COVID-19 Quarterly Report
October 2020 – December 2020

January 18, 2021
Background

This report provides a high-level summary, to date, ten months into the COVID-19 pandemic. It uses data collected by the Santa Barbara County Department of Public Health to help explain who is contracting COVID-19, how they are contracting the disease, and where transmission is occurring.¹

In late 2019, Coronavirus disease 2019 (COVID-19) emerged as an isolated disease in a region of China, and then spread quickly across the globe. On March 11, 2020, the World Health Organization (WHO) declared COVID-19 to be a global pandemic, an outbreak occurring worldwide and affecting a large number of people.² The Centers for Disease Control and Prevention (CDC) confirmed the first US coronavirus case on January 21, 2020 in Washington State when a resident tested positive after returning from a trip to Wuhan, China.³ The first case in California, also after a resident’s return from Wuhan, was detected on January 25, 2020 in Orange County.⁴ In Santa Barbara County (SBC), the Public Health Department began actively monitoring COVID-19 in March 2020. The first positive COVID-19 case in SBC was confirmed on March 15. The individual had no history of travel within or outside the United States during the preceding six weeks.⁵

Initially, in March and April of 2020, transmission appears to have been kept limited in SBC by stringent California State and local Public Health Orders that required residents to stay at home and/or physically distance. On May 4, 2020, a California State Executive Order allowed for the gradual reopening of some industry sectors under new modifications and guidance. This phased reopening continued through June of 2020, though on June 16, 2020, CA State Health Department (CDPH) flagged SBC for its increased hospitalization rates of individuals with COVID-19. On June 28, 2020, in response to surging COVID-19 cases and hospitalizations across California, CDPH released its state-wide County Monitoring List, a system for using data to determine, county-by-county, which businesses, institutions, and activities could be open based on transmission, testing, and hospital capacity criteria. SBC was placed on the “watchlist” for not meeting these standards and soon thereafter, on July 2, 2020, restrictions were again imposed statewide and with back-to-back local Health Orders many sectors closed down once again.⁶ On August 28, 2020, Governor Newsom unveiled the “Blueprint for a

---

1 This report focuses on community cases. Inmate data has been excluded. For further information, please see the Santa Barbara County Public Health Department "COVID-19 Racial, Ethnical & Socioeconomic Data & Strategies Report" from May 28, 2020. Retrieved on October 6, 2020. https://www.countyofsb.org/phd/pr/2020/
Safer Economy”, a new, tiered plan for slowing the spread of coronavirus with revised criteria for loosening and tightening restrictions on activities. Initially, SBC was categorized into Tier 1 (purple), the most stringent and locked down tier. On September 29, 2020, SBC met the State’s Tier 2 criteria (red) as COVID-19 spread in SBC was downgraded from widespread to substantial, and the SBC Public Health Department issued a Health Officer Order allowing more businesses to reopen indoors with modifications and capacity limits in accordance with the State’s Blueprint for a Safer Economy. 7

As case volume began to increase across California following Halloween and the national election, CDPH began to modify metrics previously being used to gauge counties from a 7-day lag to a 4-day lag in hopes to be able to respond quicker to the surge of cases that began to emerge. By the beginning of December an ICU capacity metric was shared with the local health jurisdictions as a new metric to determine a potential Stay at Home Order (SAHO), but instead of based on individual county data, the metric was based on Health Officer Regions within the State. Santa Barbara county fell within the Southern California region along with nine other counties. Once ICU capacity fell below 15%, the region would go into a SAHO for at least three weeks and remain until the ICU capacity increased to at least 15%. This order further restricts retail capacity, ends outdoor dining, closes bars, nail salons, and hair salons. The SAHO went into effect in the Southern California Region on December 6, 2020,8 and the SAHO was rescinded on January 25, 2020, and SBC entered the Purple Tier on January 26th.

The following sections provide COVID-19 case information over time, followed by demographic data based upon age, gender, race, occupation and geography for reported confirmatory cases residing in Santa Barbara County.

7 Santa Barbara County Public Health Department. Santa Barbara County moves to the red tier allowing for more businesses to open indoors with modifications. Retrieved on October 6, 2020. https://www.co.unctyofsb.org/asset.c/5740
COVID-19 Cases and Testing

Figure 1 presents the number of new COVID-19 cases by month in Santa Barbara from March 1st through December 31st. During this time, SBC reported 17,678 cases of COVID-19 infection among community members. From May to June, there was a substantial increase in the number of cases from 448 to 2,083 (Figure 1). Summer cases peaked in July with 2,970 cases. In August, cases decreased substantially and continued to do so through October, when SBC reported 802 new cases of COVID-19. The last two months of the reporting period showed a sharp increase in cases, with almost half of total cases reported in November and December, that may have been associated with holiday gatherings, travel, and pandemic fatigue.

Figure 1. Monthly Number of New COVID-19 Cases by Episode Date, as of 12/31/20 (N=17,678)

* 5 cases missing episode date
Similar to the previous chart, active cases, cases that are still infectious, followed a similar time trajectory. The number of active cases per month skyrocketed in December as seen in Figure 2, almost doubling the number of active cases seen in the summer peak.

Figure 2: Monthly Number of Active COVID-19 Cases by Episode Date, as of 12/31/20 (N=17,678)*
Prior to the last month of 2020, July and August had the highest number of deaths per month with 35 deaths each as seen in Figure 3. As the number of cases declined in August, the number of deaths continued to remain high. Unfortunately, this was expected given that COVID-19 deaths have been seen to increase about three weeks following case increases. The expected increase in deaths was also observed in December following the increase of cases in the Fall. The number of deaths per month peaked in December with 39 COVID-19 related deaths.

Figure 3. Monthly Number of COVID-19 Deaths by Date of Death, as of 12/31/20 (N=178)
The number of SARS-CoV-2 tests in Santa Barbara County by month from March 1st to December 31st is presented in **Figure 4**. At the beginning of the pandemic, the availability of COVID testing was very limited. With an increase in supply, testing steadily increased from 1,791 total county-wide tests conducted in March to a peak of 75,640 tests conducted in December. During the last 3 months of the year, the monthly number of tests administered substantially grew due to the increase of routine testing at facilities with active outbreaks, more testing made available to the public, and an influx of testing utilization prior to holiday gatherings. Of note, Figure 4 displays the volume of tests conducted and does not depict the number of individual people tested, in other words, a patient can be represented more than one time in the below chart if they obtained more than one test in this reporting period.

**Figure 4.** Number of SARS-CoV-2 Tests Conducted, as 12/31/2020 (N=330,256)*

*Total testing numbers may be under-represented given that point of care (POC) testing is being used widely, but not currently counted in the confirmatory COVID-19 case count per CDPH direction.*
Average test positivity rate was 5.9% (Figure 5). As testing became more available in May and case counts remained relatively low, test positivity decreased. However, with the following wave of cases in the summer, test positivity increased. The percent of positive tests peaked in July at 8.3% and decreased each following month to a pandemic low in October (2.1%). November and December saw an increase in test positivity. December had the second highest monthly test positivity rate (9.6%), and surpassed the summer peak. Testing positivity may have increased as businesses were bringing staff back to work and enacting routine testing.

Figure 5. Percent of Positive SARS-CoV-2 Test Results, as of 12/31/2020 (N = 19,542)
Key Demographics

Age

The cumulative number of COVID-19 cases by age in Santa Barbara County is presented in Figure 6. Each bi-weekly value represents the sum total of all the previously confirmed cases. As of December 31st, the 30-49 year-old age group had the highest number of COVID-19 cases, followed by 18-29 year-olds. These younger adults make up a large proportion of workers in frontline occupations and highly exposed industries, putting them at greater risk of contracting COVID-19.\(^9\) The next age group with the highest number of cases was the 50-69 year-olds, followed by 0-17 year-olds and lastly 70+ year-olds. It is important to note that though the absolute number of 70+ year-olds is the lowest, 70+ year-olds also make up a very small relative proportion of the population. While the elderly had lower numbers of cases, this is likely because they are retired and are carefully following stay-at-home orders.

Figure 6. Cumulative Community COVID-19 Case Count by Age Category and Episode Date, as 12/31/2020 (N=17,678)

The age groups of Santa Barbara County’s population are compared to the age groups of cases, hospitalizations, and deaths and reveals several important trends (Figure 7). First, a greater proportion of cases versus the population was observed in working aged adults ages 18-29 years (30% of cases versus 21% of the population) and 30-49 years (33% of cases versus 24% of the population). Second, a greater proportion of hospitalizations was attributed to 50-69 and 70+ year-olds (31% and 26%, respectively) compared to their populations (22% and 11%, respectively). Third, most deaths occurred among older adults and this percent was disproportionately higher than the population. Of COVID-19 deaths, 25% were among 50-69 year-olds (N=44) and 67% were among 70+ year-olds (N=119). However, 50-69 year-olds made up 22% of the population and 70+ year-olds only accounted for 11% of the population. Fourth, children accounted for fewer cases (9%) and deaths (1%) than their relative population (23%). However, most schools have been closed for in-person learning, but if schools re-open, there may be more cases among children.

Figure 7. Comparison of COVID-19 Cases, Hospitalizations, Deaths to SBC Population by Age, as of 12/31/2020 (N=17,678)*

*Percentages shown for COVID-19 cases are only for persons with age reported; 5 cases missing age.
Population estimates per the Department of Finance 2020 Population Estimates
Hospital Data gathered directly from the 3 hospital systems within Santa Barbara County
The distribution of age by ten-year groupings was analyzed (Figure 8). The age group with the highest number of cases was 20-29 year olds (N=4,489), followed by 30-39 year olds (N=3,248), and 40-49 year olds (N=2,603). As mentioned previously, these age groups represent working aged adults. In addition, 20-29 year olds may include students.

**Figure 8.** COVID-19 Cases by 10 Year Age Group, as of 12/31/20 (N=17,678)*
Gender

Figures 9-12 show the relative gender proportions of Santa Barbara County’s population, COVID-19 cases, hospitalizations, and deaths. The gender of Santa Barbara County’s population was approximately equal with 51% male and 49% female (Figure 9). During the reporting period, the gender of COVID-19 cases (Figure 10) and hospitalizations (Figure 11) was similar to that of the population (51% female, 48% male, and 1% other/unknown/transgender of COVID-19 cases; 53% female, 47% male of COVID-19 hospitalizations). However, the gender of deaths (Figure 12) was slightly higher among males (55%).

**Figure 9.** Gender of Santa Barbara County Population (N=460,444)

![Pie chart showing gender distribution of the population](image)

**Male, 51%**

**Female, 49%**

**Figure 10.** Gender of COVID-19 Cases, as of 12/31/20 (N=17,678)

![Pie chart showing gender distribution of COVID-19 cases](image)

**Male, 48%**

**Female, 51%**

**Other/Unknown/Transgender, 1%**
Figure 11. Gender of COVID-19 Hospitalizations, as of 12/31/20 (N=1,341)

- Female, 53%
- Male, 47%

Figure 12. Gender of COVID-19 Deaths, as of 12/31/20 (N=178)

- Female, 45%
- Male, 55%
Race

COVID-19 has disproportionately impacted communities of color, highlighting racial disparities. While Hispanics/Latinos accounted for 48% of Santa Barbara County’s population (Figure 13), they represented 57% of COVID-19 cases (Figure 14), 67% of COVID-19 hospitalizations (Figure 15), and 50% of COVID-19 deaths (Figure 16). In juxtaposition, Whites represented fewer cases (15%) compared to their population (43%). While Whites made up 39% of deaths, many of these deaths occurred at skilled nursing homes and other congregate care settings, which have been highly impacted by the pandemic. While the SARS-CoV-2 is novel, the disparate impact of the COVID-19 pandemic on Santa Barbara County’s communities of color is deeply rooted in the historic and ongoing social and economic inequalities that lead to persistent racial disparities in health status.

Figure 13. Santa Barbara County Population by Race/Ethnicity (N=460,444)

![Circle chart showing race distribution in Santa Barbara County](image)

- Hispanic/Latino: 57%
- White: 22%
- Asian: 15%
- Black/African American: 2%
- Native Hawaiian/Pacific Islander: 2%
- American Indian/Native Alaskan: 1%
- Other: 0%
- Missing: 0%

Figure 14. COVID-19 Cases by Race/Ethnicity, as of 12/31/20 (N=17,678)*

![Circle chart showing COVID-19 case distribution by race/ethnicity](image)

- Hispanic/Latino: 57%
- White: 22%
- Asian: 15%
- Black/African American: 2%
- Native Hawaiian/Pacific Islander: 2%
- American Indian/Native Alaskan: 1%
- Other: 0%
- Missing: 0%

* The large percent of missing race/ethnicity was due to cases declining or unable to be interviewed or refusing to answer their race/ethnicity when contacted.
Figure 15. COVID-19 Hospitalizations by Race/ethnicity as of 12/31/20 (N=1,341)

- Hispanic/Latino: 67%
- White: 23%
- Asian: 2%
- Black/African American: 1%
- Native Hawaiian/ Pacific Islander: 1%
- American Indian/Native Alaskan: 0%
- Other: 0%
- Missing: 50%

Figure 16. COVID-19 Deaths by Race/ethnicity as of 12/31/20 (N=178)

- Hispanic/Latino: 50%
- White: 39%
- Asian: 6%
- Other*: 4%

*Due to a cell count less than 5 for each category, Other combined NH/PI, AI/NA, Multiple races and Missing
Occupation

Figure 17 presents laboratory-confirmed SARS-CoV-2 cases in Santa Barbara County through December 31st disaggregated by occupation that were interviewed and answered the occupation question, which was 58% of all cases. The occupation with the most number of cases was retired/unemployed workers (N=2,085), followed by clerical/management employees. During the last quarter of the pandemic, ninety outbreaks were associated with congregate care facilities in which many retired/unemployed reside. The Santa Barbara County Public Health Department has worked closely with congregate care facilities throughout the County to contain the spread of the disease. As stay at home orders were lifted following the summer peaks, previously closed businesses began to bring their employees back to the office and may explain the influx of cases in the clerical/management sector. Other occupations with high frequencies included: agricultural, healthcare worker, and laborer/unskilled worker. These frontline occupations are less likely to be able to implement social distancing measures that prevent transmission, thus putting them at greater risk of contracting COVID-19. Additional protection strategies are needed for these frontline workers. The increase of college students aligned with the beginning of the college/university school year and were not previously identified due to summer break.

Figure 17. Occupation of COVID-19 Cases, as of 12/31/20 (N=10,180)*

*7,498 cases had missing occupation status and were not depicted in Figure 17; 58% of the 17,678 cases answered Occupation upon case investigation

Geographic Region

Figures 18 and 19 divide Santa Barbara County into ten geographic regions. Communities with smaller populations were aggregated in order to comply with Privacy and HIPAA regulations. Figure 18 depicts the number of cases each month for each geographic region. The City of Santa Maria consistently had the highest number of monthly cases, and all regions had pandemic peaks of monthly case counts in the month of December.

Cumulatively, the city of Santa Maria had the highest overall case count with 6,929 confirmed cases, and has been disproportionately impacted by the COVID-19 pandemic. The City of Santa Barbara followed in rank with 3,004 cases, and then Lompoc with 1,922 cases. The data for remaining geographic areas are presented in the figures below.

Figure 18. COVID-19 Monthly Cases by GIS Region, as of 12/31/20 (N=17,678)*

![Graph showing monthly COVID-19 cases by GIS region from March to December 2020. Each region is represented by a different color line. The City of Santa Maria consistently had the highest number of cases each month, followed by the City of Santa Barbara and Lompoc. The data for remaining regions are also presented.]
Figure 19. Map of COVID-19 Case Count by Region, as of 12/31/20 (N=17,678)*

* 928 cases had pending addresses and are not displayed in the GIS charts
Transmission

Transmission type is presented in Figure 20. The majority of COVID-19 cases with a known transmission status can be attributed to close contact (35.9%) and community spread (23.5%). Close contact is defined as being within 6 feet of an infected person for at least 15 minutes from 2 days before illness onset or specimen collection date. Cases labeled as community spread are those in which the individual has not had known close contact with an identified case. While the first cases in the country were linked to international travel, approximately 1% of cases in Santa Barbara County were due to travel. The transmission status of 1.6% of cases was as yet to be determined at the date of this report’s publication. It should be noted that a large percent of cases (nearly 38%) did not or were not able to provide information related to the transmission status interview questions.

Figure 20. COVID-19 Cases by Transmission Type, as of 12/31/20 (N=17,678)
Symptomology

Figure 21 depicts cases that reported having any symptom of COVID-19 (62%) compared to those that were asymptomatic (9%), under investigation (2%), and unknown (28%). Early in the pandemic, testing was limited to those with symptoms. Since then, testing criteria has broadened. However, asymptomatic residents may be less likely to seek testing. Therefore, the true number of cases and percentage of asymptomatic cases is unknown.

Figure 21. COVID-19 Cases by Symptomology, as of 12/31/20 (N=17,678)
Additional Hospitalization Data

Length of stay among those hospitalized is presented in Figure 22. While the majority (60%) of hospitalizations had a relatively short length of stay (0-5 days), 9% had a length of stay greater than 20 days. Length of stay may indicate severity of disease and need for supportive care.

Figure 22. Hospitalization Length of Stay per Visit, as of 12/31/20 (N=1,452)*

* 1,341 individuals were hospitalized in this reporting period for a total of 1,452 admissions; some patients were readmitted and counted more than once in this chart.
Many hospitalized patients were diagnosed with more than one comorbidity. The percentages presented in **Figure 23** are based on how many patients were diagnosed with each comorbidity out of the total individuals hospitalized (N=1341) and explains why the percentages add up to more than 100. In order of ranking, diabetes was identified in 32% of those hospitalized, followed by obesity and serious heart condition at 17% and 16%. The main diagnoses identified in order in the following chart.

**Figure 23: Comorbidities Among those Hospitalized as of 12/31/20 (N=1,341)**

![Diagram showing comorbidities and their percentages among hospitalized patients.]

**Outbreaks**

There has been a total of 151 outbreaks at congregate care settings in Santa Barbara County between March through December (**Figure 24**). These congregate care settings included skilled nursing facilities (SNFs), residential care facilities for the elderly (RCFEs), independent living facilities (IL), intermediate care facilities (ICFs), Santa Barbara County Jail (SBC Jail), Lompoc Federal Correction Institute (FCI Prison), homeless shelters, sober living homes, H2A housing, and other congregate settings. Following temporal trends of cases, congregate care setting outbreaks increased during the summer months and then again in November and December. December had the highest number of congregate care setting outbreaks. RCFEs accounted for the majority of active outbreaks by month, followed by SNFs.
Between July and December there were 58 outbreaks identified in business settings seen in Figure 25. The business sectors identified with the most outbreaks were Agriculture (15) followed by Administration (9). Business outbreak reporting was sparse the first few months of the pandemic while there was minimal community spread of COVID-19 was seen in the County. As community transmission increased, so did business outbreaks. During the summer peak, agriculture outbreaks were identified most often, but in the month of December, administration outbreaks were the majority of outbreaks identified, followed by agriculture. December had more outbreaks than the sum of all the previous months of the pandemic. Outbreaks have been identified in every business sector except for personal care/hair salons as these facilities have been closed.

**Homeless shelters, sober living homes, behavioral health facilities, boarding schools, university Greek housing, and juvenile hall**
Conclusion:
This report summarized COVID-19 cases in Santa Barbara County from March through December. During this time, there have been 17,678 cases of COVID-19 reported to Public Health with 178 COVID-19-related deaths. The overall testing positivity was 5.9%. Santa Barbara County saw a wave of cases in the summer followed by an even higher wave in the late fall that has continued through the end of the year. The first peak of cases and testing positivity occurred in July that could be associated with the reopening of sectors and summer holidays. The influx of cases and increase of testing positivity that began to occur in November and lead to the highest peaks in all measurements seen by year’s end, could be associated with holiday gatherings and increased travel.

The end of this reporting period represented a major transition for Santa Barbara County. On December 6th, per Governor Newsom’s Regional Stay at Home Order (SAHO), SBC was grouped with nine other counties to be assessed as the Southern California Region. Once regional ICU capacity dropped below 15%, the region went into a SAHO for at minimum 3 weeks, and until regional ICU capacity surpasses 15%. From this report, we know that the increase of gatherings that coincided with the start of the school semester and several holidays only weeks apart, has led to a major surge in cases in SBC. For this reason, Santa Barbara County Public Health Department continues to message and emphasize the danger of gathering with those outside of their household.
The age groups with the majority of cases was working adults (18-29 and 30-49 years old), which made up a larger percentage of cases than their respective population proportions. Efforts should focus on working with employers and post-secondary schools to mitigate the spread of disease. In addition, if schools reopen it would be important to monitor the situation with youth.

Residents age 70+ make up 11% of the county population, yet this group made up 26% of the hospitalizations and 67% of the deaths due to COVID-19. Attention should be paid to ensuring the elderly have adequate care, including at-home services, as they are the most vulnerable to succumbing to the disease.

While Whites had fewer cases than predicted by their relative population size, Hispanic/Latinos have been disproportionately impacted by COVID-19 in Santa Barbara County when compared to population estimates in the County. This highlights the issue of health equity; which Santa Barbara County Public Health Department is committed to advancing.

Analysis of occupation found in the last quarter, retired and clerical/management sectors superseded cases in any other business sector. Although agriculture workers have continued to be identified in the fourth quarter, the numbers are far lower than previously observed. Frontline staff (healthcare, laborers/unskilled, and restaurant/bar or food preparation workers) also represent a large number of cases. Further protections for these workers are needed to slow the spread of infection.

The geography of cases has consistently shown that North County unincorporated areas and City of Santa Maria have the highest rates of disease. These communities’ rates far surpass the County average case rate. When considering implementing new strategies, priority should be placed on areas with the highest burden of disease.

Of cases with known transmission status, the majority were close-contact. This highlights the need to limit gatherings. Residents should be reminded of the importance to limit interactions with people outside of their household, to wear masks when outside their home, and wash hands frequently.

Technical Notes:

- All cases are laboratory confirmed for SARS-CoV-2 via molecular assay.
- Unless otherwise noted, population numbers are 2020 projections from California Department of Finance.
- Federal inmates are excluded from the analysis.

Next Steps:

- This report will be updated on a quarterly basis.
- Data from this report will inform vaccination efforts.
- A weekly report has been added to the Epidemiology Unit workflow and is shared with The Public Health Department leadership each Friday afternoon to monitor the situation in real-time.
- Trends identified in this report will continue to be monitored for any changes.
- Young adults and youth will be closely monitored during reopening of sectors and schools.
- The Public Health Department will continue to work with partners to contain disease during outbreaks.
- For the most up-to-date information, please visit https://publichealthsbc.org/.
Terminology:

- **Active Cases** are cases that the Public Health Department has identified as still infectious based on the time elapsed between their known or estimated onset of symptoms and the date the case is reported. This number represents known cases confirmed by diagnostic tests.
- **Case Rate** is a metric (or measure) for the number of new cases per day for every 100,000 residents of the county, not including inmates from the Lompoc Federal Correctional Complex, averaged over a week.
- **Episode date** is the earliest date the infected person can be confirmed to have had COVID-19.
- **Test Positivity (TPR)** is one of the best ways to measure how much infection there is in a community. To calculate the TPR, the number of positive COVID-19 PCR tests conducted in a period of time is divided by the COVID-19 PCR tests that have been done in that same time frame.