

NECROTIZING FASCIITIS

Necrotizing fasciitis (NF) is a severe infection of the skin and deeper soft tissues that is characterized clinically by fulminant tissue destruction, systemic signs of toxicity, and high mortality. NF can be caused by many different bacteria, and occasionally by fungi.

There are two bacterial forms of NF. Type I NF is a mixed infection caused by aerobic and anaerobic bacteria. Risk factors include diabetes, peripheral vascular disease, immune compromise, and recent surgery. Type II NF is generally mono-microbial, most commonly caused by group A *Streptococcus* (GAS) or *Staphylococcus aureus*, and can occur in any age group among healthy individuals with no past medical history. Predisposing factors include a history of skin injury, such as cut or burn, blunt trauma, recent surgery, childbirth, injection drug use, or varicella infection.

NF is not a nationally notifiable condition so comprehensive national statistics are not available. The Centers for Disease Control and Prevention (CDC) estimates that there are 600-1200 cases of NF due to GAS each year, though this is likely an underestimate. In 2011, the Public Health Officer made NF [locally reportable](#) in San Diego County. Since 2011, NF case counts have ranged from 16-57 per year, with 23 cases reported in 2017. More of these infections were in men (65%). The median age of case-patients was 54 years with a range of 10-95 years.

There have been 70 deaths due to NF among San Diego County residents since 2011. Fatal cases may be overrepresented in the counts; although fatalities are not uncommon, the Epidemiology and Immunization Services Branch detects NF deaths through periodic searches of death certificates. Providers may not realize that NF is locally reportable; underreporting is likely common.

Streptococcus (group A and other types) remains the most frequently detected organism in San Diego County NF cases, both alone and in combination with other organisms. Other frequently seen organisms include *Staphylococcus*, *Enterococcus*, and *E. coli*.

Table 1. Common Organisms Detected in Monomicrobial and Polymicrobial Necrotizing Fasciitis Cases, 2013-2017

Total Cases=192	Type I. Poly-microbial	Type II. Mono-microbial	Total
Cases with available information on organism(s) identified	63	55	118
Select Common Organisms*			
<i>Streptococcus</i>	36	23	59
<i>Staphylococcus</i>	24	17	41
<i>E. coli</i>	16	3	19
<i>Enterococcus</i>	16	0	16
<i>Klebsiella</i>	7	1	8
<i>Clostridium</i>	3	4	7
<i>Candida</i>	5	0	5
<i>Vibrio</i>	1	2	3

*Cases with polymicrobial infections may be included in the count for more than one organism. Includes only cases with information on organisms detected. In other cases, there may have been no organism identified or the information may be unavailable. Only commonly detected organisms are listed; many other organisms have been detected, particularly in combination. Data are subject to change as additional information becomes available. Current as of 1/10/2018.

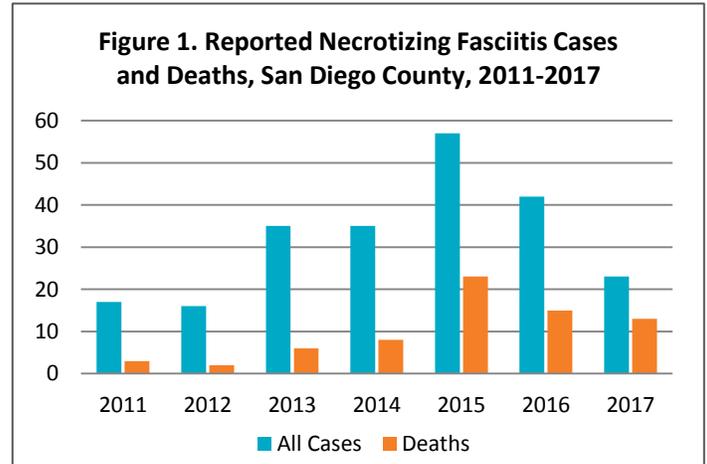


Figure 1. Reported Necrotizing Fasciitis Cases and Deaths, San Diego County, 2011-2017
Current as of 1/10/2018. Data are provisional and subject to change as additional information becomes available. Grouped by CDC disease years.

Resources

- [Centers for Disease Control and Prevention \(CDC\) Necrotizing Fasciitis website](#)
- [CDC Active Bacterial Core surveillance \(ABCs\) website](#)

The Monthly Communicable Disease Surveillance Report is a publication of the County of San Diego Public Health Services Epidemiology and Immunization Services Branch (EISB). EISB works to identify, investigate, register, and evaluate communicable, reportable, and emerging diseases and conditions to protect the health of the community. The purpose of this report is to present trends in communicable disease in San Diego County. To subscribe to this report, send an email to EpiDiv.HHSA@sdcounty.ca.gov.

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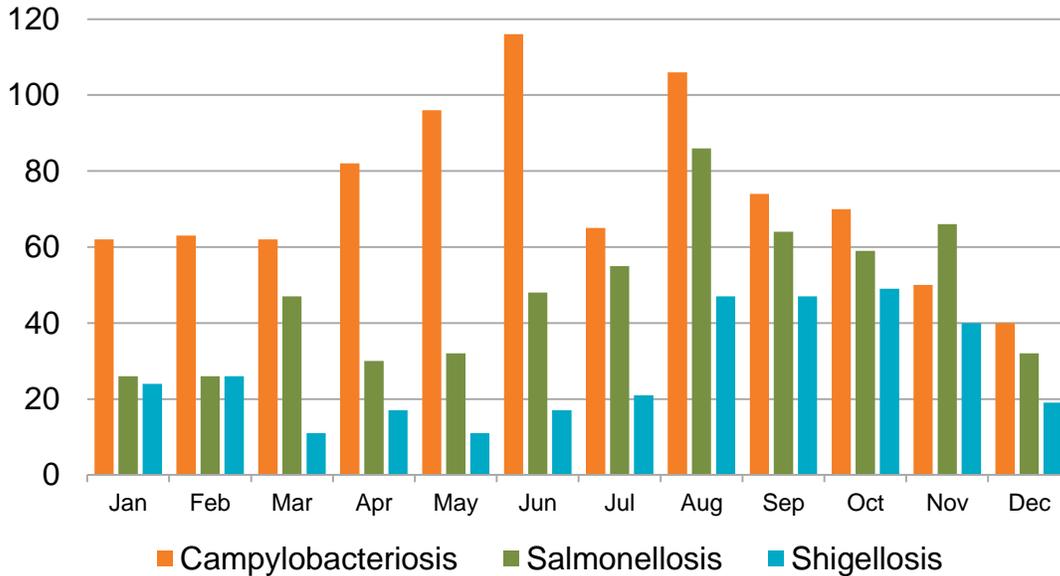


Table 2. Select Reportable Diseases		2017			Prior Years		
		Current Month	Prior Month	Year-to-Date (YTD)	2016 YTD	Avg YTD, 2014-2016	2016 Total
Disease and Case Inclusion Criteria (C,P,S)							
Amebiasis	C	0	1	10	5	34.3	5
Botulism (Foodborne, Infant, Wound, Other)	C	1	1	6	5	2.3	5
Brucellosis	C,P	0	0	4	4	2.0	4
Campylobacteriosis	C,P	40	50	886	787	760.3	787
Chickenpox, Hospitalization or Death	C,P	0	0	2	3	2.3	3
Chikungunya	C,P	0	0	2	6	8.7	6
Coccidioidomycosis	C	26	33	272	158	147.3	158
Cryptosporidiosis	C,P	3	5	54	35	31.7	35
Dengue Virus Infection	C,P	0	0	11	23	15.3	23
Encephalitis, All	C	1	1	37	71	67.3	71
Giardiasis	C,P	16	17	309	398	324.0	398
Hepatitis A, Acute	C	13	20	580	26	20.3	26
Hepatitis B, Acute	C	0	0	13	3	7.7	3
Hepatitis B, Chronic	C,P	72	74	884	865	893.7	865
Hepatitis C, Acute	C,P	1	0	5	1	1.0	1
Hepatitis C, Chronic	C,P	251	287	3069	2581	2735.0	2581
Legionellosis	C	2	8	59	53	47.3	53
Listeriosis	C	0	0	14	22	15.0	22
Lyme Disease	C,P	0	0	5	10	10.7	10
Malaria	C	0	0	7	12	9.0	12
Measles (Rubeola)	C	0	0	2	0	6.0	0
Meningitis, Aseptic/Viral	C,P,S	9	24	174	140	229.7	140
Meningitis, Bacterial	C,P,S	3	3	38	54	35.7	54
Meningitis, Other/Unknown	C	2	0	29	29	38.7	29
Meningococcal Infection	C,P	0	0	1	2	4.7	2
Mumps	C,P	0	1	15	23	8.3	23
Pertussis	C,P,S	73	143	1121	412	1133.7	412
Rabies, Animal	C	0	1	16	7	6.7	7
Rocky Mountain Spotted Fever	C,P	0	0	2	2	2.3	2
Salmonellosis (Non-Typhoid/Non-Paratyphoid)	C,P	32	66	571	535	550.7	535
Shiga toxin-Positive Feces (without culture confirmation)	C,P	2	1	23	15	8.7	15
Shiga toxin-Producing E. coli (including O157)	C,P	2	20	108	60	47.0	60
Shigellosis	C,P	19	40	329	243	222.0	243
Typhoid Fever	C,P	0	0	2	6	5.3	6
Vibriosis	C,P	0	3	50	30	37.7	30
West Nile Virus Infection	C,P	0	0	2	22	26.3	22
Yersiniosis	C,P	3	3	59	15	13.0	15
Zika Virus	C,P	1	2	20	83	28.7	83

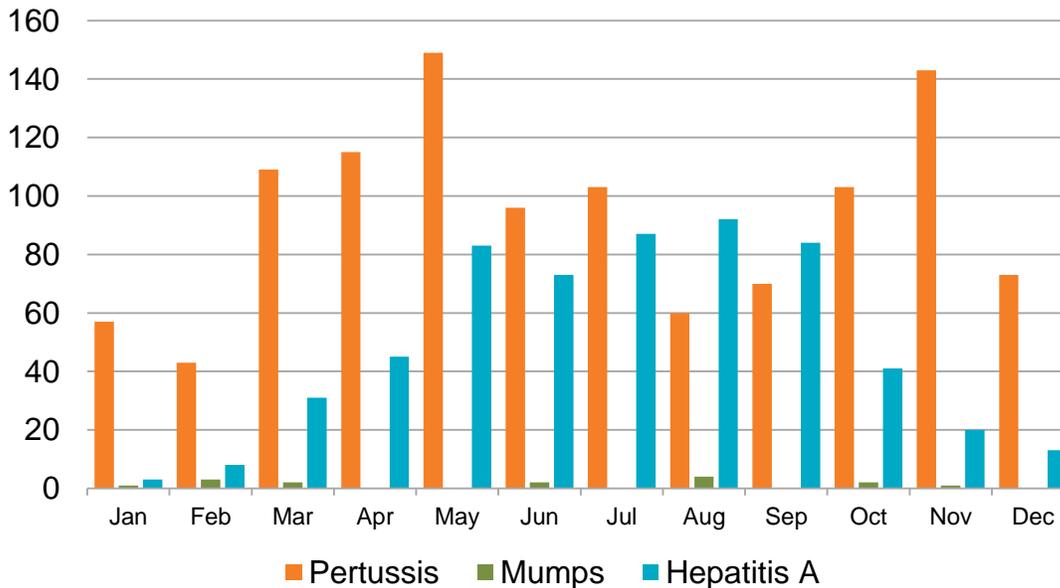
Case counts are provisional and subject to change as additional information becomes available. Cases are grouped into calendar months and calendar years on the basis of the earliest of the following dates: onset, lab specimen collection, diagnosis, death, and report received. Counts may differ from previously or subsequently reported counts due to differences in inclusion or grouping criteria, late reporting, or updated case information. Inclusion criteria (C,P,S = Confirmed, Probable, Suspect) based on Council of State and Territorial Epidemiologists/Centers for Disease Control and Prevention (CSTE/CDC) surveillance case criteria.



**Figure 2. Select Enteric Infections by Month
January 2017 – December 2017**

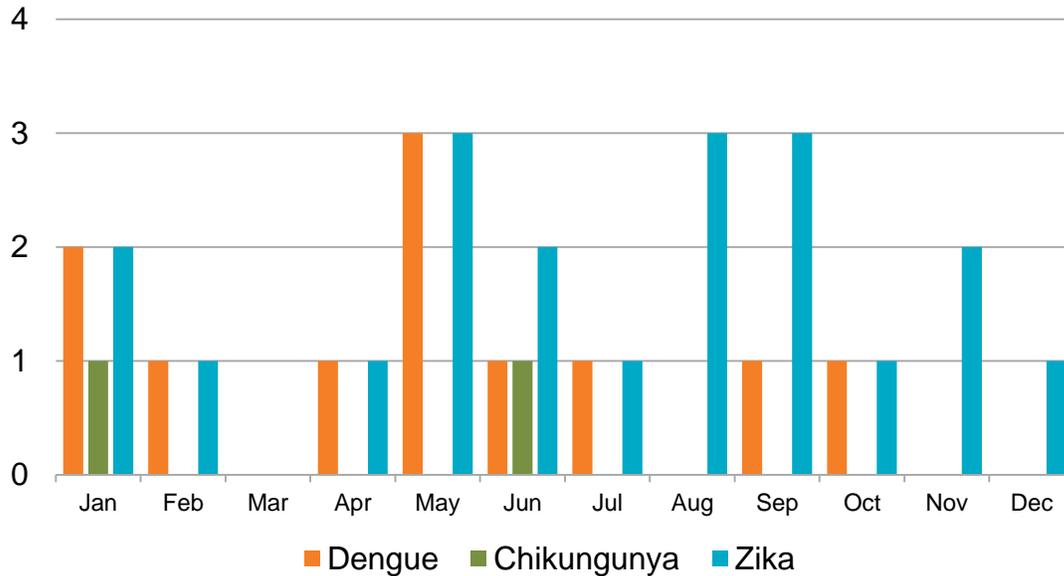


**Figure 3. Select Vaccine-Preventable Infections by Month
January 2017 – December 2017**



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**Figure 4. Select Vector-Borne Infections by Month
January 2017 – December 2017**



All of these dengue, chikungunya, and Zika virus cases are travel-associated. For additional information on Zika cases, see the [HHSa Zika Virus webpage](#). **Case counts are provisional and subject to change as additional information becomes available.** Cases are grouped into calendar months and calendar years on the basis of the earliest of the following dates: onset, lab specimen collection, diagnosis, death, and report received. Counts may differ from previously or subsequently reported counts due to differences in inclusion or grouping criteria, late reporting, or updated case information. Inclusion criteria (C,P,S = Confirmed, Probable, Suspect) based on Council of State and Territorial Epidemiologists/Centers for Disease Control and Prevention (CSTE/CDC) surveillance case criteria.

Disease Reporting in San Diego County

San Diego County communicable disease surveillance is a collaborative effort among Public Health Services, hospitals, medical providers, laboratories, and the [San Diego Health Connect](#) Health Information Exchange (HIE). The data presented in this report are the result of those efforts.

Reporting is crucial for disease surveillance and detection of disease outbreaks. Under the California Code of Regulations, Title 17 (Sections [2500](#), [2505](#), and [2508](#)), public health professionals, medical providers, laboratories, schools, and others are mandated to report more than 80 diseases or conditions to San Diego County Health and Human Services Agency.

To report a communicable disease, contact the Epidemiology Program by phone at (619) 692-8499 or download and print a Confidential Morbidity Report form and fax it to (858) 715-6458. For urgent matters on evenings, weekends or holidays, dial (858) 565-5255 and ask for the Epidemiology Program duty officer. For more information, including a complete list of reportable diseases and conditions in California, visit the Epidemiology Program website, www.sdepi.org.

Tuberculosis, sexually transmitted infections, and HIV disease are covered by other programs within Public Health Services. For information about reporting and data related to these conditions, search for the relevant program on the Public Health Services website, <http://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs.html>.