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**OFFICE OF BINATIONAL BORDER HEALTH**

**BORDER HEALTH**  
**STATUS**  
REPORT to the legislature  
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## **Border Health Status: Report to the Legislature 2016**

The 2016 Border Health Status Report uses the most recent data to cover the following indicators: demographics, obesity, diabetes, mental health, tuberculosis, STIs, HIV/AIDS, and vaccine preventable diseases in the State of California. Additionally, there is a chapter on vector-borne diseases, which includes information on Zika, dengue, chikungunya, and Rocky Mountain spotted fever. This report focuses on the California-Baja California Border region, which includes San Diego and Imperial Counties.

### **Demographics**

- In 2016, the California Department of Finance (DOF) projected that there were 3,466,674 individuals living in the California border region, the majority of whom were living in San Diego County (n=3,274,202), and a smaller proportion in Imperial County (n=192,472).
- In 2015 in the State of California, Whites and Hispanics/Latinos made up roughly the same proportion at 38.1% and 39.3% of the total population respectively. In Imperial County, however, Hispanics/Latinos made up the majority (81.6%) of the population, while Whites made up 12.9%. In San Diego County, the majority of the population was White (46.9%), while Hispanics/Latinos constituted the largest minority group at 33.4%.
- The percent of Hispanics/Latinos in California who had less than a high school education (35.0%) was close to eight times greater than that of Whites (4.4%) in 2015. In San Diego County the percentage of Hispanics/Latinos who had less than a high school education (29.1%) was more than nine times greater than that of Whites (3.2%). In Imperial County, the percentage of Whites who had less than a high school degree was 4.9%\*; among Hispanics/Latinos the percentage was six times greater (30.7%).
- In 2015 more than half (61.0%) of Imperial County residents were living below 200% of the Federal Poverty Level (FPL), compared to 36.6% in San Diego County and 39.5% in California statewide.
- Across all ethnicities in 2015, there was a considerably higher percentage of the population living at or above 300% of the FPL in San Diego County (52.2%) and California (46.5%) than in Imperial County (27.2%). Additionally, in both border counties and California statewide, the percentage of Whites living at or above 300% of the FPL was at least twice as high as that of Hispanics/Latinos.
- In December of 2016, California reported that 5.0% of the population was unemployed, while San Diego County reported 4.1%. For the same year, the unemployment rate in Imperial County was 20.9%, the highest among all counties in California.

### **Obesity**

- In 2015, 23.5% of adults in San Diego County and 35.2% of adults in Imperial County were obese. Imperial County had one of the highest proportions of obesity in California.
- In the State of California as a whole, the Hispanic/Latino population has had a consistently higher percentage of obesity when compared to the White population and all other populations combined. The same trend was observed in Imperial County in 2015, where 45.2% of Hispanics/Latinos were obese, more than double the percentage of Whites (21.7%). In San Diego County, however, the proportion of Hispanics/Latinos who were obese (36.0%) was instead slightly lower than that of Whites (37.7%).
- In Imperial County, 38.1% of people with obesity lived below 200% of the FPL, compared to 29.9% in San Diego County.

- In 2015 in Imperial County, San Diego County, and the State of California as a whole, the largest proportion of adults who were obese belonged to the 40-to-64-year-old age group: 53.7%, 45.3%, and 50.0%, respectively.
- According to 2015 data, 81.1% of women in the US who had given birth had ever breastfed, while 22.3% were exclusively breastfeeding at six months. In comparison, a study of California women showed that 93.9% of them had breastfed at some point, while 68.6% had exclusively breastfed. Imperial County ranked 49<sup>th</sup> among all California Counties for exclusive breastfeeding. During the same period of time in San Diego County, 96.2% of women reported any breastfeeding, while 79.6% reported exclusive breastfeeding, putting San Diego County at 20<sup>th</sup> in the state for exclusive breastfeeding.
- In Imperial County, 53.2% of the adult population reported consuming soda at least once a week; Hispanics/Latinos had a slightly higher proportion of soda consumption (59.8%). In San Diego County, 36.1% of the population reported consuming soda at least once a week, and 47.4% of Hispanics/Latinos specifically reported drinking soda at least once a week.
- In Imperial County, 78.9% of teens reported eating fast food at least once in the past week compared to 74.0% and 80.5% of teens in San Diego and the whole State of California, respectively.

### **Diabetes**

- In 2015, 9.8% of adult respondents in California had been diagnosed with diabetes at some point in their lives, compared to 9.9% and 16.5% of adults in San Diego County and Imperial County, respectively.
- In 2015, in Imperial County, 14.9% of Hispanics/Latinos reported having diabetes compared to 16.5% of all ethnicities combined. Similarly in San Diego County in 2015, 13.3% of Hispanics/Latinos reported having diabetes, compared to 7.3% of Whites and 9.9% of all ethnicities combined.
- Hispanics/Latinos along the border region and across the State of California, overall, also have higher diabetes-related mortality rates than Whites and all ethnicities combined, even after adjusting for age. In San Diego County, the diabetes-related mortality rate in 2013, which is the most recent data available, was 24.2 per 100,000 for Hispanic/Latinos, compared to 16.0 for Whites. In Imperial County the rates were 28.0 for Hispanics/Latinos and 21.1 for Whites.
- In 2015 in the State of California and the border counties, persons diagnosed with diabetes in the 40-64 age group represented the highest proportion of people living with diabetes, followed by the 65-79 age group.

### **Mental Health**

- In San Diego County, more Whites reported experiencing social and family life impairment due to emotional stress compared to their Hispanic/Latino counterparts. Among those who did report social life impairment, once again, more Whites reported “severe” social life impairment (10.9%) in the past year compared to (6.8%) of Hispanics/Latinos in San Diego County. Similarly, 7.4% of Whites in San Diego County reported “severe” family life impairment in the past 12 months due to emotions compared to 5.1% of Hispanics. During 2015, 9.6% of respondents in California reported having seriously considered committing suicide in the previous 12 months, compared to 11.2% and 8.5% of respondents in San Diego County and Imperial County respectively, though Imperial County data was statistically unstable.
- In California and the border counties, more Whites reported seriously considering suicide compared to Hispanics/Latinos and all ethnicities combined.

- The suicide mortality rate in California in 2013, which is the most recent data available, was 10.2 per 100,000. In San Diego County the suicide mortality rate was 13.0, which represents an increase from 11.9 per 100,000, in 2011. Conversely, the suicide rate in Imperial County decreased from 10.0 in 2011 to 6.6 per 100,000, in 2013.
- In the State of California in 2013, the suicide rate was 15.8 for Whites, compared to just 4.7 for Hispanics/Latinos. Similarly in San Diego County, the suicide mortality rate for Whites was 17.5, compared to 5.2 for Hispanics/Latinos. In Imperial County, the suicide mortality rate for Whites declined from 26.4 in 2011 to 16.3 per 100,000, in 2013. Still, this rate is notably higher than the rate of 5.2 per 100,000 for Hispanics/Latinos, which also decreased from 6.8 per 100,000 in 2011.
- White males had the highest suicide rates overall (24.1 in California; 26.1 and 18.7 in San Diego and Imperial Counties respectively), while Hispanic/Latino women had the lowest suicide rates overall (1.5 in California; 2.4 and 1.1 per 100,000, in San Diego and Imperial Counties respectively).

### Vector-Borne Diseases

- In 2016, 1 confirmed and 12 probable cases of Rocky Mountain spotted fever (RMSF) were reported in California. Confirmation of RMSF requires collection of two samples. In many instances the cases are never confirmed due to the inability of obtaining a second sample for confirmation. One of these cases was in a San Diego resident with unknown travel history. In the past ten years in California, a total of 71 RMSF cases, including 11 confirmed and 60 probable, have been reported to the California Department of Public Health (CDPH). Three of the case-patients were residents of Imperial County and 12 were residents of San Diego. Forty-two (67.7%) reported personal travel history outside of their county of residence and of these, eight (19%) reported personal or household pet travel to Mexico within two weeks prior to onset.
- Imperial and San Diego Counties both have the presence of invasive *Aedes* mosquitoes, vector for Zika, chikungunya, and dengue. *Aedes* mosquitoes were first detected on October 7, 2014 in San Diego County and on January 9, 2015 in Imperial County. *Aedes aegypti* and *Aedes albopictus* have both been identified in San Diego County, and only *Aedes albopictus* has been identified in Imperial County.
- California had a total of 479 Zika cases during 2016, of which 98.7% (n=473) were travel associated and 1.3% was either sexually (n=4) or congenitally (n=2) transmitted. The median age for cases was 36 (range: 0-89), and 64% were females. Of those whose ethnicity was reported, 44.3% were Hispanic or Latino and 24.4% were Not-Hispanic or Latino. For those cases that were travel-associated, the majority traveled to Mexico (36.2%), Central America (33.8%), or the Caribbean (14.6%), and 15.4% traveled elsewhere.
- Of the 479 cases in California, 16.9% (n=81) were reported in San Diego County; of these, 56.8% were female, and the median age was 36 (range: 0-89). Of those San Diego cases whose ethnicity was reported, 40.7% Hispanic or Latino, and 28.4% were non-Hispanic or Latino. Of the 81 cases reported in San Diego, the majority (97.5%) was travel-associated and 2.5% were due to sexual transmission. The top three destinations for travel associated cases were similar in San Diego County when compared to California. The top three travel destinations for the San Diego cases were as follows: Mexico (40.5%), Central America (24.1%), and the Caribbean (16.5%). A smaller proportion (19.0%) traveled elsewhere.
- Imperial County did not have any Zika cases in 2016.
- During 2016, a total of 55 imported chikungunya cases were reported in California; of these, 56.4% were female and median age was 40 (range: 6-81). Among these cases, 51.8% were Non-Hispanic or Latino, 24.1% were Hispanic or Latino, and for the remaining 24.1% ethnicity was unknown. The majority of cases traveled to either India (54.5%) or Latin-America (34.5%), and the remaining 10.9% traveled elsewhere.

- San Diego County had six imported cases of chikungunya during 2016, and Imperial County did not have any cases.
- A total of 193 imported dengue cases were reported in California during 2016; of these, 53.9% were female and the median age was 40 (range: 1-88). Among these cases 42.5% were Non-Hispanic or Latino, 26.4% were Hispanic or Latino, and for the remaining 31.1% ethnicity was unknown. The majority of cases traveled to Southeast Asia (26.4%), North America (23.3%), India (15.5%), Central America (11.9%), and the remainder traveled elsewhere (22.8%).
- Of the total 193 dengue cases reported in California during 2016, 10.9% (n=21) were reported in San Diego County and no cases were reported in Imperial County. The top travel destinations for San Diego County residents were similar to those reported Statewide. The top three locations were Southeast Asia, North America, and Central America.

### **Tuberculosis**

- The number of Californians with tuberculosis (TB) has dropped dramatically in the past decades with intensive public health efforts. However, the state has the highest number of TB cases in the US with more than 2,000 cases each year. The California border counties, Imperial and San Diego contributed 12.5% of the state's reported TB cases over the past five years.
- San Diego and Imperial counties have consistently reported higher TB case rates compared to the state. In 2016, California's TB case rate was 5.3 cases per 100,000. Imperial reported 23.5 cases per 100,000 and San Diego 7.8 cases per 100,000.
- TB does not affect all Californians equally. In California and the border counties, the rate of TB is higher among Hispanics/Latinos than non-Hispanic whites. In the border counties, a large proportion of cases are Hispanic/Latino and of Mexican origin.
- During 2012-2016, about a quarter of California's TB cases reported having diabetes. Mexican-born cases were more likely than other TB cases to report diabetes.
- Among cases with HIV status reported, 4% of California TB cases during 2012-2016 were infected with HIV. Mexican-born cases with TB were more likely than other TB cases to be co-infected with HIV. HIV and TB can form a lethal combination. Knowledge of HIV status is important for appropriate diagnosis of TB and treatment of both conditions.
- During 2012-2016, over 9% of California's TB cases died with TB. Mexican-born cases in the border region had a higher proportion of deaths compared to other TB cases.
- Mycobacterium bovis is a relatively uncommon source of TB disease, often caused by ingestion of contaminated, unpasteurized dairy products. During 2016, there was 41 cases reported in California, almost 30% were reported in San Diego County.

### **Sexually Transmitted Infections**

- In 2015, chlamydia rates were higher in San Diego (533.8 per 100,000) than in Imperial County (397.7 per 100,000) and the State of California as a whole (486.1 per 100,000).
- In the border region and California as a whole during 2015, African Americans/Blacks and Hispanics/Latinos had higher rates of chlamydia than their White counterparts. In the State of California and San Diego County, African Americans/Blacks had a case rate of chlamydia that was at least four times higher than that of Whites.
- In 2015, the State of California reported 54,255 cases of gonorrhea (138.9 per 100,000). During the same year, Imperial County reported 74 cases (39.9 per 100,000) and San Diego County reported 3,689 cases (113.1 per 100,000).
- In 2015, the primary and secondary syphilis case rate in San Diego County was 15.2 per 100,000, compared to 6.5 in Imperial County and 12.5 in the State of California.

- In San Diego County and the State of California in 2015, the primary and secondary syphilis case rate for African Americans/Blacks was more than twice that of their White counterparts.
- The rates for congenital syphilis in California and the border region have been increasing since 2013. In 2015, the case rate for congenital syphilis in Imperial County was 66.0 per 100,000 live births, compared to 16.4 in San Diego County and 28.2 in the State of California.

### **HIV/AIDS**

- In 2015, Imperial and San Diego counties had a total of 13,146 individuals diagnosed and living with HIV infection; of these, 43.9% were classified as HIV cases (non-AIDS), and 56.1% were classified as AIDS cases.
- In 2015, there were 505 new cases of HIV infection in the California border counties.
- In 2015, the African-American/Black population represented the most affected race/ethnicity with the highest rate of persons living with HIV/AIDS in both the border region and the State of California as a whole (1,056.2 and 1,010.3 per 100,000 respectively). In comparison, the rate of HIV/AIDS for Hispanics/Latinos living in border counties was 373.5 per 100,000, while for Whites it was 397.0 per 100,000. In Imperial and San Diego counties, 62% of new HIV/AIDS diagnoses in 2015 were among people between the ages of 20 and 39 years, and 82.1% were between the ages of 20 and 49 years.
- Among new male cases diagnosed in Imperial and San Diego counties in 2015, 73.9% total were among men who have sex with men (MSM), including 4.4% who were also injection drug users (MSM/IDU). Among females diagnosed in these counties during 2015, the predominant risk exposure was high-risk heterosexual contact, which accounted for 85.4% of new diagnoses among females. High-risk heterosexual contact accounts for 15.4% of all new cases.

### **Vaccine Preventable Diseases**

- In 2015, Imperial County reported one case of hepatitis A (0.5 per 100,000) and 10 pertussis cases (5.3 per 100,000).
- During the same time period, San Diego County reported 22 hepatitis A cases (0.7 per 100,000), 12 acute hepatitis B cases (0.4 per 100,000), three meningococcal disease cases (0.1 per 100,000), 895 pertussis cases (27.6 per 100,000), and one varicella hospitalization. In addition, 12 measles cases were reported in San Diego County in 2015.
- In 2015, there were 12.1 cases of pertussis per 100,000 in California, which represents a decrease in rate from 2014 (29.1 per 100,000). In 2015, there were 27.6 cases of pertussis per 100,000 in San Diego County, which is double the rate of California as a whole. In comparison, Imperial County had a rate of 5.3 cases per 100,000 for the same year.
- In 2015, there were a total of 125 measles cases with disease onset in the State of California. Of the 125 cases, 12 cases were reported in San Diego County.

## CONCLUSION

The OBBH mission is to foster communication and collaboration in the California Border Region with the focus of improving health in the region. During the past several years, OBBH has collaborated with partners to address priority issues mentioned in this report. Some examples of collaborative projects include: Binational symposiums on childhood obesity, HIV/AIDS, mental health, and TB; binational epidemiology meetings on monitoring, notification, surveillance and reporting of infectious diseases. Finally, the OBBH is the co-lead for the Binational Consortium of the Californias, a mechanism developed for public, private, and academic entities that work on border health issues, to work together to optimize the health in the border region. The Border Infectious Disease Surveillance (BIDS) program is managed by the CDPH-OBBH. It was established in 1999 to enhance infectious disease surveillance, build border-region epidemiology and laboratory capacity, and strengthen binational communication systems to improve disease prevention.

Each year, the OBBH produces the Border Health Status Report. The 2016 Report includes a section on vector-borne-diseases; the border region of California has the presence of the Aedes mosquito, which is the vector for Zika, dengue, and chikungunya, among other diseases. As a result of the increase of these diseases around the world, we decided to include this information, although there have not been locally acquired cases in California. In addition, other selected topics of border health covered in this report include demographics, obesity, diabetes, mental health, tuberculosis, STIs, HIV/AIDS, and vaccine preventable diseases.

Differences in health outcomes have highlighted key needs of the region and have helped to identify resources and services for California residents. The CDPH-OBBH develops this report to inform the Legislature on the health needs of the California border region and to assist in the education of public health professionals. This information is important to enable a more focused approach to address the needs of the region. For more information about health issues that affect California's border region, visit the Office of Binational Border Health's website at [www.cdph.ca.gov/programs/cobbh](http://www.cdph.ca.gov/programs/cobbh).

## References:

- California Department of Finance. (2016). State and County Total Population Projections by Race/Ethnicity and Detailed Age 2010-2060. Retrieved from <http://www.dof.ca.gov/research/demographic/reports/projections/p-1/>
- California Health Interview Survey. CHIS 2012 Adult Public Use File. Los Angeles, CA: UCLA Center for Health Policy Research, March, 2016.
- California Health Interview Survey. CHIS 2013 Adult Public Use File. Los Angeles, CA: UCLA Center for Health Policy Research, March, 2016.
- California Health Interview Survey. CHIS 2014 Adult Public Use File. Los Angeles, CA: UCLA Center for Health Policy Research, March, 2016.
- California Health Interview Survey. CHIS 2015 Adult Public Use File. Los Angeles, CA: UCLA Center for Health Policy Research, March, 2016.
- California Employment Development Department. (2017, March 3). *Report 400C: Monthly labor force data for counties December 2016*. Retrieved from <http://www.labormarketinfo.edd.ca.gov/file/lfmonth/1612rcou.pdf>
- California Department of Public Health. (2013). California vital statistics query. Retrieved April 6, 2016, from <http://informaticsportal.cdph.ca.gov/chsi/vsqs/>
- National Center for Chronic Disease Prevention and Health Promotion Division of Nutrition, Physical Activity, and Obesity. (2016). *Breastfeeding report card progressing toward national breastfeeding goals*. Retrieved from <https://www.cdc.gov/breastfeeding/pdf/2016breastfeedingreportcard.pdf>
- California WIC Association and UC Davis Human Lactation Center. (2015). *California fact sheet: 2015 data*. Retrieved from [http://calwic.org/storage/documents/FactSheets2016/statefactsheet2016\\_FINAL2.pdf](http://calwic.org/storage/documents/FactSheets2016/statefactsheet2016_FINAL2.pdf)
- California Department of Public Health (CDPH). (2016). Sexually Transmitted Diseases Branch. Received March 2017.
- California Department of Public Health Sexually Transmitted Diseases Branch. (2015). *All STD tables California 2015*. Retrieved from <http://www.cdph.ca.gov/data/statistics/Pages/STDDData.aspx>
- California Department of Public Health Vaccine Preventable Diseases Epidemiology Section. (2015). *Vaccine-preventable disease surveillance in California 2015 annual report*.
- California Department of Public Health (CDPH). (2016). Vector-Borne-Diseases Branch. Received March 2017.