REPORT TO THE THIRTY-FIRST LEGISLATURE

STATE OF HAWAII

2022

PURSUANT TO SENATE CONCURRENT RESOLUTION 140, SD1

"SYSTEMIC RACISM, PUBLIC HEALTH CRISIS, SOLUTIONS"

REQUESTING THE DIRECTOR OF HEALTH, IN CONJUNCTION WITH THE DIRECTORS OF HUMAN SERVICES AND COMMUNITY ORGANIZATIONS TO IDENTIFY TWENTY COMMUNITIES WITH THE LARGEST NUMBER OF ASSET LIMITED, INCOME CONSTRAINED, EMPOYED (ALICE) HOUSEHOLDS IN THE STATE, AS LISTED IN THE ALOHA UNITED WAY ALICE DATASHEET, 2020; PROVIDE A SUMMARY OF ALL ACTIVITIES CONDUCTED BY THEIR DEPARTMENTS TO PROVIDE HEALTH CARE SERVICES IN THESE COMMUNITIES; DEVELOP A PLAN OF ACTION TO REDUCE THE NUMBER OF ALICE HOUSEHOLDS IN THE STATE; AND TRANSMIT A REPORT OF FINDINGS AND RECOMMENDATIONS TO THE LEGISLATURE NO LESS THAN FORTY DAYS BEFORE THE CONVENING OF THE REGULAR SESSION OF 2022.

PREPARED BY:

STATE OF HAWAII DEPARTMENT OF HEALTH

DECEMBER 2021

The Department of Health regrets that the deliverables requested by SCR 140, SD1 are incomplete and unfulfilled. Department of Health programs with a focus on equity, as well as those that provide direct health care services, remain engaged with COVID-19 pandemic response activities, in addition to their routine public health activities. Resources were unable to be redeployed.

The department concurs with the premise of SCR 140, SD1 and is working on parallel activities as a part of a federal grant from the US Centers for Disease Control and Prevention to address COVID-19-related health disparities that overlap. Examples include reports published in 2021 with data and recommendations, which are provided as part of this report.

COVID-19 in Hawai‘i:

Addressing Health Equity in Diverse Populations

UNIVERSITY of HAWAI‘I
MĀNOA

March 16, 2021

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Preface

This report represents a collaborative effort between the Hawaiʻi State Department of Health and a diverse group of academic and community partners. As the magnitude of the COVID-19 pandemic grew over time, it became clear that public health authorities could not adequately address the threats posed by this disease alone. Partnerships with the Native Hawaiian and Pacific Islander COVID-19 Response, Recovery, and Resilience Team and other community-based organizations serving the Native Hawaiian, Pacific Islander, and Filipino communities as well as the input from the Office of Public Health Studies and Department of Native Hawaiian Health at University of Hawaiʻi at Mānoa were instrumental to mounting an effective response. Their perspectives are included through the voices of the authors and contributors to this report who represent these organizations as well as through feedback provided by reviewers.

Table of Contents

List of Figures and Tables

Acronyms and Abbreviations

ACA – Affordable Care Act
ASG – American Samoa Government
CARES – Coronavirus Aid, Relief, and Economic Security Act
COFA – Compacts of Free Association
COVID-19 – Coronavirus disease 2019
CDC – Centers for Disease Control and Prevention
DNHH – University of Hawaiʻi John A. Burns School of Medicine, Department of Native Hawaiian Health
DOCD – Hawaiʻi DOH's Disease Outbreak Control Division
FilCom Center – Filipino Community Center
FSM – Federated States of Micronesia
Hawaiʻi DOH – Hawaiʻi State Department of Health
ICU – Intensive Care Unit
JABSOM – University of Hawaiʻi John A. Burns School of Medicine
LFSLC – Le Fetuao Samoan Language Center
MCOH – Marshallese Community Organization of Hawaiʻi
NHPI – Native Hawaiian and/or Pacific Islander
OHSM – Hawaiʻi DOH's Office of Health Status Monitoring
OMB – United States Office of Management and Budget
PEʻA – Pasefika Empowerment and Advancement, Inc.
POL – Papa Ola Lōkahi
PPE – personal protective equipment
PUI – person under investigation
PUSO – Pilipino Underrepresented Scholars Organization
RMI – Republic of the Marshall Islands
TTFAAS – Tagata Tutū Faʻatasi Alliance of American Samoa
UH – University of Hawaiʻi at Mānoa
US – United States
WAO – We are Oceania
3R Team – Native Hawaiian and Pacific Islander Response, Recovery and Resilience Team

Executive Summary

The Hawai‘i State Department of Health is committed to protecting and improving the health of all people in Hawai‘i by ensuring that resources are directed to those problems that pose the greatest risk to the public’s health and acting as the service provider of last resort for uninsured populations. The COVID-19 pandemic has highlighted the interconnectedness of people separated by geographic, social, and cultural boundaries and has shown that health outcomes are interdependent across seemingly disparate populations.

Beginning in June 2020, the proportion of newly diagnosed COVID-19 cases among persons who identify as Pacific Islander rose dramatically. In the month of August, when the state recorded its greatest number of cases, Pacific Islanders represented approximately 24% of all cases, despite accounting for just 4% of the state’s population. As of January 31, 2021, at least 7.5% of the Pacific Islander population in Hawai`i had been diagnosed with COVID-19, a cumulative risk that is 4 times greater than the next most impacted population (Filipinos) and 12 times that of the least impacted population (Japanese).

Coordinated efforts on the part of public health authorities along with numerous independent community efforts were instrumental in the response to the emerging threat of COVID-19 in Hawai`i. This report details the racial and ethnic disparities in COVID-19 infections and deaths in the state of Hawai`i, documents the actions taken to reduce transmission across the state, and provides recommendations based on lessons learned from the COVID-19 response.

Key Recommendations:

1. *Advocate for more standardized, complete, and accurate data collection and analysis.*
2. *Collaborate with community organizations to develop targeted, data-informed messaging.*
3. *Conduct qualitative and quantitative studies to better understand the complexity of factors influencing the susceptibility to COVID-19 across the most impacted groups and communities.*
4. *Include community stakeholders and use community-based research principles throughout the data analytic process.*
5. *Support collaborative initiatives between health care professionals and community stakeholders for training and education on health equity issues and the importance of health equity data.*
6. *Build and expand the representation of historically marginalized communities in government leadership positions, committees, workgroups, and task forces.*

Background

The Hawaiʻi State Department of Health (Hawaiʻi DOH) strongly values health equity for all people in Hawaiʻi. This report focuses on racial and ethnic disparities and inequities in COVID-19 infections and deaths. Early in the pandemic, reports from around the United States (US) highlighted important disparities in infection rates, hospitalizations, and deaths from COVID-19 [1, 2]. Soon thereafter, disparities by race were reported in Hawaiʻi, with particularly high rates of infection observed among Pacific Islanders and Filipinos [3]. Health disparities also exist for other conditions, including diabetes and heart disease [4] that can lead to more severe COVID-19 illness, increasing the risk of hospitalization or death [5, 6].

Documentation of health disparities and inequities through properly collected and appropriately analyzed data is important for evidence-based policy actions and community interventions. Across the state of Hawaiʻi and nationally, there has been collective engagement to identify and understand inequities using the lens of race and ethnicity. Hawaiʻi is in a unique position to be a national leader in racial and ethnic data disaggregation in statewide surveillance, particularly around heterogeneous Pacific Islander and Asian American populations, who make up a large proportion of the state's residents. When diverse groups are combined, or aggregated, critical differences can be hidden. Disaggregation of race/ethnicity data is important to better understand the specific issues at a more granular and contextualized level and to develop targeted policy actions and public health interventions that can effectively address the causes of these disparities [7, 8].

There have been hard-fought battles for data disaggregation to bring visibility to patterns previously obscured by aggregation. If data is not collected in a timely and accurate manner or if critical explanatory variables are missing, then findings can be misleading and contribute to policies and programs that do not address fundamental community concerns, or worse, exacerbate existing inequities. There is also a difficult balance between the competing needs of highlighting the concerns of specific populations without contributing to the stigmatization of historically marginalized populations, especially Native Hawaiians and Pacific Islanders, who often experience racism in Hawaiʻi and elsewhere [9]. During the COVID-

"Race" versus "Ethnicity"

The terms "race" and "ethnicity" are often used interchangeably; however, there are some distinctions between the two terms. Race is often used to refer to biologically linked physical characteristics, such as skin color, hair color and texture, or facial features. Racial categories typically include White, Black, and Asian. In contrast, ethnicity is often used in a broader sense to refer to people who share the same geographic origin and/or national, cultural, or tribal identification, language, and behaviors, and ancestral connections that may or may not overlap with racial categories in obvious ways. A person may identify as "White" as her/his racial category, but Scottish as her/his ethnicity.

Additionally, the US Office of Management and Budget (OMB) provides standard minimum classifications for record keeping, collection, and presentation of data in Federal program administrative reporting and statistical activities (US OMB 15, 1997). This directive requires that race and ethnicity are collected and reported as separate categories for each individual, with racial categories including American Indian or Alaska Native; Asian; Black or African American; Native Hawaiian or Other Pacific Islanders; and White, and ethnicity categories including Hispanic or Latino or Not Hispanic or Latino.

Although terms like race and ethnicity cannot fully reflect the diversity and experiences of Hawaiʻi's populations, we combine these two terms into a single category termed "racial/ethnic" or "race/ethnicity" here to recognize the diverse meanings and interpretations of these terms.

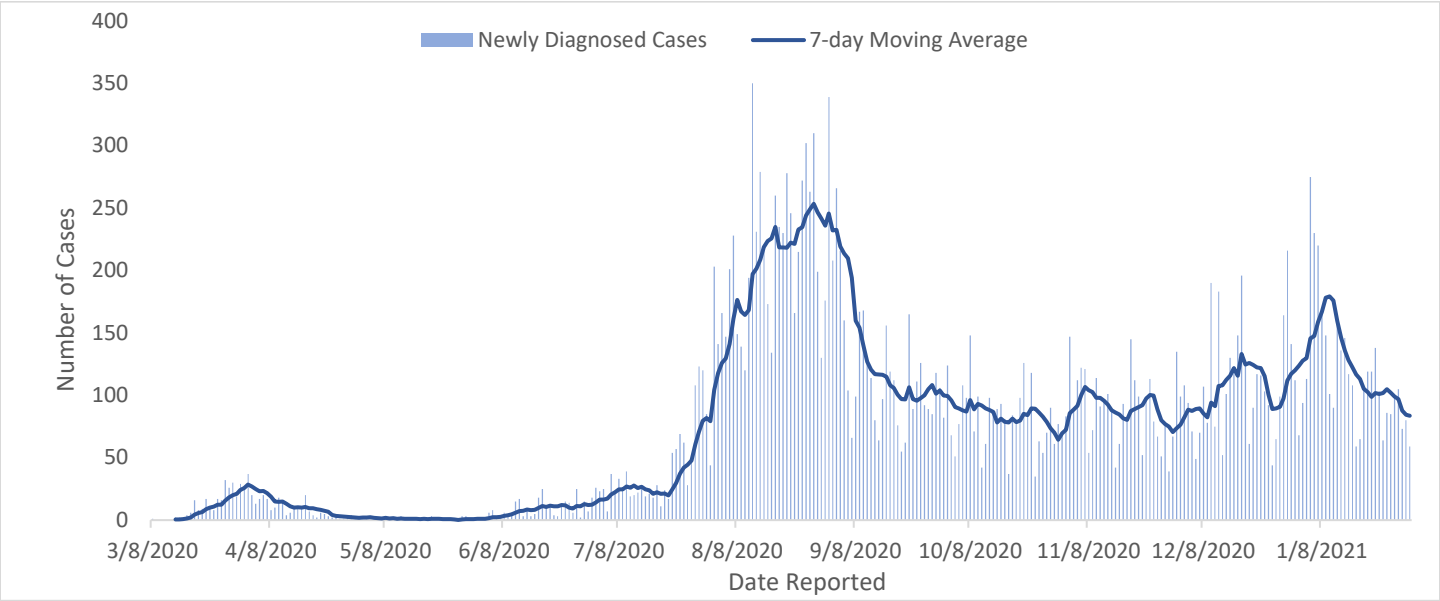
19 response, the Hawai‘i DOH has made a concerted effort to identify and address disparities and to work closely with community partners to respond to community needs appropriately.

Although there are important health inequity concerns across a variety of sociodemographic factors (e.g., rural/urban, age, sexual and gender minorities, occupations), racial/ethnic differences in COVID-19 diagnoses and deaths are the primary focus of this equity report. This document is intended to be the first of several public health reports designed to inform policymakers, researchers, and health intervention efforts by providing a more in-depth summary of the Hawai‘i COVID-19 case data. It is meant to help build practice and policy actions, not only toward resolving health inequities, but also to spark conversation about data strengths and areas for improvement. The data presented in this report can inform policy and interventions in Hawai‘i, as well as other localities, to understand and address similar health disparities and inequities.

COVID-19 in Hawai‘i

An epidemic curve provides a summary of the COVID-19 pandemic in Hawai‘i by showing the number of newly diagnosed cases in the state of Hawai‘i each day from March 8, 2020 to January 31, 2021. Figure 1 shows that there has been considerable variation in the number of cases diagnosed over time with four broad phases. When the first cases were detected in Hawai‘i, a small peak in April was followed by a long period of low rates of transmission. However, the majority (92%) of cases occurred after July when the state of Hawai‘i experienced a rapid increase in transmission, peaking at an average rate of 250 cases per day followed by a period of moderate but sustained disease activity with average case counts fluctuating between 65 and 135 per day. These trends provide the context for understanding disparities that emerged over the course of the pandemic in Hawai‘i.

Figure 1. COVID-19 epidemic curve, Hawai‘i, March 8, 2020 to January 31, 2021 (n=18,045).



Note: The number of new cases per day is indicated by the vertical bars. The dark blue horizontal line is the seven-day moving average.

COVID-19 Racial and Ethnic Inequities Linked to Preexisting Health Inequities

Health disparities and inequities along racial and ethnic lines have been a long-standing and unresolved public health concern in the US and beyond before the COVID-19 pandemic. During this pandemic, the most vulnerable racial and ethnic groups have been those with significant preexisting health disparities and inequitable representation across the social determinants of health, which include factors such as education, occupation, and housing [10]. The COVID-19 pandemic has had a negative impact on all populations worldwide, but certain communities have been disproportionately impacted. In Hawaiʻi, the racial and ethnic communities most adversely impacted by COVID-19 and its mitigation efforts have been Native Hawaiians, Pacific Islanders, and Filipinos [9].

Native Hawaiians, who make up approximately 21% of the state's population, are the Indigenous people of Hawaiʻi with ancestry to the original inhabitants of these islands. Pacific Islanders, excluding Native Hawaiians, make up about 4% of the state's population with a majority being Samoan, Tongan, Chamorro/Guamanian, Chuukese, Palauan, and Marshallese peoples. The latter three Pacific Islander groups have migrated from the Federated States of Micronesia (FSM), the Republic of the Marshall Islands (RMI), and the Republic of Palau to Hawaiʻi through provisions of their respective Compacts of Free Association (COFA) with the US. The COFA is a unique international agreement between the US and these three sovereign Pacific Island states, giving the US exclusive military oversight, to the air, land, and sea rights belonging to these island nations in exchange for economic support and political provisions. The major political provision is the right for COFA citizens to enter, work and reside in the US and its territories without a US Visa, or green card in perpetuity. Several Pacific languages are spoken in Hawaiʻi across Pacific Islander groups to include the Hawaiian language.

Filipinos make up 16% of the state's population and began immigrating to Hawaiʻi in the early 1900s. Filipinos are ethno-linguistically diverse, with over 115 languages spoken in the Philippines [11]. Approximately 56% of Filipinos in Hawaiʻi are immigrants [12]. Ilokano (40.7%) is the most spoken Filipino language followed by Tagalog (16.9%) and Visayan (8.2%) [11]. Over 25% of Filipinos in Hawaiʻi identify as belonging to two or more Filipino language groups (e.g., Ilokano and Tagalog).

Native Hawaiians, Pacific Islanders, and Filipinos are more likely than other racial/ethnic groups to work and live in environments that increase their risk of exposure to COVID-19. Collectively, these three groups make up nearly half of the essential workforce in Hawaiʻi, especially in the tourism, hospitality, retail, and food industries [13]. They are also a large part of the healthcare workforce (e.g., nursing and medical assistants) and support jobs (e.g., facilities) within the healthcare system. In the US, more than half of registered nurses of color who have died from COVID-19 have been Filipino (54%) and nearly one-third of registered nurses in Hawaiʻi are Filipino [14, 15]. Native Hawaiians, Pacific Islanders, and Filipinos are also more likely to live in large multigenerational households and denser neighborhoods than any other racial/ethnic group. For example, Filipinos have the highest average household size in a dwelling with five or more household members [16]. Additionally, these groups are vastly overrepresented among other populations vulnerable to COVID-19 infection, making up over half of the homeless and incarcerated populations [17].

Preexisting inequities in the rates of chronic diseases in the Native Hawaiian, Pacific Islander, and Filipino communities compared to other racial/ethnic communities make them more vulnerable to severe COVID-19 symptoms leading to hospitalization or death. Across all racial/ethnic groups, persons with severe obesity, hypertension, diabetes, respiratory illnesses, kidney disease, and cardiovascular disease are among the most susceptible to severe symptoms and hospitalization due to COVID-19 [18]. Native Hawaiians, Pacific Islanders, and Filipinos have higher rates of these chronic diseases than any other racial/ethnic group in Hawaiʻi. For

example, 43% of adult Native Hawaiians and Pacific Islanders have obesity compared to 16% of Japanese, 19% of Whites, and 25% of the overall state population [19, 20]. Native Hawaiians and Filipinos have the highest rates of chronic kidney disease compared to other racial/ethnic groups in Hawaiʻi [21]. The rates of diabetes, asthma, and cardiovascular disease among Native Hawaiians, Pacific Islanders, and Filipinos are considerably higher than any other racial/ethnic group in Hawaiʻi [19, 20].

Rates of smoking and e-cigarette use, which can contribute to the severity of COVID-19, are also higher among Native Hawaiians, Pacific Islanders, and Filipinos. Smoking and vaping thickens the air sacs and cause inflammation of the lungs, which can make a person susceptible to severe symptoms should they contract COVID-19[22]. Rates of combustible tobacco and electronic cigarette use, respectively, are 23% and 11% for Native Hawaiians, 18% and 9% for Pacific Islanders, and 11% and 8% for Filipinos compared to 10% and 7% for Japanese, 13% and 7% for Whites, and 14% and 8% for the general population [19, 20].

Regrettably, access to health care services and COVID-19 treatment, if needed, is limited due to the socio-economic circumstances of many Native Hawaiians, Pacific Islanders, and Filipinos. For example, a third (30%) of Native Hawaiians and Pacific Islanders are either uninsured or underinsured [23, 24]. Among Pacific Islanders, excluding Native Hawaiians, a third (30%) of them do not have someone they consider as their personal physician compared to 10% of Native Hawaiians and 10% Filipinos. Furthermore, 18% of Native Hawaiians, 19% of Pacific Islanders, and 12% of Filipinos report not being able to see a physician when needed due to financial hardship [19, 20]. Most COFA migrants, who make up a large proportion of the Pacific Islander population in Hawaiʻi, have not been eligible for federal Medicaid coverage since the 1996 Personal Responsibility and Work Opportunity Reconciliation Act [25]. After December 27, 2020, following hard-fought efforts by many, federal Medicaid eligibility was finally restored to COFA citizens. Because of the COVID-19 containment and mitigation efforts, many Native Hawaiians, Pacific Islanders, and Filipinos lost employment, which has negatively affected their medical insurance coverage[26, 27].

This report provides race/ethnicity data regarding the number of COVID-19 cases and COVID-19-related deaths identified by the Hawaiʻi DOH from March 8, 2020 to January 31, 2021.

Methods

Case Identification

The data presented in this report include those reported to Hawaiʻi DOH as of January 31, 2021. There were 24,583 confirmed cases of COVID-19[1] reported among Hawaiʻi residents (including military personnel and their dependents). Since the most accurate diagnostic test available relies on high complexity nucleic acid amplification, most confirmed cases in the state were processed by one of four clinical laboratories: Kaiser Permanente, Clinical Labs Hawaiʻi, Diagnostic Lab Services, and Tripler Army Medical Center. These laboratories provided their data electronically to the Hawaiʻi DOH. Standard data elements contained in a test result include the case's name, address, date of birth, phone number, and sex.

Data collection

Demographic and additional clinical information for cases can also be obtained by healthcare provider case reports and case investigations conducted by the Hawaiʻi DOH staff. All cases diagnosed in the state are considered "urgently reportable" and the diagnosing physician must notify the Hawaiʻi DOH within 24 hours ([28-30]. Once informed of a newly diagnosed case, whether by electronic laboratory report or provider report, Hawaiʻi DOH initiated an investigation to identify critical information including, but not limited to, demographics, presence of exposure risk factors, underlying medical conditions, close contacts, and adverse clinical outcomes. Availability of this detailed information about cases was contingent on many factors including accurate contact information, willingness of the case to respond and participate in phone interviews and staff availability to conduct the in-depth interview.

Race/Ethnicity Classification

To determine an individual's race, the Hawaiʻi DOH followed standards set by the US Census which use the social definition of race rather than attempting to define race biologically, anthropologically, or genetically. This concept of race includes racial and national origin or sociocultural groups. Furthermore, individuals may choose to report more than one race to indicate their racial mixture, such as "American Indian" and "White." People who identify their origin as Hispanic, Latino, or Spanish may be of any race. Early case reporting used the five minimum categories defined by the OMB. The five minimum categories include White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander. This decision was driven by the reliance on the US Centers for Disease Control and Prevention (CDC)'s standardized case reporting form for persons under investigation (PUI) for this novel virus, and the use of publicly available population reference data from the US Census Bureau [31]. Following recommendations from the Native Hawaiian and Pacific Islander (NHPI) community partners urging the Hawaiʻi DOH's Disease Outbreak Control Division (DOCD) to disaggregate the NHPI and Asian categories, DOCD adopted a classification from the Hawaiʻi DOH's Office of Health Status Monitoring (OHSM) that assigned each case one of nine, specific, mutually exclusive racial groups [32]. The algorithm is as follows:

1. Individuals are assigned to a single group based on the first non-White race listed.
2. If an individual is part Native Hawaiian, they are listed as Native Hawaiian.

[1] Refer to the standardized case definition approved by The Council of State and Territorial Epidemiologists (CSTE).

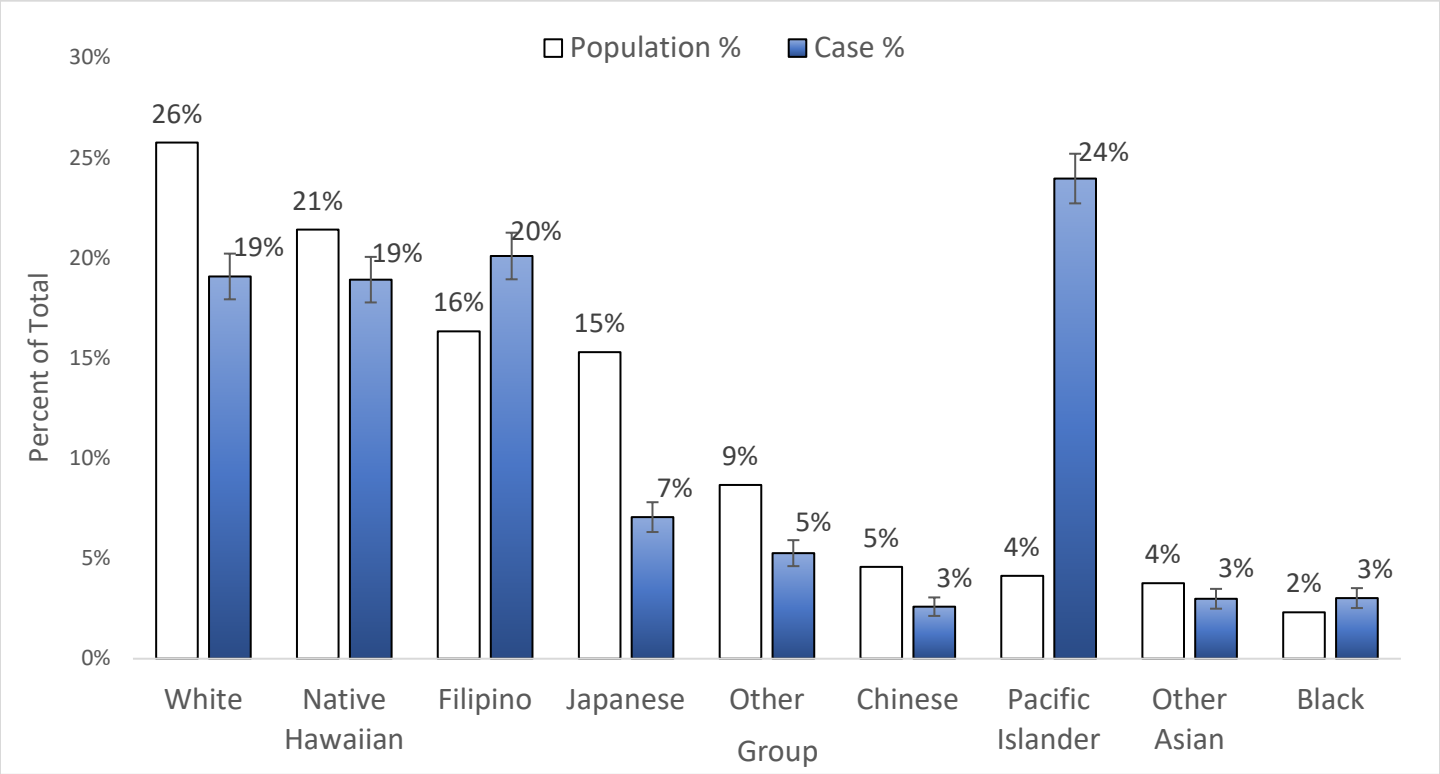
The resulting nine distinct racial groups used in this report are White, Black, Native Hawaiian, Pacific Islander, Japanese, Chinese, Filipino, Other Asian, and Other. If specific race information was not available, then the person was classified as “missing specific race”. In total, of the 24,583 cases reported to Hawaiʻi DOH as of January 31, 2021, n=6,538 (27%) did not have specific race information available and are excluded from this analysis (see Limitations p.29). State population estimates reflect the American Community Survey 2010-2014 obtained from the most recently available special disaggregation request from the Hawaiʻi Health Data Warehouse [32]. To ensure a valid comparison with state population estimates and focus on the impact of COVID-19 on the residents of the state, non-residents have been excluded from this report.

Results

Cases by Race/Ethnicity

As of January 31, 2021, nearly half (44%) of the 18,045 diagnosed cases with known race/ethnicity of COVID-19 in Hawai'i were concentrated among two racial/ethnic groups—Pacific Islanders and Filipinos (Figure 2). Pacific Islanders make up 4% of the state population but 24% of all COVID-19 cases. In other words, their representation among total cases was six times higher than would have been expected based on their share of the Hawai'i population. The other two groups that made up a higher proportion of the cases when compared to their population estimates were Filipinos and Blacks. Filipinos make up 16% of the state population but were 20% of the cases and Blacks made up 3% of the cases compared to 2% of the population. For all other race/ethnicity groups (Japanese, Whites, and Native Hawaiians) COVID-19 diagnoses were lower than expected based on population estimates.

Figure 2. Race/ethnicity composition of COVID-19 cases compared to state population estimates, Hawai'i, March 8, 2020 to January 31, 2021 (n=18,045).

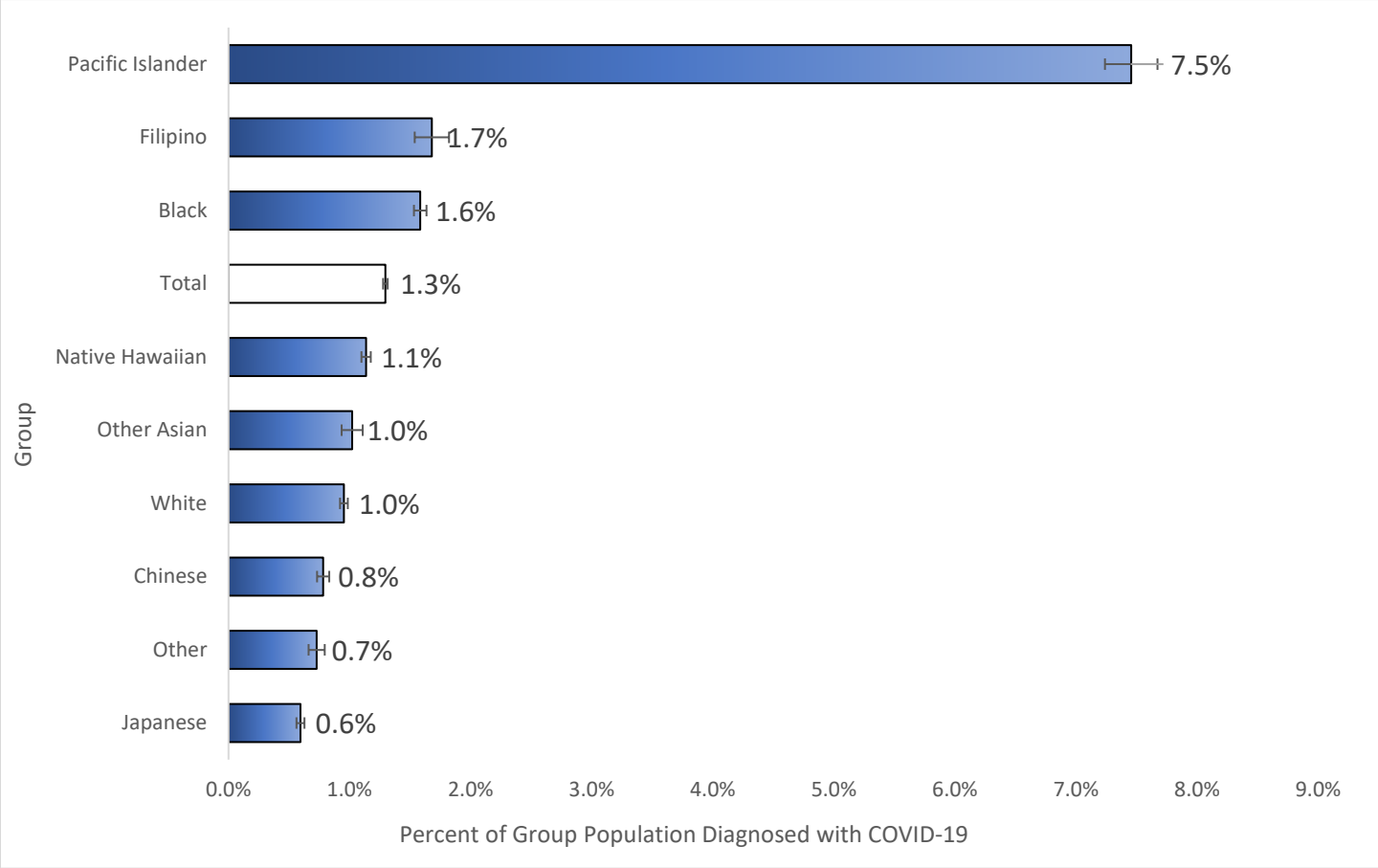


Note: Population % represents the number of persons in each race/ethnicity group divided by the total population of the state. Case % represents the number of cases in each race/ethnicity group divided by the total number of cases in the state. Error bars indicate 95% confidence intervals for the case percent estimate.

Figure 3 displays the same information comparing cases to the population, but in a more concise format by dividing the number of cases in each group by the statewide population estimate for that group. This provides the rate of COVID-19 infection for each group in one number that can be used to compare groups directly. Pacific Islanders were at higher risk of COVID-19 than any other racial/ethnic group. Their representation among cases was five times higher than the group with the next highest risk (Filipinos). Since the beginning of the pandemic,

7.5% of persons who identified as Pacific Islander have been diagnosed with COVID-19. This compares to a risk of 1.7% for persons who identified as Filipino, 1.6% for persons who identified as Black, 1.1% for persons who identified as Native Hawaiian, 1.0% for persons who identified as Other Asian, 1.0% for persons who identified as White, 0.8% for persons who identified as Chinese, 0.7% for persons who identified as another race/ethnicity (other), and 0.6% for persons who identified as Japanese.

Figure 3. Proportion of the population diagnosed with COVID-19 by race/ethnicity group, Hawaiʻi, March 8, 2020 to January 31, 2021 (n=18,045).



Note: Group percent represents the total number of cases in each race/ethnicity group divided by the population estimate for that specific race/ethnicity group. Error bars indicate 95% confidence intervals.

Trends Over Time

Among the first 277 cases in Hawaiʻi with known risk factor, 80% were travel-associated [33]. In the months that followed as travel declined, most cases were associated with community transmission. During this phase of the outbreak in Hawaiʻi, the rate of transmission was limited to 1 to 9 cases per day, respectively. From July 2020 to October 2020, transmission then followed an exponential trajectory peaking at 124 cases per day in August 2020 (Figure 4).

There have been important changes in the proportions of diagnosed cases represented by each racial group since the COVID-19 outbreak in Hawaiʻi began in March 2020 (Table 1). In the first month of the pandemic in Hawaiʻi, Whites composed 31% of all cases despite making up only 17% of the population. This percentage

dropped rapidly in the subsequent months down to a low of 7% of all cases in July 2020 and once again increasing up to 25% of cases in January 2021. A similar trend was observed for the Japanese population. In April 2020, Japanese made up 15% of cases, but by July that percentage dropped to 4% with a slight increase in the following months.

During April 2020, Pacific Islanders represented less than 3% of all cases which was similar to their share of the population (4%). Trends in the proportion of cases among Pacific Islanders followed a period of rapid growth peaking at 55% and 59% in June 2020 and July 2020, respectively. During the period of highest disease transmission, from June 2020 to September 2020, Pacific Islanders were the most affected group comprising 28-59% of all cases. Towards the end of the year, there was a reduction in the proportion of Pacific Islander cases down to 21% and 15% in December 2020 and January 2021, respectively.

There have been other changes and trends in the representation of cases by race/ethnicity grouping over time. Filipinos make up 16% of the total population. During the observation period, COVID-19 among Filipinos ranged between 6-26%. Native Hawaiians make up 21% of the population. In June 2020, only 6% of cases in the state were among Native Hawaiians. Since September 2020, Native Hawaiians have composed at least 16% of all cases.

Figure 4. Monthly trends in COVID-19 cases, Hawai'i, March 8, 2020 to January 31, 2021 (n=18,045).

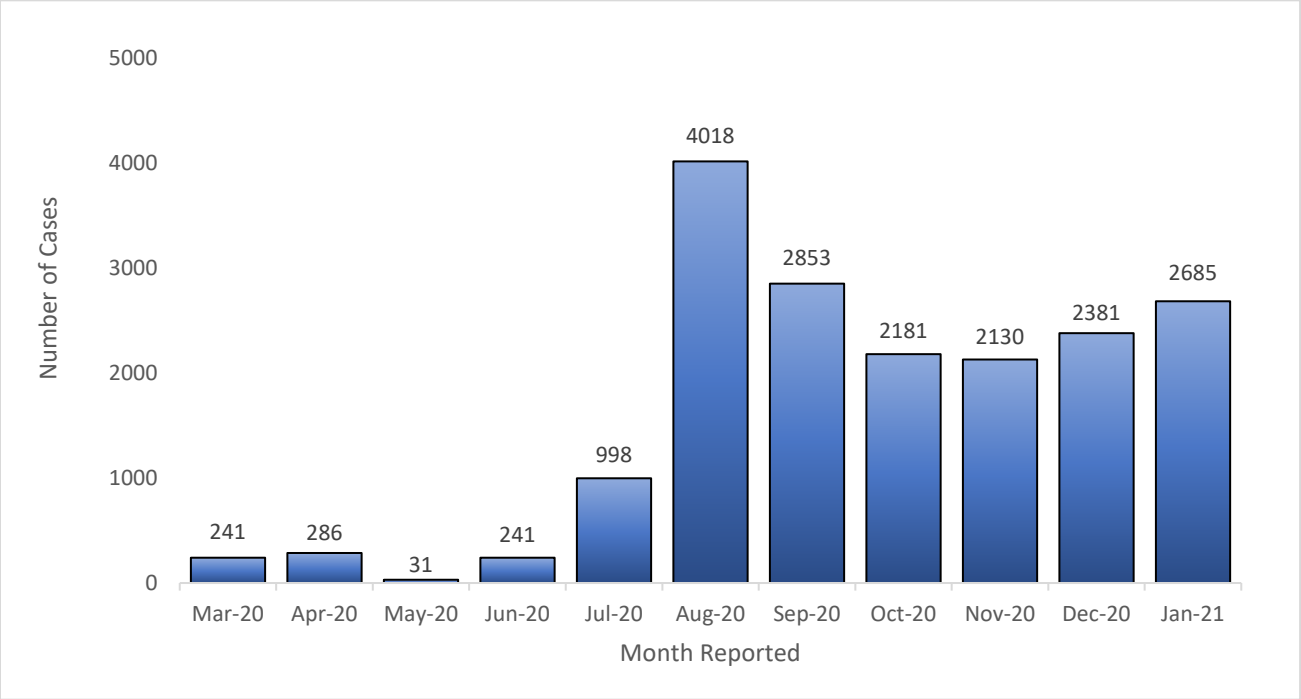


Table 1. Trends in racial/ethnic distribution of cases over time, Hawai'i, March 8, 2020 to January 31, 2021 (n=18,045).

	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Total
White	31%	40%	24%	23%	7%	14%	14%	12%	12%	19%	25%	19%
Native Hawaiian	16%	12%	15%	6%	7%	14%	16%	20%	19%	24%	22%	18%
Pacific Islander	13%	3%	15%	55%	59%	37%	28%	21%	35%	21%	15%	23%
Filipino	17%	19%	26%	6%	16%	14%	22%	26%	20%	14%	18%	20%
Japanese	6%	15%	9%	6%	4%	7%	8%	7%	5%	6%	6%	7%
Black	5%	1%	1%	0%	1%	2%	2%	3%	2%	4%	3%	3%
Other Asian	2%	4%	3%	0%	2%	5%	4%	3%	2%	3%	2%	3%
Other	7%	2%	3%	3%	1%	3%	4%	5%	4%	6%	7%	5%
Chinese	3%	4%	4%	0%	3%	3%	3%	3%	2%	2%	2%	3%
Total	241	286	31	241	998	4018	2853	2181	2130	2381	2685	18045

Cases by Age

One way to understand the differences between groups is to examine the age distribution of cases within each race/ethnicity group. Cases were separated into the age groups 0-17, 18-44, 45-64, and 65+ years to facilitate comparison of groups at similar risk for adverse COVID-19 outcomes. Increasing age has been associated with an increased risk of morbidity and mortality from COVID-19 [34].

Statewide, persons aged 18-44 years represented the group with the largest proportion of cases (Figure 5). Younger age groups (0-17 years and 18-44 years) tend to have a lower risk of severe complications, hospitalization, and death. However, the 18-44 category also includes working-age adults who may be essential workers and/or caregivers and thus, at higher risk of infection from the virus that causes COVID-19 and may suffer from long-term health consequences of infection [35].

For nearly all groups, the proportion of cases represented by children aged 0-17 years was 12% or lower. However, 17% of all Native Hawaiian and 20% of Pacific Islander cases were children. In contrast, a smaller proportion of cases were over the age of 65 for Native Hawaiians (7% of cases), Pacific Islanders (8%), Black (2%), and Other (9%). For all other groups, at least 13% of cases were over the age of 65.

Cases and Deaths by Sex/Gender

Overall, males and females were equally likely to be diagnosed with COVID-19, with a few notable exceptions by race/ethnicity (Table 2). For example, males who are Black, White, and Other race/ethnicity account for a higher proportion of cases than females (65%, 57%, and 57% of cases, respectively). Despite general similarities in case rates by sex, males were nearly twice as likely to experience death, and this pattern was consistent across all race categories. This gender disparity in COVID-19 mortality risk is consistent with national and international trends [36].

Figure 5. Percent of COVID-19 cases by race/ethnicity and age group, Hawai'i, March 8, 2020 to January 31, 2021 (n=18,045).

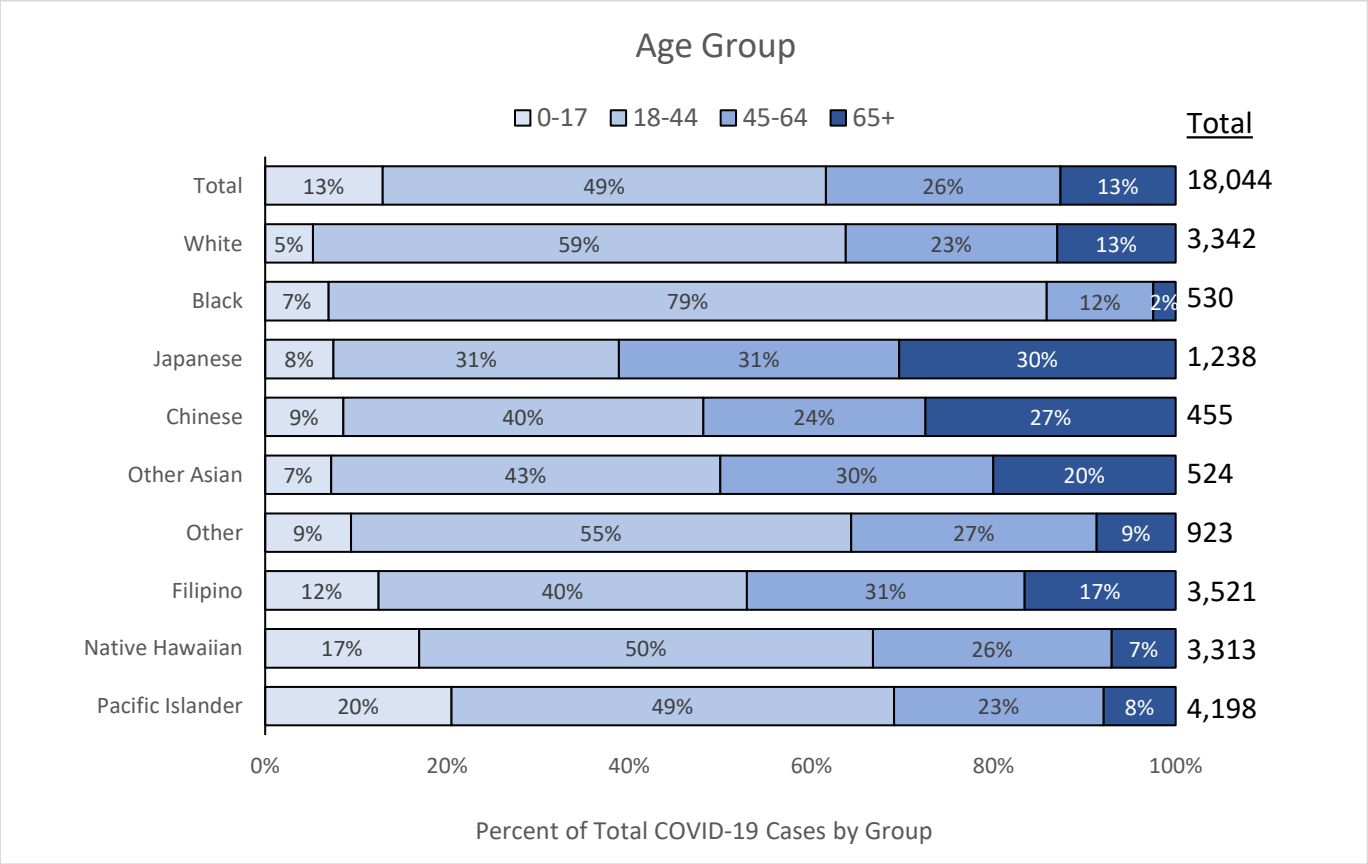


Table 2. Percent of COVID-19 cases and deaths by race/ethnicity and gender, Hawai'i, March 8, 2020 to January 31, 2021.

Proportion of COVID-19 Cases by Race/Ethnicity and Gender

Race	Female	Male	Total
White	43%	57%	3,342
Native Hawaiian	49%	51%	3,314
Pacific Islander	52%	48%	4,197
Filipino	52%	48%	3,520
Japanese	49%	51%	1,237
Black	35%	65%	529
Other Asian	52%	48%	524
Other	43%	57%	923
Chinese	51%	49%	455
Total	49%	51%	18,041

Proportion of COVID-19 Deaths by Race/Ethnicity and Gender

Race	Female	Male	Total
White	36%	64%	36
Native Hawaiian	44%	56%	36
Pacific Islander	38%	62%	93
Filipino	33%	67%	90
Japanese	41%	59%	87
Black	n/a	n/a	< 10
Other Asian	38%	62%	26
Other	n/a	n/a	<10
Chinese	40%	60%	25
Total	38%	62%	393

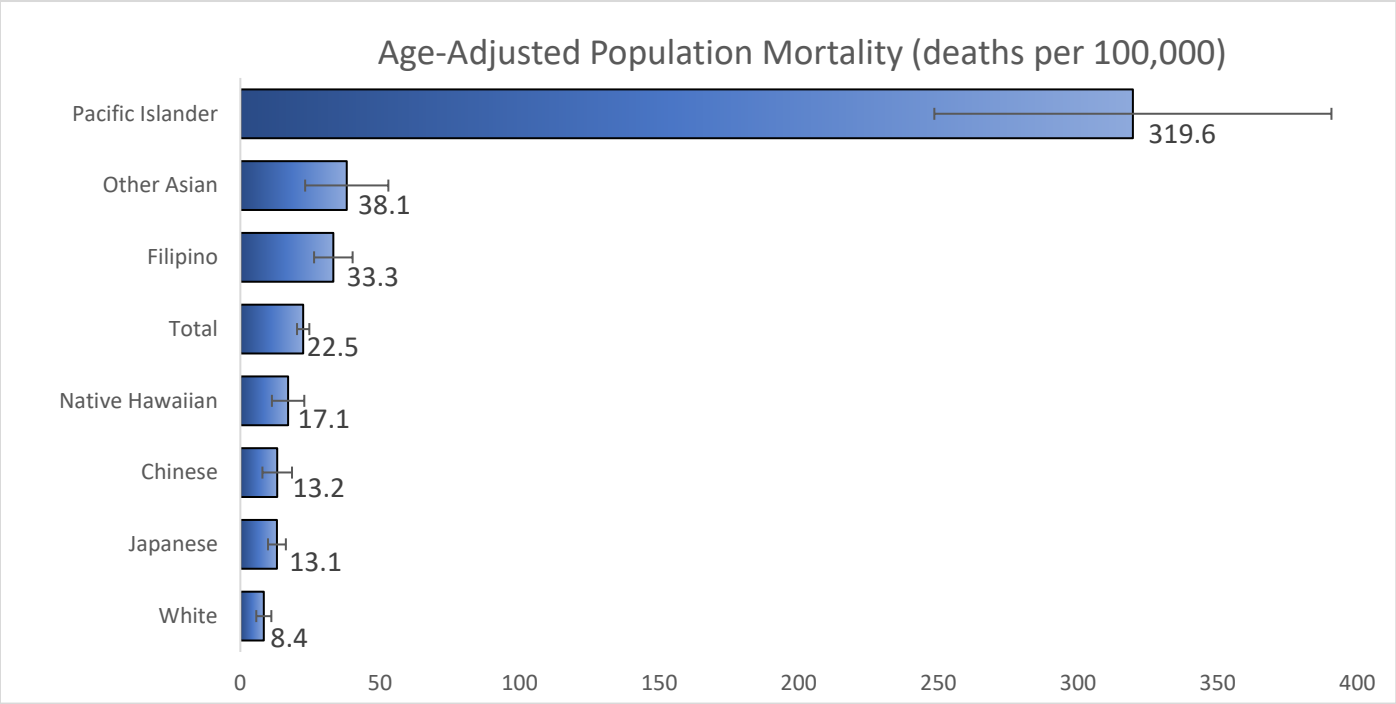
Deaths

As of January 31, 2021, the national COVID-19 mortality rate was about 153 deaths per 100,000 population. By comparison, the state of Hawai'i has had the lowest COVID-19 mortality rate in the country (excluding territories) with approximately 22 deaths per 100,000 population. Population mortality ratios can be used to estimate the risk of death due to COVID-19 for each race/ethnicity group. In total, there were 410 COVID-19 deaths in the state of Hawai'i, with 393 (96%) of these having known race/ethnicity. Figure 6 shows the age-adjusted COVID-19 mortality ratios by race/ethnicity.

The data show that Pacific Islanders had the highest age-adjusted mortality rate of any group followed by Filipinos. If compared with other parts of the country, Pacific Islanders in Hawai'i have the highest mortality rate in the country, ahead of places such as New York City and New Jersey where there have been 286 and 257 deaths per 100,000 population.

While it would be of interest to further examine indicators of morbidity such as hospitalization, ICU admission, and ventilator usage by race/ethnicity, there was insufficient clinical data available for all cases to support reliable conclusions at this time. Similarly, we could not adjust or compare the effect of underlying conditions because of the lack of standardized clinical data for all cases. However, mortality is closely related to morbidity and is a useful indicator of the impact of COVID-19 on the community. For every death, there are likely to be several persons who did not die but experienced severe disease requiring hospitalization and resulting in prolonged disability.

Figure 6. Age-adjusted mortality by race/ethnicity with 95% confidence limits, Hawai'i, March 8, 2020 to January 31, 2021.



Note: error bars indicate 95% confidence limits. Insufficient number of deaths to perform age-adjustment for Chinese, Black, Other Asian, and Other race/ethnicity groups. An age-adjusted rate is a measure that controls for the effects of age differences on health event rates. When comparing across diverse populations, some method of age-adjusting is necessary to control for the influence of populations having different age distributions.

Pacific Islander Disaggregation

Pacific Islanders are a diverse population with unique cultures, languages, and histories. Further disaggregating among the Pacific Islanders reveals that some groups have experienced higher rates of COVID-19 than others. Population estimates for each of these distinct groups are not currently available; however, existing data can provide insights into which Pacific Islander communities have been most affected by COVID-19. The two single largest groups represented among Pacific Islander COVID-19 cases were Samoan and Chuukese at 29% and 24%, respectively, followed by Marshallese at 22% (Table 3). Another 8% were Micronesian unspecified, which could comprise persons from FSM (Kosraean, Pohnpeian, Yapese, or Chuukese), but represents a data gap. It is standard practice to avoid reporting small numbers, especially when sensitive health issues are involved. In accordance with the recommendations of the Department of Health Data Governance Committee, some of these groups were combined and cell sizes <10 were suppressed to protect personal privacy in death reporting. When all Micronesian groups are combined, they are over-represented, accounting for 52% of Pacific Islander deaths compared to 40% of the cases, collectively. The remaining Pacific Islander deaths were highest among Samoan (25%) and Marshallese (23%).

Table 3. Disaggregated Pacific Islander COVID-19 cases and deaths, Hawai'i, March 8, 2020 to January 31, 2021.

Cases of COVID-19 among Pacific Islanders, by Specific Island of Origin, Hawaii 2020		
	Cases	
Region of Origin	No.	Percent
Chuukese	1,024	24%
Kosraean	233	6%
Pohnpeian	78	2%
Micronesian, unspecified	343	8%
Marshallese	939	22%
Samoan	1,232	29%
Tongan	160	4%
Chamorro/Guamanian	29	1%
Other Pacific Islander, Unspecified	155	4%
Total	4,193	100%

Deaths of COVID-19 among Pacific Islanders, by Specific Island of Origin, Hawaii 2020		
	Deaths	
Island of Origin	No.	Percent
Micronesian, any	42	52%
Marshallese	19	23%
Samoan	20	25%
Tongan	<10	n/a
Chamorro/Guamanian	0	0%
Other Pacific Islander, Unspecified	<10	n/a
Total	81	100%

Note: Micronesian, combined refers to persons identifying as Chuukese, Pohnpeian, Kosraean, and Micronesian, unspecified.

Public Health Response

Hawaiʻi DOH continues to collaborate with community members and groups to identify trends and address issues specific to each community. Organizations in the community helped to ensure cultural competency, address technical specifications, and maintain clarity of the data in consideration for public consumption. These collaborations shaped the future steps and directions in policy and research.

The reformation of the data disaggregation process focused attention on the apparent need for culturally competent language services to promote effective communication during the investigation and contact tracing process. A team-based investigation outreach and contact tracing structure was developed, which included the specialized Pacific Islander Priority Investigations and Outreach Team. This team is comprised of case investigators, contact tracers, community health workers, and case and contact monitoring specialists, along with National Guard support. Members of this team are fluent in a variety of languages and can conduct investigations, contact tracing, community outreach in Samoan, Marshallese, Chuukese, Yapese, Kosraean, Tongan, Tagalog, Ilokano, and Visayan. There is also support for Japanese, Mandarin, Cantonese, Indonesian, Malay, Vietnamese, French, Spanish, German, Hindi, Marathi, Urdu, Gujarati, and Punjabi. This specialized team has been successful in engaging with community leaders and partners, using social media and other multimedia platforms to expand their efforts, connecting prevention messages to these populations, and having a bi-directional information flow between the team and the community at large. The specialized team has also implemented best practices to elicit race/ethnicity information, respectfully and comprehensively. These practices are culturally specific, interviewer-specific, and situation-specific. There was also a need to address the role of the household internal and external environment in the different interventions and programs. These factors included the location of the home, quality and stability of housing, household crowding, running water, electricity, internet connectivity, and how prevention and mitigation messages may need to be adjusted to be reflective of cultural differences.

The Pacific Islander Priority Investigations and Outreach Team is a unique solution created by the Hawaiʻi DOH and the team itself is constructed of individuals with novel approaches that integrate Western science with cultural practices and values to produce innovative approaches that are realistic and respectful to the many diverse communities. They emphasize the importance of honoring cultural obligations, such as the moral responsibility of protecting elders, and recognizing the roles of cultural leaders.

This Pacific Islander Priority Investigations and Outreach Team collaborated with community partners to construct educational outreach and messaging that recognizes the dual nature of identity that comes with being an immigrant. These initiatives leveraged regional history, cultural values, and practices to implement strategies that applied to these dual identity communities. Rather than placing the burden of the pandemic response on these communities, these innovative approaches empowered them by supporting their grassroots efforts to create their own narratives and shape their community specific solutions while following public health guidelines. While implementing the COVID-19 awareness campaign and educational efforts, it was essential for messaging to be serious, yet light and friendly, avoiding common guilt- or fear-based tactics when motivating a community to adhere to health guidelines or change behavior.

A final distinctive result from the Pacific Islander Priority Investigations and Outreach Team's work was the collaborations with government entities outside of Hawaiʻi. It was quickly recognized that the effectiveness of these efforts in Hawaiʻi communities required consistent messaging in the continental US and all other Pacific Island nations. While non-residents of Hawaiʻi were not included in the data analysis, building close ties with stranded leaders and citizens of other Pacific nations was instrumental in the response [37]. (Note: stranded

citizens refers to individuals who are unable to return to their nation of citizenship due to government restrictions on travel and entrance into the country.) Working with these stranded persons, who were in Hawaiʻi due to the closure of island borders, was instrumental in coordinating the effective outreach and assisting in the development of strategies for reopening their country's borders.

Throughout the pandemic response, digital tools were a central pillar in the communication strategy. The Pacific Islander Priority Investigation and Outreach team conducted informational sessions using Facebook and Zoom. Social media in particular provided a direct link to community representatives, allowing them to reach DOH team members and obtain critical information quickly.

Community Response

Efforts to mitigate the impact of the COVID-19 pandemic in Hawaiʻi were complemented by grassroots initiatives from within the communities themselves. As the threat of COVID-19 to local communities emerged, organizations and individuals came together to respond and promote resilience. Recognizing the importance of these independent efforts, Hawaiʻi DOH invited leaders from within these communities to contribute their perspectives and highlight just a few of the innovative and resourceful activities that arose amid this unprecedented emergency.

Filipino Community

Initially, there were no public or private organizations that organized COVID-19 efforts in the Filipino community, despite high numbers of cases. In September 2020, the Pilipino Underrepresented Scholars Organization (PUSO) convened and discussed ways to organize and mobilize the Filipino community in response to the pandemic. Members of PUSO, including Dr. May Rose Dela Cruz and Dr. Agnes Malate, and Filipino advocate and retired University of Hawaiʻi at Mānoa (UH) professor, Dr. Amy Agbayani, assembled a Filipino COVID-19 Response Team consisting of over 25 Filipino advocates, leaders, medical staff, and community members. This workgroup has met weekly since October 2020 to discuss, support, and promote COVID-19 resources among the Filipino community in Hawaiʻi.

Drs. Agbayani, Dela Cruz, and Malate, in collaboration with the Filipino Community Center (FilCom Center) and the Legal Clinic, received a small grant through the City & County of Honolulu Coronavirus Aid, Relief and Economic Security (CARES) Act. This funding allowed the team, named, "FilCom CARES" to utilize funds for outreach to the Filipino community. The three objectives of this project were to: (1) increase awareness of COVID-19 and resources through community outreach and engagement, (2) provide access to COVID-19 assistance and relief such as COVID-19 testing, and (3) create a resource page through the FilCom Center and informational materials in Ilokano and Tagalog. Because many Filipinos listen to the radio to get current news and entertainment, FilCom CARES coordinated a radiothon and virtual show on Facebook Live to share COVID-19 information on November 29, 2020. The radiothon titled, "*Panagimbagtayo Amin: Nasayaat a Panagrarambak (Healing for All: Nice Ways to Celebrate)"* aired for two hours over three radio stations (KNDI, KPHI, and KPRP) with 25 guests, including Filipino doctors, scientists, clergy, contact tracers, community members, entertainers, and the Philippine Consulate - all speaking in multiple Filipino languages and English. The radiothon garnered almost 12,000 Facebook engagements with the community.

The FilCom CARES project also organized a Materials Development Team that consisted of Filipino health education and social media experts, public health students, and certified translators in Ilokano and Tagalog languages. Fifteen Filipino-specific COVID-19 materials were developed, translated, and disseminated on the FilCom Center Facebook page and can be downloaded at their website (FilComCARES.org). Some of the materials were from the Hawaiʻi DOH's COVID-19 multilingual website and adapted to suit the literacy and language needs of Filipinos. Over 10,000 printed materials have been distributed at food distribution events, COVID-19 testing sites, the FilCom Center, community events, and community clinics.

Finally, in partnership with the UH John A. Burns School of Medicine (JABSOM), Premier Medical Group, Project Vision, and Wahiawā Health Center, the FilCom CARES project has organized seven COVID-19 testing events at the FilCom Center and at Catholic churches on Oʻahu. It was important for COVID-19 testing to be conducted at these locations because the Filcom Center (Waipahu) and the Catholic churches were in areas with high

Filipino residency (Waipahu, Kalihi, ʻEwa Beach, Waiʻanae, Moanalua). Many of Hawaiʻi's Filipinos are also Catholic. A total of 279 community members were tested at these sites. Overall, outreach efforts, including media (e.g., news coverage, radio announcements, etc.), have reached about 800,000 people.

It was with great difficulty and through heavy reliance on unpaid volunteers for the FilCom CARES project to have completed all its objectives. However, it was also with great necessity and importance for this community response to be initiated and implemented by the Filipino community.

Native Hawaiian and Pacific Islander COVID-19 Response, Recovery, and Resilience Team

Deeply grounded in core cultural values of *pono* (righteousness), *aloha* (compassion), *laulima* (cooperation), and *imua* (progress), Native Hawaiian and Pacific Islander leaders, advocates, and communities were proactive and unified in their response to this pandemic. In May 2020, the Native Hawaiian and Pacific Islander COVID-19 Response, Recovery, and Resilience Team (3R Team) was formed to "improve the collection and reporting of data, identify and lend support to initiatives across the Hawaiian Islands working to address COVID-19 among Native Hawaiians and Pacific Islanders, and unify to establish a presence in the decision-making processes and policies that impact our communities" [38].

Convened by Papa Ola Lōkahi (POL) and comprised of over 40 organizations serving Native Hawaiians and Pacific Islanders, the 3R Team, which is further divided into a Native Hawaiians sub-committee and a Pacific Islander sub-committee, has advocated for changes in data disaggregation and how racial/ethnic-specific data are collected and reported. The Pacific Islander sub-committee within the 3R Team includes members are from Samoa, Tonga, Fiji, Kosrae, Chuuk, Pohnpei, Palau, and the Marshall Islands. The professional backgrounds of these members vary from local government employees, academics, entrepreneurs, small business owners, non-profit organization members, and Pacific community activists. The leadership and advocacy of the 3R team have also led to the mass distribution of personal protective equipment (PPE) and other supplies, improved access to in-language COVID-19 educational materials, workshops, testing, assistance with self-quarantine, financial assistance, and availability of culturally informed and community-responsive contact tracing.

Native Hawaiians and Pacific Islanders continue to be resilient with hope, despite the devastating consequences of the pandemic. The 3R Team and other NHPI organizations took to social media and videoconferencing to educate their communities about COVID-19 and to stay socially and culturally engaged during the COVID-19 containment and mitigations efforts. Some examples include webinar series co-sponsored by Kanaeokana, such as He Huewai Ola and Lei Ānuenue. A *kumu hula* (keepers of Native Hawaiian hula tradition) community from across Hawaiʻi (Huamakahikina) initiated a 30-day *kapu* (prohibition) called Lāhui Kānaka to harness the collective intentions and energies of those participating to stop the spread of COVID-19 in Hawaiʻi by engaging in *pono* behavior.

The COVID-19 pandemic has highlighted the importance of health equity for Native Hawaiians and Pacific Islanders. It has led to an unprecedented mobilization and collaboration among NHPI communities in Hawaiʻi. NHPI communities have demonstrated their ability to respond effectively to a public health crisis. These communities are well-organized and prepared to engage directly with county, state, and federal agencies to provide NHPI leadership, perspectives, and cultural assets in combating health inequities in NHPI communities.

We Are Oceania

We Are Oceania (WAO) enacted its COVID-19 response in Hawaiʻi as the virus took a heavy toll on Micronesian and Pacific Island communities on the US Mainland. WAO believes that with their knowledge of Micronesia's colonial history, along with the health disparities and discrimination Micronesians face in Hawaiʻi, it is their responsibility to care for and protect their Micronesian population here at home. During this pandemic, WAO went beyond their immediate stakeholders to assist the larger Micronesian community. It was apparent that language barriers, lack of culturally sensitive support, and a disconnect between key stakeholders hampered access to resources needed to cope with the pandemic. WAO assisted in addressing these issues through partnerships and different initiatives.

From WAO's experience, language and cultural barriers have been the cause of most gaps in services for the Micronesian population. From the population they serve, 90% are Micronesian, more than 60% of them speak limited English and almost 100% of them are first-generation Micronesians in Hawaiʻi. Considering these challenges, it can be difficult for Micronesians to adjust to the different lifestyles in Hawaiʻi. This is further evident from the great numbers of calls and emails WAO receives from other service providers that serve Micronesians asking for cultural and language help to work effectively with their clients. WAO suspects that the denial of services was due to language barriers. Most of the Micronesians that WAO serves were not able to readily communicate at clinics and testing sites due to language barriers.

WAO also collaborated with the Hawaiʻi DOH to address language barriers in contact tracing, clinics, and testing sites. One of the products of this partnership was the WAO Helpline. The WAO Helpline enabled people who call in to speak with a Helpline Specialist fluent in their native language. Calls fielded by Helpline Specialists answered COVID-19-related questions, reserved food for food drives, or referred callers to three different specialized WAO teams trained in specific areas by the Hawaiʻi DOH. The Kōkua team assisted with medical insurance and the Case Managers assisted with social services. The Community Resource Specialists assisted with food, cleaning supplies, PPE, and other hygiene item deliveries to households that were in isolation or were quarantined, and assisted callers with applications for financial assistance and unemployment.

WAO also established a successful partnership with the Hawaiʻi DOH CARES Line and its isolation hotels, easing access to the DOH isolation/quarantine facilities by assisting with the application process in Micronesian languages. WAO staff were trained by Hawaiʻi DOH and UH on how to assist individuals through the CARES line application.

WAO circulated flyers with the Helpline number and other topics including Hawaiʻi's stay-at-home orders, food drives, and important health insurance information. Aside from flyers, WAO created public service announcements and WAO media coverage from August 2020 through November 2020. WAO staff produced and continues to star in their Island Hopper Virtual Talk Story shows that provide a platform for language-based discussion of relevant topics and cover information about COVID-19 mitigation tips in a culturally sensitive and appropriate manner. The Talk Stories feature WAO staff from Chuuk, the Marshall Islands, Pohnpei, and Kosrae, speaking their languages in daily language-specific shows to reach individuals and families who cannot access services due to lack of English proficiency.

Kosrae COVID-19 Task Force

The Kosrae COVID-19 Task Force has been working diligently to assist its members in a variety of ways during the COVID-19 pandemic. Some of their tireless efforts include translating COVID-19 awareness materials, giving informational presentations to community members across the islands, and distributing masks, food, and other supplies to community members. They have also reached out directly to community members who were impacted by COVID-19 and helped them access available resources. Additionally, this team helped the Hawaiʻi DOH with educating contact tracing teams, performing contact tracing, and providing wrap-around services available for the Pacific Islander communities, specifically Micronesians from Kosrae. There is also a partnership forming between the Kosrae State Department of Health Services and the Hawaiʻi DOH.

Kosrae Big Island Task Force

Kosrae Big Island Task Force members assisted and will continue assisting with various efforts on the Big Island. They have been meticulously translating documents into the Kosraean language, supporting families to obtain PPE, and providing support to those who need financial assistance, while also helping to guide them through the relief fund process. They have partnered with church leaders to continue messaging the importance of health measures such as wearing a mask, disinfecting, and social distancing. The team has been continuously informing Kosraean families of the importance of COVID-19 testing and the available resources for infected individuals who require isolation or quarantine measures. Taskforce members have been on-site to provide translation services during COVID-19 testing efforts.

Marshall Islands COVID-19 Task Force

Organized by the RMI Consulate, the Marshall Islands COVID-19 Task Force was created in early March of 2020. This team incorporated members that represented the Marshallese communities on each of Hawaiʻi's different islands. This team worked closely with faith-based leaders and collaborated with numerous other Pacific Islander and Native Hawaiian organizations to create mass food and supply drives. The team has also worked with the RMI government to repatriate its stranded citizens and strategize efforts to mitigate the COVID-19 spread.

The Task Force is co-Chaired by Isabela Silk, who is the Hawaiʻi-based Consul General from the Republic of the Marshall Islands, and Wilfred Alik, MD, one of the only US-trained Marshallese physicians. This team has met weekly and continues to systematically work with Oʻahu and the respective neighbor island's City and County representatives, the Hawaiʻi DOH, community health centers and private foundations, and state legislators to address various Marshallese communities suffering high COVID-19 burdens. They have worked with their churches and Marshallese community groups to design safe church and funeral services. The Task Force has provided volunteer translators and food services for many state and local COVID-19 testing events. They have provided water and gas to a Marshallese community without running water, electricity, or access to COVID-19 wrap-around services. The Task Force has established regular virtual COVID-19 town halls and pastor meetings that are open to all individuals.

Marshallese Community Organization of Hawaiʻi

The Marshallese Community Organization of Hawai'i (MCOH) is a non-profit organization that was formally created February 20, 2020 but had begun doing community outreach work in September 2019. Their focus and scope are to preserve Marshallese cultural heritage, offer charitable and educational outreach, and support

health care initiatives that directly impact the Marshallese community. MCOH serves the approximately 13,000 Marshallese and various other Micronesian communities that are living in the state of Hawai'i. They serve as community navigators, interpreters/translator, and work to meet the needs of the community. They are a member of the 3R Team and have partnered with the Hawaiʻi DOH's Pacific Islander contact tracing team to offer educational outreach in the Marshallese language concerning COVID-19 and resources that are available for those affected. They have also worked with WAO in creating food distribution events and providing PPE throughout the pandemic and continue to do so.

The Pasefika Empowerment and Advancement, Inc.
Le Fetuao Samoan Language Center
Tagata Tutu Faʻatasi Alliance of American Samoa
American Samoan Government Hawaiʻi Office

There is a Samoan proverb used by the tulafale (skilled Samoan talking chiefs) that states, "*E fofō e le Alamea, le Alamea."* The literal translation is that "the starfish is its own cure." Samoans understand this to mean we are the cure and the solution to our own problems. To ensure the safety of those living in American Samoa, Governor Lolo Matalasi Moliga made the decision to close the borders on March 26, 2020, leaving 1,000+ stranded persons from American Samoa in Hawaiʻi and across the US mainland. During the height of the pandemic in May 2020, Samoan religious organizations, career professionals, volunteers, territorial government agencies, and non-profit organizations such as Pasefika Empowerment and Advancement, Inc. (PEʻA) and Le Fetuao Samoan Language Center (LFSLC) came together to collaborate, coordinate, and provide *tautua* (service) to those in need.

PEʻA is a non-profit organization grounded in indigenous and contemporary culture that also assisted with this endeavor. Their focus is in building the health and socioeconomic capacity of Pacific Islander individuals, families, and communities. They do this through their commitment to higher education, entrepreneurial endeavors, and workforce development to better position Pacific Islanders for the future. PEʻA used their connections with the media to help speak out about the plight of Pacific Islanders and the substantial inequities they have been experiencing during the pandemic.

Some of those stranded in Hawaiʻi were able to stay with family or friends, others moved from one transient housing facility to another, and veterans utilized the Fisher House or were provided accommodations at hotels through the US military. The border closure caused much depression, confusion, frustration, and hopelessness for stranded persons. In order to assist themselves and others, a group of stranded persons from across the US mainland and Hawaiʻi created the support group Tagata Tutū Faʻatasi Alliance of American Samoa (TTFAAS) to share their financial and emotional struggles. TTFAAS, with the assistance of LFSLC, offered emotional support, political advocacy for stranded persons in Hawaiʻi and the US mainland, and much-needed financial resources.

The American Samoa Government Office-Hawaiʻi (ASG-Hawai'i) joined the newly formed 3R Team in May 2020 as well. Their goal was to offer support to persons from American Samoa and other Pacific Island communities stranded in Hawaiʻi. The ASG Office-Hawaiʻi was utilized as the main distribution hub for the 3R Pacific Islander sub-team, receiving over 80,000 donated PPE and hand sanitizers. These PPE and hand sanitizers were passed out to Pacific Islander community members in Kalihi, Waipahu, ʻEwa Beach, Waimānalo, Kahuku, and Waiʻanae. Collaborations with PEʻA, MCOH, and WAO developed through the 3R team lead to numerous food drives and emergency kit distribution. Through partnerships with local churches and businesses, LFSLC organized food

drives on Oʻahu for the Samoan community. These drives were held at Kanana Fou Congregation Christian Church of American Samoa, the largest Samoan-serving congregation in Kunia.

To further address language barriers, the Hawaiʻi DOH Pacific Islander Priority Investigations and Outreach Team, the 3R Teamʻs Pacific Islander sub-committee, LFSLC, and PEʻA have worked hard to create educational outreach events both collectively and individually in the Samoan language. This has created opportunities for empowerment through first-hand knowledge, options for better outcomes through access to resources, and collaborative partnerships that did not previously exist.

As part of a larger effort to educate the different Pacific communities, the 3R Teamʻs Pacific Islander sub-committee in collaboration with PEʻA, MCOH, and ASG-Hawai'i hosted the Pasefika Suʻifeiloi Concert held November 21, 2020. This was a very powerful exchange that supported already existing familial and communal ties. The Hawaiʻi DOH Pacific Islander Priority Investigations and Outreach Team supported this effort by providing factual educational outreach and real time support resources to those in need. ASG-Hawaiʻi provided livestream service across multiple social media platforms making it possible for the virtual concert to be viewed over 70,000 times.

In February 2021, TTFAAS and LFSLC began assisting in the repatriation of stranded American Samoan citizens in Hawaiʻi. One hundred and fifty-nine (159) American Samoa residents were a part of the first repatriation flight. There was a 15-day pre-departure quarantine followed by a 14-day post arrival quarantine in American Samoa to ensure the safety of American Samoan citizens.

These organizations are rooted in the Pacific and they understand the many diverse Pacific cultures. This connection ensured that the program, outreach, and educational material performed was done in the various Pacific languages and that it was culturally appropriate. It was as the Samoan proverb stated – Pacific Islanders creating solutions for Pacific Islanders.

Tongan Communityʻs COVID-19 Response

Infection rates for Tongans are some of the lowest in Hawaiʻi amongst the various Pacific Islander groups; however, this should not be interpreted as they have not been affected. Tongan community and religious leaders attributed positive cases to the lack of messaging concerning COVID-19 guidelines, safety protocols, services, and resources available in the Tongan language. This lack of awareness prompted church leaders to upskill in the use of technology and online platforms. Tongan church leaders held virtual Sunday services when in-person services were not available or safe and ensured that Tongan community members could stay connected and offered much needed emotional support. Online platforms also created opportunities for educational outreach to members of their congregations. Webinars and *talanoa* (talk story) events in partnership with Hawaiʻi DOH and other health professionals were held and the presenters as much as possible were Tongan speakers who not only knew the language but understood the importance of being culturally competent. Tongan church and faith leaders have been instrumental in disseminating information and providing support to families.

Tongan church and faith leaders in partnership with POL, MCOH, PEʻA, the Lāhui Foundation, Ke Ola Mamo, the Salvation Army, Hawaiʻi Foodbank, Mālama Meals, Aloha Harvest, Ham Produce & Seafood, Project HIEHIE, New Life Kahuku, Hauʻula Community Association and Chef Hui provided food distribution events, diaper drives, emergency kits, personal hygiene items, cleaning supplies, and limited financial support funds to Tongan

families who were affected by the pandemic. In addition, many Tongan community leaders and volunteers have taken the initiative to help bridge gaps in services such as support in submitting state unemployment claims, obtaining rental assistance, and connecting those in need to other available programs and resources.

Members of the Tongan community in Hawaiʻi have also assisted the 70+ Tongan citizens who are stranded due to the closure of the borders in Tonga since March 2020. Many of these Tongan citizens rely on relatives and friends for food and housing, which has exacerbated the financial strain many Tongan families are experiencing due to income loss, funeral costs, and other challenges resulting from COVID-19. Efforts thus far are commendable, however, there is still much to be done as the impact of COVID-19 continues. For future direction, focusing on the strengths of the Tongan people as areas for investment, particularly representation in higher education, is indeed imperative for recovery and preparation for the future.

Limitations

Missing Data

It must be noted that specific race information is missing for 27% of all resident cases diagnosed in the state. This is a significant gap but represents a concerted effort to obtain demographic information as completely as possible. This could potentially lead to a bias in the data if there was a common reason why race/ethnicity was not collected. During case surges in August, it became increasingly difficult to investigate every case thoroughly with existing staffing and resource levels. To understand whether this period of low race/ethnicity data collection could have impacted the results, we compared the frequency of missingness to race/ethnicity trends by month. The observed disparity between Pacific Islander and other groups in missingness remained consistent across all time points, even when missingness was low. This suggests that missingness was not related to the race/ethnicity of the individual and due instead to other factors. While it is important to note that this data is not inclusive of 100% of reported cases, the data is relatively strong for the characteristics described. Nationally, race data is only available for 51% of cases and these sources do not disaggregate Asians or NHPI [39]. Furthermore, the absence of race data for some of the reported cases should not preclude examination of the trends in the available data.

Underreporting of Cases

While the data presented here represent nearly all diagnosed cases of COVID-19 in the state of Hawaiʻi, it should be noted that not all cases of COVID-19 infections are diagnosed. Early seroprevalence studies have suggested that the number of true infections in the US might be 3 to 20 times higher than what had been reported in the first phase of the pandemic, when access to testing was limited [40]. Underestimation of COVID-19 relates to many factors including the potential for asymptomatic infections, availability of diagnostic testing, willingness to seek care, and access to healthcare services. A substantial number (30-70%) of those infected by the virus experience mild or asymptomatic infections and may not seek testing because they do not recognize they are ill [40]. Others may have illness, but decide for many reasons (e.g., lack of health insurance, language or cultural barriers to care, lack of transportation) to delay or forgo testing despite suspicion of infection [41]. Since disease severity and symptomatic presentation are associated with increasing age, populations with younger age distributions, such as Native Hawaiians and Pacific Islanders, may experience higher rates of undocumented and undiagnosed transmission than those with older age distributions, such as Japanese.

Cases can also be diagnosed using a rapid point-of-care antigen test, but these cases are classified as “probable” rather than confirmed and are not included here. Probable cases comprise less than 3% of reported cases in the state [33].

Race/Ethnicity Classification

No single term can reliably capture an individual’s multi-faceted and complex identity. Race/ethnicity was based on self-identification and an algorithm used to sort individuals into a single group to facilitate comparisons and analysis (see OHSM justification). For example, Native Hawaiians who also identify with other race/ethnicity groups were categorized as Native Hawaiian, and persons who identified as both White and another race/ethnicity group were categorized as the first non-White race/ethnicity group listed. Many different tools were used to collect race/ethnicity information. In some instances, the healthcare provider case report form was the only available source of information and would not have captured the order in which a person identifies.

The most common source of information was the case interview which does allow the interviewer to record the order of responses of the case.

We did not include Hispanic/Latino ethnicity in this report because this group represents a small percentage of the population, is traditionally treated as a separate category from the groupings used in this report, and would have introduced additional analytic challenges. Future work can explore other groupings to identify disparities across other dimensions of identity. Although race/ethnicity is not the only way to measure disparities, it is closely linked with historical inequities and social determinants of health. Many other factors and characteristics such as income, language, and education that relate to a person's risk of COVID-19 were not measured or considered in these analyses.

Recommendations

The data presented in this report support the following recommendations.

1. Advocate for more standardized, complete, and accurate data collection and analysis.

Disaggregation of Pacific Islanders from Native Hawaiians did not occur until the beginning of June 2020. Between May and June, the proportion of Pacific Islanders represented among total cases went from 15% to 55%. By combining Pacific Islanders, a relatively small fraction of Hawaiʻi's population, with Native Hawaiians, a somewhat larger portion of the population, it was difficult to identify the outbreak among Pacific Islanders. This example highlights why good and relevant data are so important.

Advocacy for better data collection must address issues regarding (1) consistency in racial/ethnic categories and (2) the use of more appropriate racial/ethnic categories. Regarding the former, labs conducting COVID-19 tests and hospitals reporting admissions/hospitalizations are inconsistent in the collection of race/ethnic data, and these data are often missing. While this report suggests there is confidence in the current data, as analysis of missingness revealed no patterns, the percent of missing race/ethnic data may diminish the communities' confidence in the data and the implications. Engaging directly with the testing labs, health institutions and agencies, and community health centers can improve data collection such as ensuring standardization in the racial/ethnic classification, consistency in data collection standards, and the reliability and validity of the data collected. Additionally, working with the administration and/or data departments of hospitals to obtain better information about COVID-19 hospitalizations, including ICU admission and ventilator use, is critical to our ability to understand the full range of health impacts across different groups.

Dealing with the COVID-19 pandemic has brought to the surface long-standing issues regarding the collection of race/ethnicity information. The reliance on the OMB 15 categories, also known as the Fed 7, is especially problematic for Hawaiʻi's diverse population. This problem was addressed through revision of the data collection form and retrospective review of missing race information from COVID-19 cases. Disaggregating Native Hawaiians and Pacific Islanders, in addition to further separating specific Asian groups from the broader Asian category, was essential to more accurate and representative data. Without this revised approach, the previously discussed disparities would not have been appropriately identified. While this is helpful for the Hawaiʻi DOH, developing policies that mandate the use of consistent categories across health and other government agencies would greatly improve quality of reporting and ultimately the ability to better understand social determinants of health.

2. Collaborate with community organizations to develop targeted, data-informed messaging.

This report highlights the overrepresentation of Pacific Islanders and Filipinos who were positive for COVID-19, overall, and by age. As highlighted across the community and public health responses, it is important to collaborate with community-based organizations to understand this data and help develop data-informed, targeted messaging that is appropriate for different audiences. Translating the numbers into targeted messaging requires partnerships with Pacific Islander and Filipino community leaders. It also requires taking a comprehensive approach that includes traditional media venues (e.g. print, television, email) as well as next generation venues (e.g. Facebook, Instagram, Twitter, Tik Tok). Translating data into message bytes is critical to promoting healthy and safe practices that should result in the decrease of positive cases. These actions should be supported by investments of financial and other resources commensurate with the need.

3. Conduct qualitative and quantitative studies to better understand the complexity of factors influencing the susceptibility to COVID-19 across the most impacted groups and communities.

The report suggests the contribution of factors such as multi-generational living, loss of insurance, communal living (e.g., senior living facilities), and other health conditions to the impact of the pandemic on the communities highlighted in this report. Collaborating or forming partnerships with community stakeholders to provide data or their respective expertise will help identify the specific variables that are needed to conduct more complex analyses.

4. Include community stakeholders and use community-based research principles throughout the data analytic process.

The inclusion of community stakeholders to provide feedback on data collection, analysis and interpretation of the Hawaiʻi DOH'S COVID-19 data has been critical to building community trust and engagement. All communities should be given the opportunity to participate in the collection, analysis, and interpretation of data derived from their populations. It is essential to establish avenues for communities to access their data as well from the Hawaiʻi DOH to help inform their community-based activities. This reciprocity would enhance community stakeholders' investment in ensuring accurate and timely data collection, engagement and contribution to analysis. Engaging communities and their members as partners in the response and recovery efforts will build on their collective strengths and foster resilience. This will also enable the development of culturally informed health practices by drawing on their deep knowledge of their own communities. Lessons learned throughout the pandemic include the importance of forming collaborations between government and community organizations to facilitate data informed responses to health crises.

5. Support collaborative initiatives between health care professionals and community stakeholders for training and education on health equity issues and the importance of health equity data.

There are promising practices to help address the training and education on health equity issues in Hawaiʻi. For example, the Department of Native Hawaiian Health (DNHH) at JABSOM ensures that their students learn about Native Hawaiian health disparities, social and cultural determinants of health, colonization, racism, and implicit bias. DNHH is conscious of the importance of collaborating with community stakeholders to address health equity issues related to medical education and research. New curricular modifications, such as JABSOM's implementation of small learning communities (small groups of students longitudinally situated in communities throughout Oʻahu) themselves can cement the understanding of health equity and impact on communities. Similarly, such trainings and educational approaches can be expanded to include Pacific Islanders, Filipinos and other health-disparate populations and targeted at other health care professions and at different levels of training or career. A comprehensive environmental scan or mapping of current efforts and the intersections at which such training and education can be most effective can inform current collaborative initiatives and/or identify needed collaborations. This information can be used to connect health care professionals with leaders in health equity across the state such as the University of Hawaiʻi Schools of Social Work and Public Health, Psychology, Nursing, Medicine, and other groups dedicated to promoting social justice and diversity.

Efforts to support current initiatives and identify areas for new collaborations are necessary to broaden an understanding of health disparities among Native Hawaiian, Pacific Islanders, and Asians (Filipinos); however, the importance of the data needed to understand and address these disparities must be included in training and education activites. Given the current urgency due to the pandemic, the importance of demographic data is paramount. The collection of health and related demographic data occurs in various settings by many different

people which can result in gaps and inconsistencies across data elements. Many of the essential public health data elements are collected at the time of testing and diagnosis. Training healthcare providers to understand the critical importance of this data can improve the quality of information to better inform public health response, clinical practice, and policy.

6. Build and expand the representation of historically marginalized communities in government leadership positions, committees, workgroups, and task forces.

The data presented here shows the overrepresentation of Pacific Islanders and Filipinos among COVID-19 cases and deaths. The response to these alarming infection rates encountered significant barriers due to the underrepresentation of these communities in government leadership roles, committees, workgroups, and task forces. Better representation of historically marginalized communities, especially Pacific Islanders, among decision-makers is essential to assure that the needs of their groups are heard and understood by those who direct funding and make policy.

Pacific Islanders have unique histories and cultures that are important to recognize when addressing issues rather than creating generalized solutions tailored for the larger Polynesian population. While significant progress has been made, there is still room for more diverse representation of the various Pacific Islander perspectives at all levels of the response. Filipinos face similar challenges in securing the recognition and opportunities for representation in organization and government leadership positions. This community should also be considered in the context of designing culturally appropriate strategies and interventions. Pipelines and pathways must be created that flow into governmental and organizational leadership positions to facilitate more effective community-based response efforts.

Conclusion

This report highlights racial/ethnic disparities in COVID-19 infections and deaths in the state of Hawaiʻi. It shows how disparities changed over time and provides additional details on age, sex, and certain sub-populations. Overall, it is clear from this report that Pacific Islanders are the most deeply affected group in Hawaiʻi, while Filipinos have also suffered disproportionately. Finally, it showcases the tremendous efforts and investments of community groups across the state, many of whom made these contributions with limited resources. Additional investment in these impacted communities is needed in order to turn the tide of this pandemic, and to build the resilience to meet the challenges of future and emerging health threats.

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Bibliography

1. Garg, S., Kim, L., Whitaker, M., *Hospitalization Rates and Characteristics of Patients Hospitalized with Laboratory-Confirmed Coronavirus Disease 2019 — COVID-NET, 14 States, March 1–30, 2020*, in *MMWR Morbidity and Mortality Weekly Report 2020*. 17 April 2020, Centers for Disease Control and Prevention,. p. 458-464.
2. Vahidy, F.S., et al., *Racial and ethnic disparities in SARS-CoV-2 pandemic: analysis of a COVID-19 observational registry for a diverse US metropolitan population.* BMJ Open, 2020. **10**(8): p. e039849.
3. Hofschneider, A., *Pacific Islanders, Filipinos have highest COVID-19 rates in Hawaii*, in *Honolulu Civil Beat*. June 2020: Honolulu, Hawaii.
4. in *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, B.D. Smedley, A.Y. Stith, and A.R. Nelson, Editors. 2003: Washington (DC).
5. Centers for Disease Control and Prevention. *People with certain medical conditions*. Your Health, 29 December 2020; Available from: https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html.
6. Williamson, E.J., et al., *Factors associated with COVID-19-related death using OpenSAFELY.* Nature, 2020. **584**(7821): p. 430-436.
7. Kaholokula, J.K., et al., *COVID-19 Special Column: COVID-19 Hits Native Hawaiian and Pacific Islander Communities the Hardest.* Hawaii J Health Soc Welf, 2020. **79**(5): p. 144-146.
8. Native Hawaiian & Pacific Islander Hawai'i COVID-19 Response Recovery Resilience Team, *NHPI COVID-19 R3 Priority Letter*. 18 June 2020: Honolulu, Hawai'i
9. Samoa, R.A., et al. , *COVID-19 And The State Of Health Of Pacific Islanders In The United States.* AAPI Nexus, Fall 2020. **17**(1 & 2).
10. Centers for Disease Control and Prevention. *COVID-19 racial and ethnic health disparities*. Community, Work, & School, 10 December 2020; Available from: https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/racial-ethnic-disparities/increased-risk-illness.html.
11. Dela Cruz, M.R., *Filipino Community Health Survey Results*. 2020.
12. McDermott, J.F. and N.N. Andrade, *People and cultures of Hawaiʻi : the evolution of culture and ethnicity*. 2011, University of Hawaiʻi Press: Honolulu.
13. Hawai'i Appleseed Center for Law & Economic Justice. *Who are Hawai'i's frontline workers?* 22 April 2020; Available from: https://hiappleseed.org/2020/04/hawaii-frontline-workers-covid19/.
14. National Nurses United, *Sins of Omission: How Government Failures to Track Covid-19 Data Have Led to More than 1,700 Health Care Worker Deaths and Jeopardize Public Health*. September 2020.
15. Sampaga, J.B., *As Second-Worst Hit by COVID-19 in Hawaii, Filipino Community Continues to Be Resilient*, in *The Filipino Chronicle* 18 September 2020: Hawai'i. p. S4-S5.
16. Department of Business Economic Development and Tourism - Research and Economic Analysis Division, *Demographic, Social, Economic and Housing Characteristics for Selected Race Groups in Hawaii*. March 2018.
17. Moses, J. *State of homelessness: a look at race and ethnicity*. Continuum of Care 27 May 2020; Available from: https://endhomelessness.org/state-of-homelessness-a-look-at-race-and-ethnicity/.
18. Moazzami, B., et al., *Metabolic risk factors and risk of Covid-19: A systematic review and meta-analysis.* PLoS One, 2020. **15**(12): p. e0243600.
19. United States Census Bureau, *Hawai'i BRFSS* 2018, Hawai'i Health Data Warehouse.
20. United States Census Bureau, *Hawai'i BRFSS*. 2017, Hawai'i Health Data Warehouse.

21. Kataoka-Yahiro, M.R., et al., *Racial/Ethnic Differences in Early Detection and Screening for Chronic Kidney Disease Among Adults in Hawaii: A 10-Year Population Health Study.* Prev Chronic Dis, 2020. **17**: p. E84.
22. Kaur, G., G. Lungarella, and I. Rahman, *SARS-CoV-2 COVID-19 susceptibility and lung inflammatory storm by smoking and vaping.* J Inflamm (Lond), 2020. **17**: p. 21.
23. Park, J.J., et al., *Health Insurance for Asian Americans, Native Hawaiians, and Pacific Islanders Under the Affordable Care Act.* JAMA Intern Med, 2018. **178**(8): p. 1128-1129.
24. Park, J.J., et al., *Medicaid And Private Insurance Coverage For Low-Income Asian Americans, Native Hawaiians, And Pacific Islanders, 2010-16.* Health Aff (Millwood), 2019. **38**(11): p. 1911-1917.
25. United States Commission on Civil Rights. Rhode Island Advisory Committee., *The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 : an examination of its impact on legal immigrants and refugees in Rhode Island*. 2000, Washington, DC: U.S. Commission on Civil Rights, Eastern Regional Office. vii, 35 p.
26. Forum, A.a.P.I.A.H., *Health care for COFA citizens* August 2019.
27. Division, S.o.H.D.o.H.S.-M.-Q. *Congress has restored Medicaid eligibility for citizens from one of the Compact of Free Association (COFA) Nations residing in the United States.* 09 February 2021; Available from: https://medquest.hawaii.gov/en/about/recent-news/2021/COFA_Medicaid.html.
28. Hawaiʻi, S.o., *Hawaiʻi Revised Statute § 91-3*, in *Title 8. Public Proceedings* S.o. Hawaiʻi, Editor. 2018: Honolulu, Hawaiʻi.
29. Hawaiʻi, S.o., *Hawaiʻi Revised Statute § 325-2*, in *Title 19. Health* S.o. Hawaiʻi, Editor. 2012: Honolulu, Hawaiʻi.
30. Hawaiʻi, S.o., *Supplementary Emergency Proclamation for COVID-19* S.o. Hawaiʻi, Editor. 16 March 2020 Honolulu, Hawaiʻi.
31. United States Census Bureau, *QuickFacts* 2021, United States Census Bureau.
32. Warehouse, H.i.H.D., *Hawai'i Health Data Ware House Race-Ethnicity Documentation* August 2011 Hawai'i Health Data Warehouse
33. Division, H.S.D.o.H.-D.O.C., *State of Hawaiʻi COVID-19 Case Data* 2020.
34. Prevention, C.f.D.C.a. *Older Adults* COVID-19: Your Health 13 December 2020; Available from: https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/older-adults.html#:~:text=Among%20adults%2C%20the%20risk,they%20may%20even%20die.
35. *Understanding the long-term health effects of COVID-19.* EClinicalMedicine, 2020. **26**: p. 100586.
36. Griffith, D.M., et al., *Men and COVID-19: A Biopsychosocial Approach to Understanding Sex Differences in Mortality and Recommendations for Practice and Policy Interventions.* Prev Chronic Dis, 2020. **17**: p. E63.
37. Richardson, M., *'Going home': After 11 months, first repatriation flight to American Samoa departs*. 1 February 2021, Hawaiʻi News Now Honoulu, Hawaiʻi.
38. *The Native Hawaiian & Pacific Islander Hawai'i COVID-19 Response Recovery & Resiliency Team.,* . 2020 Available from: https://www.nhpicovidhawaii.net/.
39. Krieger, N., et al., *US racial and ethnic data for COVID-19 cases: still missing in action.* The Lancet 22 October 2020. **396**(10261).
40. Wu, S.L., et al., *Substantial underestimation of SARS-CoV-2 infection in the United States.* Nat Commun, 2020. **11**(1): p. 4507.
41. Shadmi, E., et al., *Health equity and COVID-19: global perspectives.* Int J Equity Health, 2020. **19**(1): p. 104.

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Disaggregating Data to Measure Racial Disparities in COVID-19 Outcomes and Guide Community Response — Hawaii, March 1, 2020–February 28, 2021

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Native Hawaiian and Pacific Islander populations have been disproportionately affected by COVID-19 (*1–3*). Native Hawaiian, Pacific Islander, and Asian populations vary in language; cultural practices; and social, economic, and environmental experiences,† which can affect health outcomes (*4*).§ However, data from these populations are often aggregated in analyses. Although data aggregation is often used as an approach to increase sample size and statistical power when analyzing data from smaller population groups, it can limit the understanding of disparities among diverse Native Hawaiian, Pacific Islander, and Asian subpopulations¶ (*4–7*). To assess disparities in COVID-19 outcomes among Native Hawaiian, Pacific Islander, and Asian populations, a disaggregated, descriptive analysis, informed by recommendations from these communities,** was performed using race data from 21,005 COVID-19 cases and 449 COVID-19–associated deaths reported to the Hawaii State Department of Health (HDOH) during March 1, 2020–February 28, 2021.†† In

* These authors contributed equally to the report.

† Native Hawaiian persons are indigenous Hawaiians with ancestry to the original inhabitants of these islands. A majority of Pacific Islander persons in Hawaii are Samoan, Tongan, Chamorro or Guamanian, Chuukese, Palauan, and Marshallese persons. The latter three Pacific Islander groups migrated from the Federated States of Micronesia, Palau, and the Marshall Islands through provisions of their respective Compacts of Free Association. Immigration of Filipino persons to Hawaii from the Philippines began in the early 1900s when Filipino persons were recruited for agricultural labor.

§ https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html#anchor_1595551025605

¶ https://healthpolicy.ucla.edu/publications/Documents/PDF/2021/COVID-19-Data-NHPI-Asians-factsheet-may2021.pdf

** https://48ada3fb-53b7-4311-b1dc-3087b402628b.filesusr.com/ugd/11aeb5_4c461b06f90843a8ba2188dfe1c7e36a.pdf

†† COVID-19 cases included persons who received a laboratory-confirmed positive reverse transcription–polymerase chain reaction (RT-PCR) test result for SARS-CoV-2. COVID-19 deaths included decedents who had received a positive RT-PCR test result and had COVID-19 listed as a cause of death in the death certificate, discharge summary, or coroner's notes.

INSIDE

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Hawaii, COVID-19 incidence and mortality rates per 100,000 population were 1,477 and 32, respectively during this period. In analyses with race categories that were not mutually exclusive, including persons of one race alone or in combination with one or more races, Pacific Islander persons, who account for 5% of Hawaii's population, represented 22% of COVID-19 cases and deaths (COVID-19 incidence of 7,070 and mortality rate of 150). Native Hawaiian persons experienced an incidence of 1,181 and a mortality rate of 15. Among subcategories of Asian populations, the highest incidences were experienced by Filipino persons (1,247) and Vietnamese persons (1,200). Disaggregating Native Hawaiian, Pacific Islander, and Asian race data can aid in identifying racial disparities among specific subpopulations and highlights the importance of partnering with communities to develop culturally responsive outreach teams[§§] and tailored public health interventions and vaccination campaigns to more effectively address health disparities.

Descriptive data of Hawaii state residents reported to HDOH during March 1, 2020–February 28, 2021, were analyzed to determine the number, percentage, and crude rates of COVID-19 cases and deaths using race categories that were not mutually exclusive. Data were analyzed among the five minimum racial origin categories defined by the Office of Management and Budget (American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White), and among Native Hawaiian, Pacific Islander, and Asian origin subcategories.[¶¶] Ethnicity was not included in this analysis because data on ethnicity were missing for 32% of reported cases and 9% of deaths. Race information for COVID-19 patients was mostly self-reported; race information for deaths was reported by patients premortem or by an observer (e.g., physician) or a proxy family member. Because a large proportion of Hawaii's population identifies as multiracial,[***] analyses were conducted with groups that were not mutually exclusive, including persons of one race alone or in combination with one or more races (*6*). Using this approach, persons of more than one race were counted multiple times, depending upon the number of race groups recorded. Thus, race categories (e.g., Native Hawaiian and Pacific Islander and Asian) and subcategories (e.g., Marshallese and Filipino) include persons with any mention of those races.

[§§] https://hawaiicovid19.com/wp-content/uploads/2021/03/COVID-19-Race-Ethnicity-Equity-Report.pdf

[¶¶] https://www.govinfo.gov/content/pkg/FR-1997-10-30/pdf/97-28653.pdf

[***] In 2019, 24.2% of Hawaii's population was multiracial, identifying as two or more races using OMB minimum race categories (https://census.hawaii.gov/wp-content/uploads/2020/06/Hawaii-Population-Characteristics-2019.pdf; (https://www.census.gov/prod/cen2010/briefs/c2010br-12.pdf). Using OMB minimum race categories, 19% of cases and 8% of deaths had two or more races indicated; when allowing for specific Native Hawaiian, Pacific Island, and Asian races, 21% of cases and 10% of deaths had two or more races indicated.

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Among 25,480 COVID-19 cases and 450 COVID-19–associated deaths reported in Hawaii during March 2020–February 2021, information on race was available for 21,005 (82%) patients and 449 (>99%) deaths. Information from these records was used to calculate incidence (cases per 100,000 population) and mortality (deaths per 100,000 population) and corresponding 95% confidence intervals (CIs) by population group. Population estimates were calculated using data from the U.S. Census Bureau.[†††] Analyses were conducted using SAS (version 9.4; SAS Institute). To maintain patient privacy, numbers of cases or deaths among racial groups were not reported when the number of cases or deaths was less than 10; rates were not calculated when less than 20 cases or deaths were reported. This public health surveillance activity was reviewed by HDOH and CDC and was conducted consistent with applicable state and federal law and CDC policy.[§§§,¶¶¶]

During March 1, 2020–February 28, 2021, in Hawaii the COVID-19 incidence was 1,477 per 100,000 population and mortality rate was 32 per 100,000 population (Table). In aggregated analyses of incidence, Native Hawaiian and Pacific Islander persons experienced the highest incidences (2,501) across the five minimum race categories. In disaggregated analyses, Pacific Islander persons, who account for 5% of Hawaii's population, represented 22% of cases. Pacific Islander persons had the highest COVID-19 incidence of 7,070; incidence among Native Hawaiian persons was 1,181. After further disaggregation, the highest incidence of cases among all Pacific Islander subcategories occurred among Marshallese persons (10,580), followed by Other Micronesian persons (8,991) and Samoan persons (4,525) (Figure). In disaggregated analyses of crude mortality, Pacific Islander persons experienced a crude mortality rate of 150 deaths per 100,000 population and accounted for 22% of deaths during this period. Mortality rate among Native Hawaiian persons was 15.

Among Asian persons, there was also substantial variation in incidence among subgroups after disaggregation (range = 568 to 1,247 cases per 100,000 population). The highest incidence of cases among Asian persons were among Filipino persons (1,247) and Vietnamese persons (1,200); incidence among Japanese persons was 568. Among Asian subcategories, crude mortality rates ranged from 20 deaths per 100,000 population among Chinese persons to 33 among Japanese persons.

[†††] Population estimates for "race alone and in combination with one or more other races" were from the U.S. Census Bureau's American Community Survey population estimates. https://www.census.gov/data/developers/datasets/acs-5year.html

[§§§] https://health.hawaii.gov/docd/files/2017/01/HAR-Title-11_Chapter-156.pdf

[¶¶¶] 45 C.F.R. part 46.102(l)(2), 21 C.F.R. part 56; 42 U.S.C. Sect. 241(d); 5 U.S.C. Sect. 552a; 44 U.S.C. Sect. 3501 et seq.

Discussion

Disaggregation of COVID-19 data in Hawaii revealed substantial disparities in COVID-19 case and mortality rates during March 1, 2020–February 28, 2021, among Native Hawaiian, Pacific Islander, and Asian persons that were obscured in the aggregate data. Detailed information on disparities in COVID-19 cases and deaths among Marshallese persons has been reported (*2*,*8*); however, less information has been available regarding other Pacific Islander or Asian subgroups. These findings demonstrate the value of having access to disaggregated data at the state level to identify and reduce disparities and to provide relevant data to communities (*4*,*5*,*7*).

Collection of disaggregated surveillance data was recommended by local Native Hawaiian and Pacific Islander communities and grassroots groups early in the pandemic, resulting in the updating of the COVID-19 case report form by HDOH to collect these data. Patients with COVID-19 whose cases were reported before revision of the case report form were retrospectively contacted by HDOH staff members for detailed race information.[****] During periods of higher incidence, HDOH continued to prioritize obtaining important demographic information, including race, even when conducting abbreviated case interviews. Efforts were designed to achieve a balance between highlighting the concerns of specific populations and inadvertently contributing to the stigmatization of groups who have been marginalized and who experience racism.

Race can serve as a marker for underlying systemic and structural inequities that drive health disparities. The COVID-19 pandemic underscores the need to prevent and reduce inequities in the social determinants of health, access to health care, and health conditions (*8*,*9*). There are simultaneous needs for advancing cultural responsiveness, language access, and sensitivity in public health strategies for preventing COVID-19 among Native Hawaiian, Pacific Islander, and Asian subgroups.[††††] In Hawaii, disaggregation of COVID-19 surveillance data facilitated collaboration between HDOH and community partners equipped with culturally situated knowledge (*8*,*10*) to address disparities through tailored strategies.

[****] Case information was collected through three possible mechanisms including either a provider form (revised version https://health.hawaii.gov/docd/files/2020/01/COVID-19_Short-Form_Fillable_For_Physicians.pdf), case investigation form, or the HDOH case surveillance system (which uses the CDC Public Health Race Value set: https://phinvads.cdc.gov/vads/ViewValueSet.action?id=67D34BBC-617F-DD11-B38D-00188B398520). For the provider and case investigation forms, persons who provided Pacific Islander race or Other Asian race were given the opportunity to specify which specific Pacific Islander or Asian race with which they identified. Persons with race indicated as Pacific Islander or Filipino race were followed up with by the HDOH Pacific Islander Priority Investigations and Outreach Team.

[††††] https://www.federalregister.gov/documents/2021/01/29/2021-02073/condemning-and-combating-racism-xenophobia-and-intolerance-against-asian-americans-and-pacific?utm_medium

TABLE. Distribution of COVID-19 cases, incidence, deaths, and mortality rates, by race (alone or in combination with one or more other races)*,† — Hawaii, March 1, 2020–February 28, 2021

Race§	Population¶ (%)	No. of cases¶ (%)	Cases per 100,000 population (95% CI)	No. of deaths¶ (%)	Deaths per 100,000 population (95% CI)
All races	**1,422,094**	**21,005**	**1,477 (1,457–1,497)**	**449**	**32 (29–35)**
Native Hawaiian and Pacific Islander	369,956 (26)	9,253 (44)	2,501 (2,451–2,551)	145 (32)	39 (33–46)
Native Hawaiian**	304,167 (21)	3,591 (17)	1,181 (1,142–1,219)	45 (10)	15 (11–19)
Pacific Islander††,§§	65,789 (5)	4,651 (22)	7,070 (6,874–7,265)	99 (22)	150 (121–180)
Samoan	34,674 (2)	1,569 (7)	4,525 (4,306–4,744)	21 (5)	61 (35–87)
Tongan	7,855 (1)	190 (1)	2,419 (2,079–2,759)	<10¶¶ (<1)	—***
Other Polynesian	5,372 (<1)	54 (<1)	1,005 (739–1,272)	<10 (<1)	—
Guamanian or Chamorro	6,185 (<1)	59 (<1)	954 (712–1,196)	<10 (<1)	—
Marshallese	8,960 (1)	948 (5)	10,580 (9,944–11,217)	19 (4)	—
Other Micronesian	20,198 (1)	1,816 (9)	8,991 (8,597–9,386)	49 (11)	243 (175–310)
Fijian	816 (<1)	17 (<1)	—***	0 (—)	0 (—)
Other Melanesian	64 (<1)	<10 (<1)	—	0 (—)	0 (—)
Other Pacific Islander, not specified	3,725 (<1)	148 (1)	3,973 (3,346–4,600)	<10 (<1)	—
Asian†††	802,551 (56)	8,807 (42)	1,097 (1,075–1,120)	272 (61)	34 (30–38)
Japanese	310,397 (22)	1,762 (8)	568 (541–594)	101 (22)	33 (26–39)
Filipino	367,291 (26)	4,579 (22)	1,247 (1,211–1,283)	108 (24)	29 (24–35)
Chinese	205,126 (14)	1,448 (7)	706 (670–742)	42 (9)	20 (14–27)
Korean	52,410 (4)	339 (2)	647 (578–716)	14 (3)	—
Vietnamese	14,998 (1)	180 (1)	1,200 (1,026–1,374)	<10 (<1)	—
White	611,108 (43)	5,790 (28)	947 (923–972)	52 (12)	9 (6–11)
Black	50,593 (4)	702 (3)	1,388 (1,286–1,490)	<10 (<1)	—
American Indian or Alaska Native	34,512 (2)	203 (1)	588 (508–669)	<10 (<1)	—
Other race§§§	36,646 (3)	1,347 (6)	3,676 (3,483–3,868)	10 (2)	—

Abbreviations: CI = confidence interval; HDOH = Hawaii State Department of Health.

* Data analyzed included 21,005 (82%) of 25,480 cases and 449 (>99%) of 450 deaths, for whom information on race was available, reported to the HDOH during March 1, 2020–February 28, 2021. Incidence was calculated using the following equation: (cases/population) x 100,000 persons. Crude death rates were calculated using the following equation: (deaths/population) x 100,000 persons. 95% CIs were computed using normal approximation for standard errors for proportions. Population estimates were from the U.S. Census Bureau's American Community Survey population estimates.

† Data from race groups were examined without regard to ethnicity. Race information for cases was mostly self-reported; race information for deaths were reported by patients premortem, by an observer (e.g., physician), or by a proxy family member. Analyses were conducted with groups that were not mutually exclusive including persons of a race alone or in combination with one or more races. Using this approach, persons with more than one race indicated were included in the total of each race reported. Thus, all race categories (e.g., Asian) and subcategories (e.g., Filipino) consist of persons with any mention of those race categories or subcategories.

§ Alone or in combination with one or more races.

¶ Category values do not sum to the total count or percentage because categories represent persons of a race alone or in combination with one or more other races. Subcategory values do not sum to category values for the same reason.

** This category includes persons identified as Native Hawaiian alone or in combination with another race.

†† This category includes persons identified as Pacific Islander alone or in combination with another race (e.g., this can include persons identified with both the Native Hawaiian race and a non-Native Hawaiian and Pacific Islander race). This category was calculated by identifying the proportion of population, cases, and deaths that remained from the total Native Hawaiian and Pacific Islander population after considering Native Hawaiian single race data.

§§ Pacific Islander subcategories represent the populations among this group with the largest representation in Hawaii. Persons of more than one specific Pacific Islander race could be in more than one specific Pacific Islander race category. Pacific Islander persons with the Pacific Islander race category selected but who did not have a specific Pacific Islander race listed are included in the "Other Pacific Islander, not specified" category.

¶¶ <10 cases or deaths were reported; excludes zero. To maintain patient privacy, counts of cases or deaths among race groups were not reported when number of cases or deaths were <10.

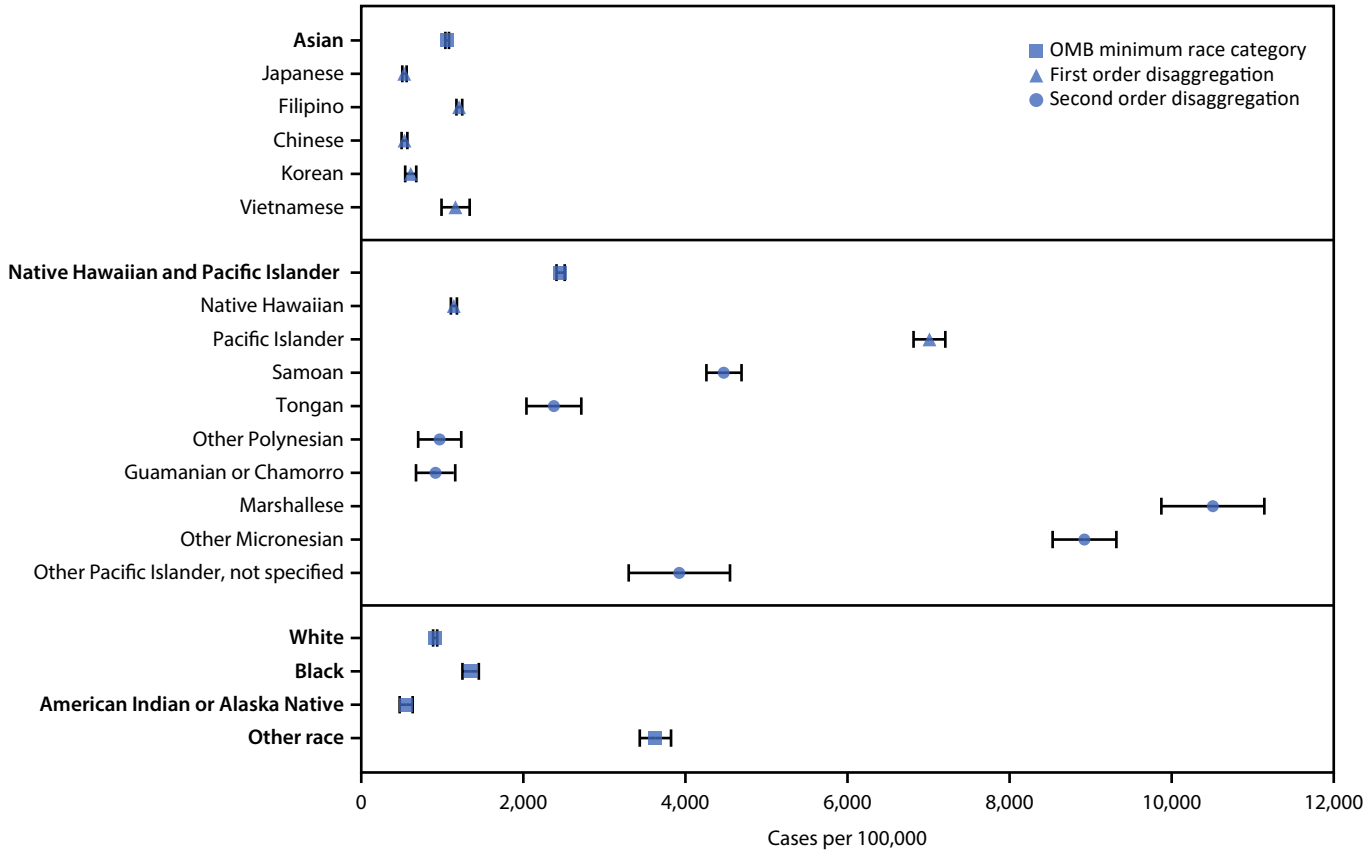
*** Dashes indicate that rates were not calculated where <20 cases or deaths were reported.

††† Asian subcategories represent the populations among this group with the largest representation in Hawaii.

§§§ Other race category includes persons with the "other" race category selected with no further specifications or with specified races that were not listed as a category (e.g., if a person had "Hispanic or Latino" indicated as their "race" or had written in a specific country).

HDOH created the Pacific Islander Priority Investigations and Outreach Team by engaging and training culturally responsive and linguistically diverse case investigators, contact tracers, and community health workers. The team includes staff members from the most affected Pacific Islander communities. This team provided translated prevention information, improved access to resources (e.g., isolation and quarantine facilities and comprehensive social services through community partners), and supported community outreach (e.g., providing interpretation assistance at testing sites). Prevention messaging incorporated cultural values and highlighted messages of protecting community; alternative strategies were encouraged for engaging in important cultural traditions and practices (e.g., cultivating collaborative partnerships to support virtual capacity for religious services). These efforts complemented efforts by

FIGURE. COVID-19 case rates,* by race (alone or in combination with one or more other races)[†,§,¶] — Hawaii, March 1, 2020–February 28, 2021



Abbreviations: CI = confidence interval; OMB = Office of Management and Budget.

* Case rates were based on COVID-19 cases reported to the Hawaii State Department of Health during March 1, 2020–February 28, 2021 and were calculated as (cases/population) x 100,000. Population estimates were from the U.S. Census Bureau's American Community Survey population estimates. Data analyzed included 21,005 (82%) of 25,480 patients for whom information on race was available. Bars represent 95% CIs for the rates.

† Data from racial groups were examined without regard to ethnicity. Analyses were conducted with groups that were not mutually exclusive including persons of a race alone or in combination with one or more races; persons of more than one race were included in the total for each race reported. Asian, American Indian or Alaska Native, Black or African American, Native Hawaiian and Other Pacific Islander, and White represent the five minimum race categories required by the OMB. Samoan, Tongan, Other Polynesian, Guamanian or Chamorro, Marshallese, Other Micronesian, and Other Pacific Islander, not specified represent subcategories within the Pacific Islander category.

§ Square markers indicate Other race or OMB's five minimum race categories (American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White).

¶ Other race category includes persons with the "other" race category selected with no further specifications or with specified races that were not listed as a category (e.g., if a person had "Hispanic or Latino" indicated as their "race" or had written in a specific country).

advocate organizations and grassroots initiatives within Native Hawaiian, Pacific Islander, and Filipino communities.[§§§§]

The findings in this report are subject to at least six limitations. First, these data could underestimate COVID-19 case rates because of undetected cases and the exclusion of 18% of cases because data on race were missing. Second, case information was not available on characteristics such as occupation, income, and education, which can influence COVID-19 outcomes, and nativity and generational status, which might be associated with access to services and other social determinants of health. Third, the examination of disparities among specific combinations of categories (e.g., persons who are Samoan and White) was not possible because detailed U.S. Census data to calculate these rates were not available. Fourth, differences in the collection of race information between the case surveillance system and U.S. Census forms might have led to overestimation of rates among some race subgroups. For some races, race information was collected using explicit check-box options during case investigations, and in the U.S. Census, race information was collected through written-in free text that was

§§§§ Advocate organizations and grassroots initiatives within Native Hawaiian, Pacific Islander, and Filipino communities included the Native Hawaiian and Pacific Islander Hawai'i COVID-19 Response Recovery and Resiliency Team. (https://www.nhpicovidhawaii.net/) and the FilCom CARES project (https://www.filcomcares.org), among others.

later coded.¶¶¶¶ This could potentially lead to the reduction of rate denominators among specific race groups. Fifth, age-adjustment or stratification of rates could not be conducted because of lack of age-specific U.S. Census population information and limited sample sizes among specific Native Hawaiian, Pacific Islander, and Asian subgroups. Data on comorbidities, such as obesity, were also not available, limiting the ability to control for medical conditions which might vary across racial groups. Inability to incorporate age and comorbidities in analysis of mortality data could potentially lead to under- or overestimation of disparities in mortality rates.***** Finally, the use of race groups that were not mutually exclusive might limit the ability to make direct comparisons between groups because multiracial persons could be counted in more than one race group. Nonetheless, the use of race groups that were not mutually exclusive is advantageous when analyzing data among multiracial persons.

Substantial disparities in COVID-19 incidence and mortality rates during March 1, 2020–February 28, 2021, were identified through community-informed data disaggregation among Native Hawaiian, Pacific Islander, and Asian subgroups in Hawaii. The disparities identified among Marshallese, Other Micronesian, Samoan, Filipino, and Vietnamese persons, which were obscured in aggregated analysis, highlight the importance of partnering with these populations to develop culturally responsive outreach teams and tailored public health interventions and vaccination campaigns to more effectively address health disparities.

¶¶¶¶ Specific Pacific Islander groups coded in the U.S. Census based on free-text responses are "Tongan," "Other Polynesian," "Marshallese," "Other Micronesian," "Fijian," and "Other Melanesian."

***** Unpublished analysis of COVID-19 mortality data from Hawaii suggests that age adjustment of mortality rates results in more pronounced disparities for COVID-19 mortality among populations with younger age distributions (e.g., Native Hawaiian and Pacific Islander persons) compared with populations with older age distributions (e.g., Japanese or White persons).

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Summary

What is already known about this topic?

Aggregated race data can obscure health disparities among subgroups.

What is added by this report?

During March 2020–February 2021, community-informed data disaggregation in Hawaii indicated Pacific Islander persons, who account for 5% of the Hawaiian population, represented 22% of COVID-19 cases and 22% of COVID-19–related deaths. Among Asian populations, the highest COVID-19 incidences occurred among Filipino and Vietnamese persons.

What are the implications for public health practice?

Disaggregating race data can aid in identifying racial disparities among specific subpopulations and highlights the importance of partnering with communities to develop culturally responsive outreach teams and tailored public health interventions and vaccination campaigns to more effectively address health disparities.

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References

1. Center KE, Da Silva J, Hernandez AL, et al. Multidisciplinary community-based investigation of a COVID-19 outbreak among Marshallese and Hispanic/Latino communities—Benton and Washington counties, Arkansas, March–June 2020. MMWR Morb Mortal Wkly Rep 2020;69:1807–11. PMID:33270609 https://doi.org/10.15585/mmwr.mm6948a2
2. Hollis ND, Li W, Van Dyke ME, et al. Racial and ethnic disparities in incidence of SARS-CoV-2 infection, 22 US States and DC, January 1–October 1, 2020. Emerg Infect Dis 2021;27:1477–81. PMID:33900192 https://doi.org/10.3201/eid2705.204523
3. Samoa RA, Kaholokula JK, Penaia C, et al. COVID-19 and the state of health of Pacific Islanders in the United States. AAPI Nexus 2020;17. https://www.aapinexus.org/2020/09/24/article-covid-19-and-the-state-of-health-of-pacific-islanders-in-the-united-states/
4. Nguyen AB. Disaggregating Asian American and Native Hawaiian and Other Pacific Islander (AANHOPI) adult tobacco use: findings from wave 1 of the population assessment of tobacco and health (PATH) study, 2013–2014. J Racial Ethn Health Disparities 2019;6:356–63. PMID:30610569 https://doi.org/10.1007/s40615-018-00532-1
5. Bacong AM, Holub C, Porotesano L. Comparing obesity-related health disparities among Native Hawaiians/Pacific Islanders, Asians, and Whites in California: reinforcing the need for data disaggregation and operationalization. Hawaii J Med Public Health 2016;75:337–44. PMID:27920944
6. Kaneshiro B, Geling O, Gellert K, Millar L. The challenges of collecting data on race and ethnicity in a diverse, multiethnic state. Hawaii Med J 2011;70:168–71. PMID:21886309

7. Adia AC, Nazareno J, Operario D, Ponce NA. Health conditions, outcomes, and service access among Filipino, Vietnamese, Chinese, Japanese, and Korean adults in California, 2011–2017. Am J Public Health 2020;110:520–6. PMID:32078359 https://doi.org/10.2105/AJPH.2019.305523
8. McElfish PA, Purvis R, Willis DE, Riklon S. COVID-19 disparities among Marshallese Pacific Islanders. Prev Chronic Dis 2021;18:E02. PMID:33411668 https://doi.org/10.5888/pcd18.200407
9. McElfish PA, Purvis RS, Riklon S, Yamada S. Compact of free association migrants and health insurance policies: barriers and solutions to improve health equity. Inquiry 2019;56:46958019894784. PMID:31823677 https://doi.org/10.1177/0046958019894784
10. Kaholokula JK, Ing CT, Look MA, Delafield R, Sinclair K. Culturally responsive approaches to health promotion for Native Hawaiians and Pacific Islanders. Ann Hum Biol 2018;45:249–63. PMID:29843522 https://doi.org/10.1080/03014460.2018.1465593