	247	1492	3384
Haemophilus influenzae (invasive) 3)	0	0	0	1	1	0	1	3
Hepatitis A	0	0	0	1	3	0	1	5
Hepatitis B, Acute	0	0	1	3	0	0	0	4
Hepatitis B, Chronic	1	274	35	44	37	16	71	478
Hepatitis C, Acute	0	0	0	1	2	0	1	4
Hepatitis C, Chronic (4)	6	34	178	199	527	402	3254	4600
Hepatitis E, Acute	0	0	0	1	0	0	0	1
HIV (6)	0	7	40	110	47	3	6	213
Influenza	0	17	47	106	170	77	161	578
Influenza ICU Hospitalization/Death	0	2	9	17	9	1	4	42
Kawasaki Syndrome	0	0	0	1	1	0	0	2
Legionellosis	0	2	10	9	27	1	0	49
Leptospirosis	0	0	0	0	0	0	1	1
Listeriosis	0	0	1	1	0	0	0	2
Lyme Disease	0	0	0	0	2	0	0	2
Malaria	0	0	6	1	0	0	1	8
Meningitis - Bacterial (5)	0	1	1	10	6	0	2	20
Meningitis - Fungal	0	0	1	7	1	0	1	10
Meningitis - Unknown Etiology	0	0	0	0	0	0	1	1
Meningitis - Viral	0	1	6	35	25	0	11	78
Meningococcal Disease (Invasive)	0	0	0	0	1	0	0	1
Methicillin-resistant Staphylococcus aureus (MRSA)	0	0	0	1	0	0	0	1
Mumps	0	0	0	1	0	0	0	1
Outbreaks, Foodborne	0	0	0	0	0	0	0	1
Outbreaks, Other	0	0	0	0	0	0	0	2
Outbreaks, Respiratory	0	0	0	0	0	0	0	1

\* See Appendices D and E for Footnotes and Data Sources for Table 2

**TABLE 2\*: REPORTED COMMUNICABLE DISEASES BY RACE/ETHNICITY  
SAN BERNARDINO COUNTY, 2016 (CONTINUED)**

Disease Category	American Indian/Alaska Native	Asian/Pacific Islander	Black/African American	Hispanic	White	Other	Unknown	Total
Pelvic Inflammatory Disease (1)	0	0	1	9	6	1	4	21
Pertussis	0	1	2	18	7	2	2	32
Pneumococcal Disease, Invasive	1	2	3	14	17	6	3	46
Q Fever	0	0	2	0	0	0	0	2
Rabies (Animal)	0	0	0	0		0	9	9
Respiratory Syncytial Virus (RSV) (7)	2	14	42	191	177	23	366	815
Salmonellosis (Other than Typhoid Fever)	1	11	4	105	84	8	21	234
Shiga toxin positive feces without HUS	0	0	0	2	0	0	0	2
Shigellosis, Group B (Flexneri)	0	0	2	3	3	1	1	10
Shigellosis, Group C (Boydii)	0	0	0	1	0	0	0	1
Shigellosis, Group D (Sonnei)	0	0	3	16	3	2	1	25
Shigellosis, Unspecified	0	1	1	3	3	0	1	9
STEC non-O157 without HUS	0	0	0	3	1	0	1	5
Streptococcal Infections (Invasive Group A)	0	0	1	2	0	1	0	4
Syphilis (Congenital)	0	3	6	4	5	0	2	20
Syphilis (Early Latent)	1	5	29	78	21	3	12	149
Syphilis (Late Latent)	0	11	44	107	43	15	38	258
Syphilis (Latent, Unknown Duration)	1	3	30	87	15	4	25	165
Syphilis (Primary)	0	3	23	36	15	1	5	83
Syphilis (Secondary)	0	1	11	44	20	2	6	84
Tuberculosis, Clinically Active	1	21	6	29	9	1	0	67
Typhoid Fever	0	1	0	0	0	0	0	1
Typhus and Other Non-Spotted Fever Rickettsioses	0	0	0	1	0	0	0	1
Varicella (Chickenpox)	0	0	0	1	1	0	0	2
Varicella Hospitalization/Death	0	1	1	2	0	0	0	4
Vibrio Infections (Non-Cholera) (2)	0	1	0	0	1	0	0	2
West Nile virus - Neuroinvasive	0	0	0	3	3	0	2	8
Yersiniosis	0	0	0	1	1	0	1	3
Zika Virus Infection	0	0	1	11	2	1	3	18

\* See Appendices D and E for Footnotes and Data Sources for Table 2

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## SECTION 2

# INCIDENCE DATA FOR SELECTED DISEASES BY PRIMARY MODE OF TRANSMISSION

## VACCINE SUCCESSES

### Hepatitis A

	San Bernardino County		California		US	
	Cases	Rate	Cases	Rate	Cases	Rate
2014	2	0.1	146	0.37	1,239	0.39
2015	4	0.2	181	0.46	1,390	0.4
2016	5	0.2				

San Bernardino County reported a total of five cases of hepatitis A in 2016, a 99% decrease from the 563 cases reported in 1996. This significant decrease can be, in part, credited to the hepatitis A vaccine, which was licensed in 1995 and became routinely recommended for children age 12 months and older in 2005. At the same time, the Centers for Disease Control and Prevention (CDC) also recommended the vaccine be used instead of immune globulin for post exposure prophylaxis for certain populations following exposure to hepatitis A. In 2003, the largest hepatitis A outbreak in US history, associated with green onions, sickened more than 600 individuals and killed four. A recall was issued in November 2016 for frozen strawberries originating in Egypt that were possibly contaminated with hepatitis A virus. Currently, an outbreak is afflicting the San Diego homeless population which has resulted in 205 illnesses and four deaths at the time of writing this report. Hepatitis A virus is primarily acquired by the fecal-oral route, either through person-to-person contact or consumption of contaminated food or water. All five 2016 County cases were associated with travel—one domestic and four international. The Advisory Committee on Immunization Practices (ACIP) recommends a two-dose series separated by six months for all individuals 12 months of age or older to protect against this serious viral infection.

### Hepatitis B, acute

	San Bernardino County		California		US	
	Cases	Rate	Cases	Rate	Cases	Rate
2014	9	0.4	109	0.3	2,791	0.9
2015	13	0.6	159	0.4	3,370	1.1
2016	4	0.3				

San Bernardino County reported a total of four cases of hepatitis B in 2016, a 69% decrease from the 13 cases reported in 2015. All cases occurred in individuals 35 to 55 years of age. Although the incidence of acute hepatitis B virus (HBV) infection has decreased since the introduction of hepatitis B vaccines, there has been a disproportionately higher incidence among those 30 to 59 years old, reflecting a persistently susceptible subset of the population. Statewide from 2012-2015, 28-47% of acute HBV infections occurred in association with exposures or behaviors known to have a high risk of transmission, such as having multiple sex partners, being a man who has sex with men, injection drug use, sexual contact with a person confirmed or suspected to have HBV infection, or household contact with confirmed or suspected HBV infection. An additional at-risk group identified by the CDC are institutionalized patients receiving assisted blood glucose monitoring for diabetes; ACIP recommends that all unvaccinated adults between 19 and 59 years of age with Diabetes mellitus be vaccinated against hepatitis B, and all adults 60 years of age or older be assessed for their risk of acquiring HBV infection. The ACIP recommends a three-dose series beginning at birth for all children. Additionally, the ACIP recommends vaccination for adults in high-risk settings that include facilities testing for sexually transmitted disease or HIV, services for injection drug users, men who have sex with men, and correctional facilities.

### Measles

	San Bernardino County		California		US	
	Cases	Rate	Cases	Rate	Cases	Rate
2014	1	0.0	75	0.19	667	0.21
2015	12	0.6	125	0.32	188	0.06
2016	0	0				

San Bernardino County reported zero cases of measles in 2016. Measles is caused by a highly contagious virus that is spread through respiratory droplets. Although once declared eliminated from the United States in 2000, in December 2014, an outbreak of measles affected at least 40 people who had visited a southern California amusement park. Before being declared over on April 17, 2015, the outbreak had spread to at least half a dozen other states. Since December 2014, over 130 confirmed cases have been reported in California. Among these outbreak cases, 57 were unvaccinated and 25 had one or more doses of MMR (Measles, Mumps, and Rubella) vaccine. A measles vaccine has been available to the public since 1963. The ACIP's latest recommendation indicates: 1) vaccinating all eligible children with one dose of MMR vaccine upon reaching age 12 months and with a second dose at age four years—but as early as one month following the first dose; and 2) vaccinating all adults born in 1957 or later with at least one dose of MMR vaccine unless acceptable evidence of immunity exists.

## VACCINE SUCCESSES (CONTINUED)

### Meningococcal disease

	San Bernardino County		California		US	
	Cases	Rate	Cases	Rate	Cases	Rate
2014	1	0.0	56	0.14	433	0.18
2015	2	0.1	49	0.13	372	0.12
2016	1	0.0				

San Bernardino County reported one case of invasive meningococcal disease (IMD) in 2016. IMD is caused by contact with respiratory droplets of an individual infected with *Neisseria meningitidis*. The case fatality rate is 9-12%. To best protect against the A, C, W, and Y strains of this severe bacterial infection, ACIP recommends vaccination with a two-dose series of either Menactra® or Menveo® quadrivalent vaccine, starting at 11-12 years of age, or at two months of age if HIV-infected. The 2016 County rate of 0.0 is well below the Healthy People 2020 goal of 0.3 cases per 100,000. Since 2015 there have been two major serogroup B meningococcal disease outbreaks on U.S. college campuses and a cluster of serogroup C cases associated with gay and bisexual men in Southern California. In June 2015, ACIP recommended that adolescents 16-23 years old be vaccinated with a serogroup B meningococcal (MenB) vaccine. Two vaccines, Bexsero® and Trumenba®, have been licensed by the Food and Drug Administration to provide short-term protection against most strains of serogroup B meningococcal disease. In November 2016, ACIP recommended that all HIV-infected individuals receive a two-dose series of the conjugate vaccine (Menactra® or Menveo®), if not previously vaccinated, followed by booster doses at the appropriate interval (as listed in these updated guidelines).

### Mumps

	San Bernardino County		California		US	
	Cases	Rate	Cases	Rate	Cases	Rate
2014	6	0.3	37	0.1	1,223	0.38
2015	7	0.3	31	0.1	1,329	0.41
2016	1	0.0				

San Bernardino County reported one probable case of mumps in 2016, a decrease of 86% from 2015 numbers. The Healthy People 2020 goal is to reduce the number of U.S.-acquired cases of mumps to a total of 500 cases annually. The U.S. mumps vaccination program began in 1967. A two-dose series of MMR vaccine is recommended starting at age 12 months. Nationally, mumps outbreaks have been reported on college campuses and among athletes in the National Hockey League in 2014-2015.

### Varicella (Chickenpox) Hospitalizations and Deaths

	San Bernardino County		California		US	
	Cases	Rate	Cases	Rate	Cases	Rate
2014	3	0.1	41	0.1	10,172	3.94
2015	3	0.1	61	0.2	9,789	3.05
2016	4	0.1				

San Bernardino County reported a total of four cases of varicella (VZV) hospitalization and zero cases of VZV deaths in 2016. One case occurred in an infant less than one year of age (prior to eligible age for vaccination). ACIP recommends routine vaccination with a two-dose series starting at 12-15 months of age to protect against VZV. Prior to introduction of the vaccine in 1995, 10,000-15,000 VZV-attributed hospitalizations and 100 VZV-attributed deaths occurred nationally each year. The hospitalization rate has dropped by more than 90% among infants and children since vaccination began. The vaccine is 70-90% effective at preventing varicella disease, including preventing complications such as pneumonia, bacterial infection of skin lesions, hospitalization and death.

# SALMONELLOSIS

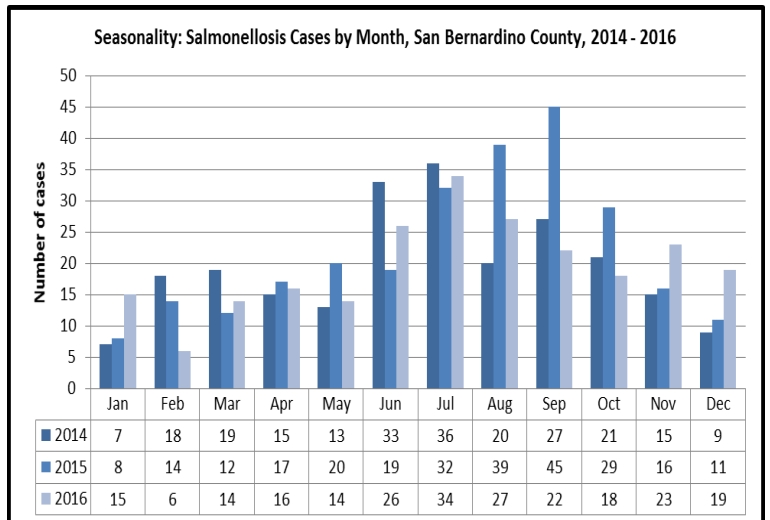
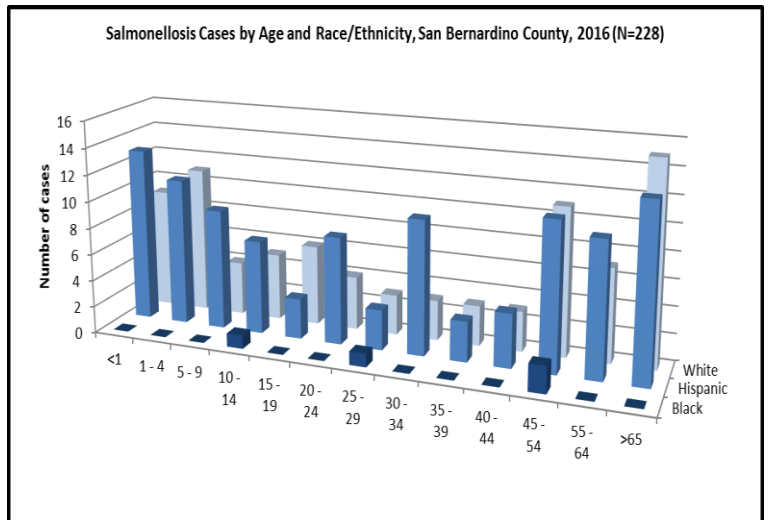
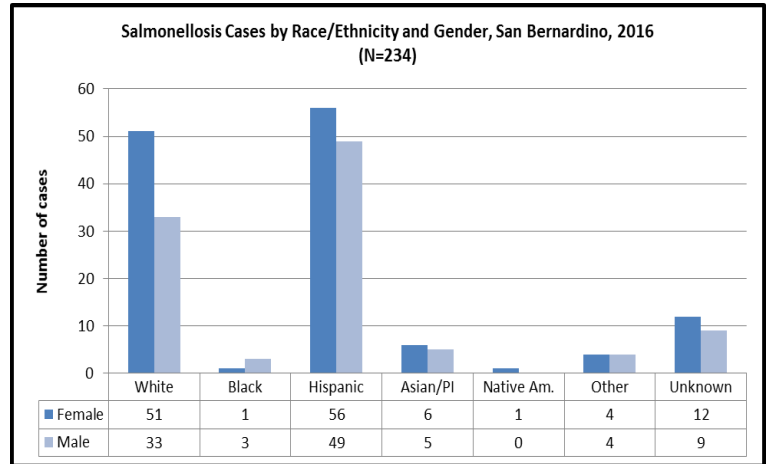
**Infectious Agent:** *Salmonella sp.*, a bacteria  
**Mode of Transmission:** Fecal-oral route, usually via contaminated food or water  
**Incubation Period:** 12-36 hours average (range: 6-72 hours)  
**Symptoms:** Diarrhea, fever, headache, abdominal pain, nausea and/or vomiting  
**Vaccine:** none  
**For more information:** <http://www.cdc.gov/salmonella/>

## 2016 REVIEW

- The numbers of reported cases decreased 11% from 2015 to 2016 resulting in an incidence rate of 10.9 cases per 100,000. Incidence in the County is consistently lower than in California and the United States.
- Incidence rates were highest among Whites (12.4), followed by Hispanics (9.6), Asians (5.8), and Blacks (2.2). The number of cases among Native Americans was too small to calculate a meaningful rate.
- The most commonly reported symptoms were diarrhea (75%), abdominal cramps (50.0%), and fever (43%, with an average of 101.6 degrees F).
- Illness resulted in a visit to the emergency room for 43% of cases, and 27% of cases were hospitalized an average of 3.9 days. One death was reported.
- Numbers of cases increased from June to October reflecting increased numbers of barbecues, increased consumption of chicken and meat, and warmer temperatures.
- The *Salmonella* bacteria has over 2500 serotypes of which County cases included 57. Of the 127 County cases with identified serotypes, the most commonly reported serotypes in 2016 were *S. Newport* (25), *S. Muenchen* (20), *S. Enteritidis* (17).
- California was part of four national *Salmonella* outbreaks in 2016 involving multiple serotypes from live poultry, *S. Heidelberg* (Dairy Bull Calves), and *S. Virchow* (organic meal shake products). *S. Montevideo* infections were reported in pistachio products that were grown in California, although no cases were reported in the state.

## PREVENTION

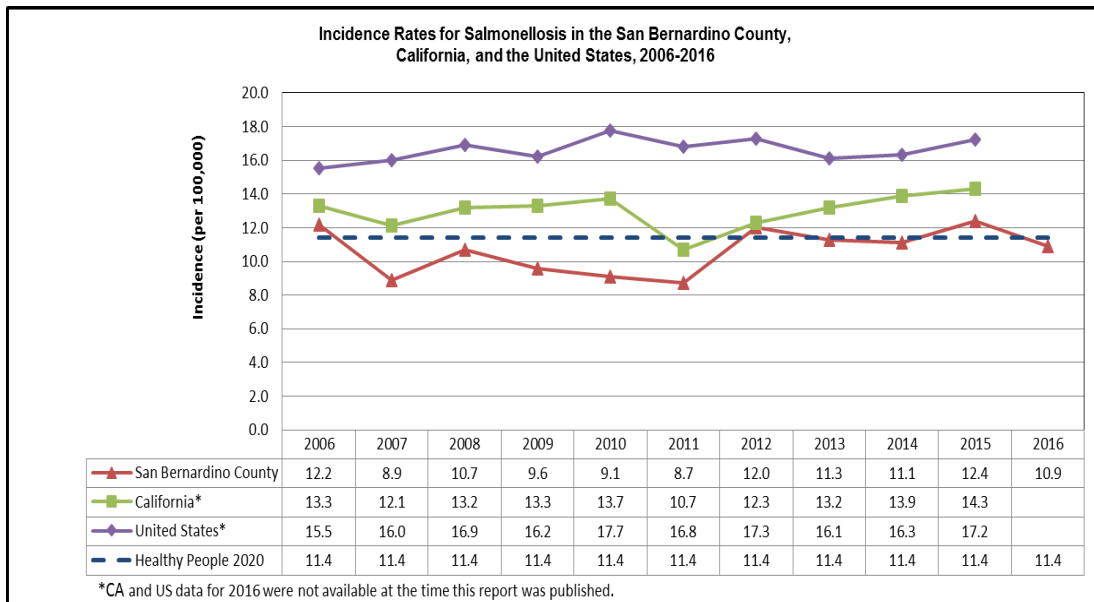
- Sick workers in higher risk settings such as day care centers, health care facilities, or restaurants should use good hand washing techniques with soap and water and should not work until tested and cleared by the health department.
- Wash hands with soap and water after handling reptiles, birds, or baby chicks, and after contact with pet feces.
- Wash kitchen work surfaces, cutting boards, and utensils with soap and water immediately after they have been in contact with raw meat or poultry.
- Thoroughly cook all poultry, ground beef, and eggs. Avoid food and drinks containing raw eggs or unpasteurized milk.
- Avoid direct and indirect contact between reptiles (turtles, iguanas, other lizards, snakes) and children under 5 years or immunocompromised persons.



# SALMONELLOSIS

Salmonellosis Cases by Race/Ethnicity											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
White	108	66	86	49	63	72	102	82	76	99	84
Black	11	12	19	9	14	1	9	11	12	19	4
Hispanic	86	77	75	71	67	82	86	81	89	110	105
Asian/PI	7	8	5	2	10	4	10	11	14	8	11
Native Am.	2	0	0	0	2	1	0	0	1	2	1
Other	0	0	0	1	0	5	4	7	3	10	8
Unknown	27	16	34	69	42	27	37	43	38	14	21
<b>Total</b>	<b>241</b>	<b>179</b>	<b>219</b>	<b>201</b>	<b>198</b>	<b>192</b>	<b>248</b>	<b>235</b>	<b>233</b>	<b>262</b>	<b>234</b>

Salmonellosis Cases by Age											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<1	25	26	24	20	11	12	26	16	19	19	22
1 - 4	40	30	34	45	34	34	34	37	34	35	32
5 - 9	31	13	24	23	19	23	21	24	28	22	15
10 - 14	12	13	25	14	9	11	8	10	10	14	17
15 - 19	18	10	7	8	10	5	13	11	6	13	10
20 - 24	15	3	4	7	8	9	11	11	12	13	13
25 - 29	10	6	16	7	10	10	16	13	12	15	7
30 - 34	9	4	20	5	5	9	8	11	7	13	19
35 - 39	9	11	12	11	9	10	12	12	8	18	6
40 - 44	10	7	14	9	11	9	9	5	11	9	10
45 - 54	23	20	10	16	27	15	28	19	13	23	30
55 - 64	18	17	11	13	24	17	29	35	24	28	21
>65	21	19	18	23	21	28	30	31	47	40	32
Unknown	0	0	0	0	0	0	3	0	2	0	0
<b>Total</b>	<b>241</b>	<b>179</b>	<b>219</b>	<b>201</b>	<b>198</b>	<b>192</b>	<b>248</b>	<b>235</b>	<b>233</b>	<b>262</b>	<b>234</b>



# SHIGA TOXIN-PRODUCING *E. COLI* (STEC), INCLUDING *E. COLI* O157:H7

**Infectious Agent:** A group of shiga toxin-producing *E. coli* bacteria; mainly *E. coli* O157:H7

**Mode of Transmission:** Fecal-oral route, usually via food or water contaminated with ruminant feces (e.g. cow feces), or direct contact with animals or their environment

**Incubation Period:** 3-4 days (range: 2-10 days)

**Symptoms:** Diarrhea (sometimes bloody), abdominal cramps; children under 5 years and elderly people are at higher risk for hemolytic uremic syndrome (HUS), a type of kidney failure.

**Vaccine:** None

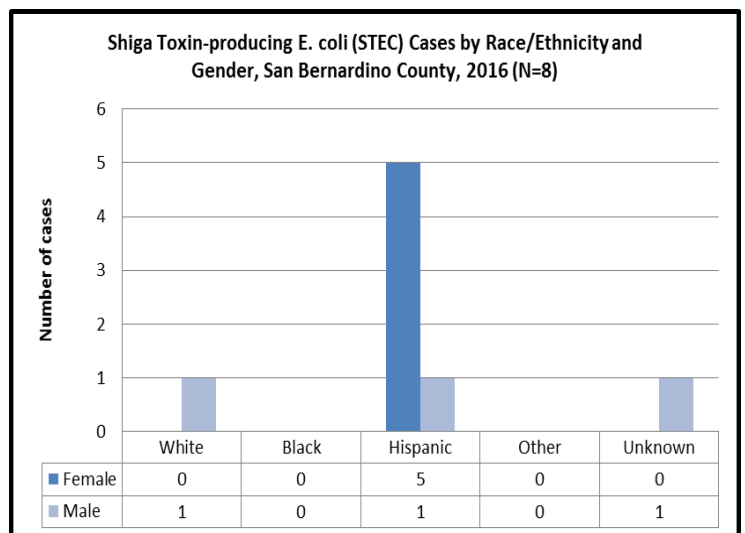
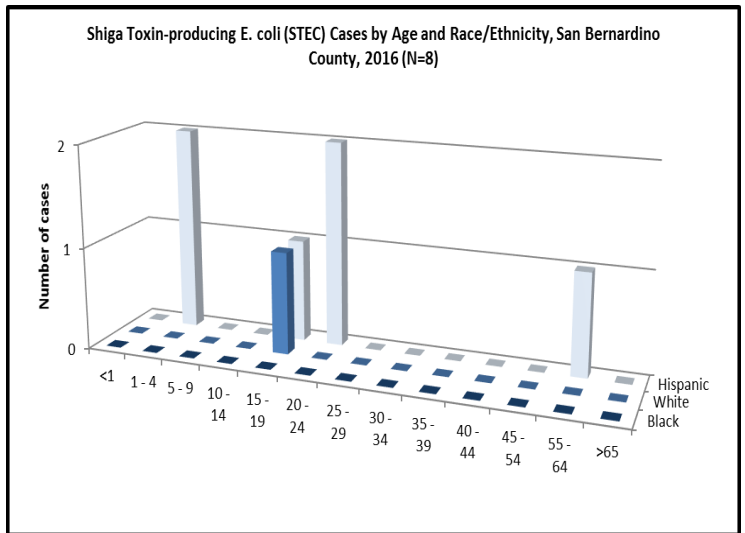
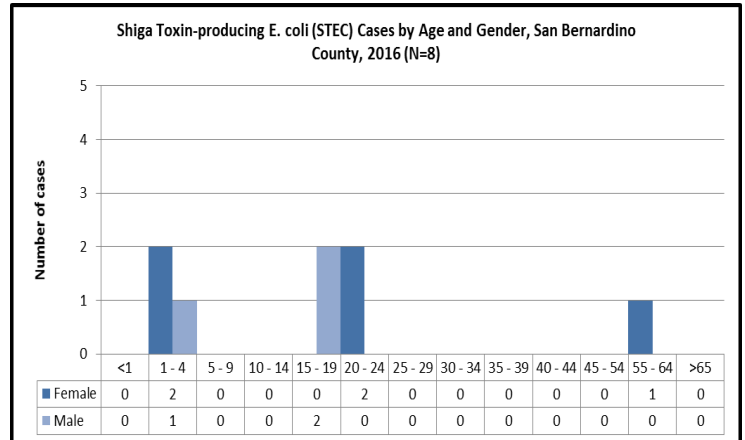
**For more information:** <http://www.cdc.gov/ecoli/>

## 2016 REVIEW

- The number of reported cases decreased 67% from 2015 to 2016.
- The 2016 cases consisted of one *E. coli* O157:H7 case, two Shiga toxin cases and five STEC cases.
- Hispanics (25%) made up the largest proportion of cases and the highest incidence rate (0.5).
- The largest proportion (50%) of cases occurred among young adults 15-24 years of age.
- Females comprised 62.5% of cases.
- None of the County cases developed Hemolytic Uremic Syndrome (HUS), a severe complication involving destruction of red blood cells and kidney failure and none died.
- Between 300 and 500 cases of STEC are reported in CA each year.
- California was part of a nationwide outbreak in 2016 involving contaminated flour where 63 people became ill, 17 were hospitalized and 1 person developed HUS. No one died in this outbreak. Many people became ill as a result of tasting contaminated cookie dough and batter.

## PREVENTION

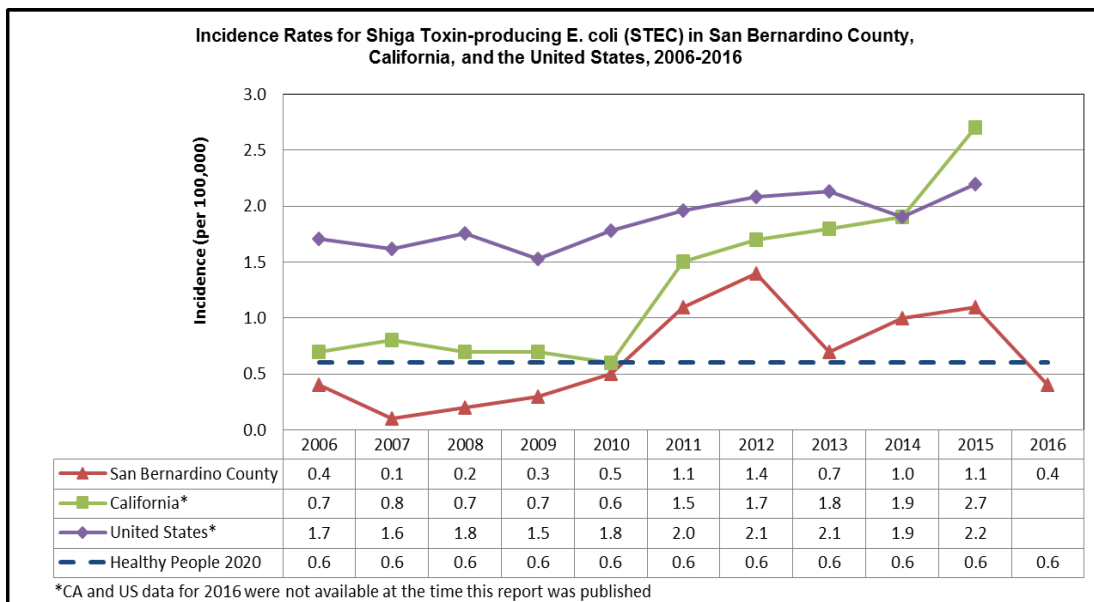
- Thorough hand washing with soap and water after using the toilet, after changing diapers, and before handling food is important.
- Ground beef and meat should be thoroughly cooked to a temperature of at least 160°F/70°C. Use a thermometer to verify the temperature.
- Avoid consuming raw milk, unpasteurized dairy products, and unpasteurized juices (like fresh apple cider).
- Avoid swallowing water when swimming or playing in lakes, ponds, streams, swimming pools, and backyard "kiddie" pools.
- Prevent cross-contamination in food preparation areas by thoroughly washing hands, counters, cutting boards, and utensils after they touch raw meat.
- Wash your hands after contact with animals at farms, petting zoos, fairs, or home. Use an alcohol-based hand sanitizer if soap and water are not available.



# SHIGA TOXIN-PRODUCING *E. COLI* (STEC), INCLUDING *E. COLI* O157:H7

Shiga Toxin-producing <i>E. coli</i> (STEC) Cases by Race/Ethnicity											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
White	2	0	1	2	3	10	12	5	8	5	1
Black	2	1	1	0	0	1	0	0	1	1	0
Hispanic	3	1	2	2	3	10	13	8	8	12	6
Asian/PI	0	0	0	0	0	1	0	0	1	0	0
Native Am.	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	1	0	2	0
Unknown	0	0	1	2	4	2	3	1	4	4	1
<b>Total</b>	<b>7</b>	<b>2</b>	<b>5</b>	<b>6</b>	<b>10</b>	<b>24</b>	<b>28</b>	<b>15</b>	<b>22</b>	<b>24</b>	<b>8</b>

Shiga Toxin-producing <i>E. coli</i> (STEC) Cases by Age											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<1	0	0	0	0	0	1	1	0	1	2	0
1 - 4	4	2	1	1	2	12	7	6	7	5	3
5 - 9	0	0	1	3	3	0	3	3	1	5	0
10 - 14	1	0	0	0	0	1	2	0	0	2	0
15 - 19	0	0	1	1	0	0	1	0	2	2	2
20 - 24	0	0	1	0	1	2	3	2	3	0	2
25 - 29	1	0	0	0	0	2	1	2	0	0	0
30 - 34	0	0	0	0	0	0	0	0	0	0	0
35 - 39	0	0	1	0	0	0	1	0	1	1	0
40 - 44	0	0	0	0	0	0	2	1	1	2	0
45 - 54	0	0	0	0	1	3	1	0	2	1	0
55 - 64	1	0	0	1	1	2	2	1	1	3	1
>65	0	0	0	0	2	1	4	0	3	1	0
Unknown	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>7</b>	<b>2</b>	<b>5</b>	<b>6</b>	<b>10</b>	<b>24</b>	<b>28</b>	<b>15</b>	<b>22</b>	<b>24</b>	<b>8</b>



# SHIGELLOSIS

**Infectious Agent:** *Shigella sp.*, a group of four species of bacteria: Group A (*Shigella dysenteriae*), Group B (*Shigella flexneri*), Group C (*Shigella boydii*), Group D (*Shigella sonnei*)

**Mode of Transmission:** Fecal-oral route, usually via contaminated food or water

**Incubation Period:** 1-3 days average (range: 12-96 hours, or up to one week for *S. dysenteriae*)

**Symptoms:** Diarrhea (sometimes bloody), fever, nausea and/or vomiting

**Vaccine:** none

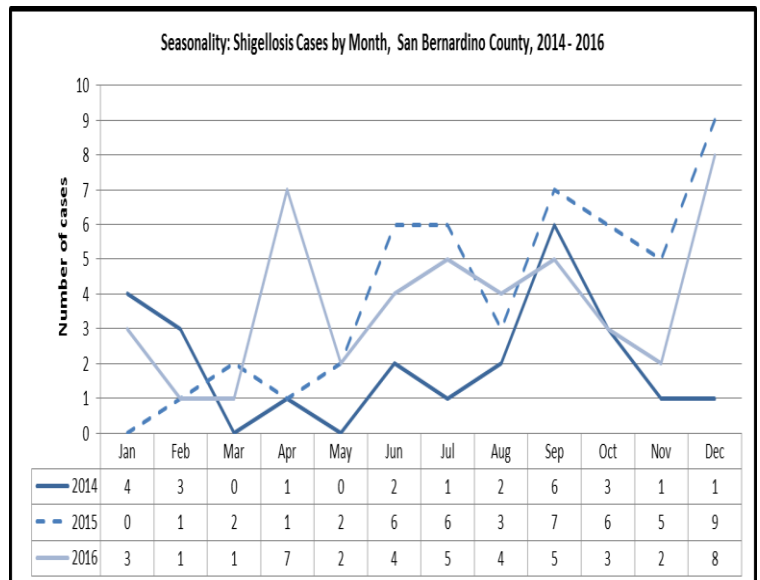
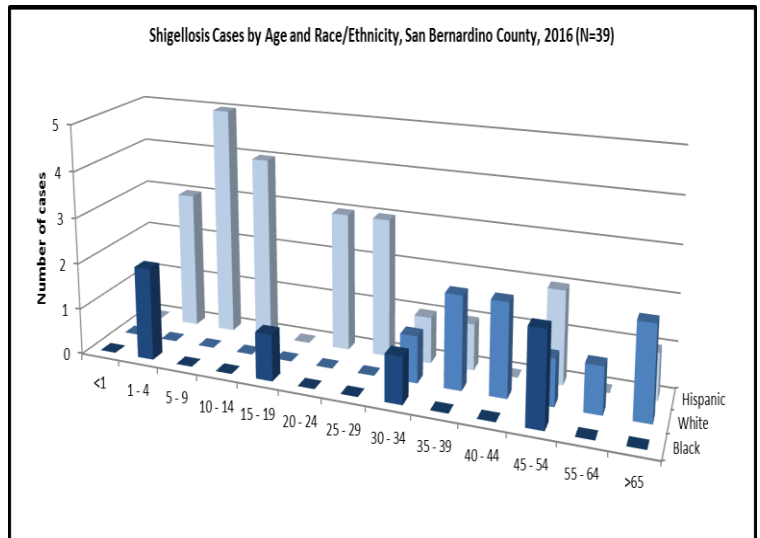
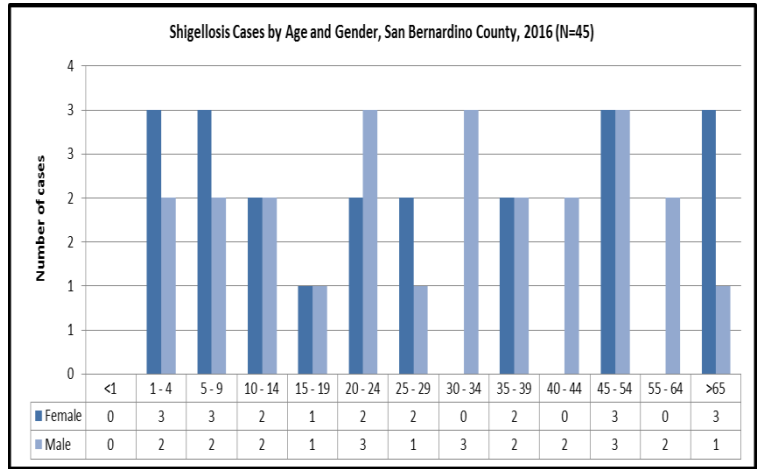
**For more information:** <http://www.cdc.gov/shigella/index.html>

## 2016 REVIEW

- The numbers of reported cases in 2016 are slightly lower than 2015 but still almost double that of 2014.
- The largest proportion of cases occurred among Hispanics (51%). However the highest incidence rates were among Blacks (3.3), followed by Hispanics (2.1) and Whites (1.3).
- Hispanic children 1-14 years of age accounted for 26.7% of cases in 2016.
- Males comprised an increasing proportion (68.8%) of cases compared to previous years.
- *S. sonnei* (Group D) accounted for 69.4% of County cases where the group was identified.
- In 2016, Los Angeles County monitored a cluster of *S. flexneri* among gay and bisexual males (MSM).
- MSM and HIV positive individuals have higher rates of shigella isolates with decreased susceptibility to azithromycin.
- Outbreaks in childcare centers are common nationally and are difficult to control given the small number of bacteria needed to cause infection.
- There were no cases of *S. dysenteriae* (Group A) reported in the County in 2016.
- The Centers for Disease Control and Prevention (CDC) estimate there are 500,000 cases annually in the U.S.

## PREVENTION

- Employees in higher risk settings such as day care centers, health care facilities, or restaurants should use good hand washing techniques with soap and water.
- Small children and toddlers should have supervised handwashing after they use the toilet. Soiled diapers should be disposed of properly and diaper changing areas disinfected after use. Children with diarrhea should not attend child care.
- Infected employees in sensitive occupations should not work until tested and cleared by the health department.
- Avoid food that may have been washed in contaminated water and or handled by vendors without adequate hand washing facilities.
- Avoid drinking pool or recreational water.
- When traveling to areas without adequate sewage treatment, drink only treated or boiled water and boiled, cooked or peel able food items.
- *Shigella* can also be transmitted via oral-anal sex, so barrier protection should be used after a diarrheal illness.

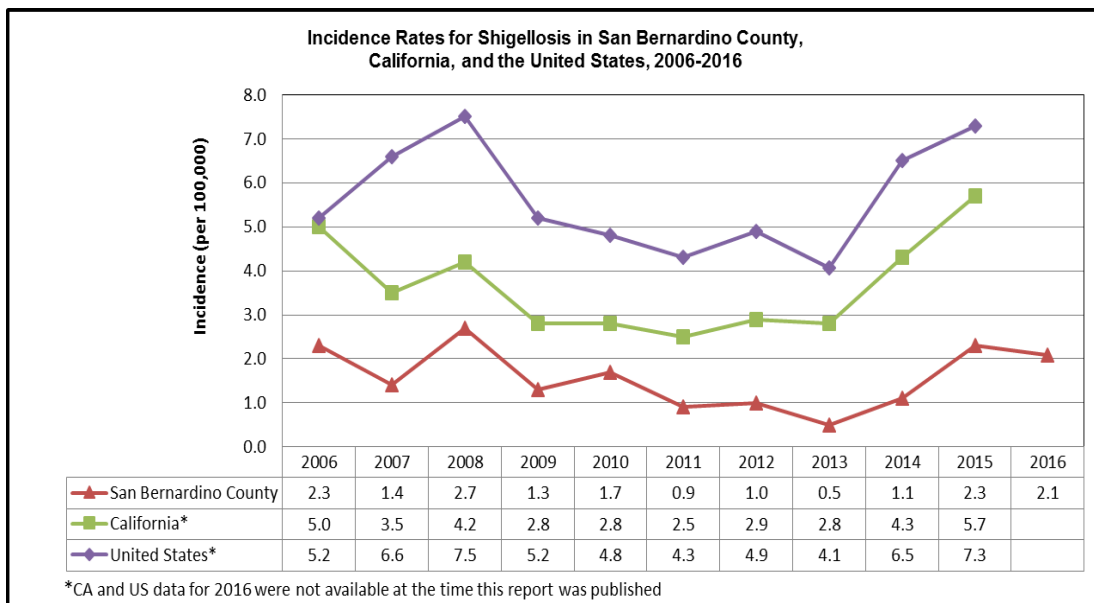




# SHIGELLOSIS

Shigellosis Cases by Race/Ethnicity											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
White	10	5	15	7	8	3	3	2	4	13	9
Black	2	0	2	0	2	2	1	1	1	4	6
Hispanic	29	21	32	7	20	11	13	5	15	22	23
Asian/PI	1	1	0	2	2	0	1	0	1	1	1
Native Am.	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	1	0	0	0	2	3
Unknown	4	2	6	12	4	3	2	3	3	6	3
<b>Total</b>	<b>46</b>	<b>29</b>	<b>55</b>	<b>28</b>	<b>36</b>	<b>20</b>	<b>20</b>	<b>11</b>	<b>24</b>	<b>48</b>	<b>45</b>

Shigellosis Cases by Age											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<1	0	0	2	0	2	0	0	0	0	0	0
1 - 4	14	10	17	9	14	7	6	3	0	9	5
5 - 9	10	3	6	3	9	1	3	1	7	8	5
10 - 14	3	5	4	3	0	0	2	1	0	1	4
15 - 19	2	0	0	1	0	0	1	1	1	1	2
20 - 24	3	0	2	3	0	1	0	1	4	3	5
25 - 29	1	2	6	1	3	1	1	2	2	2	3
30 - 34	4	1	2	1	3	3	1	0	1	3	3
35 - 39	1	2	3	0	1	0	0	0	4	2	4
40 - 44	1	0	3	0	1	3	2	0	0	2	2
45 - 54	3	2	5	4	1	2	1	0	3	7	6
55 - 64	3	3	2	2	0	1	2	2	0	2	2
>65	1	1	3	1	2	1	0	0	2	8	4
Unknown	0	0	0	0	0	0	1	0	0	0	0
<b>Total</b>	<b>46</b>	<b>29</b>	<b>55</b>	<b>28</b>	<b>36</b>	<b>20</b>	<b>20</b>	<b>11</b>	<b>24</b>	<b>48</b>	<b>45</b>



# HIV/AIDS

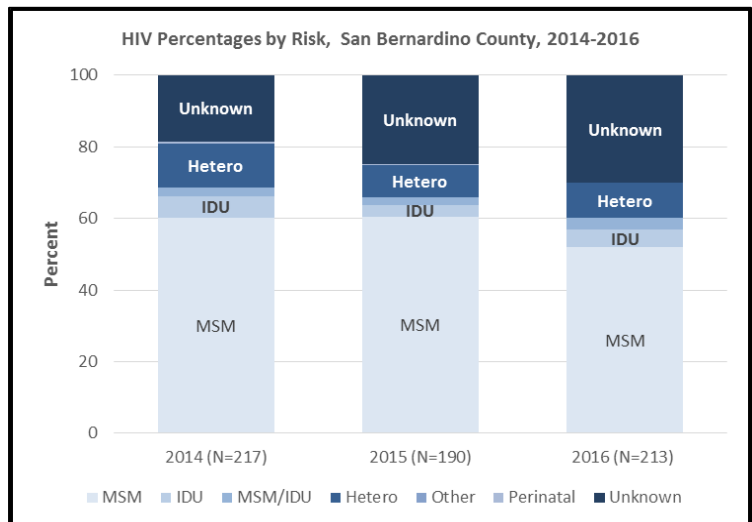
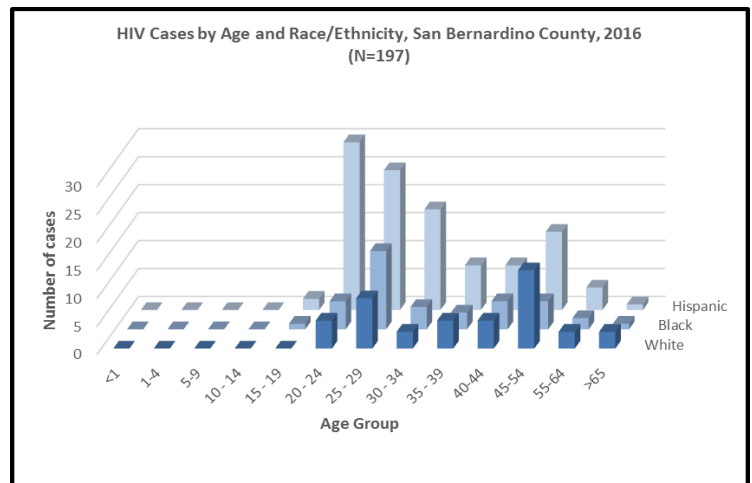
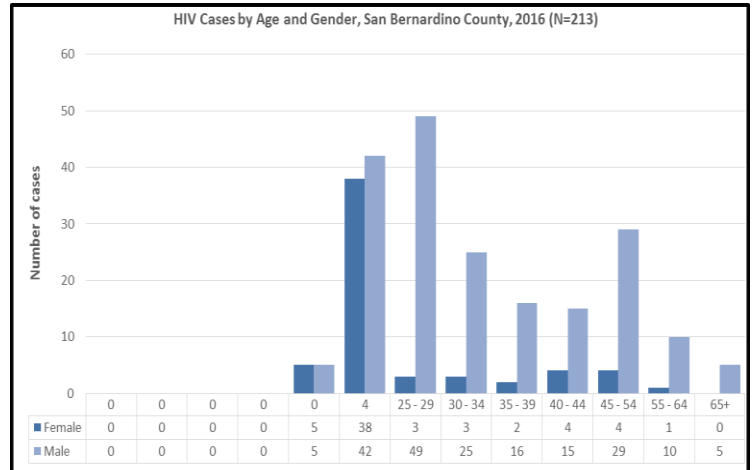
**Infectious Agent:** Human Immunodeficiency Virus (HIV)  
**Mode of Transmission:** Contact with infected body fluids containing blood, blood products; amniotic fluid; semen and vaginal secretions  
**Incubation Period:** 2 weeks to 6 months for HIV infection; 1 to 15 years to develop AIDS  
**Symptoms:** fever, chills, night sweats, rashes for HIV  
**Vaccine:** none  
**For more information:** <http://www.cdc.gov/hiv/>

## 2016 REVIEW

- Reports of new diagnoses of HIV infections increased 12.1% from 2015-2016.
- Individuals aged 20-29 years accounted for 44.1% of all new HIV diagnoses in 2016.
- By race/ethnicity, Hispanics account for the largest proportion of cases (51.6%) in 2016, however Blacks have the highest incidence rate at 22.3 per 100,000.
- The number of persons living with HIV/AIDS in this County increased 5.8% in 2016 to 4,031.
- Each year 2-3% of new County HIV diagnoses are classified as acute infections meaning the individual was infected a month or so before their diagnosis.
- Gay and bisexual males account for 61.4% of all HIV cases reported in 2016.
- Of the 620 new HIV diagnoses reported 2014-2016 in the County, 24-28% developed AIDS within a year of their diagnosis indicating this was not a recent infection.
- In 2015, 6% of new HIV diagnoses in the United States were attributed to injection drug use (IDU) and another 3% to male-to-male sexual contact and IDU.

## PREVENTION

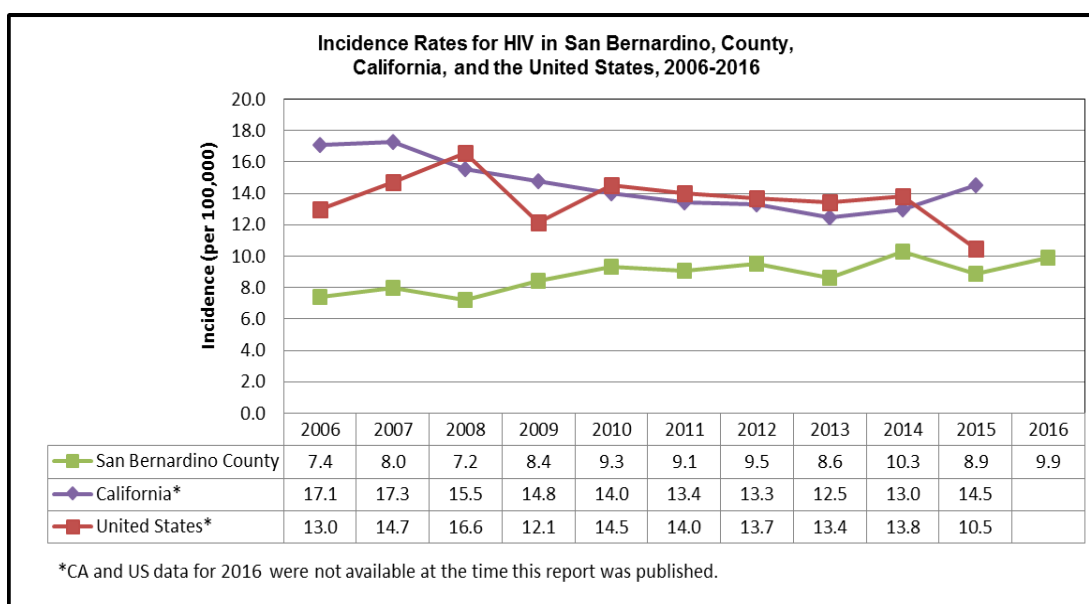
- Condoms, used consistently and correctly, may prevent infection. Avoid sharing needles or razors.
- All individuals aged 13- 64 should be tested at least once, then annually if at high risk. Gay and bisexual males (MSM) should be screened every 3-6 months depending on risk. All pregnant women should be screened at their first prenatal visit.
- Linking HIV positive individuals with a medical provider and starting them on antiretroviral treatment has been shown to decrease their viral loads and increase their CD4 counts.
- All partners of HIV positive individuals within the last 12 months or more depending on the degree of the exposure, should be notified of their exposure and tested. The public health department is available to assist with this confidential service.
- HIV negative individuals at ongoing risk of HIV infection, including those in discordant relationships or MSM with multiple partners, should consider HIV pre-exposure prophylaxis (PrEP), where they take HIV medication daily to avoid HIV infection.



# HIV/AIDS

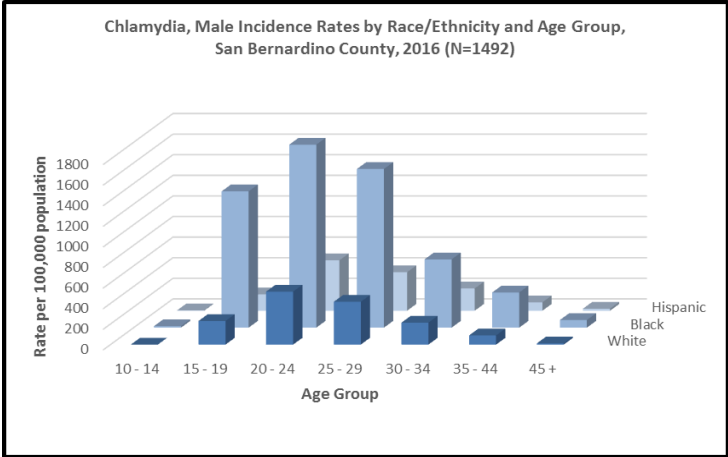
HIV Cases by Race/Ethnicity											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
White	79	63	49	41	49	51	38	44	46	32	47
Black	63	60	53	44	50	45	43	37	37	46	40
Hispanic	95	99	101	97	95	84	106	94	112	97	110
Asian/PI	6	6	9	5	3	4	5	9	9	8	7
Native Am.	0	0	1	0	0	0	1	0	4	4	0
Other	1	7	3	8	1	6	4	1	9	3	3
Unknown	0	0	0	0	0	0	0	0	0	0	6
<b>Total</b>	<b>244</b>	<b>235</b>	<b>216</b>	<b>195</b>	<b>198</b>	<b>190</b>	<b>197</b>	<b>185</b>	<b>217</b>	<b>190</b>	<b>213</b>

HIV Cases by Age											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<1	0	0	1	0	0	0	0	0	1	0	0
1 - 4	1	0	0	0	0	0	1	0	0	0	0
5 - 9	0	0	1	0	0	0	0	0	0	0	0
10 - 14	0	1	0	0	0	0	0	0	0	0	0
15 - 19	12	7	8	4	7	9	6	6	10	11	5
20 - 24	21	36	34	33	37	42	40	38	41	41	42
25 - 29	35	30	34	32	47	23	38	39	44	31	52
30 - 34	31	42	22	32	15	30	27	23	37	22	28
35 - 39	37	33	21	23	16	14	18	21	20	21	18
40 - 44	37	30	34	27	22	21	15	16	20	15	19
45 - 54	55	38	38	32	33	38	35	32	27	33	33
55 - 64	9	13	20	10	16	9	10	8	14	14	11
>65	6	5	3	2	5	4	7	2	3	2	5
Unknown	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>244</b>	<b>235</b>	<b>216</b>	<b>195</b>	<b>198</b>	<b>190</b>	<b>197</b>	<b>185</b>	<b>217</b>	<b>190</b>	<b>213</b>



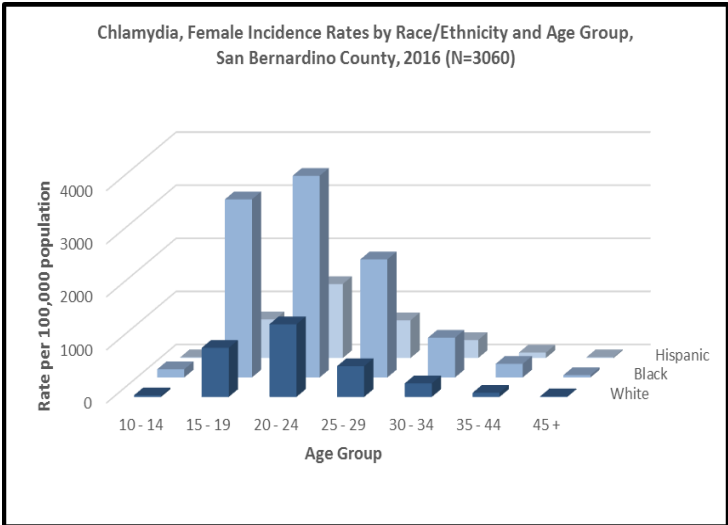
# CHLAMYDIA

**Infectious Agent:** *Chlamydia trachomatis* (CT), a bacteria  
**Mode of Transmission:** Sexual activity or from mother to infant during birth  
**Incubation Period:** 7-14 days or longer  
**Symptoms:** if present, vaginal, penile or rectal discharge, itching, or burning on urination  
**Vaccine:** none  
**Complications:** untreated CT can cause pelvic inflammatory disease (PID), ectopic pregnancy, and infertility in women and preterm delivery and pneumonia in infants born to infected women  
**For more information:**  
<http://www.cdc.gov/std/chlamydia/default.htm>



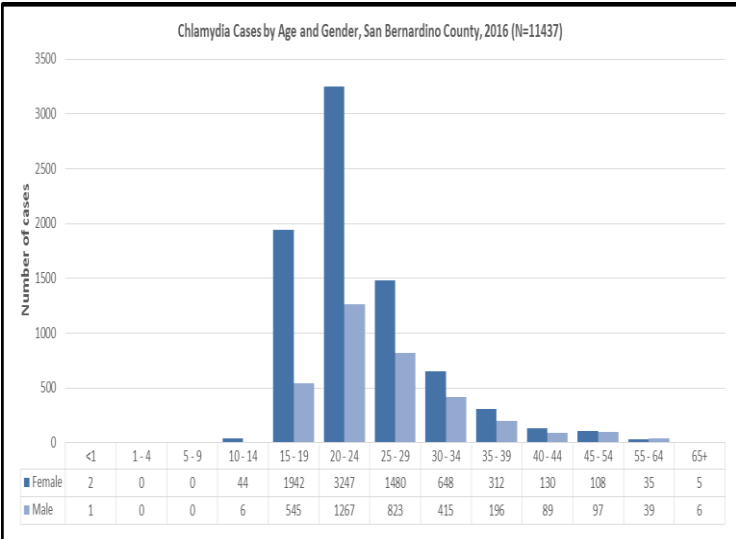
## 2016 REVIEW

- The numbers of reported CT cases has remained level in this County since 2011 at about 11,000 cases per year.
- In 2015, San Bernardino County ranked 16<sup>th</sup> among all counties in the U.S. and 4<sup>th</sup> in CA for number of CT cases.
- Females account for 69% of County CT cases with females 15-29 years of age accounting for 58% of all County cases in 2016.
- Among 2016 County cases, Black females (991.7) have rates of infection three times that of Hispanic females (351.5) and four times that of White females (218.3).
- In 2015, 13.2% of females in CA juvenile detention facilities screened positive for CT compared to 6.8% of males.
- Females with untreated CT may develop Pelvic Inflammatory Disease (PID) which can lead to ectopic pregnancy, scar tissue inside the fallopian tubes, infertility and long-term abdominal pain.
- In pregnant women, untreated CT has been associated with pre-term delivery and conjunctivitis (18-44%) and pneumonia (3-16%) in infants.
- Young adults have higher rates of CT because they may not use condoms consistently, they have serial short term relationships, teen females have cells on their cervix susceptible to infection, and in general they have barriers to accessing prevention services.



## PREVENTION

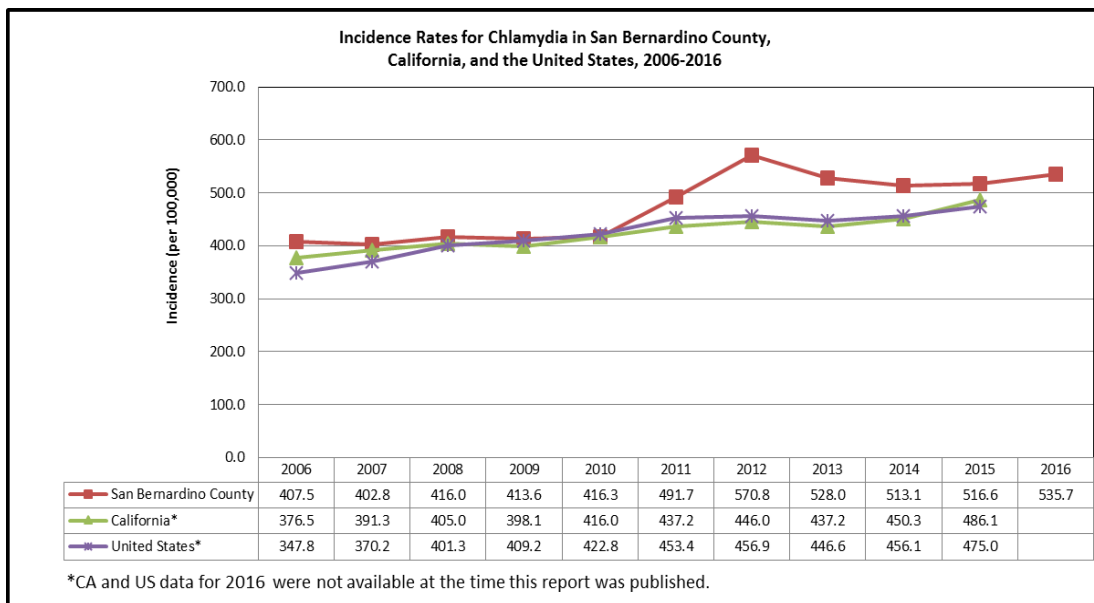
- The best prevention is regular screening of women 25 years and younger, pregnant women, or any individual at increased risk; use of a barrier contraception method; or abstinence from sexual intercourse.
- Optimal specimens for CT testing are vaginal swabs (self-collected is acceptable) for women and first catch urine specimens for men.
- Men and women who have tested positive for CT should be retested after 3 months due to high rates of reinfection.
- Individuals with CT should avoid having sex until 7 days after beginning their antibiotics. Any partners within the previous 60 days should also be tested and treated for CT.
- Patient-delivered partner therapy, where the patient delivers antibiotics to their partner, has been shown to decrease the risk of reinfection.



# CHLAMYDIA

Chlamydia Cases by Race/Ethnicity											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
White	758	607	608	639	595	267	939	535	634	953	1027
Black	1041	736	1016	1087	749	391	1241	719	928	1046	1269
Hispanic	1842	1743	1640	1842	1326	1486	2978	1764	1981	1858	2280
Asian/PI	95	90	92	116	74	25	122	75	86	103	174
Native Am.	15	9	8	15	15	6	32	33	32	37	39
Other	4	0	0	0	1	34	134	178	259	907	1011
Unknown	4309	4937	5184	4955	5726	8693	6341	7718	6835	6113	5707
<b>Total</b>	<b>8064</b>	<b>8122</b>	<b>8548</b>	<b>8654</b>	<b>8486</b>	<b>10902</b>	<b>11787</b>	<b>11022</b>	<b>10755</b>	<b>11017</b>	<b>11507</b>

Chlamydia Cases by Age											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<1	10	9	2	0	4	7	4	1	0	3	3
1 - 4	0	1	0	0	0	0	0	0	1	0	0
5 - 9	2	2	0	0	0	5	2	0	0	0	0
10 - 14	75	67	69	70	74	56	99	82	58	56	50
15 - 19	2668	2698	2809	2763	2532	2773	3215	2858	2445	2412	2492
20 - 24	3059	3045	3197	3309	3400	4663	4834	4503	4336	4362	4522
25 - 29	1194	1341	1341	1370	1391	1865	1984	1927	2082	2216	2307
30 - 34	522	501	572	583	547	746	828	801	883	968	1066
35 - 39	281	234	303	282	287	375	398	414	403	461	509
40 - 44	118	110	140	146	135	197	199	203	222	230	219
45 - 54	97	85	98	99	93	173	171	177	231	190	205
55 - 64	24	23	14	22	18	30	40	42	51	63	74
>65	14	6	3	10	5	9	12	10	15	11	11
Unknown	0	0	0	0	0	3	1	4	28	45	49
<b>Total</b>	<b>8064</b>	<b>8122</b>	<b>8548</b>	<b>8654</b>	<b>8486</b>	<b>10902</b>	<b>11787</b>	<b>11022</b>	<b>10755</b>	<b>11017</b>	<b>11507</b>



# GONORRHEA

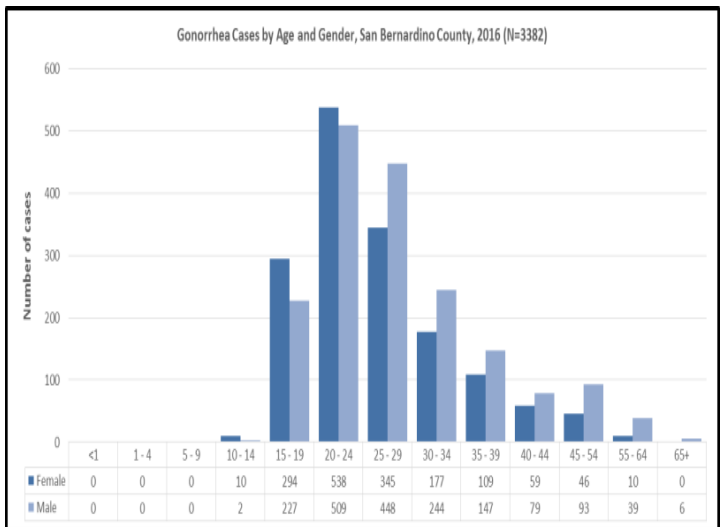
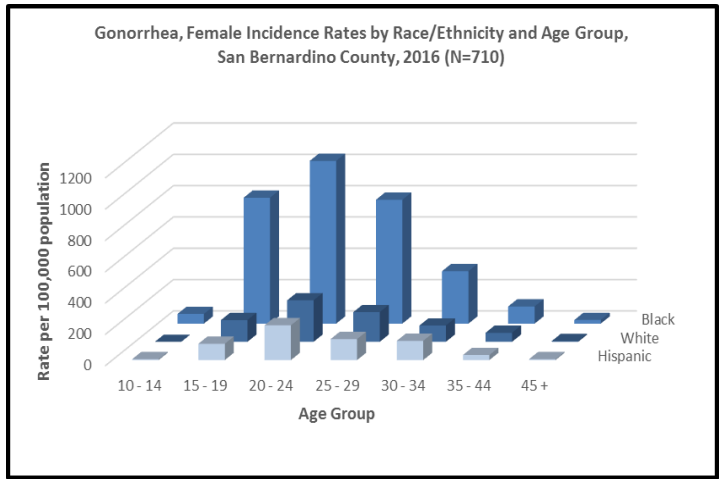
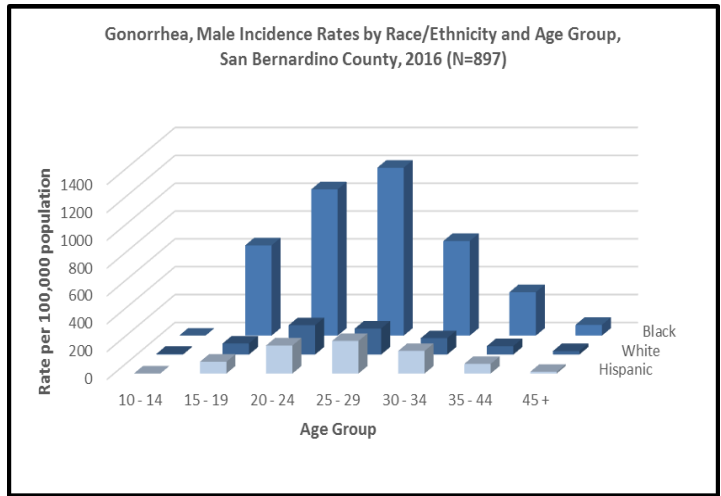
**Infectious Agent:** *Neisseria gonorrhoeae* (GC), a bacteria  
**Mode of Transmission:** Sexual activity or from mother to child at birth  
**Incubation Period:** 1-14 days  
**Symptoms:** Urethral discharge, itching, burning  
**Vaccine:** None  
**Complications:** Untreated GC can cause pelvic inflammatory disease (PID), ectopic pregnancy, and infertility in women and blindness, joint infection and disseminated blood infection in infants born to infected women  
**For more information:** <http://www.cdc.gov/std/Gonorrhea/>

## 2016 REVIEW

- Gonorrhea cases increased 140.0% in the County from 2011 (1,408 cases) to 2016 (3,384 cases).
- In 2015, San Bernardino County ranked 25<sup>th</sup> among all counties in the U.S. and 6<sup>th</sup> in CA for number of GC cases.
- In 2016, males comprised 53.0% of County cases with individuals aged 15-29 years of any gender accounting for 69.8% of cases.
- In 2016, Blacks had rates of infection (313.2) five times that of Hispanics (61.9) and six times that of Whites (54.1).
- Nationally 2014-2015, GC rates increased three times as fast among men as women with the largest increases in the West and South suggesting either increased MSM transmission or increased extra-genital screening among MSM or both.
- GC infection increases the risk of acquiring HIV while having HIV increases the risk of acquiring an STD including GC.
- The risk of transmission from an infected male to female during a single unprotected sexual encounter is 40-60%. Pharyngeal GC occurs in about 20% of females who have oral sex.
- Over 7% of the incarcerated women 35 years of age and younger tested in 2016 in a special County jail project were found to have GC.
- Between 2013-2015 in CA, 7.5% of STD clinic clients and 2.2% of juvenile detention youth screened positive for GC.
- Re-infection rates are high, with 12% of females with GC becoming reinfected within a few months, under scoring the need for partner treatment.
- Nationally, the number of isolates with some resistance to cefixime and ceftriaxone, the two antibiotics recommended for treatment, remained low (0.5%, 0.3%).

## PREVENTION

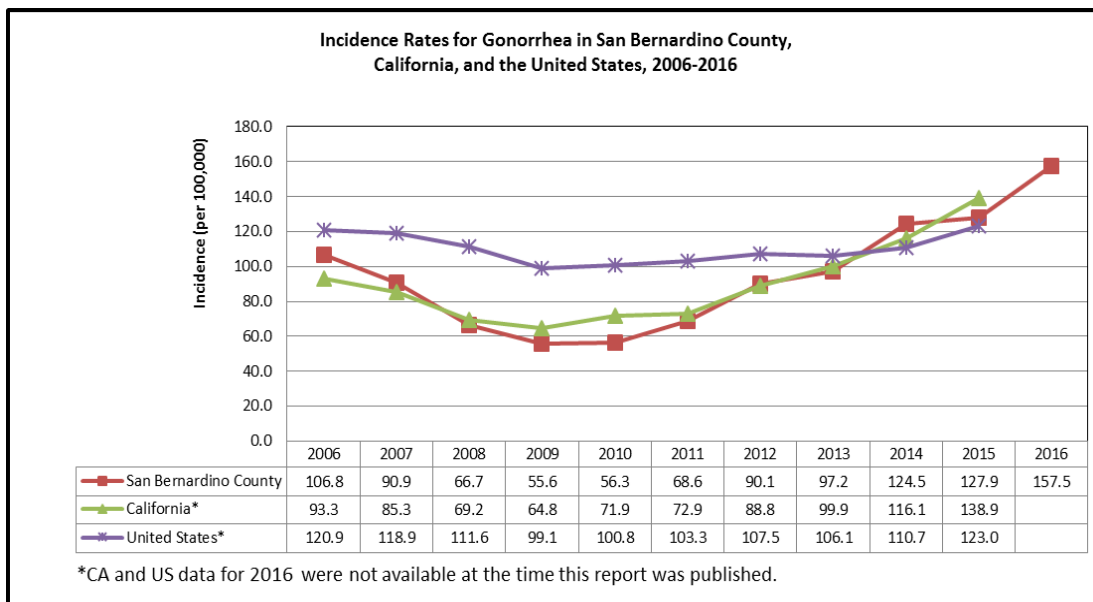
- Use latex condoms consistently and correctly if not in a mutually monogamous relationship. Be aware that drugs and alcohol may increase risky behavior.
- Annual screening and prompt effective treatment is important among sexually active individuals.
- The most recent treatment guidelines issued in 2015 recommend dual therapy with two antibiotics for treatment, ceftriaxone and azithromycin, to limit resistance in oral cephalosporins.
- All partners of a GC-infected individual within the 60 days prior to diagnosis should be tested and treated.



# GONORRHEA

Gonorrhea Cases by Race/Ethnicity											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
White	212	149	119	76	83	73	171	168	240	299	366
Black	435	287	299	273	231	190	387	342	456	476	562
Hispanic	360	276	198	152	150	149	368	381	479	516	679
Asian/PI	11	15	17	17	14	5	16	20	16	19	28
Native Am.	4	2	4	0	1	1	5	7	10	3	10
Other	1	0	0	0	0	11	29	40	71	163	247
Unknown	1091	1103	733	645	669	979	884	1071	1338	1267	1492
<b>Total</b>	<b>2114</b>	<b>1832</b>	<b>1370</b>	<b>1163</b>	<b>1148</b>	<b>1408</b>	<b>1860</b>	<b>2029</b>	<b>2610</b>	<b>2743</b>	<b>3384</b>

Gonorrhea Cases by Age											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<1	1	2	0	0	3	2	0	0	0	0	0
1 - 4	2	0	0	0	0	0	0	0	1	0	0
5 - 9	4	0	0	0	0	0	0	0	0	1	0
10 - 14	17	15	10	9	8	8	13	8	17	10	12
15 - 19	563	499	459	349	267	310	396	398	499	469	521
20 - 24	692	613	429	387	429	505	666	677	871	885	1047
25 - 29	361	319	215	204	195	268	334	385	585	618	793
30 - 34	195	161	118	86	102	146	198	226	273	307	421
35 - 39	140	102	61	47	55	66	114	130	140	175	256
40 - 44	66	51	41	32	44	58	58	93	80	113	139
45 - 54	58	57	33	40	41	37	59	91	108	101	139
55 - 64	13	11	3	9	2	6	14	18	26	48	49
>65	2	2	1	0	2	2	8	2	5	11	6
Unknown	0	0	0	0	0	0	0	1	5	5	1
<b>Total</b>	<b>2114</b>	<b>1832</b>	<b>1370</b>	<b>1163</b>	<b>1148</b>	<b>1408</b>	<b>1860</b>	<b>2029</b>	<b>2610</b>	<b>2743</b>	<b>3384</b>



# SYPHILIS, ALL STAGES

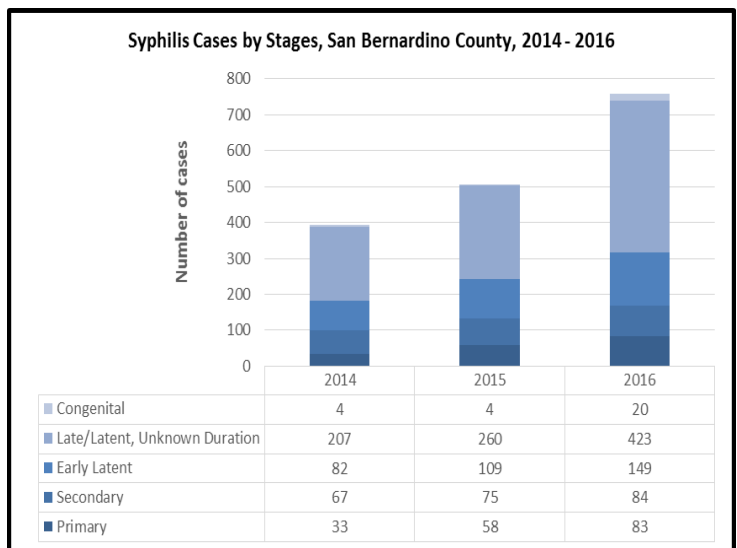
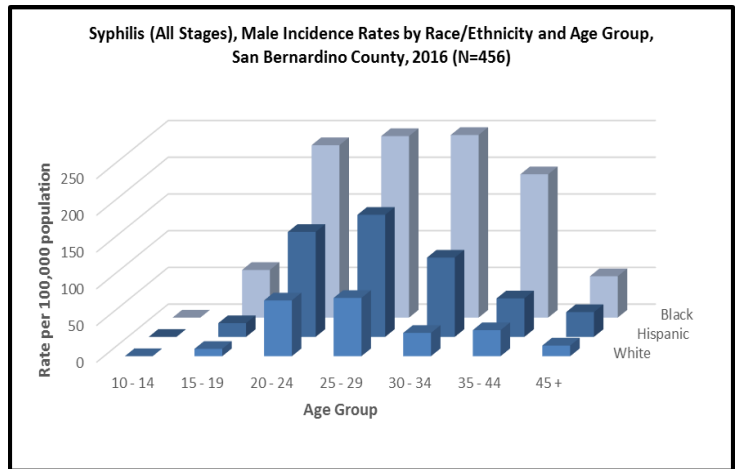
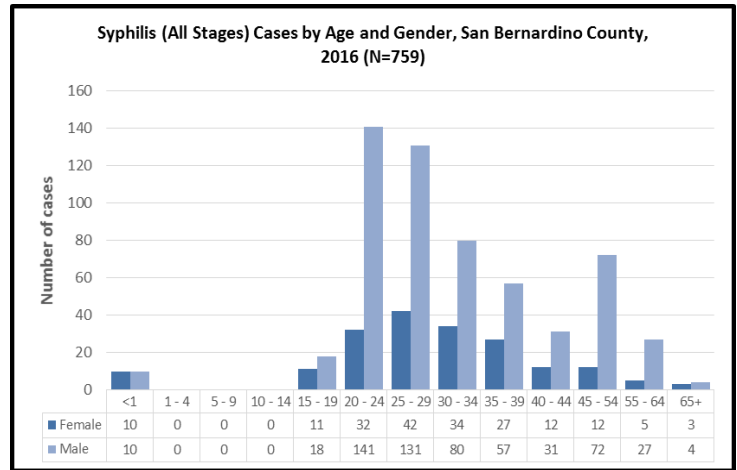
**Infectious Agent:** *Treponema pallidum*, a bacteria  
**Mode of Transmission:** Contact with syphilis chancre on the genitalia, anus, or mouth, or during pregnancy or birth  
**Incubation Period:** 21 days (range: 10-90 days)  
**Symptoms:** Chancre, rash including palms and soles of feet, fever, swollen lymph glands, sore throat, hair loss, muscle aches and fatigue  
**Vaccine:** none  
**For more information:**  
<http://www.cdc.gov/std/syphilis/default.htm>

## 2016 REVIEW

- Of the 759 cases of any stage reported in 2016, 75.2% were in males. Most cases of any stage were between 20-29 years.
- Rates in Blacks are four and a half times greater than that of Whites and more than double compared to Hispanics in the County.
- The numbers of cases among County females has trended up from 2010 (45), 2011 (57), 2012 (62), 2013 (77), 2014 (80), 2015 (96) and 2016 (188) reflecting increases seen in CA also.
- Twenty cases of congenital syphilis were reported in the County, representing a fourfold increase for 2016. Cases of congenital syphilis increased in CA from 58 in 2013 to 102 in 2014 to 145 in 2015 and finally 207 in 2016. This is a 257% increase since 2013. Cases were associated with lack of prenatal care, inadequate syphilis treatment, mental health issues, poverty and substance abuse.
- The numbers of cases of all stages in the County increased by 377% from 2010 to 2016, with the largest proportional increases occurring among the infants. This was followed by a 63% increase in late latent cases.
- In addition to the overall number of syphilis cases increasing in the County, the proportion of late latent cases has increased from 52.7% in 2014 to 55.7% in 2016.
- In 2015, CA MSM made up 70% of infectious cases. Of these, 57% were HIV positive.

## PREVENTION

- Condoms, if used correctly and consistently, may prevent infection. Alcohol and drugs may increase risk of infection with syphilis and other STIs.
- Pregnant women should be screened at their first prenatal visit and again during their third trimester. Congenital syphilis cases can be prevented if women are treated appropriately at least 30 days before giving birth.
- High risk individuals (MSM, HIV-infected, those with multiple sex partners) should be screened annually or as often as every 3-6 months.
- Bicillin L-A is effective in the treatment of syphilis, one injection for the earliest stages and three injections for the untreated infections over one year of duration. Treatment will not undo any of the damage already done.
- HIV testing is recommended also, given a high number of co-infected cases especially among MSM.

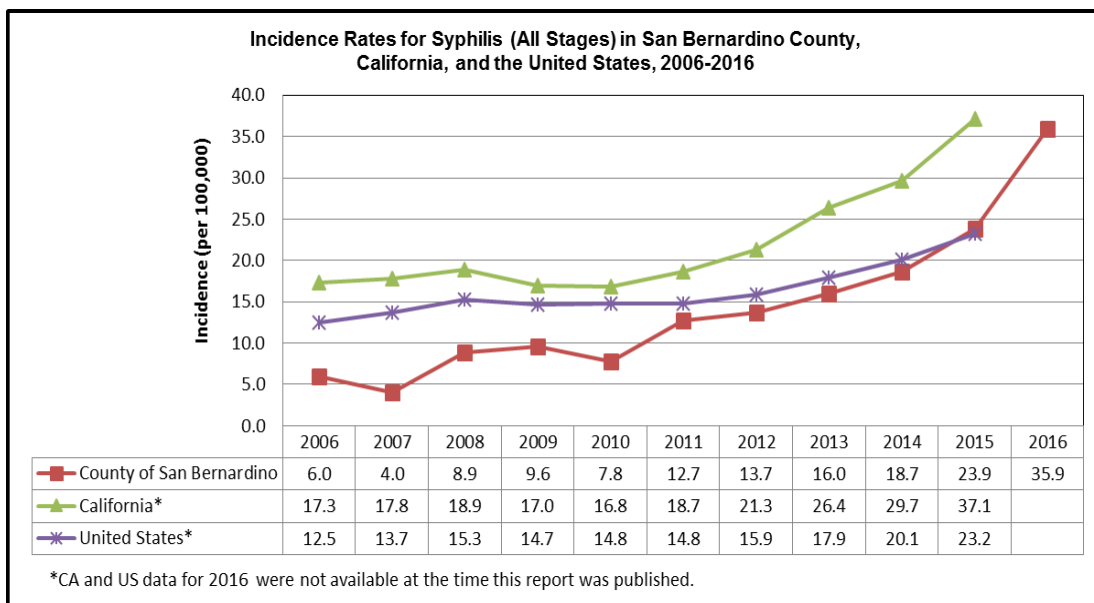




# SYPHILIS, ALL STAGES

Syphilis (All Stages) Cases by Race/Ethnicity											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
White	13	8	16	31	19	33	37	48	76	85	119
Black	28	17	21	26	23	29	40	60	61	85	143
Hispanic	60	32	85	87	75	126	117	141	196	277	356
Asian/PI	1	1	6	5	1	6	8	7	7	13	26
Native Am.	0	0	0	1	0	0	3	1	0	3	2
Other	1	0	0	0	0	5	2	3	11	8	25
Unknown	15	22	54	51	41	61	75	75	42	35	88
<b>Total</b>	<b>118</b>	<b>80</b>	<b>182</b>	<b>201</b>	<b>159</b>	<b>260</b>	<b>282</b>	<b>335</b>	<b>393</b>	<b>506</b>	<b>759</b>

Syphilis (All Stages) Cases by Age											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<1	0	0	3	1	0	0	1	4	4	4	20
1 - 4	0	0	0	0	0	0	0	0	0	0	0
5 - 9	0	0	0	0	0	0	0	0	0	0	0
10 - 14	1	0	0	0	0	0	0	0	0	0	0
15 - 19	4	2	9	16	9	19	20	21	22	34	29
20 - 24	7	9	22	37	43	72	71	84	74	124	173
25 - 29	15	6	28	31	25	52	50	82	83	110	173
30 - 34	13	3	13	19	19	31	26	40	54	82	114
35 - 39	15	9	24	25	13	20	24	26	47	43	84
40 - 44	23	13	33	24	17	17	23	20	27	38	43
45 - 54	25	19	29	38	23	35	45	41	61	45	84
55 - 64	12	10	7	9	5	7	16	14	19	22	32
>65	3	9	14	1	5	7	6	3	2	4	7
Unknown	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>118</b>	<b>80</b>	<b>182</b>	<b>201</b>	<b>159</b>	<b>260</b>	<b>282</b>	<b>335</b>	<b>393</b>	<b>506</b>	<b>759</b>



# PRIMARY/SECONDARY SYPHILIS

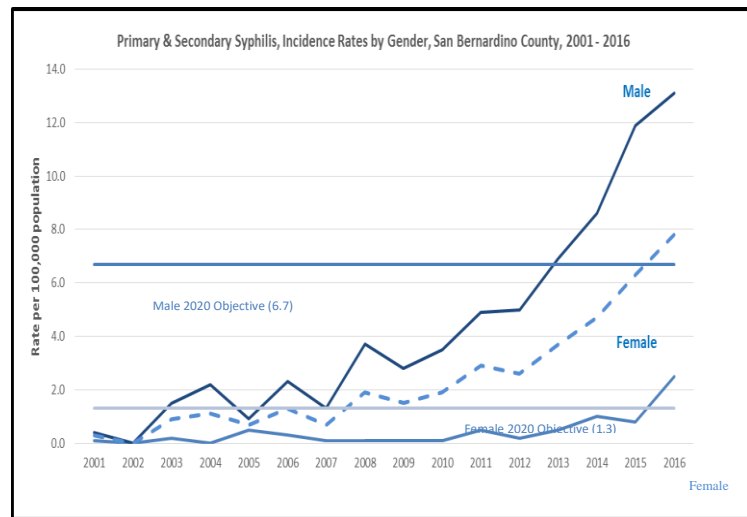
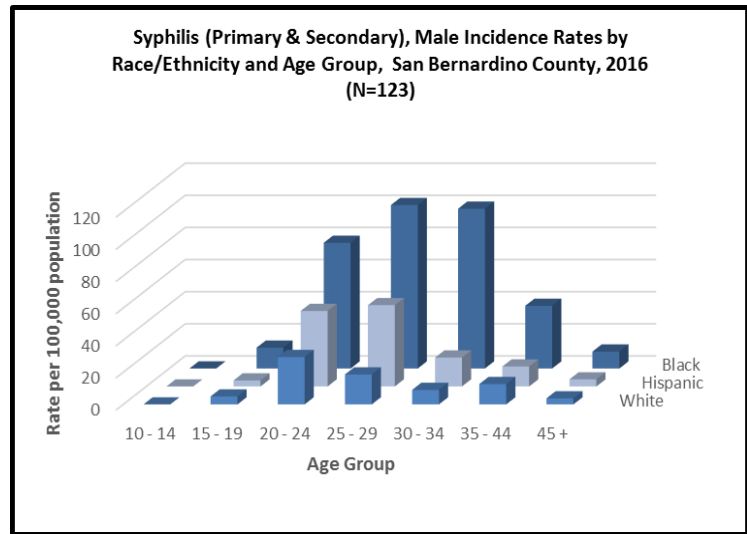
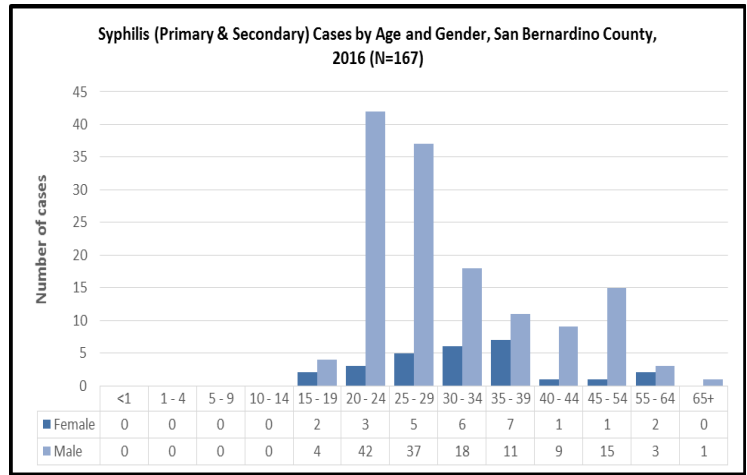
**Infectious Agent:** *Treponema pallidum*  
**Mode of Transmission:** Contact with syphilis chancre on the genitalia, anus, or mouth, or during pregnancy or birth  
**Incubation Period:** 21 days (range: 10-90 days)  
**Symptoms:** Chancre, rash including palms and soles of feet, fever, swollen lymph glands, sore throat, hair loss, muscle aches and fatigue  
**Vaccine:** None  
**For more information:**  
<http://www.cdc.gov/std/syphilis/default.htm>

## 2016 REVIEW

- In San Bernardino County, 94% of cases are males and half of all cases are in the 20-29 year old age group.
- A painless chancre is usually the first symptom, appearing at the site of the infection, lasting 3-6 weeks and healing whether the person was treated or not. The characteristic rash of the secondary stage appears as non-itchy, rough, red or reddish brown spots on the palms of the hands and the bottoms of the feet or other areas.
- The number of primary and secondary (P&S) cases, the most infectious stages, increased 439% in the County from 2010 to 2016.
- Among 2016 CA early syphilis cases, the highest proportion of methamphetamine use was reported by females (28%).
- In 2016, among County cases, Blacks had a rate 3.6 times greater than that of Whites, while Hispanics had a rate 1.4 times greater than that of Whites.
- In 2015, MSM account for 54% of P&S cases among men in the US.
- In the US in 2015, the West had the highest rate of P&S cases with increases seen in male and female rates in every region of the US.
- Nationally, 49.8% of P&S cases among MSM are HIV-positive compared to 10.0% among heterosexual males and 3.9% of women.
- Among 2015 CA cases, 46.4% of MSM with P&S are HIV-positive.

## PREVENTION

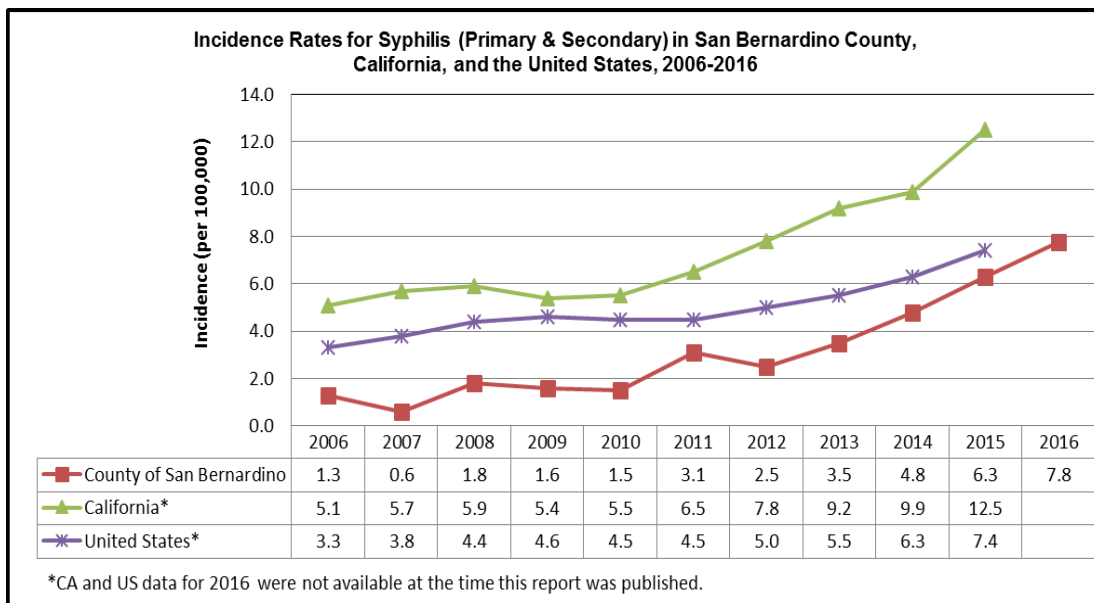
- Condoms, if used correctly and consistently, may prevent infection.
- Pregnant women should be screened at their first prenatal visit and again in their third trimester of pregnancy at 28-32 weeks.
- High risk individuals (HIV-infected, MSM, those with multiple sex partners) should be screened annually or as often as every 3-6 months for both syphilis and HIV if negative.
- P&S syphilis is easily treated with one penicillin injection; however it will not repair any damage already done.
- Individuals diagnosed with P&S syphilis should abstain from sex until after treatment and the chancre has healed (if visible).
- Individuals with sexually transmitted diseases such as P&S syphilis are also at increased risk of HIV and may benefit from an HIV pre-exposure (PrEP) regimen.



# PRIMARY/SECONDARY SYPHILIS

Syphilis (Primary & Secondary) Cases by Race/Ethnicity											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
White	5	0	10	8	5	11	10	13	31	28	35
Black	6	3	3	3	7	6	9	22	17	20	34
Hispanic	10	8	18	17	15	33	28	29	46	75	80
Asian/PI	1	0	0	3	0	1	0	3	2	6	4
Native Am.	0	0	0	0	0	0	2	0	0	2	3
Other	0	0	0	0	0	3	0	0	2	0	11
Unknown	3	2	7	3	4	10	2	6	2	2	0
<b>Total</b>	<b>25</b>	<b>13</b>	<b>38</b>	<b>34</b>	<b>31</b>	<b>64</b>	<b>51</b>	<b>73</b>	<b>100</b>	<b>133</b>	<b>167</b>

Syphilis (Primary & Secondary) Cases by Age											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<1	0	0	0	0	0	0	0	0	0	0	0
1 - 4	0	0	0	0	0	0	0	0	0	0	0
5 - 9	0	0	0	0	0	0	0	0	0	0	0
10 - 14	0	0	0	0	0	0	0	0	0	0	0
15 - 19	1	0	4	4	1	7	6	9	9	12	6
20 - 24	2	2	6	9	11	25	14	19	24	36	45
25 - 29	3	1	11	8	6	14	9	20	17	31	42
30 - 34	1	2	1	3	2	4	6	10	9	21	24
35 - 39	5	3	5	3	5	4	1	4	11	8	18
40 - 44	4	5	3	1	1	3	6	2	6	8	10
45 - 54	5	0	5	6	5	5	7	4	17	10	16
55 - 64	4	0	2	0	0	1	2	4	7	5	5
>65	0	0	1	0	0	1	0	1	0	2	1
Unknown	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>25</b>	<b>13</b>	<b>38</b>	<b>34</b>	<b>31</b>	<b>64</b>	<b>51</b>	<b>73</b>	<b>100</b>	<b>133</b>	<b>167</b>



## PERTUSSIS (WHOOPING COUGH)

**Infectious Agent:** *Bordetella pertussis*, a Gram negative aerobic bacteria

**Mode of Transmission:** Airborne and direct contact with expulsions such as large droplets from respiratory mucous membranes of infected persons.

**Incubation Period:** 9-10 days on average (range: 6-21 days)

**Symptoms:** Paroxysmal coughs lasting 1-2 months, high-pitched whoop, expulsions of clear mucus, vomiting

**Vaccine:** Available since 1961

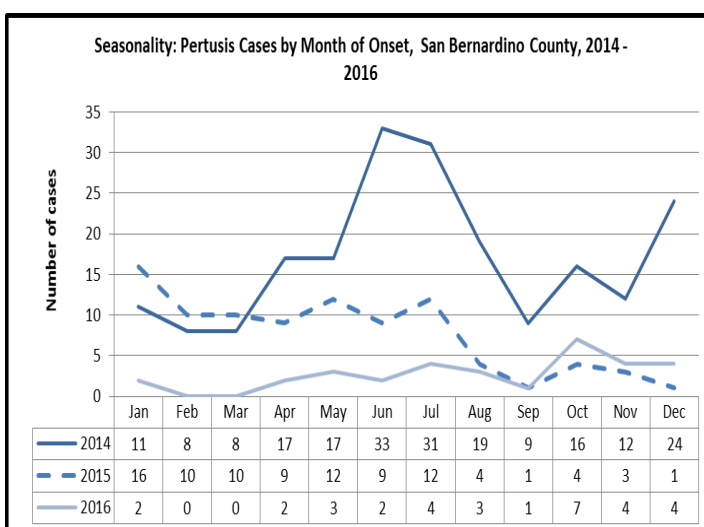
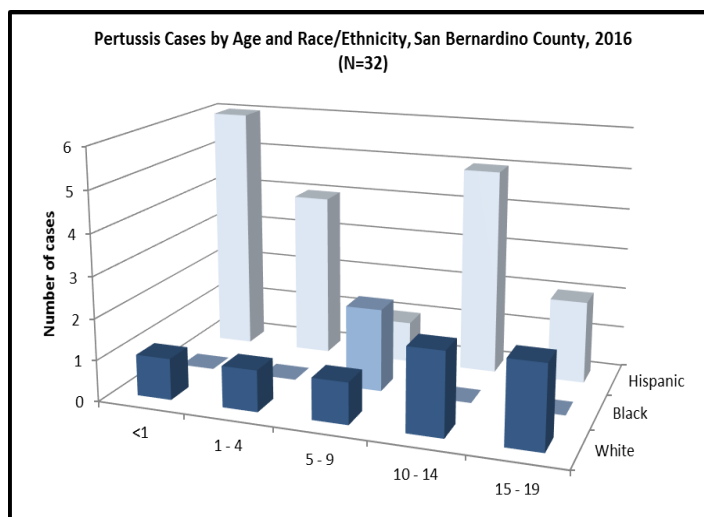
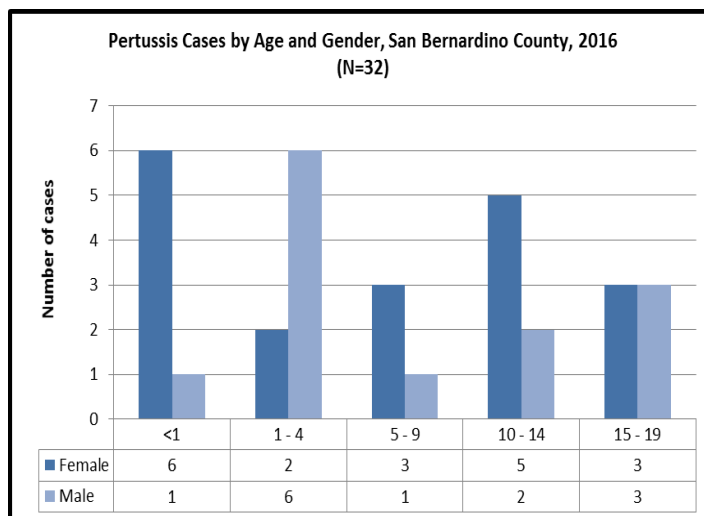
**For more information:** <http://www.cdc.gov/pertussis>

### 2016 REVIEW

- The *Bordetella* bacteria attach to the hair-like cilia in the upper respiratory system releasing a toxin that damages the cilia and causes the airway to swell.
- Pertussis is characterized by a catarrhal stage of cold-like symptoms with minimal fever followed by a paroxysmal stage severe coughing and post-tussive vomiting.
- With treatment, individuals are infectious from onset of cold symptoms until 5 days of treatment. Without treatment, ill individuals are infectious 21 days after cough onset or in the case of infants 6 weeks.
- Numbers of County cases decreased 65% from 2015 to 2016 and 84% from the high in 2014.
- More County females (59.3%) than males were reported with this infection in 2016.
- The majority of cases are in children and teens 19 years and younger. Children 4 years and younger account for 47% of cases in 2016.
- Whites (21.8%) and Hispanic (56.2%) populations comprised the greatest proportion of County cases, as seen in previous years.
- Nationally, the number of cases increased 15% from 2013 to 2014 with peak incidence shifting up from 10 year olds to 15 years olds likely due to waning immunity.
- In 2014, 13 deaths occurred nationally with 8 of those in infants aged under 1 year. No deaths have occurred among County residents for several years.

### PREVENTION

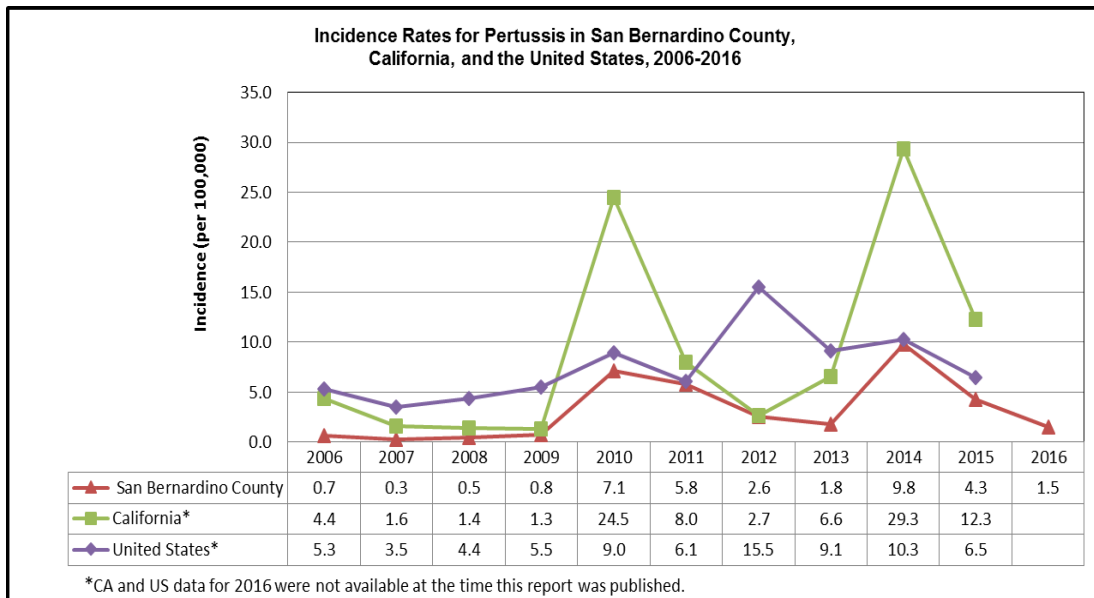
- Vaccination is the best method to prevent pertussis. Infants and children younger than 7 need three doses of the diphtheria, tetanus, and whooping cough (DTaP) vaccine to develop immunity, and then two booster shots to maintain immune response through early childhood. Tdap is given to older children and adults. The Tdap vaccine should be given around age 11 or 12, and every 10 years thereafter.
- Pregnant women should receive a dose of Tdap during each pregnancy, preferably in the third trimester.
- Adults 65 years and older as well as health care personnel should be vaccinated according to guidelines.
- Sick individuals should cover their mouths and noses when sneezing or coughing and wash their hands afterwards.
- If possible, individuals with a cough should avoid being around infants and children who have not completed their vaccine series.



# PERTUSSIS (WHOOPING COUGH)

Pertussis Cases by Race/Ethnicity											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
White	6	5	4	6	43	40	13	11	58	33	7
Black	0	0	0	0	6	4	4	0	5	0	2
Hispanic	6	1	4	4	80	69	30	20	108	37	18
Asian/PI	0	0	0	0	2	2	4	0	2	4	1
Native Am.	0	0	0	0	0	0	0	0	0	1	0
Other	0	0	0	0	1	0	0	0	6	5	2
Unknown	1	1	2	7	23	14	3	6	26	11	2
<b>Total</b>	<b>13</b>	<b>7</b>	<b>10</b>	<b>17</b>	<b>155</b>	<b>129</b>	<b>54</b>	<b>37</b>	<b>205</b>	<b>91</b>	<b>32</b>

Pertussis Cases by Age											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<1	4	6	6	12	51	34	20	10	41	16	7
1 - 4	1	0	1	2	23	23	13	4	37	12	8
5 - 9	2	0	1	1	14	16	9	2	18	11	4
10 - 14	2	1	2	1	32	27	4	9	50	27	7
15 - 19	1	0	0	1	10	8	1	7	33	14	6
20 - 24	0	0	0	0	5	2	0	0	1	3	0
25 - 29	0	0	0	0	1	4	2	0	3	0	0
30 - 34	3	0	0	0	2	4	1	0	3	1	0
35 - 39	0	0	0	0	2	2	2	1	3	0	0
40 - 44	0	0	0	0	7	3	0	1	2	1	0
45 - 54	0	0	0	0	4	1	1	2	7	4	0
55 - 64	0	0	0	0	0	3	0	1	3	1	0
>65	0	0	0	0	3	1	1	0	2	1	0
Unknown	0	0	0	0	1	1	0	0	2	0	0
<b>Total</b>	<b>13</b>	<b>7</b>	<b>10</b>	<b>17</b>	<b>155</b>	<b>129</b>	<b>54</b>	<b>37</b>	<b>205</b>	<b>91</b>	<b>32</b>



# RESPIRATORY SYNCYTIAL VIRUS (RSV)

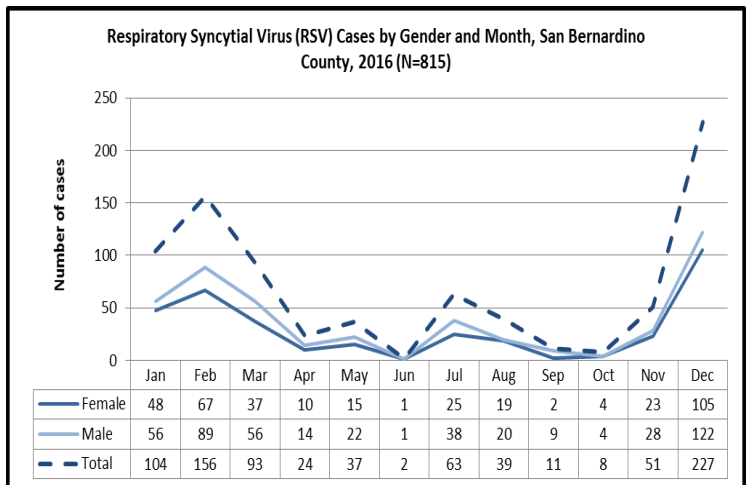
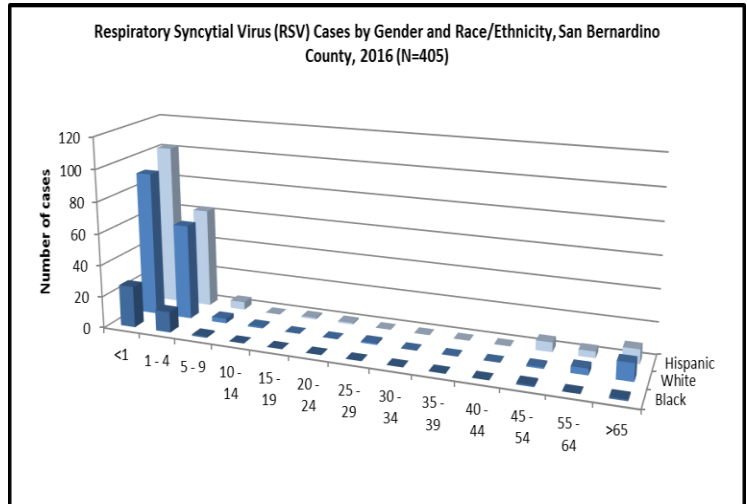
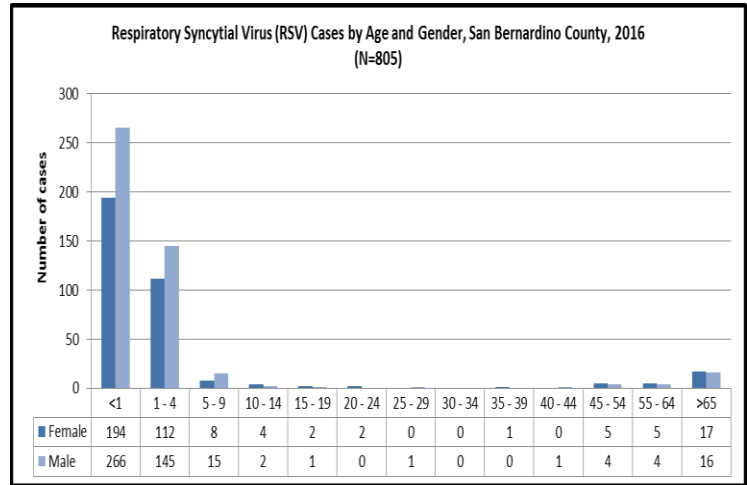
**Infectious Agent:** Respiratory syncytial virus (RSV)  
**Mode of Transmission:** Through airborne respiratory droplets spread by an infected person coughing or sneezing or by direct or indirect contact with respiratory secretions from an infected person  
**Incubation Period:** 4-6 days (range: 2-8 days)  
**Symptoms:** Runny nose, decrease in appetite; coughing, sneezing, and fever typically develop 1 to 3 days later. Wheezing may also occur. In very young infants, irritability, decreased activity, and breathing difficulties may be the only symptoms.  
**Vaccine:** None  
**For more information:** <http://www.cdc.gov/rsv/>

## 2016 REVIEW

- The numbers of reported cases increased by 25.7% from 2015 to 2016. Fluctuations in incidence rates do not appear to have a clear pattern, although incidence has increased in the last two years.
- Children 4 years and under accounted for 88.0% of County cases in 2016 with an incidence rate (469.7) 33 times that of the next highest age group (5-9; 14.2).
- The greatest proportion of cases occurred among Hispanics (39.1%) and Whites (36.1%) where race/ethnicity was identified. Whites had the highest incidence rate at 26.0 followed by Blacks (23.4).
- Males comprised 56.3% of all cases.
- Infected infants most commonly manifest with cold-like symptoms. However, 25-40% will show signs of pneumonia or bronchiolitis.
- Most children hospitalized are under 6 months of age.
- Almost all children have had RSV by 2 years of age.
- Infected individuals are contagious 3-8 days.
- Individuals at higher risk of complications include premature infants, those with chronic lung or heart disease and those with weakened immune systems.
- In 2016, one child younger than 5 years of age died due to RSV in the County.
- Increases in reported cases are seen in winter. In 2016, 59.7% of cases fell in the winter months, 18.9% in spring, 12.8% in summer, and 8.6% in fall.
- RSV can survive on hard surfaces such as tables and crib rails for hours.

## PREVENTION

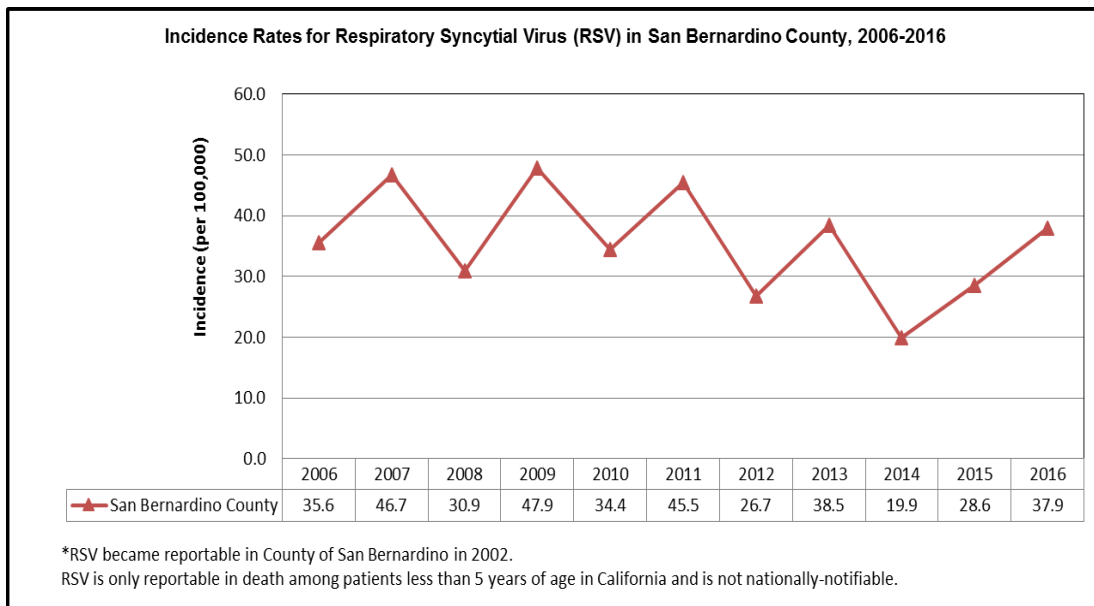
- Cover nose and mouth when coughing or sneezing.
- Wash hands often with soap and water, especially after coughing or sneezing.
- Avoid sharing cups, eating utensils, lipsticks, or items that may be contaminated with saliva.
- Avoid close contact with sick people who may release the virus into the air while coughing or sneezing.
- Individuals with cold symptoms should not have close contact with children at increased risk of complications.
- Limit time high-risk children spend in childcare centers.
- Consider disinfecting surfaces that have a large amount of hand contact, especially in child care centers.



# RESPIRATORY SYNCYTIAL VIRUS (RSV)

RSV Cases by Race/Ethnicity											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013	2016
White	191	243	124	144	166	259	152	201	68	116	177
Black	40	60	44	60	65	97	67	58	22	43	42
Hispanic	307	404	290	359	321	438	243	326	120	247	191
Asian/PI	8	7	12	13	10	18	7	10	5	11	14
Native Am.	0	0	0	0	1	4	0	1	1	0	2
Other	2	0	0	0	2	2	20	35	14	15	23
Unknown	156	228	165	426	185	191	63	172	188	173	366
<b>Total</b>	<b>704</b>	<b>942</b>	<b>635</b>	<b>1002</b>	<b>750</b>	<b>1009</b>	<b>552</b>	<b>803</b>	<b>418</b>	<b>605</b>	<b>815</b>

RSV Cases by Age											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<1	552	730	499	678	452	126	372	544	278	281	460
1 - 4	137	205	127	301	276	852	164	210	100	243	257
5 - 9	12	3	6	14	15	20	11	20	11	19	23
10 - 14	1	1	2	5	1	4	2	7	4	4	6
15 - 19	0	2	0	1	3	1	2	1	1	3	3
20 - 24	0	0	0	1	0	1	1	1	0	0	2
25 - 29	0	0	0	0	0	0	0	0	0	2	1
30 - 34	0	0	0	0	0	0	0	0	0	1	0
35 - 39	0	0	0	0	0	0	0	0	1	2	1
40 - 44	1	0	0	1	0	0	0	2	1	1	1
45 - 54	0	0	0	0	1	0	0	1	0	3	9
55 - 64	0	0	0	0	1	2	0	1	3	9	9
>65	1	1	1	1	1	3	0	11	14	31	33
Unknown	0	0	0	0	0	0	0	5	5	6	10
<b>Total</b>	<b>704</b>	<b>942</b>	<b>635</b>	<b>1002</b>	<b>750</b>	<b>1009</b>	<b>552</b>	<b>803</b>	<b>418</b>	<b>605</b>	<b>815</b>



# TUBERCULOSIS (TB)

**Infectious Agent:** *Mycobacterium tuberculosis* complex, a group of acid-fast bacilli

**Mode of Transmission:** Inhalation of infectious respiratory droplets produced by persons with pulmonary or respiratory TB

**Incubation Period:** Variable: 2-10 weeks from infection to demonstrable TST reaction or positive IGRA; less than 10% infected develop active TB in their lifetime, and half of those (5%) will develop symptoms within 2 years

**Symptoms:** Common symptoms of pulmonary TB include cough, fatigue, fever, weight loss, night sweats

**Vaccine:** None

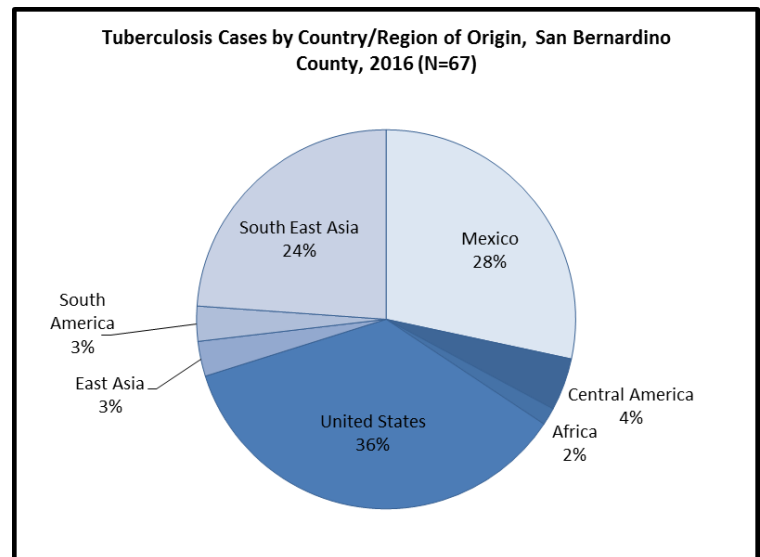
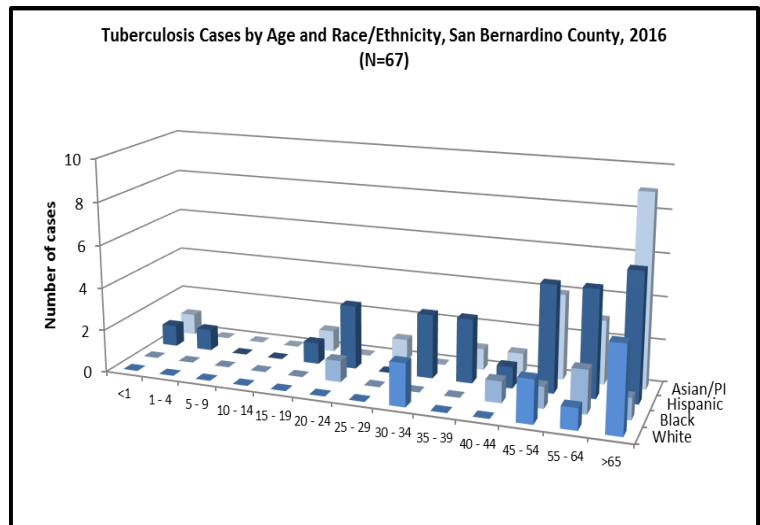
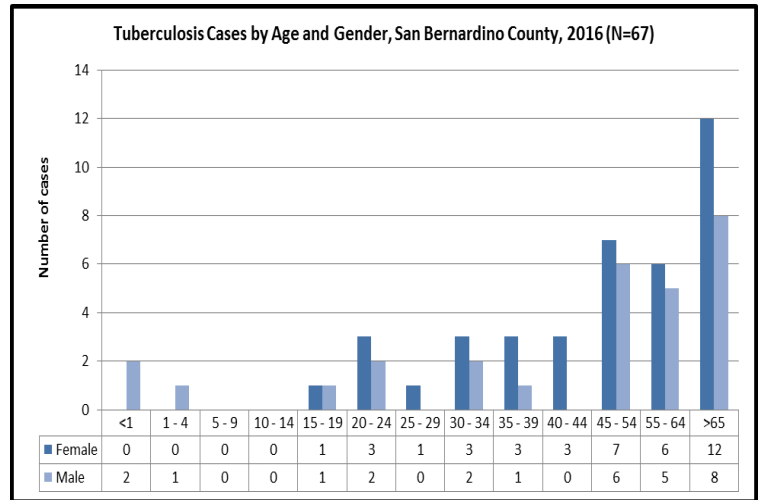
**For more information:** <http://www.cdc.gov/tb/>

## 2016 REVIEW

- Numbers of reported cases decreased by 2.9% from 2015 (69) to 2016 (67). The 2016 County incidence rate is lower than that of California (5.3 per 100,000) but higher than that of the US (2.9 per 100,000).
- Adults aged 45 years and older accounted for 65.7% of cases.
- The largest proportion of cases occurred among Hispanics (43.3%) and Asian/Pacific Islanders (31.3%). Incidence rates were highest among Asian/Pacific Islanders (15.3), and nearly 6 times that of Hispanics (2.6).
- Females comprised 41.8% of County cases in 2016.
- Sixty-four percent of County cases occurred among foreign-born residents.
- The majority of cases are from persons born in the United States (35.8%) and Latin America, including Mexico (35.8%), followed by Southeast Asia (22.5%), Asia (4.5%) and Africa (1.5%).
- Most TB cases were classified as pulmonary (89.6%)
- Co-morbidities among the County cases included diabetes (29.9%), end stage renal disease (9.0%) and HIV (6.0%).
- Eight (11.9%) of the 2016 cases died.
- In 2016, there were 28 (1.7%) cases of multidrug-resistance (MDR) in California compared to 23 cases in 2015. There were no 2016 County cases with MDR.
- An estimated \$70 million was spent on medical management of TB cases in California during 2016.

## PREVENTION

- Early diagnosis and treatment of active TB cases, particularly the most infectious smear-positive pulmonary cases, is the best method of preventing the spread of TB.
- Active case finding through contact investigation of pulmonary TB cases helps to reduce transmission.
- Treat latent TB infections with isoniazid (INH) for 6-9 months or Rifampentine to prevent progression to active disease.
- Screen HIV-infected people for TB during their first clinical evaluation and vice versa.
- Provide directly observed therapy (DOT) for TB cases.
- Educate TB cases, their contacts, and the public about the means of transmission, control, and importance of adherence to treatment.

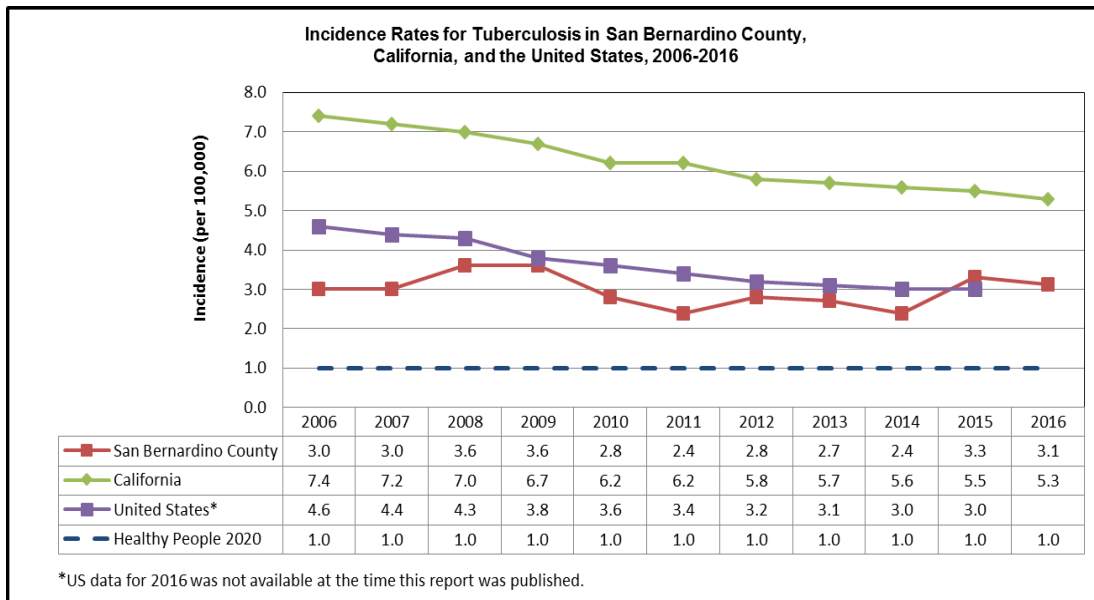




# TUBERCULOSIS (TB)

Tuberculosis Cases by Race/Ethnicity											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
White	4	13	8	8	6	4	2	6	3	2	9
Black	1	5	5	4	6	4	5	4	1	3	6
Hispanic	38	25	28	26	29	25	29	27	29	36	29
Asian/PI	15	11	23	29	21	19	21	20	18	28	21
Native Am.	0	0	1	1	0	0	1	0	0	0	1
Other	1	0	1	2	0	0	0	0	0	0	1
Unknown	0	6	9	9	0	0	0	0	0	0	0
<b>Total</b>	<b>59</b>	<b>60</b>	<b>75</b>	<b>79</b>	<b>62</b>	<b>52</b>	<b>58</b>	<b>57</b>	<b>51</b>	<b>69</b>	<b>67</b>

Tuberculosis Cases by Age											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<1	2	0	0	2	0	0	0	0	1	0	2
1 - 4	1	1	1	3	0	2	1	3	2	3	1
5 - 9	1	1	0	2	0	0	1	2	1	2	0
10 - 14	1	1	0	1	1	0	0	2	0	0	0
15 - 19	1	1	2	2	4	1	2	3	1	0	2
20 - 24	1	1	6	6	2	1	2	2	1	8	5
25 - 29	5	4	3	8	4	7	7	2	7	1	1
30 - 34	4	11	4	10	2	1	1	6	5	6	5
35 - 39	7	3	12	3	3	2	3	1	3	3	4
40 - 44	2	7	3	8	6	8	1	3	5	2	3
45 - 54	7	9	13	10	17	11	7	10	6	14	13
55 - 64	6	8	12	8	4	9	16	8	3	11	11
>65	21	13	19	16	19	10	17	15	16	19	20
Unknown	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>59</b>	<b>60</b>	<b>75</b>	<b>79</b>	<b>62</b>	<b>52</b>	<b>58</b>	<b>57</b>	<b>51</b>	<b>69</b>	<b>67</b>



# COCCIDIOIDOMYCOSIS

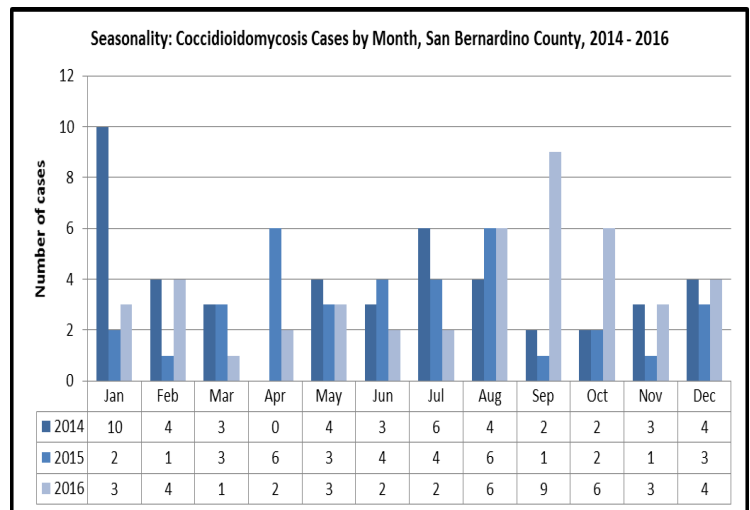
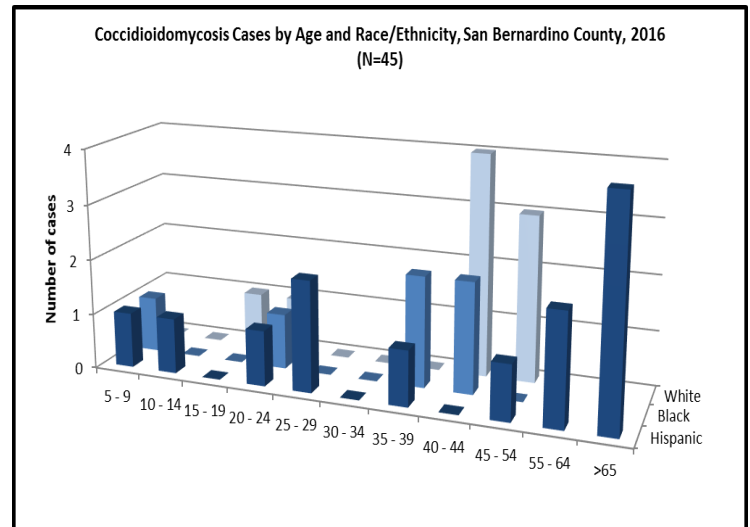
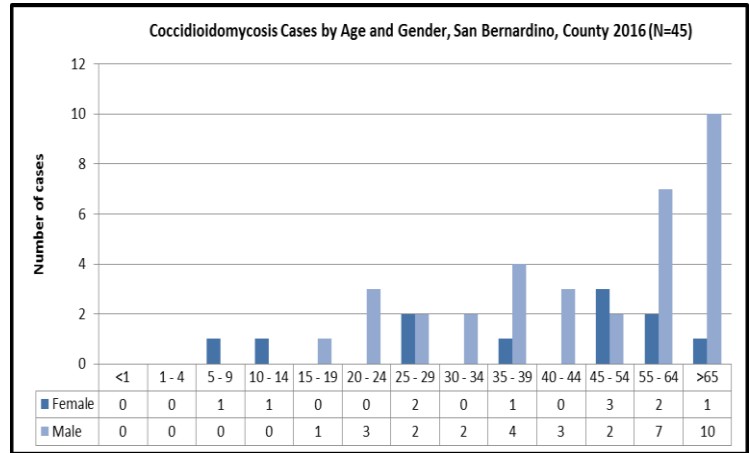
**Infectious Agent:** *Coccidioides immitis* or *posadasii*, a fungus  
**Mode of Transmission:** Inhalation of spores in the air, especially after disruption of soil  
**Incubation Period:** 1-4 weeks for primary infection; up to years for disseminated infection  
**Symptoms:** Fever, cough, headache, rash on upper trunk or extremities, muscle aches, joint pain in the knees or ankles; advanced disease may involve multiple organs, chronic pneumonia, bone or joint infection  
**Vaccine:** None  
**For more information:**  
<http://www.cdc.gov/fungal/diseases/coccidioidomycosis/index.html>

## 2016 REVIEW

- Numbers of reported cases increased 25% from 2015 (36) to 2016 (45). Incidence in the County is consistently lower than that of California and the US.
- Nationwide, outbreaks occasionally occur, such as among military trainees, archeological workers, solar farm workers, and in people exposed to earthquakes and dust storms. As best as can be detected, outbreaks of coccidioidomycosis were not responsible for county cases reported during 2016.
- The highest proportion of cases occurred among adults aged 55-64 years (20%) and 65 years and older (24%).
- Hispanics accounted for 28.9% of cases, Whites 20%, Asians/Pacific Islanders 20%, and Blacks 13.3% of cases.
- Approximately 6.7% of cases (n=2) occurred among institutionalized residents of County jails and prisons. These cases may have been exposed and infected in another jurisdiction.
- Approximately 8.9% of cases (n=4) may have been exposed to coccidioidomycosis at worksites
- Males comprised 75.6% of cases, representing a 3-fold greater risk compared to females. These findings are comparable to proportions observed in past years.
- In 2016, there was 1 death among County coccidioidomycosis cases. On average fewer than 200 coccidioidomycosis-associated deaths occur each year in the US; this number has been fairly stable since 1997.

## PREVENTION

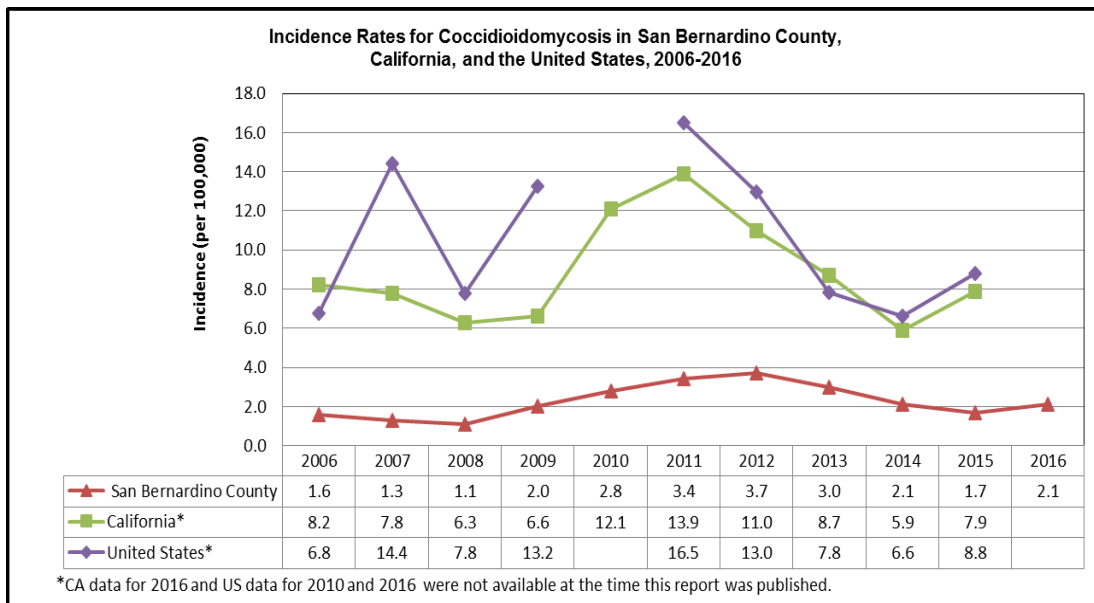
- Pregnant women, people of African American or Filipino ethnicity, people who have HIV/AIDS or diabetes mellitus, organ transplant recipients, or persons who take medications which affect the immune system (steroids or TNF-inhibitors, for example) are at higher risk of developing severe illness.
- If traveling to or living in an endemic environment (Arizona, California, New Mexico, Nevada, Utah, Texas, and parts of Mexico and Central America), avoid or limit your time spent in dusty areas (such as construction or excavation sites) when possible.
- Consider wearing an N95 mask if in or near a dusty environment where construction or excavation is taking place and use air filtration measures indoors.
- Stay inside during dust storms and close your windows.



# COCCIDIOIDOMYCOSIS

Coccidioidomycosis Cases by Race/Ethnicity											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
White	13	9	10	9	14	18	17	15	8	9	9
Black	3	5	2	5	8	9	16	11	8	5	6
Hispanic	11	7	6	10	17	25	24	13	10	11	13
Asian/PI	2	1	2	1	2	0	3	4	3	1	9
Native Am.	0	0	0	0	0	0	0	1	0	0	1
Other	0	0	0	0	0	0	2	0	0	2	2
Unknown	3	4	2	17	19	23	14	19	16	8	5
<b>Total</b>	<b>32</b>	<b>26</b>	<b>22</b>	<b>42</b>	<b>60</b>	<b>75</b>	<b>76</b>	<b>63</b>	<b>45</b>	<b>36</b>	<b>45</b>

Coccidioidomycosis Cases by Age											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<1	0	0	0	0	0	0	0	0	0	0	0
1 - 4	0	0	0	0	0	1	0	1	0	0	0
5 - 9	0	0	0	1	0	0	0	0	1	0	1
10 - 14	0	0	0	3	0	0	0	0	0	1	1
15 - 19	1	0	1	1	0	3	1	0	1	1	1
20 - 24	3	0	1	2	2	5	2	3	1	1	3
25 - 29	1	3	2	1	4	2	6	5	4	1	4
30 - 34	1	3	1	3	5	7	4	3	3	1	2
35 - 39	4	3	2	1	8	5	8	1	7	4	5
40 - 44	3	0	1	5	6	6	6	6	7	4	3
45 - 54	8	10	7	9	14	27	25	18	11	11	5
55 - 64	7	5	5	9	15	6	11	13	4	9	9
>65	4	2	2	7	6	13	13	13	6	3	11
Unknown	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>32</b>	<b>26</b>	<b>22</b>	<b>42</b>	<b>60</b>	<b>75</b>	<b>76</b>	<b>63</b>	<b>45</b>	<b>36</b>	<b>45</b>



# LEGIONELLOSIS

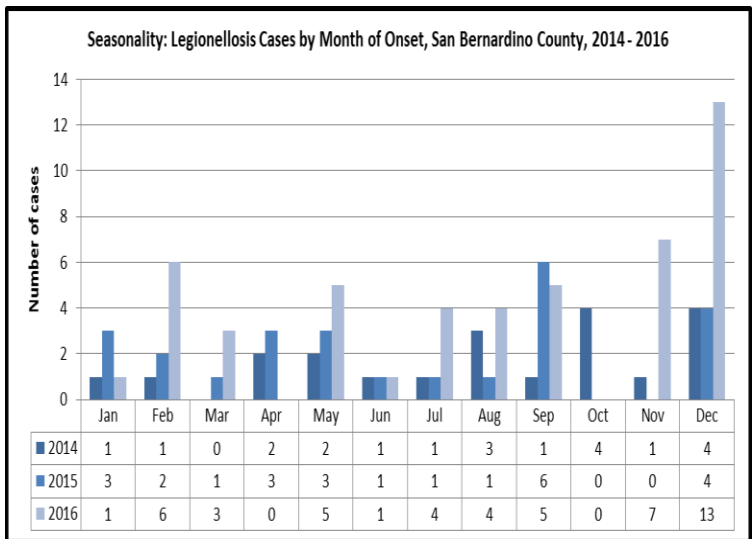
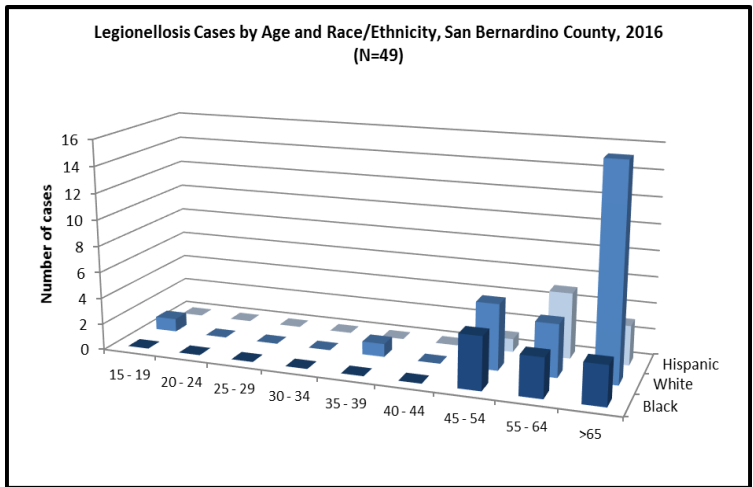
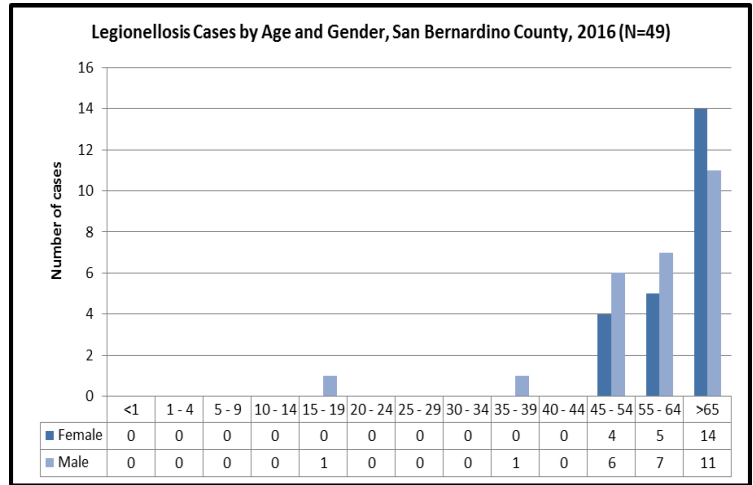
**Infectious Agent:** *Legionella pneumophila*, a bacteria  
**Mode of Transmission:** Inhalation of bacteria in the air or water, commonly from warm, moist environments (e.g. spas, humidifiers, air conditioning towers)  
**Incubation Period:** 5-6 days (range: 2-10 days) for Legionnaire’s disease; 24-48 hours (range: 5-72 hours) for Pontiac fever  
**Symptoms:** Anorexia (loss of appetite), muscles aches, headache, fever, abdominal pain, diarrhea; Legionnaire’s disease: pneumonia, non-productive cough; Pontiac fever: self-limited fever  
**Vaccine:** None  
**For more information:**  
<http://www.cdc.gov/legionella/index.html>

## 2016 REVIEW

- Numbers of reported cases increased 96% from 2015 to 2016. The largest increase in cases occurred among people ages 55-64.
- County cases are clustered in the 40 year and older age range with over 50% of cases in individuals older than 65 years.
- Whites (55%) and Blacks (20%) comprised the largest proportions of cases. Blacks (5.6) had the highest rates of infection, almost two times that of Whites (4.0) and seven times that of Hispanics (0.8).
- In 2016, there were nine County deaths attributed to Legionnaire’s disease, while in 2015, there were three.
- Nationally, most illness occurs in the summer and early fall.
- Infection has been associated with hot tubs, hot water tanks, large plumbing systems in hotels, resorts, cruise ships, hospitals and nursing homes and decorative fountains.
- Severe illness is more likely to occur in individuals 50 years and older, current or former smokers, individuals with chronic lung disease, weakened immune systems, renal or hepatic failure and diabetes. Infection can cause death in 5-30% of these individuals.
- *Legionella* multiplies within amoebae and ciliated protozoa, obtaining nutrients and shelter from adverse environmental changes including chlorine.
- Legionnaire’s disease and the milder Pontiac fever are caused by the same bacteria however Pontiac fever may be the result of inhaled antigen instead of bacterial invasion.

## PREVENTION

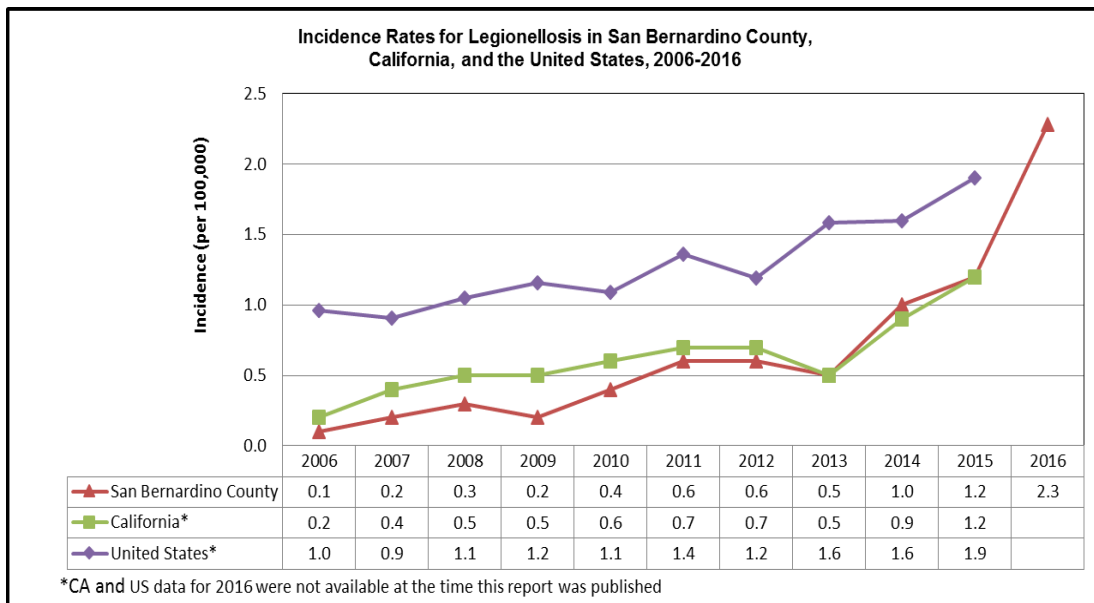
- Tap water should not be used in respiratory therapy devices.
- Cooling towers should be drained when not in use and mechanically cleaned to remove scale and sediment.
- Water treatment chemicals should be used at appropriate levels and intervals to prohibit growth of *Legionella* in pools and spas.
- Pool test strips can be used to check hot tub water for adequate free chlorine or bromine and pH.
- Hot tub maintenance should include removal of biofilm, and replacement of the water filter and hot water according to manufacturer recommendations.



# LEGIONELLOSIS

Legionellosis Cases by Race/Ethnicity											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
White	0	2	5	1	0	9	6	4	10	8	27
Black	0	0	0	2	0	4	0	1	1	6	10
Hispanic	1	2	1	0	4	1	1	3	8	8	9
Asian/PI	0	0	0	0	0	0	0	0	1	0	2
Native Am.	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	1	0	1	1	1
Unknown	0	0	1	1	4	0	4	2	0	2	0
<b>Total</b>	<b>1</b>	<b>4</b>	<b>7</b>	<b>4</b>	<b>8</b>	<b>14</b>	<b>12</b>	<b>10</b>	<b>21</b>	<b>25</b>	<b>49</b>

Legionellosis Cases by Age											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<1	0	0	0	0	0	0	0	0	0	0	0
1 - 4	0	0	0	0	0	0	0	0	0	0	0
5 - 9	0	0	0	0	0	1	0	0	0	0	0
10 - 14	0	0	0	0	0	0	0	0	0	0	0
15 - 19	0	0	0	0	0	0	0	0	0	1	1
20 - 24	0	0	0	0	0	1	0	0	0	0	0
25 - 29	1	0	0	1	0	0	0	0	0	0	0
30 - 34	0	0	0	0	1	0	0	0	0	0	0
35 - 39	0	0	0	0	0	1	1	2	1	0	1
40 - 44	0	0	0	0	1	0	0	2	1	2	0
45 - 54	0	2	1	2	1	3	5	1	4	3	10
55 - 64	0	1	2	1	1	6	0	3	4	2	12
>65	0	1	4	0	4	2	6	2	11	17	25
Unknown	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>1</b>	<b>4</b>	<b>7</b>	<b>4</b>	<b>8</b>	<b>14</b>	<b>12</b>	<b>10</b>	<b>21</b>	<b>25</b>	<b>49</b>



# RABIES

**Infectious Agent:** Usually rabies virus, one of a group of Lyssaviruses known to cause rabies

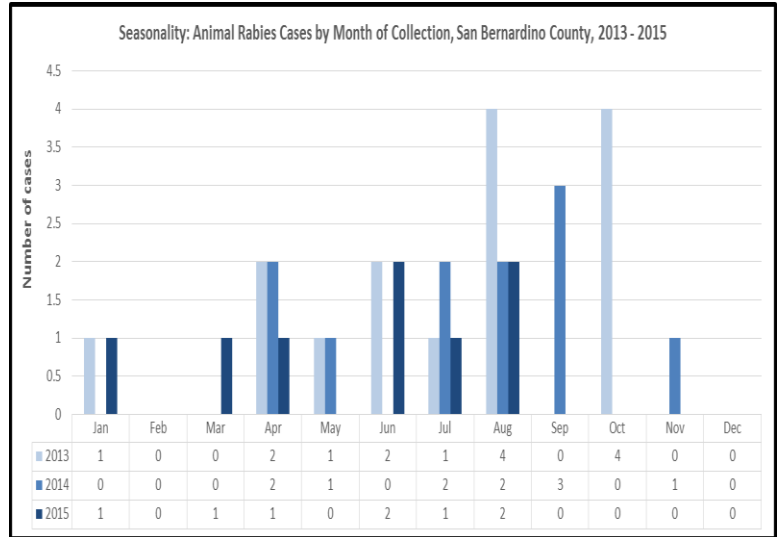
**Mode of Transmission:** Through direct contact with infectious saliva or infected neurological tissue as in a bite or tear in the skin; possibly through airborne transmission as in bat caves or laboratories; rarely through organ donation

**Incubation Period:** Highly variable in humans, usually 3-8 weeks, but can be as short as a few days or as long as several years

**Symptoms:** Humans—early symptoms include fever, headache, general weakness; later symptoms include confusion, slight or partial paralysis, hallucinations, difficulty swallowing, and hydrophobia (fear of water), and ultimately, death. Animals—unusually tameness in wild animals; nocturnal animals active during the day; difficulty walking, eating, or drinking; aggressiveness

**Vaccine:** Available for both animals and humans

**For more information:** <http://www.cdc.gov/rabies/index.html>

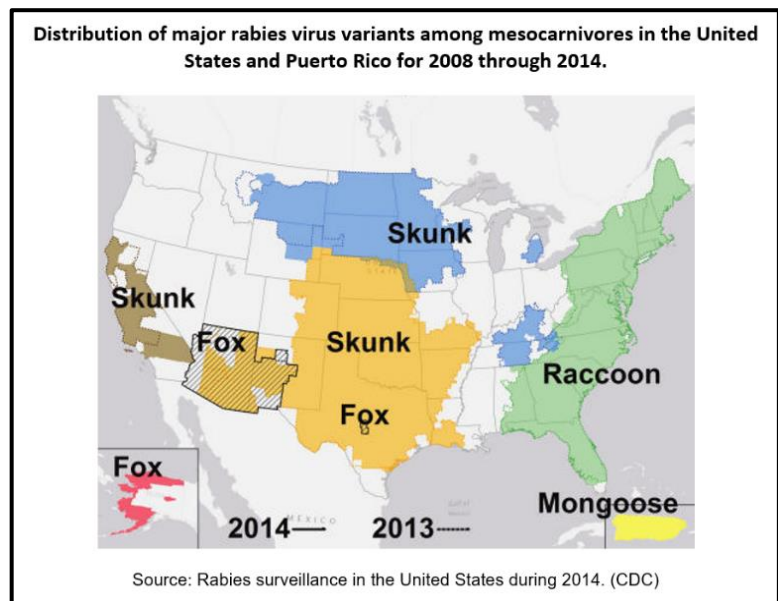
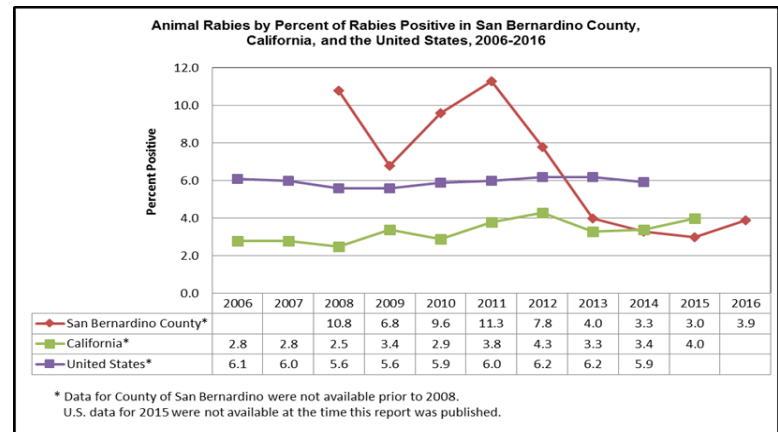


## 2016 REVIEW

- Most rabid bats were found in late spring through early fall (April to September), consistent with the time when many young bats leave the roost.
- In 2016, Communicable Disease Section staff investigated 145 animal bites and exposures and facilitated post exposure treatment in 11 individuals.
- Between 2006 and 2010, 77 percent of all animal bites reported in California were attributed to domestic dogs.
- In San Bernardino County, the last rabid dog was detected in 1948, and the last rabid cat was identified in 1993.
- In CA, rabies was confirmed in 230 animals, an increase over both the 200 cases confirmed in 2014 and the annual average of 205 cases in the previous ten years, 2005-2014. Of these, a total of 198 rabid bats were reported, which also exceeded the annual average of 169 reported in the previous ten years, 2005-2014.
- Of the 232 animal specimens tested for rabies in 2016, nine were positive in the County. All positive specimens were obtained from bats.
- Domestic species accounted for 7.37% of all rabid animals reported in the United States in 2014. The number of reported rabid domestic animals decreased among most domestic species except cats.

## PREVENTION

- To prevent rabies in animals, keep dogs and cats up to date on their vaccinations and limit their exposure to wild life.
- Avoid contact with unfamiliar or injured domestic and wild animals.
- Most animal bites are provoked. Teach children how to interact safely with known dogs and to avoid contact with dogs unknown to them. Young children should never be left alone with a dog, even one known to them.
- If bitten, especially by a wild animal, seek prompt medical care.
- Individuals at higher risk for rabies because of occupation or travel, should consider pre exposure vaccination.

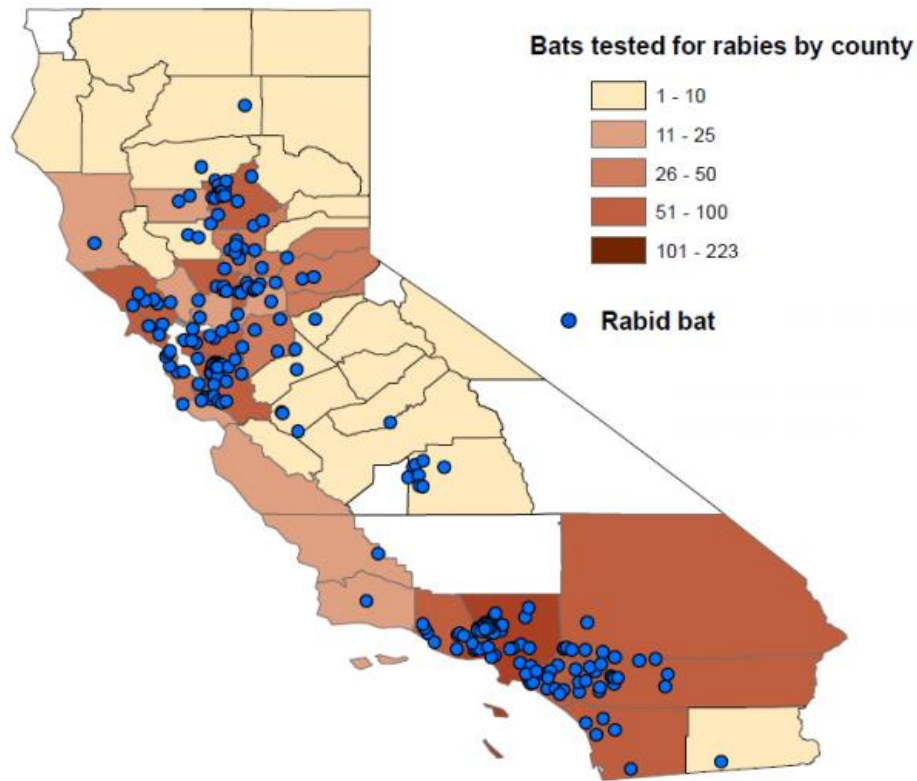


# RABIES

Animal Rabies Cases by Race/Ethnicity											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Fox	0	0	0	0	0	0	0	0	0	0	0
Coyote	0	0	0	0	0	0	0	0	0	0	0
Cat	0	0	0	0	0	0	0	0	0	0	0
Dog	0	0	0	0	0	0	0	0	0	0	0
Skunk	0	0	0	0	0	0	0	1	0	0	0
Bat	6	9	12	5	7	12	10	14	11	8	9
<b>Total</b>	<b>6</b>	<b>9</b>	<b>12</b>	<b>5</b>	<b>7</b>	<b>12</b>	<b>10</b>	<b>15</b>	<b>11</b>	<b>8</b>	<b>9</b>

Human Rabies Cases in San Bernardino County, California, and United States, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
San Bernardino County	0	0	0	0	0	0	0	0	0	0	0
California	1	0	1	0	0	1	1	0	0	0	0
United States	3	1	2	4	2	7	1	2	1	3	0

Bats tested for rabies by county with positive cases by zip code of collection site (N=198), California, 2015.



# WEST NILE VIRUS

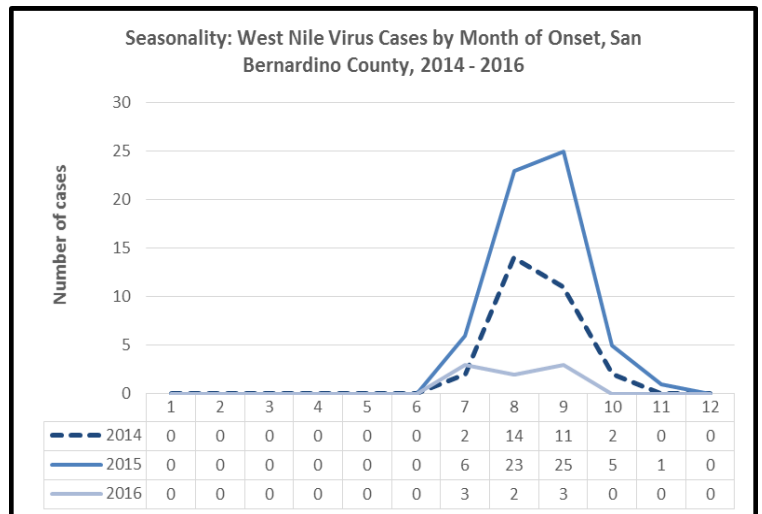
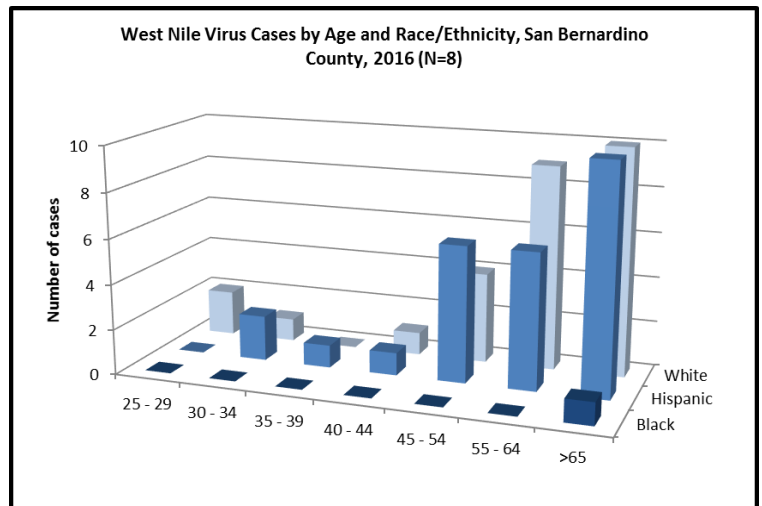
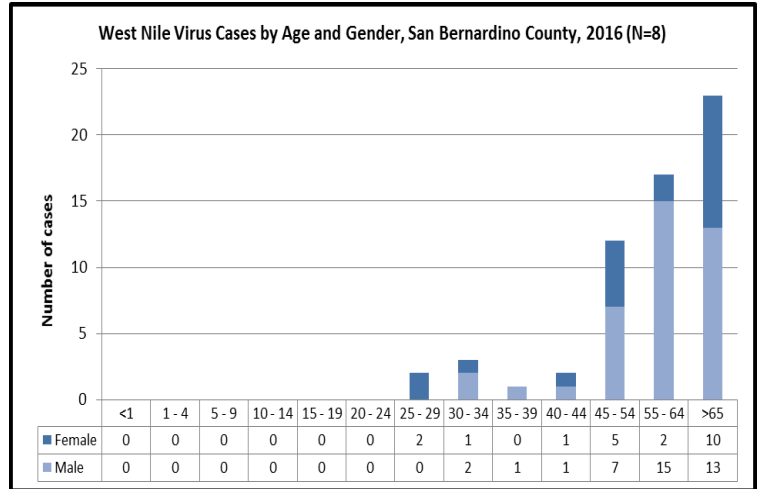
**Infectious Agent:** West Nile virus, a flavivirus  
**Mode of Transmission:** Through the bite of an infected mosquito which injects the virus into the blood  
**Incubation Period:** 2-14 days  
**Symptoms:** Most infections are asymptomatic; fever, muscle aches, headache, diarrhea, vomiting, swollen lymph glands, or skin rash on chest, stomach, back; can progress to acute encephalopathy, coma, tremors, convulsions, vision loss, numbness, and paralysis  
**Vaccine:** None  
**For more information:**  
<http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>

## 2016 REVIEW

- Numbers of reported cases decreased 87% in the County from 2015 to 2016.
- Hispanics (37.5%) and Whites (37.5%) comprised the greatest proportion of cases. Whites (0.4) had a higher incidence rate than Hispanics (.03).
- Up to 80% of individuals with infection will show no symptoms; about 20% will have milder fever presentation, and less than 1% (1 in 150) will have the very serious neurologic involvement. About 10% of the cases with neurologic WNV die.
- All 2016 County cases were neurological in presentation.
- All 2016 cases in the County occurred among individuals 45 years of age or older.
- There were 2 deaths in 2016 among County WNV cases.
- In addition to mosquito bites, WNV can also be transmitted by blood transfusions, organ transplants, laboratory accidents and from mother to child during pregnancy, delivery and breast feeding.
- Characteristically, cases occurred mainly in the late summer and early fall months, from July through October.
- Horses, birds and tree squirrels can become very ill with WNV which is why dead birds are considered an indicator of WNV activity in an area.
- Three birds and 25 chickens tested positive for WNV in 2016.
- Local vector control agencies collect and test mosquitoes, dead birds, and sentinel chicken flocks for evidence of WNV activity. For 2016, local agencies tested 2,897 mosquito samples. Of those, 76 were positive for WNV.

## PREVENTION

- Avoid spending time outside when mosquitoes are most active (dawn and dusk).
- Wear shoes, socks, long pants and long-sleeved shirts that are loose-fitting and light colored.
- Drain all standing water around your property where mosquitoes lay eggs such as birdbaths, ponds, old tires, buckets, clogged gutters or puddles from leaky sprinklers.
- Apply insect repellent containing DEET. When using DEET, be sure to read and follow the label instructions.
- Make sure doors and windows have tight-fitting screens. Repair or replace screens that have tears or holes to prevent mosquitoes from entering the home.
- Report green or neglected pools by calling 1-800-442-2283.

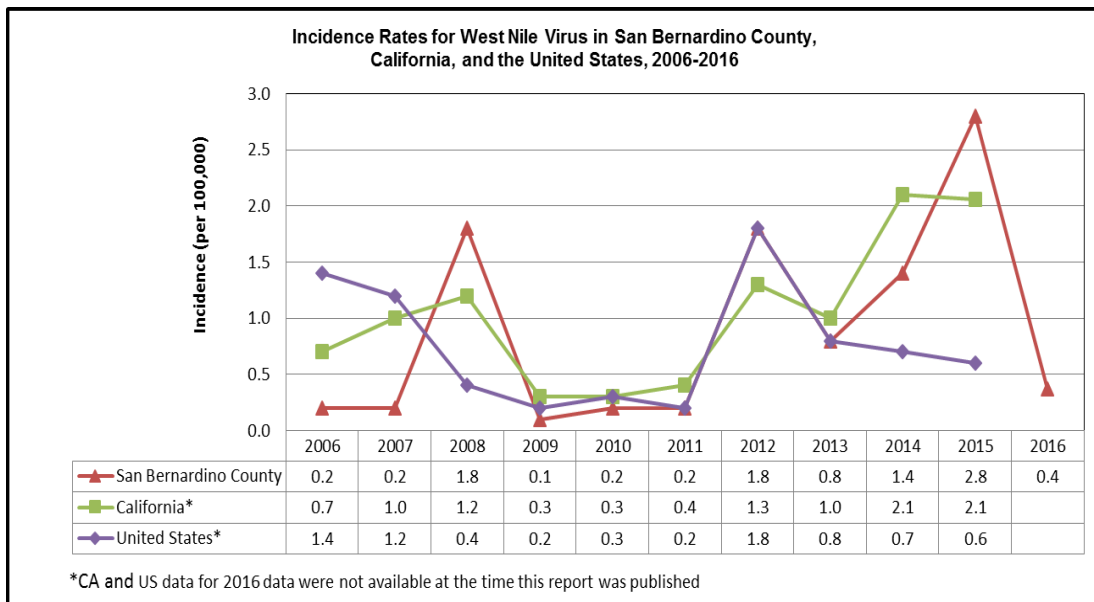




# WEST NILE VIRUS

West Nile Virus Cases by Race/Ethnicity											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
White	2	4	12	0	2	1	16	6	7	27	3
Black	0	0	0	0	0	0	0	0	1	1	0
Hispanic	1	0	18	1	3	2	18	8	18	26	3
Asian/PI	0	0	0	0	0	0	1	1	0	0	0
Native Am.	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	1	6	1	0	1	2	2	4	6	2
<b>Total</b>	<b>3</b>	<b>5</b>	<b>36</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>37</b>	<b>17</b>	<b>30</b>	<b>60</b>	<b>8</b>

West Nile Virus Cases by Age											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<1	0	0	0	0	0	0	0	0	0	0	0
1 - 4	0	0	0	0	0	0	0	0	0	0	0
5 - 9	0	0	1	0	0	0	0	0	0	0	0
10 - 14	1	0	0	0	0	0	0	0	0	0	0
15 - 19	0	0	2	0	0	0	5	1	5	0	0
20 - 24	0	0	1	0	0	0	3	1	0	0	0
25 - 29	0	0	1	0	0	0	1	0	4	2	0
30 - 34	1	0	4	0	0	0	3	0	0	3	0
35 - 39	0	0	2	0	0	0	0	1	1	1	0
40 - 44	0	0	5	0	0	0	1	0	0	2	0
45 - 54	0	1	8	1	0	0	11	3	8	12	1
55 - 64	1	1	6	0	3	1	5	2	8	17	1
>65	0	3	6	1	2	3	8	9	4	23	6
Unknown	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>3</b>	<b>5</b>	<b>36</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>37</b>	<b>17</b>	<b>30</b>	<b>60</b>	<b>8</b>



# ZIKA VIRUS

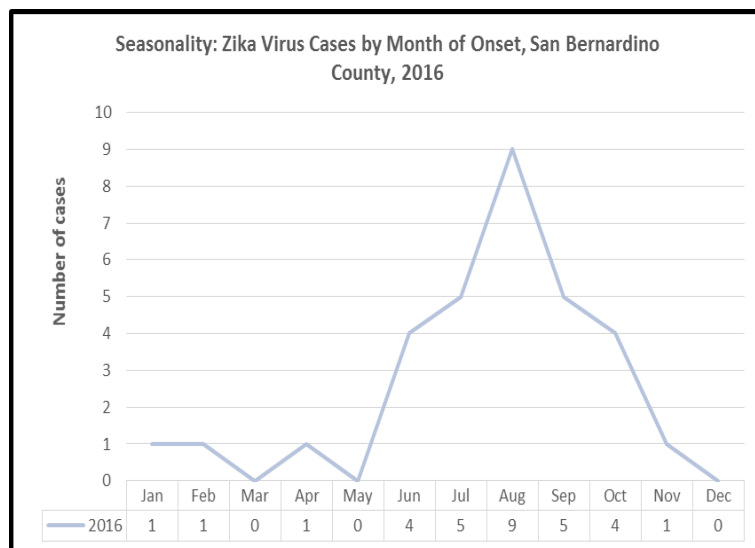
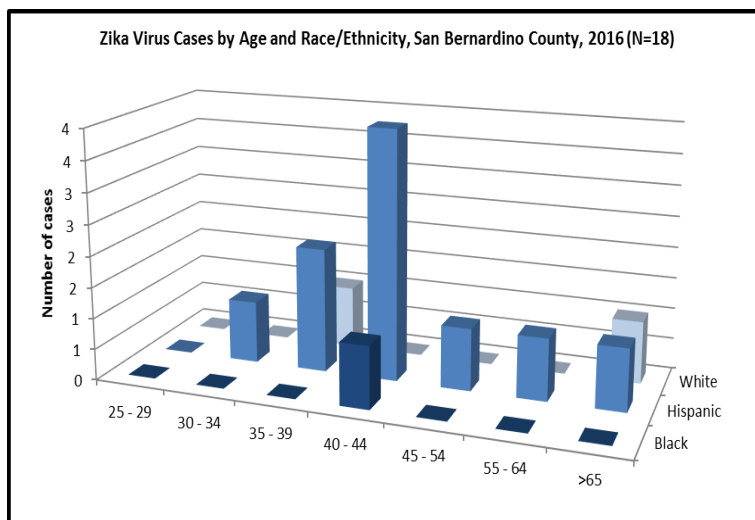
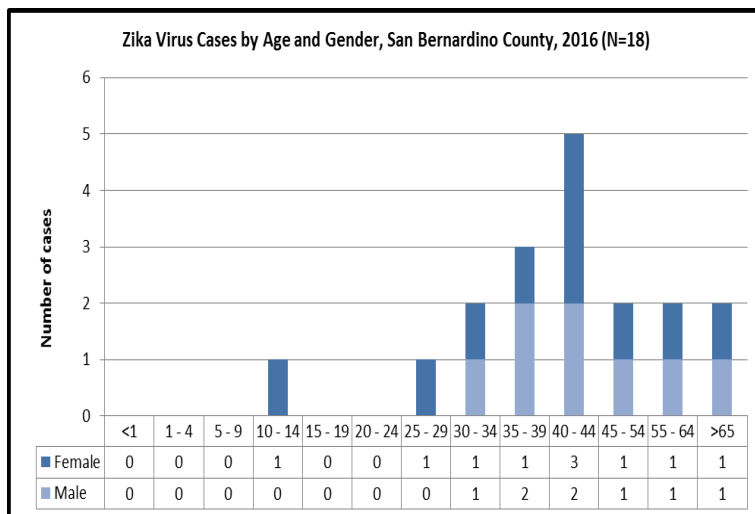
**Infectious Agent:** Zika Virus, a flavivirus  
**Mode of Transmission:** Through the bite of an infected mosquito which injects the virus into the blood, and can be transmitted through sexual contact or blood transfusions.  
**Incubation Period:** 3-14 days  
**Symptoms:** Most infections are asymptomatic or will only produce mild symptoms. The most common symptoms include fever, rash, headache, joint pain, muscle pain and conjunctivitis.  
**Vaccine:** None  
**For more information:** <http://www.cdc.gov/zika>

## 2016 REVIEW

- The first cases in CA and the US were reported in 2015 and all associated with travel to areas known to have local transmission. After receiving its first cases of Zika in 2016, the County reported a total of 18 cases by the end of the year.
- Of the 2016 cases documented, all were travel-related transmission.
- Hispanics (61.0%) comprised the greatest proportion of cases.
- Between 75 and 80% of individuals with infection will show no symptoms.
- Among County symptomatic cases, 47.1% experienced fever, 88.2% rash, 76.5% muscle aches, and 52.9% of cases experienced joint pain.
- Forty-four percent of 2016 cases in the County occurred among individuals aged 36 years of age or younger, with an average age of 42 years
- Fifty-six percent of 2016 cases occurred in females.
- There were no pregnancies among County Zika cases in 2016.
- Cases occurred mainly in the late summer and early fall months, from July through October, with the majority (55.5%) of travel dates occurring between July and September.
- While there are no reports of local transmission, regional vector control agencies collect and test mosquitoes, for any evidence of local Zika transmission.
- Zika virus is transmitted to individuals by the bite of an infected *Aedes* mosquito or by having sex with an infected person.

## PREVENTION

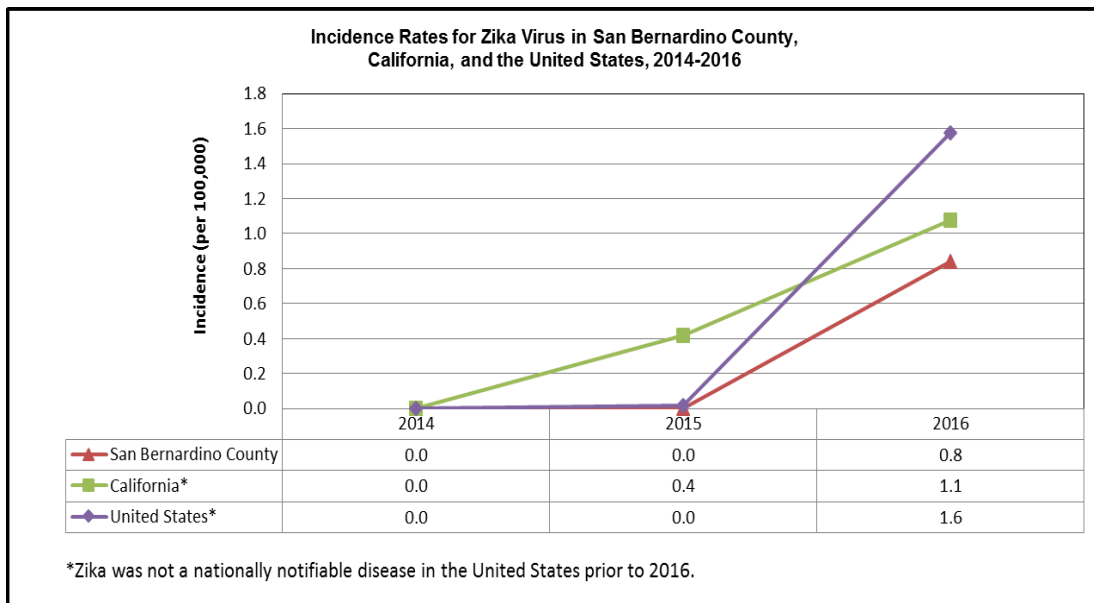
- Women who are planning to become pregnant should not travel to areas with a CDC Zika travel notice.
- Any persons who travel to or reside in areas with local Zika transmission and who plan to conceive should use condoms or abstain from sex for at least 6 months to avoid sexual transmission. Pregnant women with partners who travelled to these areas should use condoms the duration of the pregnancy.
- If travel cannot be avoided to Zika areas, apply insect repellent containing DEET. When using DEET, be sure to read and follow the label instructions.
- Ensure the elimination of mosquito breeding sites that contain standing water to prevent any local transmission.



# ZIKA VIRUS

Zika Virus Cases by Race/Ethnicity											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
White	0	0	0	0	0	0	0	0	0	0	2
Black	0	0	0	0	0	0	0	0	0	0	1
Hispanic	0	0	0	0	0	0	0	0	0	0	11
Asian/PI	0	0	0	0	0	0	0	0	0	0	0
Native Am.	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	1
Unknown	0	0	0	0	0	0	0	0	0	0	3
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>

West Nile Virus Cases by Age											
San Bernardino County, 2006 - 2016											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<1	0	0	0	0	0	0	0	0	0	0	0
1 - 4	0	0	0	0	0	0	0	0	0	0	0
5 - 9	0	0	0	0	0	0	0	0	0	0	0
10 - 14	0	0	0	0	0	0	0	0	0	0	1
15 - 19	0	0	0	0	0	0	0	0	0	0	0
20 - 24	0	0	0	0	0	0	0	0	0	0	0
25 - 29	0	0	0	0	0	0	0	0	0	0	1
30 - 34	0	0	0	0	0	0	0	0	0	0	2
35 - 39	0	0	0	0	0	0	0	0	0	0	3
40 - 44	0	0	0	0	0	0	0	0	0	0	5
45 - 54	0	0	0	0	0	0	0	0	0	0	2
55 - 64	0	0	0	0	0	0	0	0	0	0	2
>65	0	0	0	0	0	0	0	0	0	0	2
Unknown	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>



## GLOBAL DISEASES WITH LOCAL IMPACT

### Chikungunya

In 2016, San Bernardino County reported two cases of chikungunya virus (CHIKV) infections—one confirmed and one probable. Both cases were the result of travelers bitten by mosquitoes in other countries. Local transmission of CHIKV occurs primarily in Africa, South and Southeast Asia, and South and Central America, via bites by infected *Aedes albopictus* (Asian Tiger mosquito) and *Aedes aegypti* (yellow fever mosquito). In December 2013, chikungunya was identified in the Americas and spread into an outbreak of over a million cases. CHIKV-transmitting mosquitoes were first reported in California (CA) in 2011. In 2016, 57 cases were reported in CA—all were travel-associated. Florida, Puerto Rico, and the US Virgin Islands had locally transmitted cases of chikungunya in 2014. The most common symptoms are fever and severe joint pain, often in the hands and feet. Illness may also include headache, muscle pain, joint swelling, fatigue, vomiting, diarrhea, abdominal pain or rash.

### Dengue

In 2016, San Bernardino County reported eight cases of dengue virus (DENV) infection—one confirmed, six probable, and one suspect. Seven cases were linked to travel; none were linked to local transmission. CA reported 200 cases in 2016; no locally acquired cases were reported. DENV is one of four related viruses transmitted mostly by *A. aegypti* and *A. albopictus* mosquitoes, particularly tropical and subtropical areas of the world. Some isolated DENV transmission has occurred in Puerto Rico, southern Texas, southern Florida, and some regions of Hawaii. Worldwide, there are an estimated 50-100 million cases per year. The main symptoms of dengue are high fever, severe headache, pain behind the eyes, joint pain, muscle and bone pain, rash, bruising and sometimes mild bleeding from the nose or mouth. Patients with severe DENV infections continue to bleed and have abdominal pain with respiratory distress and fluid accumulation in the abdomen and lungs. Severe dengue can result in death.

### Ebola

In 2016, there were zero cases in San Bernardino County, CA, and the US. During a 2014 outbreak in West Africa, the Centers for Disease Control and Prevention (CDC) set up a system of referral where names of travelers returning from certain countries impacted by Ebola were provided to local public health. During the outbreak, County public health staff monitored 42 travelers in 2014-2015 by making daily calls and asking about fevers and other symptoms. If a traveler developed symptoms, certain hospitals in the region were designated as evaluation hospitals and other more specialized hospitals as treatment facilities. All state and local first responder agencies, which might be called on to assist a symptomatic traveler, planned responses and conducted thorough trainings. Ebola virus is transmitted from person to person by contact with blood or body fluids of an infected individual. Worldwide an estimated 28,652 cases were reported between 2014 and April 2016, including 11,325 deaths. Prior to this, the US had had five imported cases of viral hemorrhagic fever (VHF) similar to Ebola, (one Marburg and four Lassa fever), in the last decade with no secondary transmission.

## GLOBAL DISEASES WITH LOCAL IMPACT (CONTINUED)

### Malaria

In 2016, San Bernardino County reported eight cases of malaria, all acquired during travel with Nigeria being the most common destination. Five of the eight cases were infected with *Plasmodium falciparum*; two cases were infected with *P. ovale*; one case was not typed. None of the eight cases had taken malarial chemoprophylaxis. All eight survived. Malaria is caused by the bite of an *Anopheles* mosquito infected with one of five types of a small, one-celled parasite called *Plasmodium* which infects and destroys red blood cells. Malaria occurs in sub-Saharan Africa, Southeast Asia, the Middle East, and Central and South America. Malaria was transmitted in California and other parts of the US until the 1950s. Between 1957 and 2015, there were 63 outbreaks of local transmission of malaria in the US. Worldwide there were an estimated 212 million illnesses due to malaria in 2015, including 429,000 deaths.

### Middle East Respiratory Syndrome (MERS)

No cases of MERS were reported in San Bernardino County or in CA in 2016. MERS is a severe acute respiratory illness caused by a coronavirus called MERS-CoV. Communicable Disease Section staff assisted with the testing and rule-out of three County cases in 2015. Staff offered Centers for Disease Control and Prevention (CDC) infection control guidelines to protect hospital staff, collected symptoms and travel history and made arrangements for specimen testing in conjunction with the County Public Health Laboratory and that of the State. MERS was first identified in Jordan in 2012, and all subsequent cases have been linked by residence in or travel to countries in or near the Arabian Peninsula. Two cases have been reported in the US, both in May 2014, and both from Saudi Arabia.

### Plague

There were no cases of human plague reported in CA in 2016. Plague is caused by infection with the bacteria *Yersinia pestis* which is transmitted to humans and animals by flea bite. There are three forms of plague; bubonic, septicemic and pneumonic. Pneumonic plague can spread from person to person via respiratory secretions. The second plague pandemic, the "Black Death" in the 1300s, is estimated to have killed 60% of the European population. Plague has been present in CA since 1900 and exists in life cycles of wild rodents and fleas. *Y. pestis* is also considered a category A agent (highest priority) as a bioterrorism weapon. The vector control programs in many CA counties, including San Bernardino, trap rodents and carnivores and collect fleas for testing for evidence of *Y. pestis*.

### Global Change and Vector-Borne Disease Vulnerability

The impact of climate change, climate variability, human population growth and urbanization, trade and travel, and chemical pollution can extend season and distribution pattern of vector-borne diseases. As common vectors including mosquitoes, ticks and flies move into higher altitudes and migrate north due to rising global temperatures, humans may have greater exposure to malaria, dengue fever, and infections by other arboviruses, schistosomiasis, trypanosomiasis, onchocerciasis, and leishmaniasis. In response to climate change, human migration may bring disease to new regions and urban areas, spreading quickly in densely populated areas. These emerging pathogens pose a serious threat to communities which require adaptive and responsive public health surveillance systems to manage.

## GLOBAL DISEASES WITH LOCAL IMPACT (CONTINUED)

### How travelers protect themselves

Visit CDC's Travelers' Health website at <http://wwwnc.cdc.gov/Travel> for destination-specific alerts and recommended vaccines. Many travel vaccines are provided by San Bernardino County's Clinic Operations. Call 800-722-4777 for availability and fee information. CDC also has many tips on avoiding mosquito bites and foodborne illness.

The California Department of Public Health recommends travelers to countries with Zika, chikungunya and/or dengue take appropriate precautions for avoiding mosquito bites during the day and at night. If a returning traveler, from an affected region, has fever with joint pain or rash within the two weeks of return, they should contact their medical provider. The provider will contact local public health who can assist with testing arrangements. Returning travelers with symptoms of a mosquito-borne illness should use mosquito repellent for three weeks following their return to avoid infecting local mosquitoes.

### County Vector Control surveillance

Environmental Health Services (EHS) works to prevent mosquito-borne illness in County residents by conducting active mosquito surveillance and control. EHS traps and counts mosquitoes by species and sex in several areas of the County. EHS also surveys and conducts abatement of mosquito breeding areas in abandoned pools, dumps, tires and other areas. EHS participates in many community education opportunities to make County residents aware of available services and prevention steps they can take around their homes. In 2015-2016, EHS placed 1,537 traps in County-supported areas. While much of the mosquito trapping (and testing) has focused on West Nile Virus in the last few years, EHS is also actively watching for *Aedes aegypti* (yellow fever mosquito) and *Aedes albopictus* (Asian Tiger mosquito), the two mosquito vectors that can carry Zika, dengue, chikungunya and yellow fever. Both of these mosquito species have been found in this County and neighboring counties, although in small numbers locally.

Prevention of mosquito-transmitted infections involves preventing bites and removing standing water around your property. This includes draining or dumping water in birdbaths, green swimming pools, ponds, old tires, buckets, clogged gutters, and repairing leaky sprinklers. Avoid spending time outside when mosquitoes are most active. Wear shoes, socks, and long pants and long-sleeved shirts that are loose-fitting and light-colored. Apply DEET, Picaridin, IR3535 or oil of lemon eucalyptus according to manufacturer's directions. Make sure doors and windows have tight-fitting screens with no holes or tears. For more information on vector control in this County, please visit [http://www.sbcounty.gov/dph/dehs/Depts/VectorControl/mosquito\\_and\\_vector\\_control\\_home.aspx](http://www.sbcounty.gov/dph/dehs/Depts/VectorControl/mosquito_and_vector_control_home.aspx).

# APPENDICES

## APPENDIX A: HEALTHY PEOPLE 2020 PROGRESS REPORT

### Comparison of Progress toward Healthy People 2020 Goals for Selected Diseases<sup>1</sup>, San Bernardino County and California

Reportable Disease	San Bernardino County 2016 Reportable Disease Rate <sup>2</sup> per 100,000 population	California 2015 Reportable Disease Rate <sup>4</sup> per 100,000 population	Healthy People 2020 Goal Per 100,000 population
<b>AIDS in Adolescents and Adults</b>	5.1	5.8	12.4
<b>Campylobacteriosis</b>	9.8*	21.4*	8.5
<b>Shiga toxin-producing <i>E. coli</i> O157</b>	0.4	2.7*	0.6
<b>Gonorrhea</b>			
<b>Females aged 15-44 years</b>	339.8*	217.7	251.9
<b>Males aged 15-44 years</b>	355.8*	368.6*	194.8
<b>Hepatitis A</b>	0.2	0.5*	0.3
<b>Hepatitis B (Acute) in Adults</b>	0.2	0.4	1.5
<b>Hepatitis C (Acute)</b>	0.2	0.2 (2013)	0.25
<b>HIV in Adolescents and Adults</b>	5.3* per 100 people living with HIV	3.9* per 100 people living with HIV (2014)	3.5 per 100 people living with HIV
<b>Listeriosis</b>	0.1	0.3*	0.2
<b>Salmonellosis</b>	10.9	14.3*	11.4
<b>Syphilis, Congenital<sup>3,5</sup></b>	65.6*	28.2*	9.6
<b>Syphilis, (Primary &amp; Secondary)</b>			
<b>Females</b>	2.5*	2.4*	1.3
<b>Males</b>	13.1*	22.8*	6.7
<b>Tuberculosis</b>	3.1*	5.5*	1.0

\* Denotes indicators that do not meet or exceed Healthy People 2020 goal.

<sup>1</sup> Selected diseases consist of those diseases for which Healthy People 2020 comparison can be made to local indicators produced from available data.

<sup>2</sup> County and State population data: State of California, Department of Finance, and *Report P-3: State and County Population Projections by Race/Ethnicity, Detailed Age, and Gender, 2010-2060*. Sacramento, California, December 2014.

<sup>3</sup> State of California, Department of Finance, Demographic Research Unit. *Historical and Projected State and County Births, 1970-2023, with Actual and Projected Fertility Rates by Mother's Age and Race/Ethnicity, 2000-2023*. Sacramento, California: December 2014.

<sup>4</sup> Where California's 2015 data was not available, the most recent year is indicated in parentheses.

<sup>5</sup> Rate is computed per 100,000 live births.



## APPENDIX B: CALIFORNIA DEPARTMENT OF FINANCE POPULATION ESTIMATES

### SAN BERNARDINO COUNTY POPULATION BY RACE/ETHNICITY, SEX, AND AGE: 2016

Age	All Race / Ethnicity			White			Hispanic			Asian / Pacific Islander			Black			Native American			Multiple Race		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
<1	30,502	15,642	14,860	5,961	3,001	2,960	18,930	9,780	9,150	1,852	943	909	2,160	1,078	1,082	56	28	28	1,543	812	731
1-4	121,936	62,289	59,647	25,224	12,621	12,603	75,320	38,783	36,537	6,284	3,272	3,012	8,934	4,539	4,395	190	99	91	5,984	2,975	3,009
5 - 9	162,137	82,791	79,346	34,228	17,307	16,921	101,347	52,030	49,317	7,371	3,798	3,573	12,820	6,401	6,419	395	204	191	5,976	3,051	2,925
10 - 14	165,203	84,878	80,325	34,681	18,035	16,646	103,407	52,831	50,576	8,017	4,156	3,861	13,338	6,835	6,503	442	226	216	5,318	2,795	2,523
15 - 19	171,660	88,501	83,159	38,075	20,110	17,965	104,325	53,340	50,985	8,659	4,448	4,211	14,921	7,708	7,213	521	265	256	5,159	2,630	2,529
20 - 24	179,472	93,253	86,219	44,480	23,726	20,754	103,590	53,176	50,414	8,840	4,606	4,234	17,028	8,947	8,081	725	402	323	4,809	2,396	2,413
25 - 29	147,012	75,794	71,218	40,966	21,451	19,515	81,013	41,510	39,503	7,486	3,514	3,972	13,582	6,880	6,702	623	337	286	3,342	1,644	1,698
30 - 34	145,712	73,460	72,252	43,211	22,087	21,124	77,153	38,907	38,246	9,666	4,794	4,872	12,305	6,034	6,271	591	318	273	2,786	1,320	1,466
35 - 39	139,681	69,484	70,197	40,677	20,904	19,773	74,898	37,151	37,747	10,042	4,640	5,402	11,012	5,338	5,674	539	272	267	2,513	1,179	1,334
40 - 44	132,699	64,932	67,767	36,915	18,590	18,325	72,407	35,328	37,079	10,715	4,902	5,813	10,172	4,911	5,261	478	253	225	2,012	948	1,064
45 - 54	273,679	134,075	139,604	93,596	46,510	47,086	130,080	64,542	65,538	20,744	9,462	11,282	24,185	11,201	12,984	1,270	599	671	3,804	1,761	2,043
55 - 64	242,371	116,684	125,687	110,760	54,468	56,292	86,937	42,008	44,929	18,899	8,520	10,379	21,274	9,579	11,695	1,377	650	727	3,124	1,459	1,665
65 +	235,869	105,465	130,404	127,178	58,169	69,009	67,897	29,663	38,234	19,062	8,211	10,851	17,713	7,628	10,085	1,348	625	723	2,671	1,169	1,502
<b>Total</b>	<b>2,147,933</b>	<b>1,067,248</b>	<b>1,080,685</b>	<b>675,952</b>	<b>336,979</b>	<b>338,973</b>	<b>1,097,304</b>	<b>549,049</b>	<b>548,255</b>	<b>137,637</b>	<b>65,266</b>	<b>72,371</b>	<b>179,444</b>	<b>87,079</b>	<b>92,365</b>	<b>8,555</b>	<b>4,278</b>	<b>4,277</b>	<b>49,041</b>	<b>24,139</b>	<b>24,902</b>

State of California, Department of Finance, Report P-3: State and County Population Projections by Race/Ethnicity, Detailed Age, and Gender, 2010-2060. Sacramento, California, February 2017

## APPENDIX C: REPORTABLE DISEASES AND CONDITIONS

### Title 17, California Code of Regulations (CCR) §2500, §2593, §2641.5-2643.20, and §2800-2812 Reportable Diseases and Conditions\*

#### § 2500. REPORTING TO THE LOCAL HEALTH AUTHORITY.

- § 2500(b) It shall be the duty of every health care provider, knowing of or in attendance on a case or suspected case of any of the diseases or condition listed below, 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 below 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 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 a dentist.

#### URGENCY REPORTING REQUIREMENTS [17 CCR §2500(h)(i)]

- ⓪ ! = Report immediately by telephone (designated by a + in regulations).
- ‡ = Report immediately by telephone when two or more cases or suspected cases of foodborne disease from separate households are suspected to have the same source of illness (designated by a + in regulations.)
- ⓪ = Report by telephone within one working day of identification (designated by a + in regulations).
- FAX ⓪ = Report by electronic transmission (including FAX), telephone, or mail within one working day of identification (designated by a + in regulations).
- ⓪ = All other diseases/conditions should be reported by electronic transmission (including FAX), telephone, or mail within seven calendar days of identification.

#### REPORTABLE COMMUNICABLE DISEASES §2500(i)(1)

FAX ⓪	Amebiasis	FAX ⓪	Listeriosis
⓪ !	Anaplasmosis		Lyme Disease
⓪ !	Anthrax, human or animal	FAX ⓪	Malaria
FAX ⓪	Babesiosis	⓪ !	Measles (Rubeola)
⓪ !	Botulism (Infant, Foodborne, Wound, Other)	FAX ⓪	Meningitis, Specify Etiology: Viral, Bacterial, Fungal, Parasitic
	Brucellosis, animal (except infections due to <i>Brucella canis</i> )	⓪ !	Meningococcal Infections
⓪ !	Brucellosis, human		Mumps
FAX ⓪	Campylobacteriosis	⓪ !	Novel Virus Infection with Pandemic Potential
	Chancroid	⓪ !	Paralytic Shellfish Poisoning
FAX ⓪	Chickenpox (Varicella) (outbreaks, hospitalizations and deaths)	FAX ⓪	Pertussis (Whooping Cough)
	<i>Chlamydia trachomatis</i> infections, including lymphogranuloma venereum (LGV)	⓪ !	Plague, human or animal
FAX ⓪	Chikungunya Virus Infection	FAX ⓪	Poliovirus Infection
⓪ !	Cholera	FAX ⓪	Psittacosis
⓪ !	Ciguatera Fish Poisoning	FAX ⓪	Q Fever
	Coccidioidomycosis	⓪ !	Rabies, human or animal
	Creutzfeldt-Jakob Disease (CJD) and other Transmissible Spongiform Encephalopathies (TSE)	FAX ⓪	Relapsing Fever
FAX ⓪	Cryptosporidiosis		Respiratory Syncytial Virus (RSV) **
	Cyclosporiasis		(Report persons of all ages)
	Cysticercosis or taeniasis		Rickettsial Diseases (non-Rocky Mountain Spotted Fever), including Typhus and Typhus-like illnesses
⓪ !	Dengue Virus Infection		Rocky Mountain Spotted Fever
⓪ !	Diphtheria		Rubella (German Measles)
⓪ !	Domoic Acid Poisoning (Amnesic Shellfish Poisoning)		Rubella Syndrome, Congenital
	Ehrlichiosis	FAX ⓪	Salmonellosis (Other than Typhoid Fever)
FAX ⓪	Encephalitis, Specify Etiology: Viral, Bacterial, Fungal, Parasitic	⓪ !	Scombroid Fish Poisoning
⓪ !	<i>Escherichia coli</i> : shiga toxin producing (STEC) including <i>E. coli</i> O157	⓪ !	Shiga toxin (detected in feces)
	Flavivirus infection of undetermined species	FAX ⓪	Shigellosis
‡ FAX ⓪	Foodborne Disease	⓪ !	Smallpox (Variola)
	Giardiasis	FAX ⓪	Streptococcal Infections (Outbreaks of Any Type and Individual Cases in Food Handlers and Dairy Workers Only)
	Gonococcal Infections	FAX ⓪	Syphilis
FAX ⓪	<i>Haemophilus influenzae</i> , invasive disease, all serotypes (report an incident of less than five years of age)		Tetanus
FAX ⓪	Hantavirus Infections	FAX ⓪	Trichinosis
⓪ !	Hemolytic Uremic Syndrome	FAX ⓪	Tuberculosis
FAX ⓪	Hepatitis A, acute infection	⓪ !	Tularemia, animal
	Hepatitis B (specify acute case or chronic)	FAX ⓪	Tularemia, human
	Hepatitis C (specify acute case or chronic)	FAX ⓪	Typhoid Fever, Cases and Carriers
	Hepatitis D (Delta) (specify acute case or chronic)	FAX ⓪	<i>Vibrio</i> Infections
	Hepatitis E, acute infection	⓪ !	Viral Hemorrhagic Fevers, human or animal (e.g., Crimean-Congo, Ebola, Lassa, and Marburg viruses)
	Human Immunodeficiency Virus (HIV) infection, stage 3 (AIDS)	FAX ⓪	West Nile Virus (WNV) Infection
⓪	Human Immunodeficiency Virus (HIV), acute infection	⓪ !	Yellow Fever
	Influenza, deaths in laboratory-confirmed cases for age 0-64 years	FAX ⓪	Yersiniosis
⓪ !	Influenza, novel strains (human)	⓪ !	Zika Virus Infection
	Legionellosis	⓪ !	OCCURRENCE of ANY UNUSUAL DISEASE
	Leprosy (Hansen Disease)	⓪ !	OUTBREAKS of ANY DISEASE (including diseases not listed in § 2500). Specify if institutional and/or open community.
	Leptospirosis		

#### HIV REPORTING BY HEALTH CARE PROVIDERS §2641.30-2643.20

Human Immunodeficiency Virus (HIV) Infection at all stages is reportable by traceable mail, person-to-person transfer, or electronically within seven calendar days. For complete HIV-specific reporting requirements, see Title 17, CCR, §2641.30-2643.20 and <http://www.cdph.ca.gov/programs/aids/Pages/OAHIVRptqSP.aspx>

#### REPORTABLE NONCOMMUNICABLE DISEASES AND CONDITIONS §2800-2812 and §2593(b)

Disorders Characterized by Lapses of Consciousness (§2800-2812)

Pesticide-related illness or injury (known or suspected cases)\*\*

Cancer, including benign and borderline brain tumors (except (1) basal and squamous skin cancer unless occurring on genitalia, and (2) carcinoma in-situ and CIN III of the Cervix) (§2593)\*\*\*

#### LOCALLY REPORTABLE DISEASES (if Applicable):

⓪ = RSV became reportable on November 13, 2002 in San Bernardino County. RSV must be reported within seven (7) calendar days from the time of identification.

\* This form is designed for health care providers to report those diseases mandated by Title 17, California Code of Regulations (CCR). Failure to report is a misdemeanor (Health & Safety Code §120295) and is a citable offense under the Medical Board of California Citation and Fine Program (Title 16, CCR, §1364.10 and 1364.11).

\*\* Failure to report is a citable offense and subject to civil penalty (\$250) (Health and Safety Code §105200).

\*\*\* The Confidential Physician Cancer Reporting Form may also be used. See Physician Reporting Requirements for Cancer Reporting in CA at: [www.ccrcl.org](http://www.ccrcl.org).

CDPH 110a (revised 06/2016)

## APPENDIX C: REPORTABLE DISEASES AND CONDITIONS (CONTINUED)

Title 17, California Code of Regulations (CCR), Section 2505  
 REPORTABLE CONDITIONS: NOTIFICATION BY LABORATORIES  
 (June 2016)

California Code of Regulations, Title 17, Section 2505 requires laboratories to report laboratory testing results suggestive of the following diseases of public health importance to the local health department:

Subsection (e)(1) List	Subsection (e)(2) List
<b>Anthrax, animal (<i>B. anthracis</i>)</b> <b>Anthrax, human (<i>B. anthracis</i>)</b> <b>Botulism</b> <b>Brucellosis, human (all <i>Brucella</i> spp.)</b> <i>Burkholderia pseudomallei</i> and <i>B. mallei</i> (detection or isolation from a clinical specimen) <b>Influenza, novel strains (human)</b> <b>Plague, animal</b> <b>Plague, human</b> <b>Smallpox (Variola)</b> <b>Tularemia, human (<i>F. tularensis</i>)</b> <b>Viral hemorrhagic Fever agents, animal (VHF),</b> (e.g., Crimean-Congo, Ebola, Lassa and Marburg viruses) <b>Viral Hemorrhagic Fever agents, human (VHF),</b> (e.g., Crimean-Congo, Ebola, Lassa and Marburg viruses)	<b>Acid-fast bacillus (AFB)</b> <b>Anaplasmosis</b> <b>Babesiosis</b> <b><i>Bordetella pertussis</i> acute infection, by culture molecular identification</b> <b><i>Borrelia burgdorferi</i> infection</b> <b>Brucellosis, animal (<i>Brucella</i> spp. except <i>Brucella canis</i>)</b> <b>Campylobacteriosis (<i>Campylobacter</i> spp.)</b> (detection or isolation from a clinical specimen) <b>Chancroid (<i>Haemophilus ducreyi</i>)</b> <b>Chikungunya Virus Infection</b> <b><i>Chlamydia trachomatis</i> infections, including lymphogranuloma venereum</b> <b>Coccidioidomycosis</b> <b>Cryptosporidiosis</b> <b><i>Cyclosporiasis</i> (<i>Cyclospora cayetanensis</i>)</b> <b>Dengue virus infection</b> <b>Diphtheria</b> <b>Ehrlichiosis</b> <b>Encephalitis, arboviral</b> <b><i>Entamoeba histolytica</i> (Not <i>E. dispar</i>)</b> <b><i>Escherichia coli</i>: shiga toxin producing (STEC) including <i>E. coli</i> O157</b> <b>Flavivirus infection of undetermined species</b> <b>Giardiasis (<i>Giardia lamblia</i>, <i>intestinalis</i>, or <i>duodenalis</i>)</b> <b>Gonorrhea</b> <b><i>Haemophilus influenzae</i>, all types</b> (detection or isolation from a sterile site in a person less than five years of age) <b>Hantavirus infections</b> <b>Hepatitis A, acute infection</b> <b>Hepatitis B, acute or chronic infection (specify gender)</b> <b>Hepatitis C, acute or chronic infection</b> <b>Hepatitis D (Delta), acute or chronic infection</b> <b>Hepatitis E, acute infection (detection of hepatitis E virus RNA from a clinical specimen or positive serology)</b> <b>Human Immunodeficiency Virus (HIV), acute infection</b> <b>Legionellosis (<i>Legionella</i> spp.) (antigen or culture)</b> <b>Leprosy (Hansen Disease) (<i>Mycobacterium leprae</i>)</b> <b>Leptospirosis (<i>Leptospira</i> spp.)</b> <b>Listeriosis (<i>Listeria</i>)</b> <b>Malaria</b> <b>Measles (Rubeola), acute infection</b> <b>Mumps (mumps virus), acute infection</b> <b><i>Mycobacterium tuberculosis</i></b> <b><i>Neisseria meningitidis</i> (sterile site isolate)</b> <b>Plague (<i>Yersinia pestis</i>), human or animal</b> <b>Poliovirus</b> <b>Psittacosis (<i>Chlamydia psittaci</i>)</b> <b>Q Fever (<i>Coxiella burnetii</i>)</b> <b>Rabies, animal or human</b> <b>Relapsing Fever (<i>Borrelia</i> spp.)</b> (identification of <i>Borrelia</i> spp. spirochetes on peripheral blood smear) <b><i>Rickettsia</i>, any species, acute infection</b> (detection from a clinical specimen or positive serology) <b>Rocky Mountain Spotted Fever (<i>Rickettsia rickettsii</i>)</b> <b>Rubella, acute infection</b> <b><i>Salmonellosis</i> (<i>Salmonella</i> spp.)</b> <b>Shiga toxin (detected in feces)</b> <b>Shigellosis (<i>Shigella</i> spp.)</b> <b>Syphilis</b> <b>Trichinosis (<i>Trichinella</i>)</b> <b>Tuberculosis</b> <b>Tularemia, animal (<i>F. tularensis</i>)</b> <b>Typhoid</b> <b><i>Vibrio</i> species infections</b> <b>West Nile virus infection</b> <b>Yellow Fever (yellow fever virus)</b> <b>Yersiniosis (<i>Yersinia</i> spp., non-pestis) (isolation from a clinical specimen)</b> <b>Zika virus infection</b>

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## APPENDIX C: REPORTABLE DISEASES AND CONDITIONS (CONTINUED)

Laboratory findings for these diseases are those that satisfy the most recent communicable disease surveillance case definitions established by the Centers for Disease Control and Prevention (unless otherwise specified in this Section). See also guidance at <http://www.cdph.ca.gov/HealthInfo/Documents/LaboratoryReportableDiseasesInstructionsList-e2.pdf>. All laboratory notifications are acquired in confidence. The confidentiality of patient information is always protected.

### WHEN TO REPORT (ALL DISEASES EXCEPT HIV ACUTE INFECTION)

**These laboratory findings are reportable to the local health officer of the health jurisdiction where the health care provider who first submitted the specimen is located within one (1) hour (List (e)(1) diseases) or within one (1) working day (List (e)(2) diseases)** from the time that the laboratory notifies that health care provider or other person authorized to receive the report. If the laboratory that makes the positive finding received the specimen from another laboratory, the laboratory making the positive finding shall notify the local health officer of the jurisdiction in which the health care provider is located within the time specified above from the time the laboratory notifies the referring laboratory that submitted the specimen. If the laboratory is an out-of-state laboratory, the California laboratory that receives a report of such findings shall notify the local health officer in the same way as if the finding had been made by the California laboratory.

### HOW TO REPORT (ALL DISEASES EXCEPT HIV ACUTE INFECTION)

Laboratories can report results via electronic laboratory reporting (ELR) to the California Reportable Disease Information Exchange (CaREDIE). Laboratories unable to submit reports electronically must report on paper to the local health department.

Additional information about CaREDIE ELR can be found here:

<https://www.cdph.ca.gov/data/informatics/tech/Pages/CaREDIEELR.aspx>

Reporting requirements for diseases and agents listed in Subsection (e)(1):

- Make initial report to the local health officer via telephone **within one hour**, and
- Report result(s) to CaREDIE **within one working day** of identification.

Reporting requirements for diseases and agents listed in Subsection (e)(2):

- Report result(s) to CaREDIE **within one working day** of identification.

### HIV ACUTE INFECTION REPORTING REQUIREMENTS

In addition to routine reporting requirements set forth in section 2643.10, for acute HIV infection reporting, laboratories shall report all cases within one business day to the local health officer of the jurisdiction in which the patient resides by telephone. If the patient residence is unknown, the laboratory shall notify the health officer of the jurisdiction in which the health care provider is located. If evidence of acute HIV infection is based on presence of HIV p24 antigen, laboratories shall not wait until HIV-1 RNA is detected before reporting to the local health officer.

### ADDITIONAL REPORTING REQUIREMENTS

#### ANTHRAX, BOTULISM, BRUCELLOSIS, GLANDERS, INFLUENZA, NOVEL STRAINS, MELIOIDOSIS, PLAGUE, SMALLPOX, TULAREMIA, and VIRAL HEMORRHAGIC FEVERS

Whenever a laboratory **receives a specimen** for the laboratory diagnosis of a suspected human case of one of these diseases, such laboratory shall **communicate immediately by telephone** with the Microbial Diseases Laboratory (or, for Influenza, novel strains, Smallpox or Viral Hemorrhagic Fevers, with the Viral and Rickettsial Disease Laboratory) of the Department of Public Health for instruction. See also guidance at <http://www.cdph.ca.gov/HealthInfo/Documents/LabReportingInstructionsList-e1SelectAgents.doc.pdf>

#### TUBERCULOSIS (Section 2505 Subsections (f) and (g))

Any laboratory that isolates *Mycobacterium tuberculosis* from a patient specimen must submit a culture to the local public health laboratory for the local health jurisdiction in which the health care provider's office is located as soon as available from the primary isolate on which a diagnosis of tuberculosis was established.

The information listed under "HOW TO REPORT" above must be submitted with the culture.

Unless drug susceptibility testing has been performed by the clinical laboratory on a strain obtained from the same patient within the previous three months or the health care provider who submitted the specimen for laboratory examination informs the laboratory that such drug susceptibility testing has been performed by another laboratory on a culture obtained from that patient within the previous three months, the clinical laboratory must do the following:

- Perform or refer for drug susceptibility testing on at least one isolate from each patient from whom *Mycobacterium tuberculosis* was isolated,
- Report the results of drug susceptibility testing to the local health officer of the city or county where the submitting physician's office is located within **one (1) working day** from the time the health care provider or other authorized person who submitted the specimen is notified, and

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## APPENDIX C: REPORTABLE DISEASES AND CONDITIONS (CONTINUED)

- If the drug susceptibility testing determines the culture to be resistant to at least isoniazid and rifampin, in addition, submit one culture or subculture from each patient from whom multidrug-resistant *Mycobacterium tuberculosis* was isolated to the local public health laboratory (as described above).

Whenever a clinical laboratory finds that a specimen from a patient with known or suspected tuberculosis tests positive for acid fast bacillus (AFB) staining and the patient has not had a culture which identifies that acid fast organism within the past 30 days, the clinical laboratory shall culture and identify the acid fast bacteria or refer a subculture to another laboratory for those purposes.

### MALARIA (Section 2505 Subsection (h))

Any clinical laboratory that makes a finding of malaria parasites in the blood film of a patient shall immediately submit one or more such blood film slides for confirmation to the local public health laboratory for the local health jurisdiction where the health care provider is located. When requested, all blood films will be returned to the submitter.

### SALMONELLA (Section 2612)

California Code of Regulations, Title 17, Section 2612 requires that a culture of the organisms on which a diagnosis of salmonellosis is established must be submitted to the local public health laboratory and then to the State's Microbial Diseases Laboratory for definitive identification.

**Additional Specimens or Isolates to be Submitted to Public Health (Section 2505 Subsection (m)(1) and (m)(2) Lists)** The following specimens or isolates must be submitted as soon as available to the local or state public health laboratory:

(m)(1) Specimens:

- HIV-1/2 antigen or antibody reactive sera or plasma submitted as part of a diagnostic HIV test algorithm, as defined in section 2641.57 (see (n) for additional reporting requirements)
- Malaria positive blood film slides (see (h) for additional reporting requirements)
- Measles immunoglobulin M (IgM)-positive sera
- Shiga toxin-positive fecal broths
- Zika virus immunoglobulin M (IgM)-positive sera

(m)(2) Isolates:

- Drug resistant *Neisseria gonorrhoeae* isolates (cephalosporin or azithromycin only)
- *Listeria monocytogenes* isolates
- *Mycobacterium tuberculosis* isolates (see (f) for additional reporting requirements)
- *Neisseria meningitidis* isolates from sterile sites
- *Salmonella* isolates (see section 2612 for additional reporting requirements)
- Shiga toxin-producing *Escherichia coli* (STEC) isolates, including O157 and non-O157 strains
- *Shigella* isolates

### Additional Reporting Instructions for (m)(2) Isolates (Section 2505 Subsection (m)(3)):

If there is a laboratory test result indicating infection with any one of the pathogens listed in (m)(2), including identification of Shiga toxin in a clinical specimen, then the laboratory must attempt to obtain a bacterial culture isolate for submission to the public health laboratory in accordance with (m)(2). The laboratory shall take steps necessary to obtain an isolate, including requesting that additional specimens be collected and sending specimens to a laboratory able to carry out bacterial culture as soon as possible.

### Additional Reporting Instructions for HIV-1/2 Specimens (Section 2500 Subsection (n)):

A laboratory which receives a specimen that is reactive for HIV-1/2 antigen or antibody shall communicate with the Department's Viral and Rickettsial Disease Laboratory for instructions on the specimen submission process. A laboratory shall also submit the Clinical Laboratory Improvement Amendments number.

## APPENDIX D: FOOTNOTES

- (1) Pelvic Inflammatory Disease (PID) does not include chlamydial PID or gonococcal PID, which are shown separately under chlamydia and gonococcal PID respectively. PID cases for which the etiologic agent is determined to be *Chlamydia trachomatis* or *N. gonorrhoeae* are included in the total number of cases of chlamydia and gonorrhea, respectively.
- (2) Diagnosis of cholera is confirmed by isolating *Vibrio cholerae* from feces, and is distinguished from isolation of other *Vibrio* species that also cause gastrointestinal disease and are counted as *Vibrio* Infections in this report.
- (3) Effective June 2016, invasive *Haemophilus influenzae* occurring in patients 5 years of age and older is no longer a reportable condition.
- (4) Effective December 1, 1998, at the request of the California Department of Health Services, individuals with hepatitis C antibody who do not meet the criteria to be reported as hepatitis C acute are to be reported as hepatitis C carrier. Data for hepatitis C cases are unreliable due to a change in the reporting system that spurred large numbers of duplicate cases across California counties.
- (5) This category of bacterial meningitis does not include *Neisseria meningitidis*, which is reported separately as meningococcal meningitis or meningococemia.
- (6) Numbers of HIV cases reflect all individuals who tested newly positive in a given year, regardless of their AIDS status in the same year.
- (7) In 2016, California made deaths in children less than 5 years of age due to RSV reportable. In San Bernardino County, RSV in patients of any age became reportable on 11/13/2002. Providers and laboratories should report all cases of RSV regardless of age.

## APPENDIX E: DATA SOURCES

### Communicable Disease (CD) Incidence Data (For all CDs except AIDS and HIV)

#### **San Bernardino County**

- San Bernardino County CD records.

#### **California**

- CD Data (2015): *Yearly Summary Reports of Selected General Communicable Diseases in California 2011-2015*, CDPH Surveillance and Statistics Section, August 2016. Available at <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH Document Library/YearlySummRptsofSelectedGenCommDisinCA2011-2015.pdf>
- Rabies 2015 Rabies Surveillance in California Annual Report 2015, CDPH Veterinary Public Health Section, October 2016. Available at <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH Document Library/RabiesSurveillanceinCAAnnualReport2015.pdf>
- STD 2015 *Sexually Transmitted Diseases in California, 2015*. California Department of Public Health, STD Control Branch, September 2016. [https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH Document Library/STD\\_Data\\_All\\_STDs\\_Tables.pdf](https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH Document Library/STD_Data_All_STDs_Tables.pdf)
- Tuberculosis (2015) *Report on Tuberculosis in California, 2015*. Tuberculosis Control Branch, 2015 Provisional California TB Tables, September 2016. Available at [https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH Document Library/TBCB\\_Report\\_2015.pdf](https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH Document Library/TBCB_Report_2015.pdf)
- West Nile Virus (2014, 2015) California West Nile Virus. *2015 Human WNV Incidence Report*. Retrieved from <http://www.westnile.ca.gov/>.

#### **United States**

- Centers for Disease Control and Prevention. [Summary of Notifiable Diseases and Conditions, 2015]. Published August 11, 2017 for MMWR 64(53);1-143.
- Centers for Disease Control and Prevention. *Sexually Transmitted Disease Surveillance 2015*. Atlanta: U.S. Department of Health and Human Services; 2016.
- Rabies (2015) Centers for Disease Control and Prevention. *Rabies surveillance in the United States during 2015*. <http://www.cdc.gov/rabies/location/usa/surveillance/index.html> . Published May 15, 2017. (Accessed June 2017).
- West Nile Virus (2015) Centers for Disease Control and Prevention. *West Nile virus disease cases and deaths reported to CDC by year and clinical presentation, 1999-2014*. Retrieved from <http://www.cdc.gov/westnile/statsmaps/final.html> (Accessed June 2017).

### AIDS and HIV Data

#### **San Bernardino County**

- CA Office of AIDS, eHARS download, 4/7/2017.

#### **California**

- Centers for Disease Control and Prevention. *HIV Surveillance Report, 2015*; vol.27. <http://www.cdc.gov/hiv/library/reports/surveillance/>. Published November 2016. (Accessed July 2017).

#### **United States**

- Centers for Disease Control and Prevention. *HIV Surveillance Report, 2015*; vol.27. <http://www.cdc.gov/hiv/library/reports/surveillance/>. Published November 2016. (Accessed July 2017).

### Population Data

#### **San Bernardino County and California**

- State of California, Department of Finance, Report P-3: State and County Population Projections by Race/Ethnicity, Detailed Age, and Gender, 2010-2060. Sacramento, California, February 2017.

#### **United States**

- National Population Projections: United States by Age, Gender, Ethnicity and Race for years 2014-2060, released by the U.S. Census Bureau on December 10, 2014, on CDC WONDER Online Database, 2015. Accessed at <http://wonder.cdc.gov/population-projections-2014-2060.html>

### Healthy People 2020 Objectives

- US Department of Health and Human Services. *Healthy People 2020*. Retrieved from <http://healthypeople.gov/2020/default.aspx>

### General Disease Facts and Data

- Centers for Disease Control and Prevention. *Diseases & Conditions*. Retrieved from <http://www.cdc.gov/DiseasesConditions/>
- Heymann, D. L. (Ed.). (2008). *Control of Communicable Diseases Manual*. (19<sup>th</sup> ed.). Washington, DC: American Public Health Association.
- California Department of Public Health. *Diseases & Conditions*. Retrieved from <http://www.cdph.ca.gov/HealthInfo/discond/Pages/default.aspx>