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BULLETIN OF
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CEIP Sentinel

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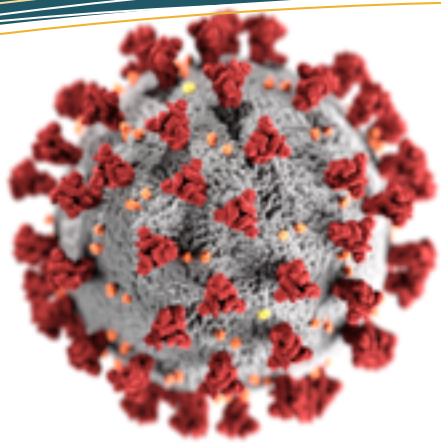

This issue:

California Emerging Infections Program's Response to the COVID-19 Pandemic

Coronavirus Disease 2019 (COVID-19) has taken the world by storm and continues to have a large impact worldwide, including widespread community transmission in the United States that is rising into a third surge. It has been nearly a year since the first reported cases of the novel coronavirus, SARS-CoV-2, occurred in Wuhan, China in December 2019. There were soon reports of travel-associated cases in Washington state in late January 2020[i]. Community spread began in California in late February 2020[ii iii]. Through the pandemic, you might be wondering, how has the California Emerging Infections Program (CEIP) been responding to COVID-19, assisting in the public health response, and collecting data about this novel virus?

In early March 2020, the US Centers for Disease Control and Prevention (CDC) quickly utilized the surveillance platform of 14 FluSurv-Net sites, which includes CEIP, to launch enhanced surveillance of hospitalized COVID-19 cases, later forming a project called COVID-NET[iv]. Similar to the Influenza[v] and RSV[vi] projects, COVID-NET is "a population-based surveillance system that collects data on laboratory-confirmed COVID-19-associated hospitalizations among children and adults through a network of over 250 acute-care hospitals in 14 states"[v]. COVID-NET calculates weekly population-based estimates of COVID-19-associated hospitalizations, which are used to inform the public health response to the COVID-19 pandemic. COVID-NET data also provide characteristics of hospitalized case-patients, to assist in understanding risk factors for severe illnesses causing hospitalization and mortality.

Data are collected on COVID-19-associated hospitalizations of case-patients admitted from March 1, 2020 onwards. Specifically for CEIP, the case definition is:

1. A resident of Alameda, Contra Costa, or San Francisco County
2. Admitted to a hospital on or after March 1, 2020
3. Admitted to the hospital 14 days or less *after* a positive SARS-CoV-2 test, or test positive during admission
4. Evidence of a positive SARS-CoV-2 test by at least one of the following methods: molecular assay, serology (must be paired acute and convalescent serum sample), another FDA-approved method, OR a positive, unspecified SARS-CoV-2 test noted in the medical record

With California being one of the first locations in the United States where this novel virus spread via travel-associated transmission and later community transmission, data collected by CEIP provided valuable information during the beginning of the pandemic. In our catchment area, CEIP has provisionally identified 4,987 hospitalized cases through CalREDIE (California's notifiable diseases system) and laboratory- and hospital-based surveillance from March 1 to September 30, 2020. These data are available in a visual format on the COVID-NET website, showing rates of hospitalization among various age groups[vii]. (Figure1)

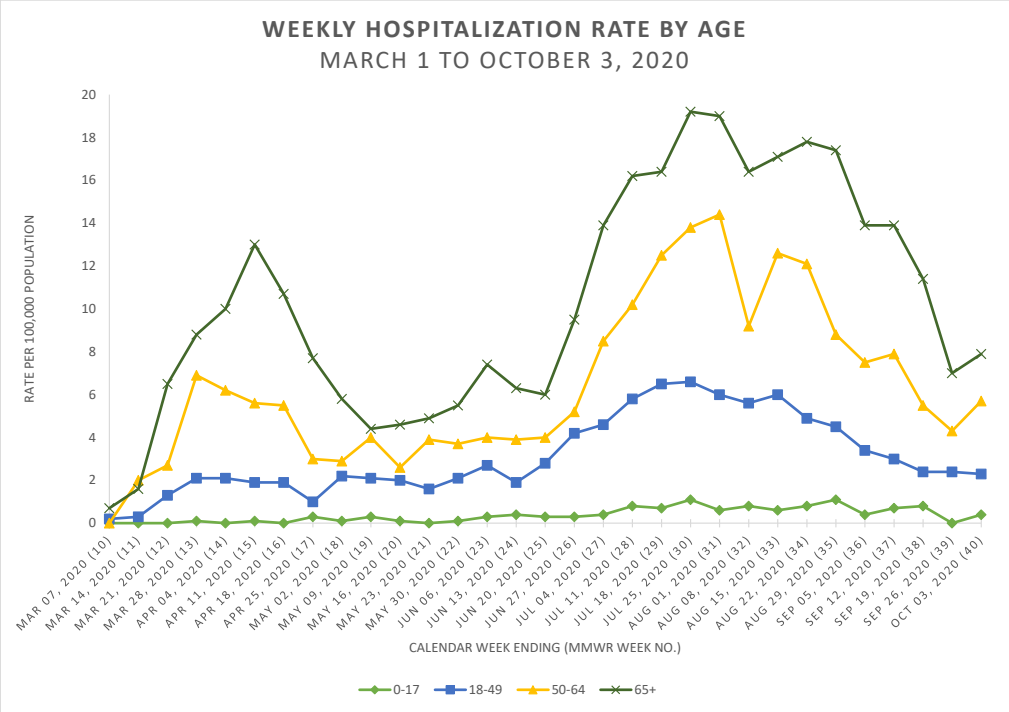

Figure 1. Weekly COVID-19 Hospitalization rates in CEIP's 3 California counties by age group.

In April, CDC released initial findings from COVID-NET in an MMWR article, reporting data from March 1 to March 30, 2020[viii]. These data demonstrated overall rates of hospitalization of 4.6 per 100,000, with rates increasing with age (Figure 2)[ix]. Approximately 90% of hospitalized patients in COVID-NET had one or more underlying conditions, with the most common being hypertension, chronic lung disease, diabetes mellitus, and cardiovascular disease[ix]. An additional MMWR report published in August using COVID-NET data for hospitalized pediatric cases from March 1 to July 25, 2020, presented the rates of COVID-19 hospitalizations among those <18 years of age (Figure 3)[ix]. While the rate of COVID-19-associated hospitalization was found to be lower in children (8.0 per 100,000 population); the percentage of COVID-19 case patients in this age group admitted to the ICU was similar to that of adults (children, 33.2%; adults, 32.0%) [x]. Hispanic and Black children had the highest rates of COVID-19-associated hospitalization[z]. These data from COVID-NET are being used to develop advice for the public about who is the most at risk for severe effects from infection with the SARS-CoV-2 virus, as well as to improve our understanding of the characteristics of illnesses caused by SARS-CoV-2 virus.

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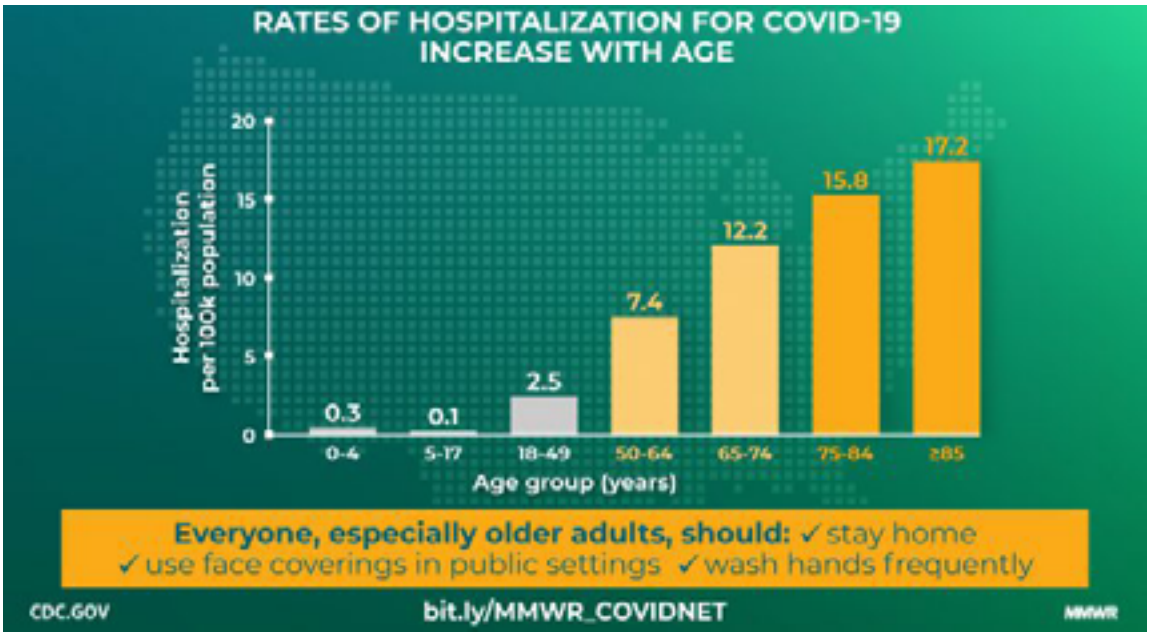

Figure 2. Rates of Hospitalization for COVID-19 from MMWR report.[ix]

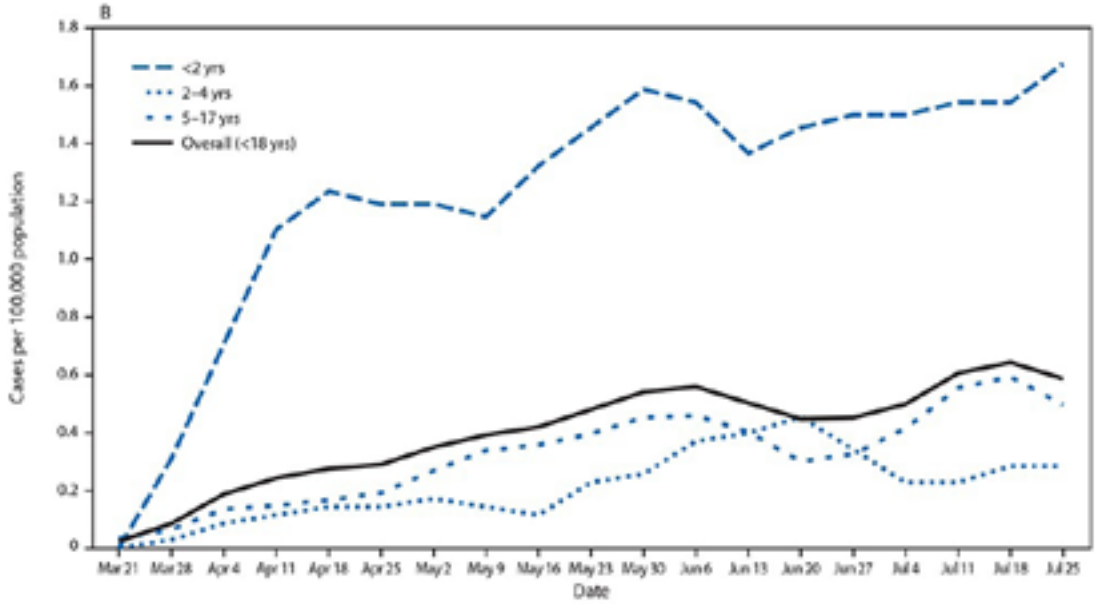

Figure 3. Weekly COVID-19-associated hospitalization rates among children <18 years, by age group.

We would like to thank all of our public health and hospital collaborators for continuing to support the work of CEIP, especially during a pandemic. We look forward to our continued work together and sharing additional information as we learn more about COVID-19-associated hospitalizations.

[i] https://www.cdc.gov/media/releases/2020/p0121-novel-coronavirus-travel-case.html
[ii] https://www.cdc.gov/media/releases/2020/s0226-Covid-19-spread.html
[iii] https://www.cdc.gov/mmwr/volumes/69/wr/mm6922e1.htm
[iv] https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covid-net/purpose-methods.html
[v] https://www.cdc.gov/flu/weekly/influenza-hospitalization-surveillance.htm
[vi] https://www.cdc.gov/rsv/research/us-surveillance.html
[vii] https://gis.cdc.gov/grasp/COVIDNet/COVID19_3.html
[viii] https://www.cdc.gov/mmwr/volumes/69/wr/mm6915e3.htm?s_cid=mm6915e3_w
[ix] https://www.cdc.gov/mmwr/volumes/69/wr/mm6932e3.htm?s_cid=mm6932e3_e&deliveryName=USCDC_921-DM34906

Contributed by Kareena Hundal, MPH

Surviving the Pandemic at CEIP

A PIVOTAL MOMENT IN TIME. It was a brisk day outside. The worldwide pandemic of COVID-19 had started to spread, with numbers increasing daily, especially in Europe and the eastern US. CDC had requested that we begin population-based surveillance for laboratory-confirmed cases of patients hospitalized with COVID-19. The weekly supervisor meeting had started at 1:00PM. The six-county Shelter in Place (SIP) order was on all the local news. It was 1:16PM. I try to be mindful not to look at my phone, but the SIP order had caught my eye, as had an urgent email from the Director of CEIP, Dr. Art Reingold. He was about to be interviewed by our local NPR station about the SIP order and he asked, "What are you doing about this?" Having worked for Dr. Reingold for nearly thirty years, this was easy to interpret. "Do something, and do it now."

TRIAGE. We didn't have much time. Our building was closing at midnight that evening. Our staff of 25 gathered in the conference room and we distributed all available laptops and tablets. We had enough to send everyone home with the equipment needed to continue to work. Our Systems Analyst said he would be in touch with each of us in the next few days to make sure our virtual connections were all up and running. This would enable us to access the server containing surveillance data for all four core programs, as well as the newly created COVID-19 program and all additional programs, totaling eleven projects. I notified our fiscal sponsor, Heluna Health, that, effectvie immediately, we would not be in the office, due to the SIP order. Heluna Health is located in southern California and SIP orders had not yet been issued for Los Angeles County.

Now it was a matter of getting down to work and getting the job done.

BONKERS. We all had equipment but it was far from smooth sailing. We were now all separated, no longer able to touch base by walking across the office. Making contact required emails, and meetings were soon replaced by the now ubiquitous Zoom calls. We soon learned Zoom was flawed, and lacked the kind of protection we needed to work with patient records. Our Systems Analyst worked tirelessly, finding solutions that were HIPAA compliant, and built an even better firewall. His job quickly went from a 60% FTE to 100%, with days blurring into evenings. Those days stretched into weeks, and, finally, after about three months, we had the internet speed that we needed to operate optimally.

CONTROLLED CHAOS. This is what it can feel like when you post for eleven new positions in three months. Funding finally arrived, and more than eleven new staff have since been hired, many of whom were placed at the state or local county health departments as surveillance, epidemiology or laboratory staff, to assist with managing data and tracking the overwhelming workload created by the COVID-19 pandemic. CEIP staff send COVID data weekly to CDC. Data have to be acquired and merged from the state reportable disease system (CalREDIE), electronic laboratory reports, and other reporting sources. Thanks to these efforts, COVID-9 hospitalization rates are now published on the CDC website. (See https://gis.cdc.gov/grasp/COVIDNet/COVID19_3.html)

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Surviving the Pandemic, continued

SURREAL. The COVID-19 pandemic of 2020 and its profound impacts on society globally are unprecedented in our lifetimes. They have laid bare longstanding health disparities here in the Bay Area, the rest of California and the U.S., and globally. Patients with COVID-19, whether in hospitals or in long term care facilities, are dying in isolation, cut off from loved ones. While CEIP staff are not involved in treating patients, they are reading their medical records as they gather needed data, and are profoundly affected by the stories presented. COVID-19 deaths are hard to "watch," even from a distance.

ADJUSTMENT. We continue to work remotely, and will likely function this way well into 2021. The physical space of our office has been modified so that we can return safely, complete with Plexiglass and other space dividers. We have adapted to remote work, mastering SAS coding for data runs, working on fine tuning data entry processes and troubleshooting logistics. Our surveillance activities have been modified, with COVID surveillance taking priority, but with the remaining core projects functioning with modified schedules. Our time honored ABCs, FoodNet and HAIC projects are continuing, with CDC providing support to the EIP sites as we juggle multiple priorities while training new staff. What we may have thought was a large outbreak several months ago has evolved into a new way of functioning. We have had to learn and adapt very quickly. We treasure time with each other more than ever, even if it will have to be six feet apart, donning a mask. And we are all thankful for being employed.

Contributed by Gretchen Rothrock, MPH

A Big Thank You

CEIP would like to say a big "Thank you!" to all of our partner laboratories who have continued to send bacterial isolates to us over the past several months.

Although we are working remotely, CEIP is continuing to collect isolates as we normally do. If you have questions related to isolates, please call our main office line (510-451-1344). CEIP staff are checking this voicemail three times each day and will return your call. For those of you who routinely contact CEIP to request courier pickups, please call our main line and leave your name, callback number, laboratory from which you are calling, number of isolates to be picked up, the pathogens, and the culture dates.

These isolates enable the Emerging Infections Program to track circulating serotypes and monitor antimicrobial resistance, and we strive to collect isolates for all infections meeting our case definitions. Thank you for your contributions as we continue surveillance for bacterial infections in Alameda, Contra Costa, and San Francisco counties.

Contributed by Alison Ryan, MPH

The California Emerging Infections Program (CEIP), a Program of Heluna Health, is a joint project of the California Department of Public Health, U.C. Berkeley School of Public Health, and Centers for Disease Control and Prevention, in collaboration with the Alameda County Health Care Services Agency, San Francisco Department of Public Health, Contra Costa County Health Services Department, and the City of Berkeley Health and Human Services Department.

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Opportunities at CEIP

Please check the following websites for future postings:

www.helunahealth.org

www.ceip.us

Heluna Health
The New PHFE