

# **COVID-19 morbidity and mortality by race, ethnicity and spoken language in Washington state**

**Washington State Department of Health**

**March 21, 2023**



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# COVID-19 morbidity and mortality by race, ethnicity and spoken language in Washington state

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### Overview

The impacts of COVID-19 morbidity and mortality have not been felt equally by all populations in Washington state. The pandemic has exacerbated the underlying and persistent inequities among historically marginalized communities and those disproportionately impacted due to structural racism and other forms of systemic oppression. This report provides an overview of confirmed or probable COVID-19 case, hospitalization, and death rates by race and ethnicity at state and regional levels. It also provides counts and percentages of confirmed or probable cases and hospitalizations by primary language spoken. Throughout this report, the COVID-19 case definition includes both molecular testing and antigen testing. Molecular positive cases are considered confirmed cases and antigen positive cases are considered probable cases. All hospitalization, death, and testing data reported here are based on positive molecular or antigen test results.

All rates presented in this report are adjusted for age using the Washington state population distribution based on the Office of Financial Management's (OFM) April 1, 2020 population estimates by age, sex, race, and Hispanic origin. The rate calculations are for the population groups available from OFM for the Washington state population and follow Department of Health guidelines. Hispanic ethnicity was assigned first, regardless of race, and then racial groups were identified for those identifying as non-Hispanic. Based on this, the current report includes the following groups:

- Hispanic; and
- non-Hispanic race categorizations for white, Black, Native Hawaiian or Pacific Islander (NHPI), Asian, and American Indian or Alaska Native (AIAN), and multiracial, which includes individuals who reported two or more races.

While this allows assessment of data by race and ethnicity groups, this categorization is incomplete and does not reflect the diversity of people and experiences across the state. Additionally, there is a significant lack of race and ethnicity reporting for confirmed or probable COVID-19 cases and hospitalizations (about 30% missing). Primary language spoken is missing for about 78% of cases and hospitalizations. Age information is missing for a small percentage of confirmed or probable cases (about 0.1%), and these cases are not included in age-adjusted

rates. The lack of data limits our ability to draw firm conclusions; however, there are some concerning patterns reported below.

## **Cumulative age-adjusted confirmed or probable COVID-19 case, hospitalization, and death rates by race and ethnicity per 100,000 population**

The table and figures below describe the counts and age-adjusted rates per 100,000 population in Washington by race and ethnicity for confirmed or probable cases, hospitalizations, and deaths for the entire time period from the start of the pandemic through 2023-03-11 based on the specimen collection date. 95% confidence intervals are included in the charts.

The data show that communities of color are disproportionately impacted by COVID-19 in significant ways, including the following.

### **COVID-19 confirmed or probable case rates**

- NHPI and AIAN populations have the highest age-adjusted confirmed or probable case rates while Asian and multiracial populations have the lowest case rates.
- Confirmed or probable case rates for NHPI and AIAN populations are approximately three times higher than case rates for Asian and multiracial populations.
- Confirmed or probable case rates for Black populations are approximately two times higher than case rates among Asian and multiracial populations.

### **COVID-19 hospitalization rates among confirmed or probable cases**

- Hospitalization rates among confirmed or probable COVID-19 cases are the highest for NHPI populations and lowest for Asian populations.
- NHPI hospitalization rates among confirmed or probable COVID-19 cases are approximately five times higher than white populations.
- Hispanic hospitalization rates among confirmed or probable COVID-19 cases are approximately two times higher than white populations.
- Hospitalization rates among confirmed or probable COVID-19 cases for Black and AIAN populations are approximately two times higher compared to white populations.

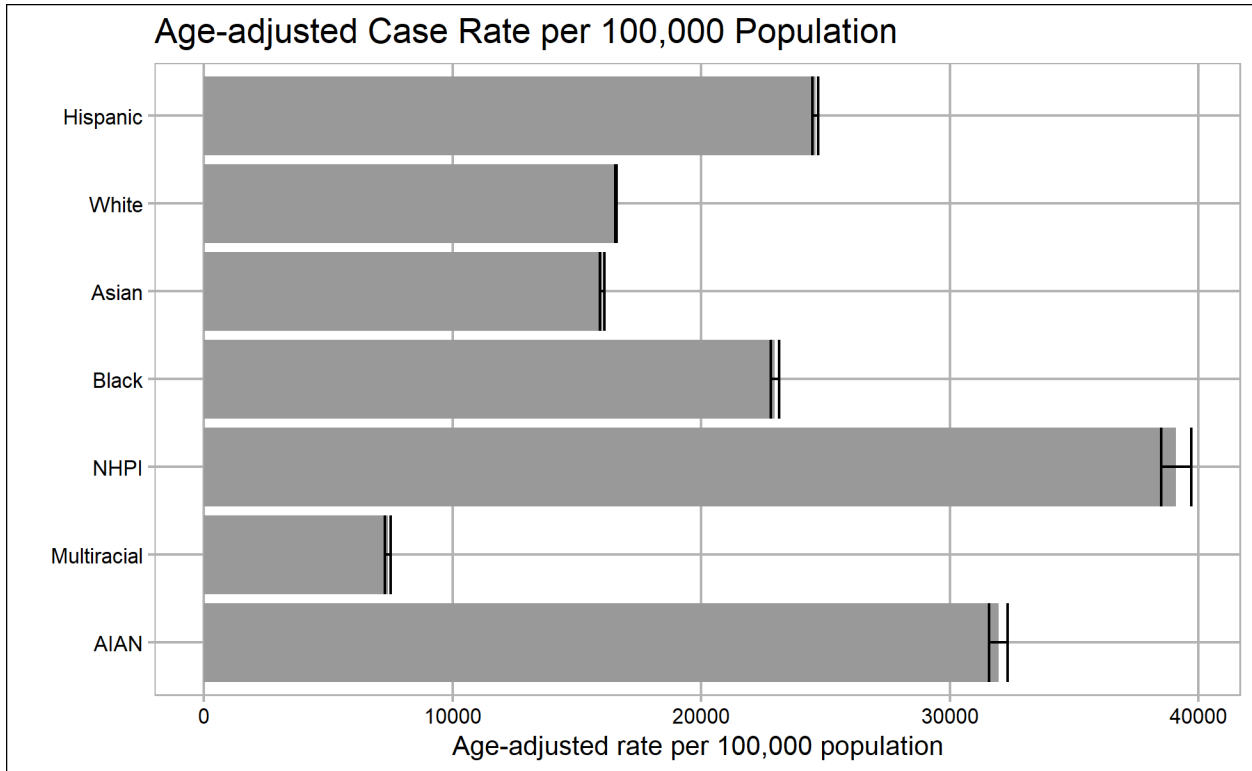
### **COVID-19 death rates among confirmed or probable cases**

- Asian populations have the lowest death rates among confirmed or probable COVID-19 cases of all race/ethnicity groups.
- NHPI populations have death rates among confirmed or probable COVID-19 cases that are approximately five times higher than white and Asian populations.
- AIAN and Hispanic populations have death rates among confirmed or probable COVID-19 cases that are approximately three times higher than Asian populations.
- Black populations have death rates among confirmed or probable COVID-19 cases that are about twice as high as white populations.

**Table 1. Confirmed or probable COVID-19 case, hospitalization, and death count and age-adjusted rates by race/ethnicity 2020-03-01 to 2023-03-11**

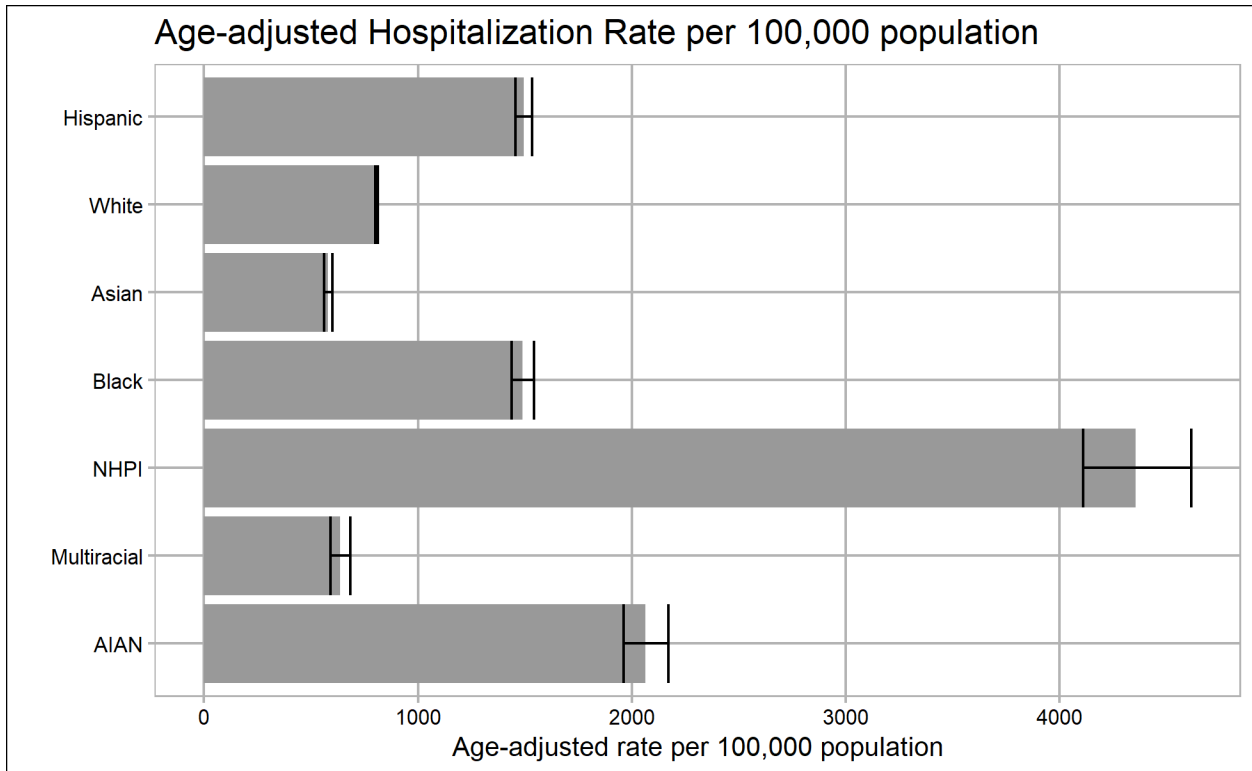
Race/Ethnicity	Case Count	Age-Adjusted Case Rate per 100,000	Hospitalization Count	Age-Adjusted Hospitalization Rate per 100,000	Death Count	Age-Adjusted Death Rate per 100,000
All Races	1,935,119	25275.2	82,353	1075.6	15,826	206.7
Unknown	587,855		14,504		203	
Hispanic	242,540	24595.4	8,121	1494.8	1,262	374.6
White	829,230	16571.2	47,972	806.5	12,151	188.7
Asian	119,110	16021.0	3,392	579.6	874	175.0
Black	71,614	22962.9	3,530	1490.1	544	301.5
NHPI	21,659	39105.8	1,596	4354.7	246	905.3
Multiracial	21,209	7392.4	901	636.6	214	177.4
AIAN	30,673	31953.4	1,684	2064.5	332	478.4
Other	11,229		653		0	

The following graph indicates the age-adjusted confirmed or probable COVID-19 case rate per 100,000 population by race/ethnicity during the time period 2020-03-01 to 2023-03-11



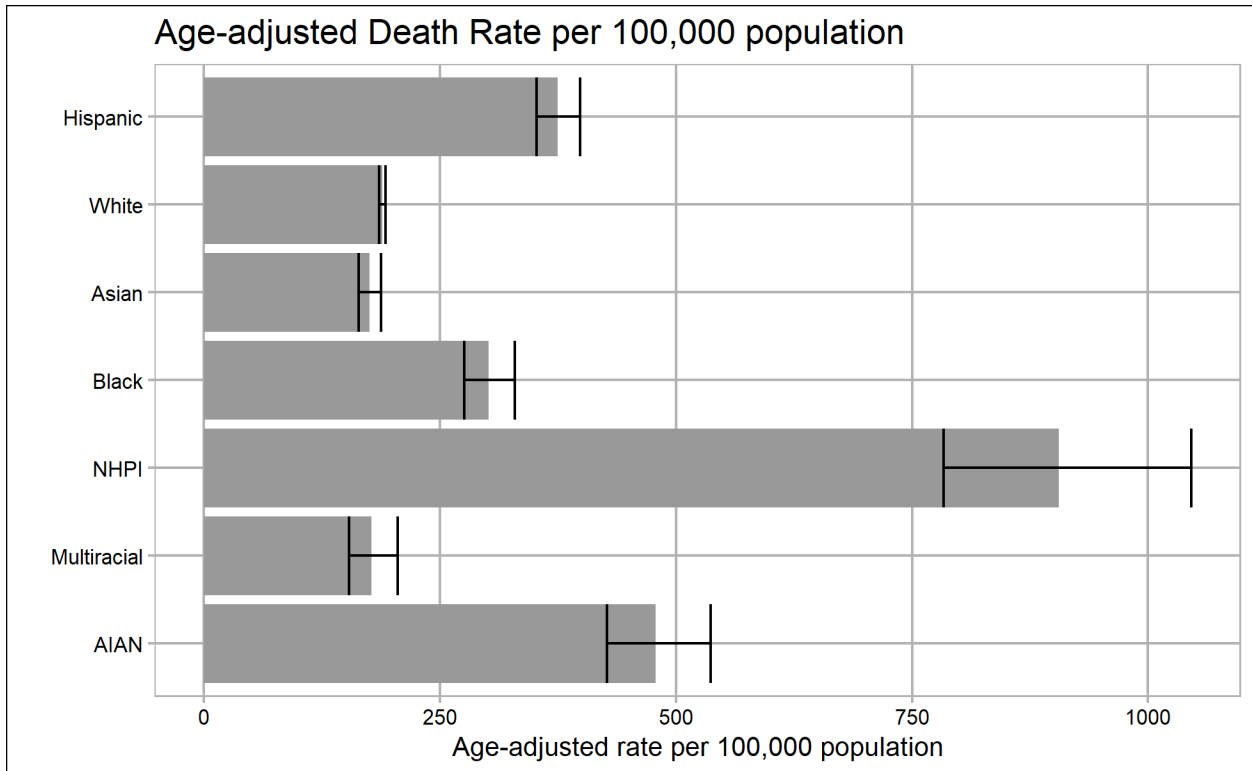
Source: Washington Disease Reporting System (WDRS)

The following graph indicates the age-adjusted hospitalization rate among confirmed or probable COVID-19 cases per 100,000 population by race/ethnicity during the time period 2020-03-01 to 2023-03-11



Source: Washington Disease Reporting System (WDRS)

The following graph indicates the age-adjusted death rate among confirmed or probable COVID-19 cases per 100,000 population by race/ethnicity during the time period 2020-03-01 to 2023-03-11



Source: Electronic Death Registration System (EDRS) and Washington Health and Life Events System (WHALES)

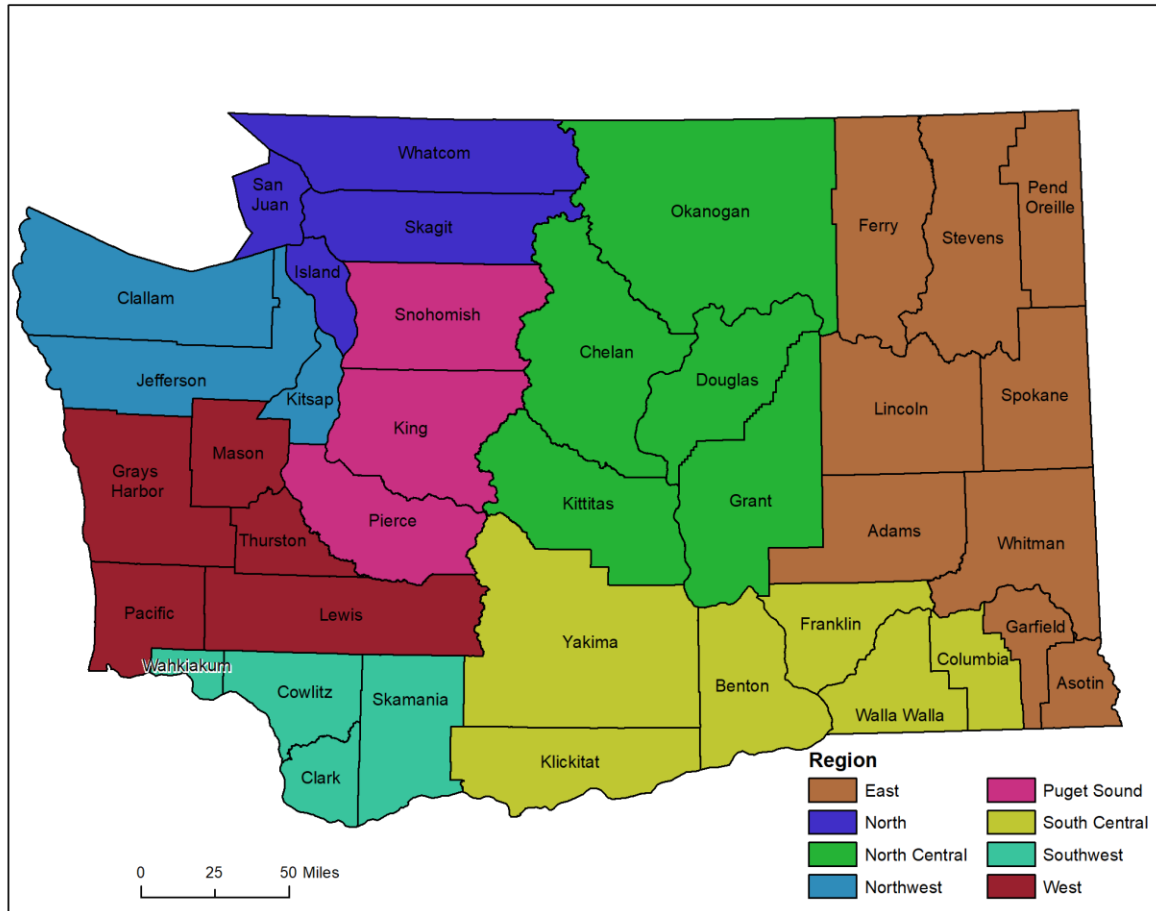
## Analysis of confirmed or probable COVID-19 cases by geographic region

### Regional groupings of Washington state counties

Some counties may not have sufficient case counts to analyze trends by race and ethnicity. In order to incorporate data from counties of all sizes, counties were assigned into one of 8 analytic regions (see Map of Washington Counties and Analysis Regions below). The regions presented were developed by the Washington State Department of Health in order to better understand geographic differences in disease spread and how disease spread may be changing over time. While infection rates may not be the same within any given region, this regional grouping allows for more specific geographic analyses without excluding any counties or communities due to concerns about smaller numbers.



## Map of Washington counties by DOH analysis regions



## Missing race/ethnicity data by region

The North and Southwest regions have the highest percentage of missing race/ethnicity data among confirmed or probable COVID-19 cases and the North Central and East regions have the lowest percentage of missing data on race/ethnicity, as indicated in the following table. The total number of confirmed or probable cases, and the number and percentage of confirmed or probable cases with missing data are shown in Table 2.

**Table 2. Counts and percentage of confirmed or probable COVID-19 cases with unknown race/ethnicity by DOH analytic region 2020-03-01 to 2023-03-11.**

Region	Case Count	Cases with Unknown Race/Ethnicity	% Cases with Unknown Race/Ethnicity
East	194,509	51,712	27%
North	94,129	37,015	39%

Region	Case Count	Cases with Unknown Race/Ethnicity	% Cases with Unknown Race/Ethnicity
North Central	90,650	20,340	22%
Northwest	73,773	26,965	37%
Puget Sound	1,004,391	296,209	29%
South Central	207,309	62,637	30%
Southwest	142,450	56,650	40%
West	125,840	34,817	28%
Unknown	3,207	2,197	69%

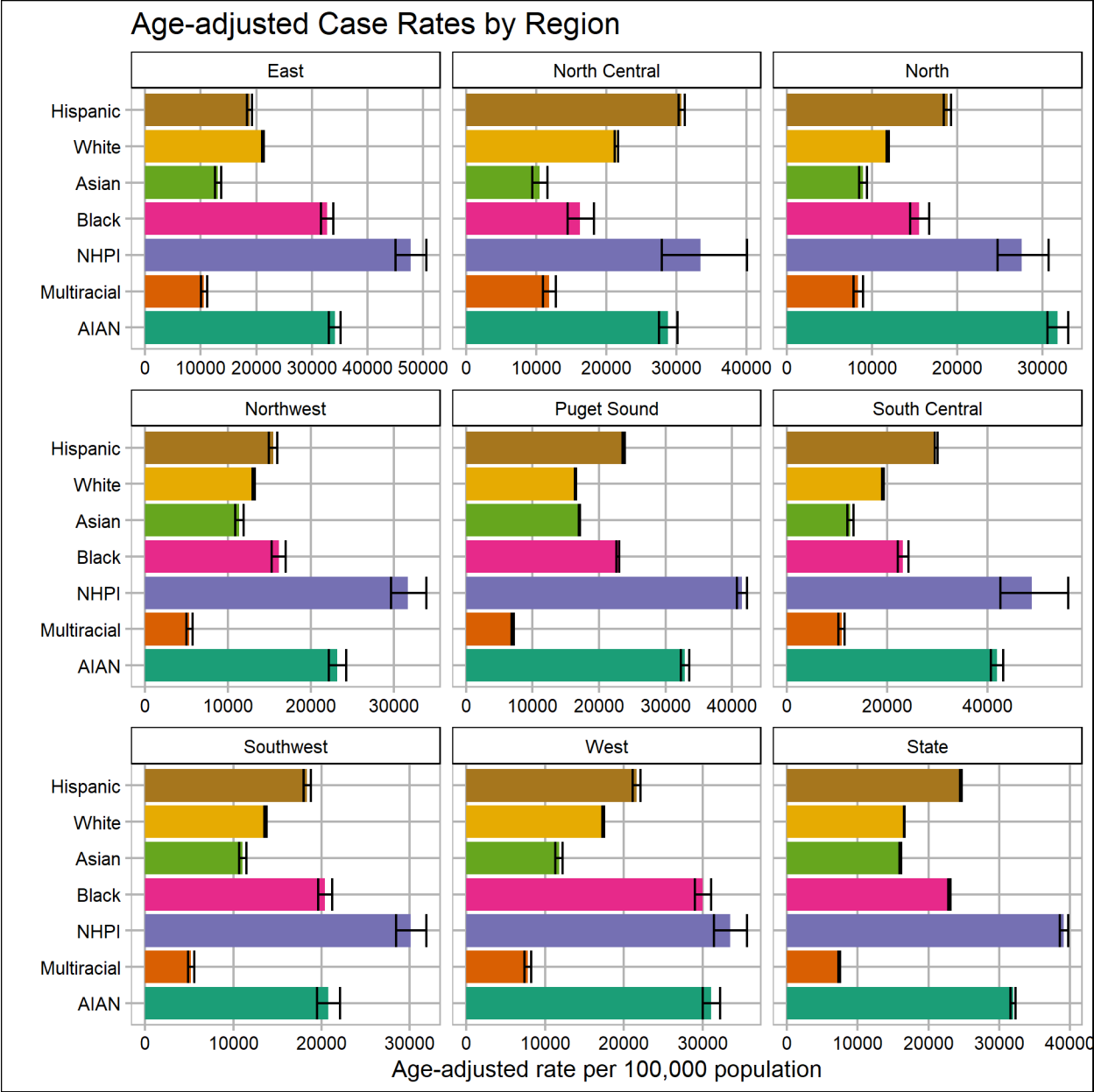
*Source: Washington Disease Reporting System (WDRS)  
Includes data from 2020-03-01 to 2023-03-11*

### **Cumulative age-adjusted confirmed or probable COVID-19 case rates by race, ethnicity, and analytic region**

The following figures describe the age-adjusted confirmed or probable COVID-19 case rates per 100,000 population by race/ethnicity and region. They were calculated using the confirmed or probable cases with known race/ethnicity (about 70% of all reported cases).

It is important to note that the numeric scale differs across regions, so use caution when comparing two or more regions, as their scales may differ. The last figure (lower right corner) presents the age-adjusted confirmed or probable COVID-19 case rates for the whole state.

These data indicate that COVID-19 is found in significant numbers across racial and ethnic groups throughout the state, and it is not confined to certain areas, such as rural, urban, or suburban regions. Population centers in Puget Sound contribute substantially to the counts. However less populated regions, like South Central Washington, show larger rate differences by race/ethnicity, although they have smaller populations of racial and ethnic minorities. Further, while extreme disparities exist, people of all races and ethnicities are impacted.

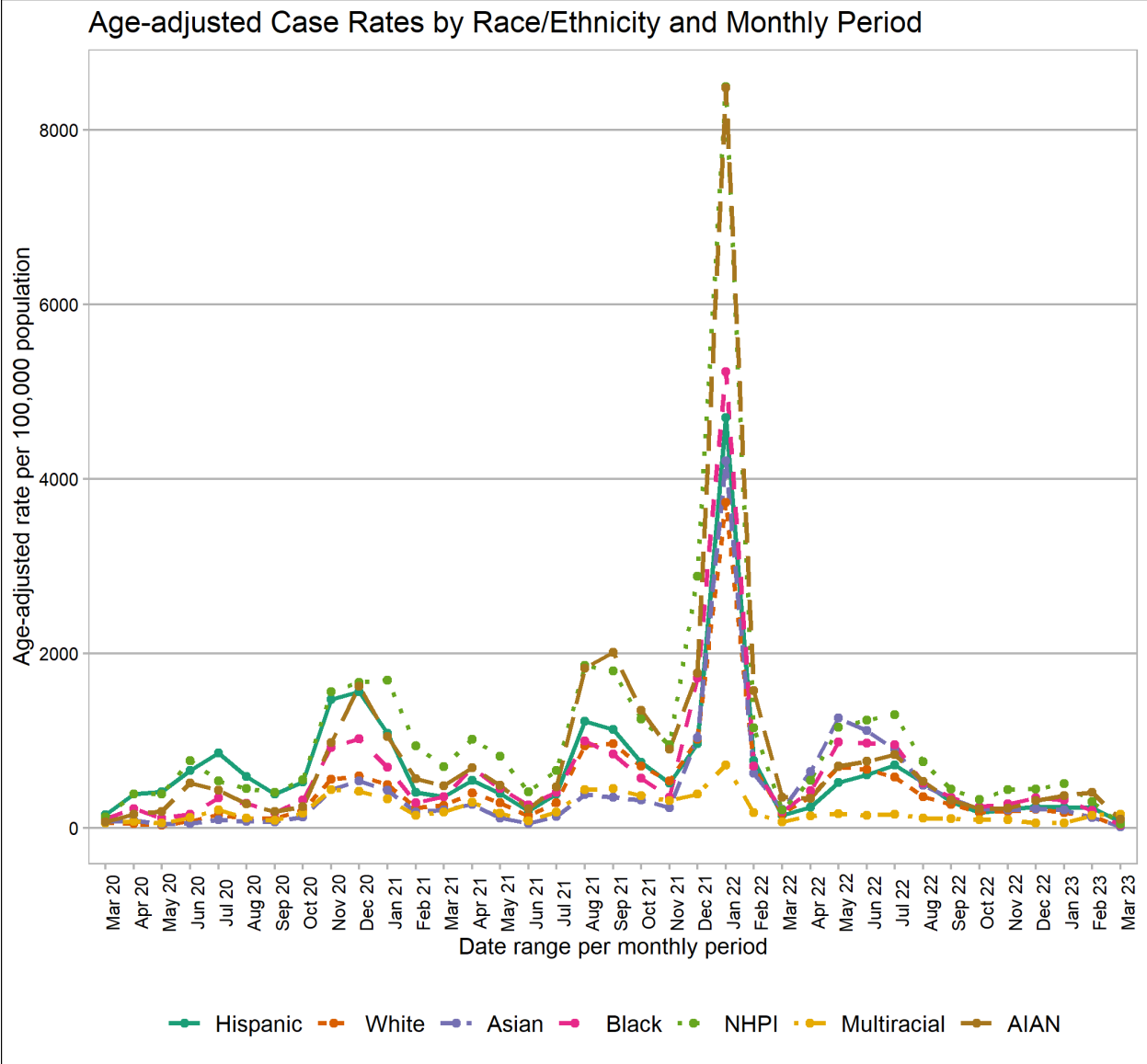


Source: Washington Disease Reporting System (WDRS)

Includes data from 2020-03-01 to 2023-03-11

**Age-adjusted confirmed or probable COVID-19 case rates by race and ethnicity per monthly period (Mar 2020-Mar 2023\*)**

\*March 2023 data include all confirmed or probable cases with a specimen collection date through 2023-03-11 to include the most recent, complete monthly period of data collection.



Confirmed or probable COVID-19 case rates, adjusted for age by race and ethnicity, were calculated to better understand how race- and ethnicity-specific patterns may be changing over time by two-week period. Race/ethnicity-specific counts and age-adjusted rates increased for all race/ethnicity groups through July and early August 2020. All groups declined from early August to mid/late-August and flattened through September 2020. All race/ethnicity-age-adjusted rates began to rapidly increase in mid-October through the end of November. Rates of confirmed or probable cases remain highest for Hispanic and NHPI population, and higher Black and AIAN populations in comparison to white, Asian, and multiracial populations.

**Table 3. Age-adjusted confirmed or probable COVID-19 case rates by race and ethnicity per two-week period (February 12, 2023 - March 11, 2023)**

Race/Ethnicity	Two-Week Period	Case Count	Age-Adjusted Case Rate per 100,000	Lower 95% Confidence Interval	Upper 95% Confidence Interval
Hispanic	Feb 12, 23- Feb 25, 23	876	106.9	98.3	116.1
	Feb 26, 23- Mar 11, 23	736	92.5	84.3	101.5
White	Feb 12, 23- Feb 25, 23	3,125	57.0	55.1	59.1
	Feb 26, 23- Mar 11, 23	1,308	23.4	22.2	24.7
Asian	Feb 12, 23- Feb 25, 23	333	47.7	42.7	53.3
	Feb 26, 23- Mar 11, 23	80	11.3	9.0	14.2
Black	Feb 12, 23- Feb 25, 23	223	78.8	68.6	90.5
	Feb 26, 23- Mar 11, 23	108	39.9	32.7	48.8
NHPI	Feb 12, 23- Feb 25, 23	59	124.6	90.6	171.3
	Feb 26, 23- Mar 11, 23	17	40.6	22.0	74.7
Multiracial	Feb 12, 23- Feb 25, 23	125	79.5	65.0	97.4
	Feb 26, 23- Mar 11, 23	288	196.7	172.1	224.8
AIAN	Feb 12, 23- Feb 25, 23	191	222.5	191.8	258.2
	Feb 26, 23- Mar 11, 23	101	119.9	97.6	147.4

Source: Washington Disease Reporting System (WDRS)

## Cumulative crude confirmed or probable case counts and percentages by language spoken

Analysis of language spoken provides another important method to understand health disparities and communities impacted by COVID-19. Use of one method alone may mask health disparities and community-specific impacts. Almost half of reported confirmed or probable cases are missing information on primary language. Despite missing data, there are some important observations.

The following table presents counts and percentages of confirmed or probable cases, by primary language spoken. The percentage of the Washington state population 5 years and over with limited English proficiency that speak each language are also included to provide context. The information on the percentage of the Washington state population with limited English proficiency come from the Office of Financial Management 2016 estimates. Findings should be interpreted with caution due to the high proportion of missing data (78%).

**Table 4. Confirmed or probable COVID-19 case count and percentage of cases by primary language spoken 2020-03-01 to 2023-03-11.**

Language	Case Count	% of Cases	% of WA Population with Limited English Proficiency*
All Cases	1,940,187	100.0%	
Unknown Language	1,516,150	78.1%	
Known Language	424,037	21.9%	
English	371,971	87.7*%	
Marshallese	360	0.1*%	0.1
Vietnamese	1,377	0.3*%	0.5
Russian	1,803	0.4*%	0.3
Chinese (all)	16	0.0*%	0.3
Ukrainian	328	0.1*%	0.2
Somali	370	0.1*%	0.1
Tagalog	187	0.0*%	0.1
Amharic	215	0.1*%	0.1
Other	47,410	11.2*%	

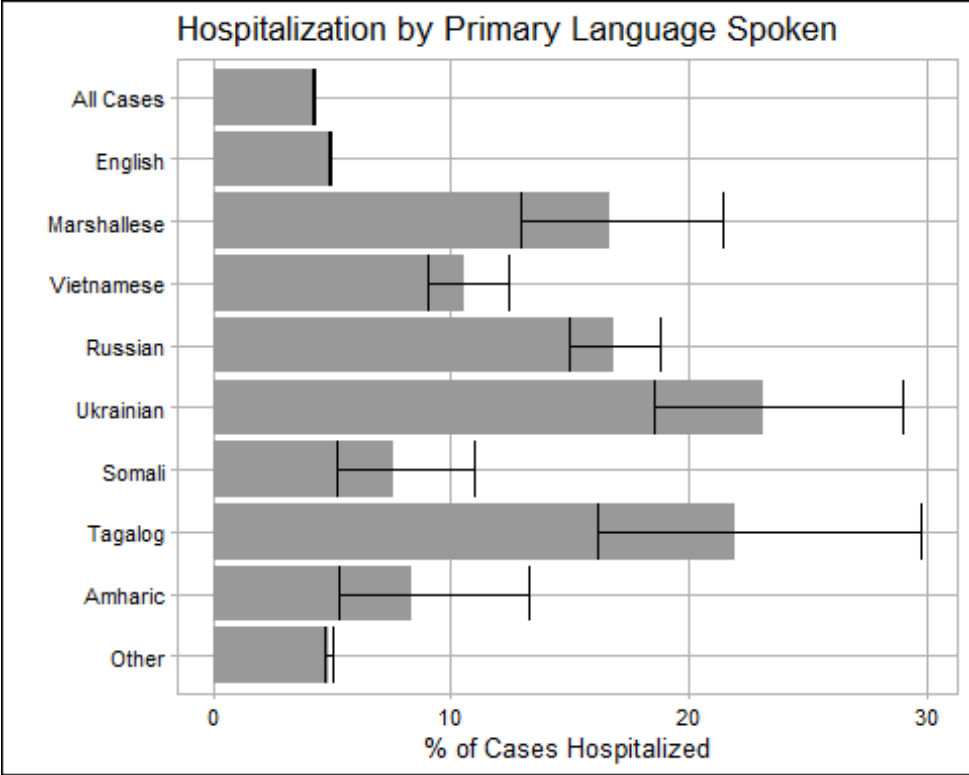
\*For more information on the selected WA populations by primary language reported here, please see the WA OFM methodology, [https://ofm.wa.gov/sites/default/files/public/legacy/pop/subject/ofm\\_pop\\_limited\\_english\\_proficiency\\_methodology.pdf](https://ofm.wa.gov/sites/default/files/public/legacy/pop/subject/ofm_pop_limited_english_proficiency_methodology.pdf)

## Cumulative hospitalization percentages among confirmed or probable COVID-19 cases by language spoken

The following table and graph present the percentages of confirmed or probable cases who were hospitalized, by primary language spoken. The high rates of hospitalizations among confirmed or probable cases whose primary language was other than English or Spanish suggests that increased exposures and/or barriers to care may contribute to more severe disease in these populations. Languages with less than 10 individuals hospitalized were removed from this analysis to protect patient confidentiality. Findings should be interpreted with caution due to the high proportion of missing data (78%).

**Table 5: Percentages of confirmed or probable COVID-19 cases hospitalized by primary language spoken 2020-03-01 to 2023-03-11.**

Language	Case Count	Hospitalization Count	% language specific cases hospitalized
All Cases	1,940,187	82,745	4.3%
English	371,971	18,268	4.9%
Marshallese	360	60	16.7%
Vietnamese	1,377	146	10.6%
Russian	1,803	303	16.8%
Ukrainian	328	76	23.2%
Somali	370	28	7.6%
Tagalog	187	41	21.9%
Amharic	215	18	8.4%
Other	47,410	2,315	4.9%



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