

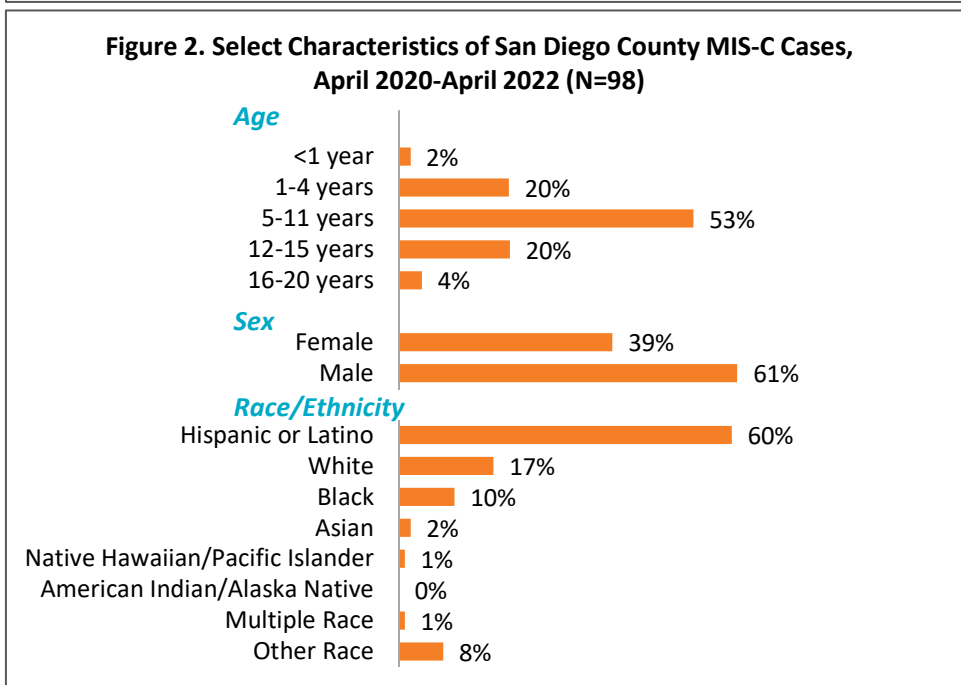
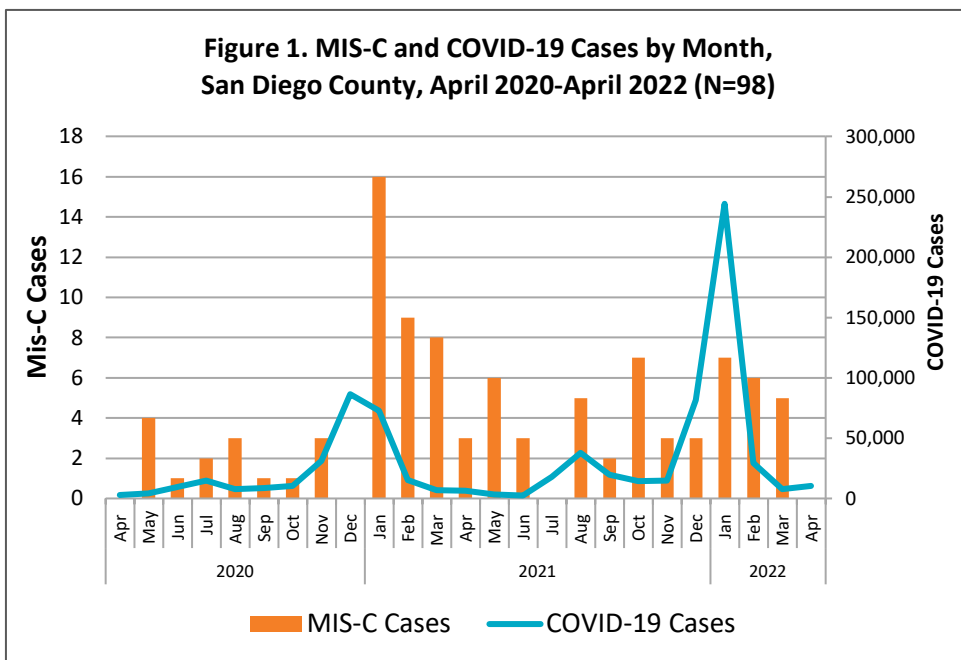
## MULTISYSTEM INFLAMMATORY SYNDROME IN CHILDREN (MIS-C)

Multisystem Inflammatory Syndrome in Children (MIS-C) was first characterized in April 2020. It is a delayed immune response related to SARS-CoV-2 infection. Through March 2022, the Centers for Disease Control and Prevention (CDC) [recorded](#) 7,880 cases of MIS-C in the United States, including 66 deaths. The incidence of MIS-C is 2.1 cases per 100,000 persons < 21 years. Ninety-eight cases of MIS-C have been confirmed in San Diego County.

MIS-C is a rare, but serious, postinfectious hyperinflammatory condition occurring about 2 to 6 weeks after infection with the SARS-CoV-2 virus. It is characterized by fever, inflammation, and multiorgan dysfunction. The clinical presentation of MIS-C resembles other inflammatory and infectious entities such as Kawasaki disease and bacterial sepsis. Most common presenting symptoms include persistent fever, abdominal pain, diarrhea, skin rash, conjunctival injection and, in severe cases, hypotension and shock. Case definition is outlined in Figure 3.

The predisposition to develop MIS-C is incompletely understood. The likelihood of developing MIS-C is not linked with the severity of the primary SARS-CoV-2 infection. While MIS-C can affect any child who contracts the virus, the median age of cases was 9 years and nearly half of the children

*Continued on next page*



Data for both figures current as of 5/15/2022. Data in Figure 1 is presented by month of symptom onset. Data for the most recent month may be incomplete due to delayed reporting. Data are provisional and subject to change.

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 identifies, investigates, registers, and evaluates 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, visit the [Data and Reports](#) page on the Epidemiology Program website ([www.sdepi.org](http://www.sdepi.org)) and click on the subscribe link.

## MIS-C, continued

with MIS-C were between the ages of 5 and 11 years. Sixty-one percent of cases were male. As with COVID-19 infection rates, non-Hispanic Black and Hispanic children have been disproportionately affected by MIS-C, making up approximately 57% of [cases nationally](#), while Asian children are underrepresented. In San Diego County, 60% of cases have been in Hispanic children (Figure 2). The possibility of genetic predisposition is currently under study.

MIS-C can often be so severe that children require life-saving interventions, including fluid resuscitation, vasoactive agents, mechanical ventilation, immunomodulating medications, and even extracorporeal membrane oxygenation. Approximately 60-80% of the early cases of MIS-C patients have required intensive care admission. The overall mortality rate is approximately 1-2%. In patients with cardiac complications, left ventricular dysfunction is commonly described while coronary aneurysms are less likely when compared to in Kawasaki disease. Most children receiving therapy have improvement or resolution of cardiac dysfunction. In general, the prognosis of MIS-C is excellent, and most children experience a full recovery. As MIS-C is a new disease entity, long-term follow up studies are in progress.

Peaks in MIS-C cases have primarily followed waves of acute COVID-19 in the adult population by about 2 to 6 weeks. (See Figure 1.) The best strategy to prevent post-COVID conditions such as MIS-C is to prevent acute SARS-CoV-2 infection. The CDC recommends an approved COVID-19 vaccination for children 5 years and older. The incidence of MIS-C in fully vaccinated individuals is extremely rare. The likelihood of MIS-C was reduced by 91% [with vaccination](#), and no vaccinated patients required life support.

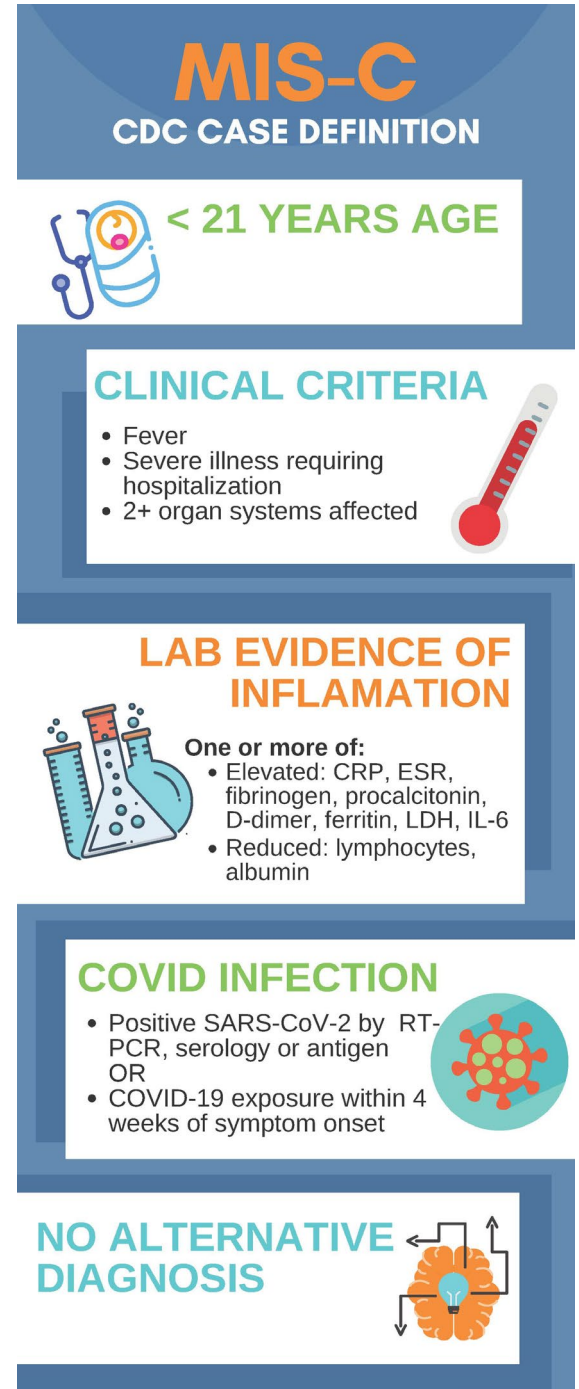
Additional prevention tools include frequent hand washing, social distancing, avoiding crowds and poorly ventilated indoor spaces, wearing a well-fitted mask, and utilization of testing strategies.

Local MIS-C cases should be [reported](#) to the County of San Diego Epidemiology Unit.

### Resources

- [Centers for Disease Control and Prevention \(CDC\) Multisystem Inflammatory Syndrome website](#)
- [CDC COVID-19 website](#)
- [CDC COVID Data Tracker: National MIS-C Surveillance](#)
- [California Department of Public Health \(CDPH\) MIS-C website](#)
- [American Academy of Pediatrics MIS-C Interim Guidance](#)

Figure 3. CDC MIS-C Case Definition



Adapted from <https://www.cdc.gov/mis/mis-c/hcp/index.html>.

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# MONTHLY COMMUNICABLE DISEASE REPORT



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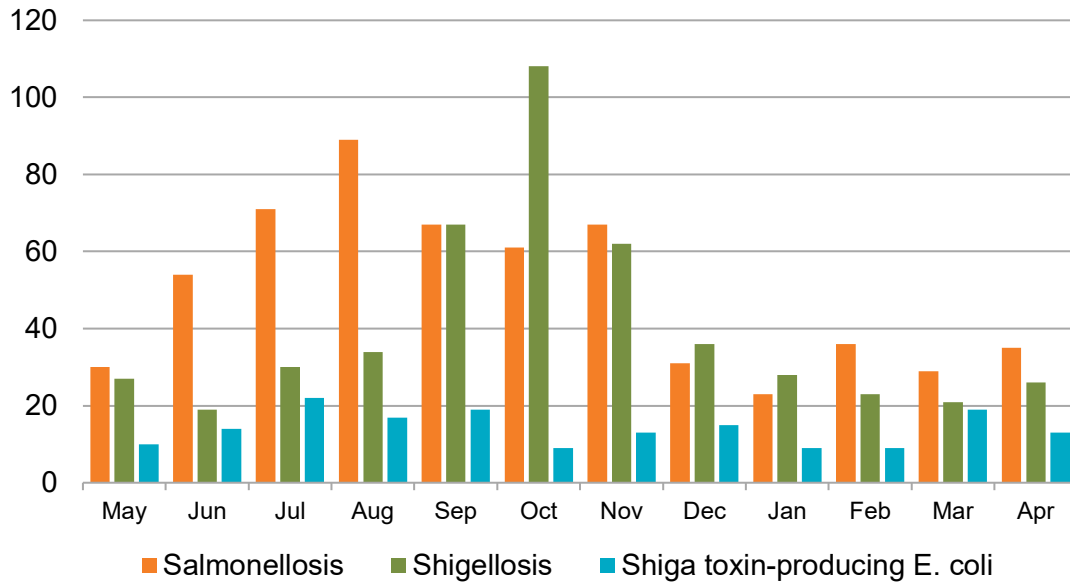


Table 1. Select Reportable Diseases		2022			Prior Years		
		Current Month	Prior Month	Year-to-Date (YTD)	2021 YTD	Avg YTD, Prior 3 Years	2021 Total
Disease and Case Inclusion Criteria (C,P,S)							
Botulism (Foodborne, Infant, Wound, Other)	C,P	0	0	0	2	0.7	3
Brucellosis	C,P	0	1	2	1	0.7	3
Campylobacteriosis	C,P	79	53	221	217	233.7	904
Chickenpox, Hospitalization or Death	C,P	0	0	0	3	1.3	3
Chikungunya	C,P	0	0	1	0	0.0	2
Coccidioidomycosis	C	26	32	132	173	166.7	510
Cryptosporidiosis	C,P	7	2	15	9	14.0	53
Dengue Virus Infection	C,P	0	1	1	0	1.3	2
Encephalitis, All	C	0	1	3	17	16.0	36
Giardiasis	C,P	4	11	41	42	59.7	167
Hepatitis A, Acute	C	11	1	12	3	8.0	10
Hepatitis B, Acute	C	1	2	6	6	3.7	16
Hepatitis B, Chronic	C,P	76	87	326	257	269.3	810
Hepatitis C, Acute	C,P	0	6	19	41	28.7	74
Hepatitis C, Chronic	C,P	234	306	1,037	1,377	1,365.7	3,581
Legionellosis	C	0	7	22	24	19.0	63
Listeriosis	C	2	0	2	0	1.3	8
Lyme Disease	C,P	0	0	1	3	2.0	14
Malaria	C	0	1	2	1	2.7	8
Measles (Rubeola)	C	0	0	0	0	0.0	0
Meningitis, Aseptic/Viral	C,P,S	6	4	20	22	31.0	48
Meningitis, Bacterial	C,P,S	3	4	11	11	11.7	22
Meningitis, Other/Unknown	C	0	0	2	9	11.7	34
Meningococcal Disease	C,P	0	0	0	0	3.3	1
Mumps	C,P	0	0	1	0	8.0	2
Pertussis	C,P,S	4	7	16	15	139.7	69
Rabies, Animal	C	0	0	1	1	0.7	4
Rocky Mountain Spotted Fever	C,P	0	0	0	1	0.7	2
Salmonellosis (Non-Typhoid/Non-Paratyphoid)	C,P	35	29	123	114	126.3	583
Shiga toxin-Producing <i>E. coli</i> (including O157)	C,P	13	19	50	32	44.0	138
Shigellosis	C,P	26	21	98	49	81.0	432
Typhoid Fever	C,P	2	2	8	1	3.0	10
Vibriosis	C,P	0	0	3	3	7.3	51
West Nile Virus Infection	C,P	0	0	0	0	0.0	3
Yersiniosis	C,P	4	0	10	9	12.3	22
Zika Virus	C,P	0	0	0	0	1.0	0

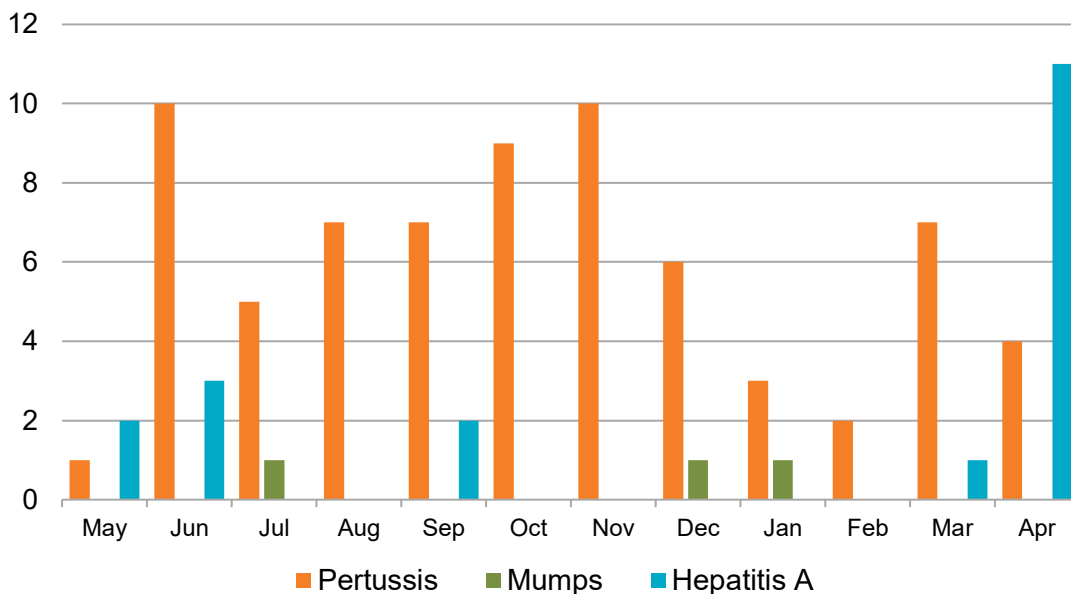
**Case counts are provisional and subject to change as additional information becomes available.** Cases are grouped into calendar months and calendar years on the basis of the earliest of the following dates: onset, lab specimen collection, diagnosis, death, and report received. Counts may differ from 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 4. Select Enteric Infections by Month  
May 2021 – April 2022**

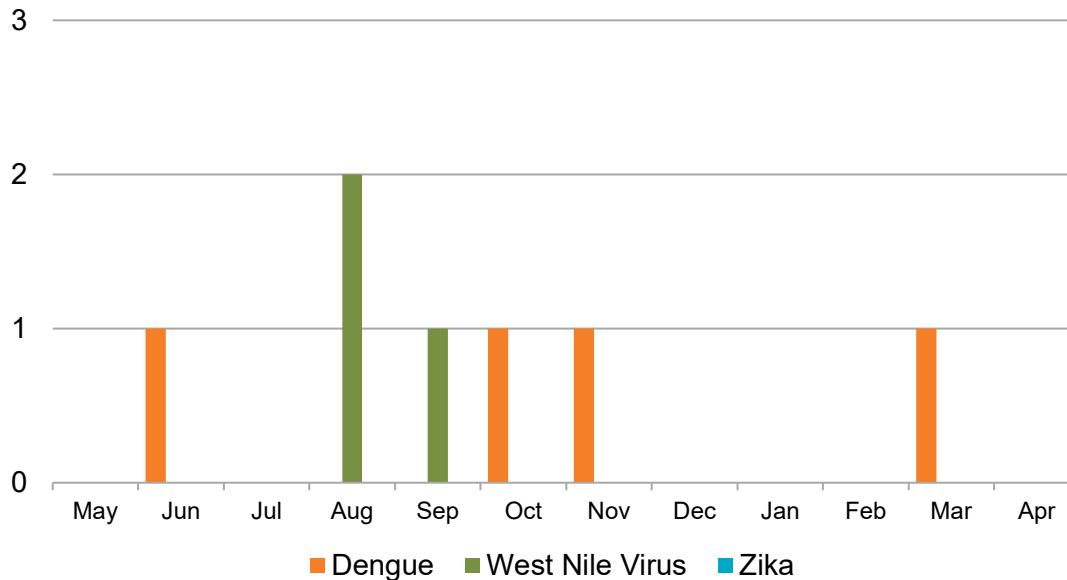


**Figure 5. Select Vaccine-Preventable Infections by Month  
May 2021 – April 2022**



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**Figure 6. Select Vector-Borne Infections by Month  
May 2021 – April 2022**



All of the dengue and Zika virus cases are travel-associated. For additional information on Zika cases, see the [HHS Zika Virus webpage](#). For more information on West Nile virus, see the [County West Nile 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 this effort.

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](http://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>.