Communicable Diseases (CD) Quarterly Report

San Mateo County Health System

CD Control Program

• Provider Reporting: 650.573.2346 (phone) 650.573.2919 (fax) • Issue No. 31 • Data to March 31, 2015

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Table 1. Selected CD cases reported in San Mateo County

Disease	2015		2014	
	1st Qtr	YTD	1st Qtr	YTD
Coccidioidomycosis	3	3	2	2
Listeriosis	0	0	0	0
Meningitis - Bacterial*$	0	0	1	1
Meningitis - Viral$	0	0	3	3
Meningococcal Disease	2	2	2	2
Paratyphoid Fever	0	0	0	0
Typhoid Fever	0	0	0	0

*Excluding meningococcal meningitis $ Includes confirmed and probable cases

Table 2. Selected Gastrointestinal illnesses reported in San Mateo County Residents

Disease	2015		2014	
	1st Qtr	YTD	1st Qtr	YTD
Amebiasis	2	2	2	2
Campylobacteriosis	61	61	48	48
Cryptosporidium	6	6	9	9
E. coli O157*	6	6	3	3
Giardia	14	14	10	10
STEC w/ HUS*	0	0	0	0
STEC w/o HUS*	3	3	0	0
SALMONELLA (non-typhoid)	26	26	22	22
S. Enteritidis	0	0	2	2
S. Typhimurium	0	0	1	1
Pending/Others	26	26	19	19
Shigellosis	9	9	6	6
Vibrio (non-cholera)	3	3	2	2

*STEC categories exclude E. coli O157

Table 3. Selected Vaccine Preventable Diseases reported in San Mateo County Residents

Disease	2015		2014	
	1st Qtr	YTD	1st Qtr	YTD
Hepatitis A	0	0	1	1
Hepatitis B (acute)	2	2	0	0
Influenza - ICU Hosp (0-64 yrs)	10	10	17	17
Influenza Death (0-64 yrs)	5	5	6	6
Measles	4	4	4	4
Pertussis*	10	10	17	17

*Includes confirmed, probable and suspect cases

Table 4. Outbreaks in San Mateo County

Disease	2015		2014	
	1st Qtr	YTD	1st Qtr	YTD
All Gastrointestinal*	6	6	8	8
Confirmed/Probable Norovirus	0	0	3	3
Respiratory*	11	11	8	8
Confirmed Influenza	9	9	5	5

*Includes confirmed, probable and suspect cases

Sources: California Reportable Disease Information Exchange (CalREDIE)
Notes: Morbidity is based on date report created in CalREDIE. Totals for past quarters may change due to delays in reporting from labs and providers, the use of different reporting systems, and changes to the resolution statuses of cases based on subsequent information received.
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Focus on Hepatitis B — Epidemiology and Transmission Part One

The hepatitis B virus **(HBV)** is a double-stranded DNA virus belonging to the family of hepadnaviruses. HBV infection is **a global public health problem**. It is estimated that there are more than 250 million HBV carriers in the world, of whom approximately 600,000 die annually from HBV-related liver disease. The implementation of effective vaccination programs in many countries has resulted in a significant decrease in the incidence of acute hepatitis B. Nevertheless, hepatitis B remains an important cause of morbidity and mortality; the rate of HBV-related hospitalizations, cancers, and deaths in the United States have more than doubled during the past decade. This may be due to the delay in implementation of universal vaccination (which was instituted in 1991), the influx of immigrants from endemic areas, improved diagnosis, and better documentation of infection.

The **prevalence of HBV carriers** varies from 0.1 percent to 2 percent in low prevalence areas (United States and Canada, Western Europe, Australia and New Zealand), to 3 to 5 percent in intermediate prevalence areas (Mediterranean countries, Japan, Central Asia, Middle East, and Latin and South America), to 10 to 20 percent in high prevalence areas (southeast Asia, China, sub-Saharan Africa). There are an estimated 2.2 million individuals with **chronic HBV in the United States**, two-thirds of whom were foreign born. The wide range in HBV carrier rate in different parts of the world is largely related to differences in **the age at infection, which is inversely related to the risk of chronicity**. The rate of progression from acute to chronic HBV infection is approximately 90 percent for perinatally-acquired infection, 20 to 50 percent for infections between the age of 1 and 5 years and less than 5 percent for adult acquired infection.

The predominant **mode of transmission** of HBV varies in different geographical areas. Perinatal infection is the predominant mode of transmission in high prevalence areas. In comparison, horizontal transmission, particularly in early childhood, accounts for most cases of chronic HBV infection in intermediate prevalence areas, while unprotected sexual intercourse and intravenous drug use in adults are the major routes of spread in low prevalence areas.

The infection rate among infants born to HBeAg-positive mothers is as high as 90 percent. Maternal-infant transmission may occur in utero, at the time of birth, or after birth. However, most infections occur at or before birth, which is supported by the protective efficacy (approximately 95 percent) of passive and active neonatal vaccination (Hepatitis B Immunoglobulin and HBV vaccine). Administering antiviral therapy to mothers with high HBV viral loads may further reduce the risk of infection in the newborn. There is no evidence that cesarean section prevents maternal-infant transmission.

The incidence of **transfusion-related hepatitis B** decreased significantly after the exclusion of paid blood donors and the introduction of hepatitis B surface antigen (HBsAg) screening of donors. In the United States, where both HBsAg and anti-HBc (hepatitis B core antibody) are used for donor screening, the risk of post-transfusion hepatitis B is estimated to be one to four per million blood component transfused. To further reduce the risk of transfusion associated HBV infection, nucleic acid testing **(NAT)** is being considered in screening blood donors for HBV. The implementation of NAT in countries of high prevalence is hampered by the cost involved while it is considered not cost effective in countries with low prevalence. Nevertheless, some countries including Singapore, Spain, Germany, and the United States have started using NAT for the screening of HBV infection. Blood samples are tested in pools and then individual donation samples are tested if contained in a reactive pool.

About the Communicable Disease Control Program

The Communicable Disease Control Program is available to help meet the reporting needs and answer the questions of San Mateo County providers. To report a disease or outbreak, please call 650-573-2346 Monday through Friday, 8:00 am to 5:00 pm, or fax a Confidential Morbidity Report (CMR) to 650-573-2919.

You may download an electronic copy of the CMR at http://smhealth.org/sites/default/files/docs/PHS/cmr_cd_std.pdf. Web-based reporting via CalREDIE is also available. Please contact us if you would like to know more about, and sign up for, web-based reporting. Non-urgent questions and/or general enquiries may be directed to PH_CDControlUnit@smcgov.org (Note: underscore between PH and CD).