

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

**Washington State Department of Health**

**January 24, 2023**



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Note: When the new race and ethnicity variables were launched in the data system due to new State Board of Health requirements, the reporting team worked to merge current race and ethnicity reporting practices with these new race and ethnicity categories. During the time it took to complete this work, the December 27, 2022 report was not yet able to be produced. If you would like a copy of this report, please email Eric Allen: [eric.allen@doh.wa.gov](mailto:eric.allen@doh.wa.gov).

### **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 and Pacific Islander, Asian, and American Indian/Alaska Native, 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 2023-01-14 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**

- Native Hawaiian and Pacific Islander (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 multiracial populations.
- NHPI hospitalization rates among confirmed or probable COVID-19 cases are approximately six 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 American Indian and Alaska Native (AIAN) populations are approximately two times higher compared to white populations.

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

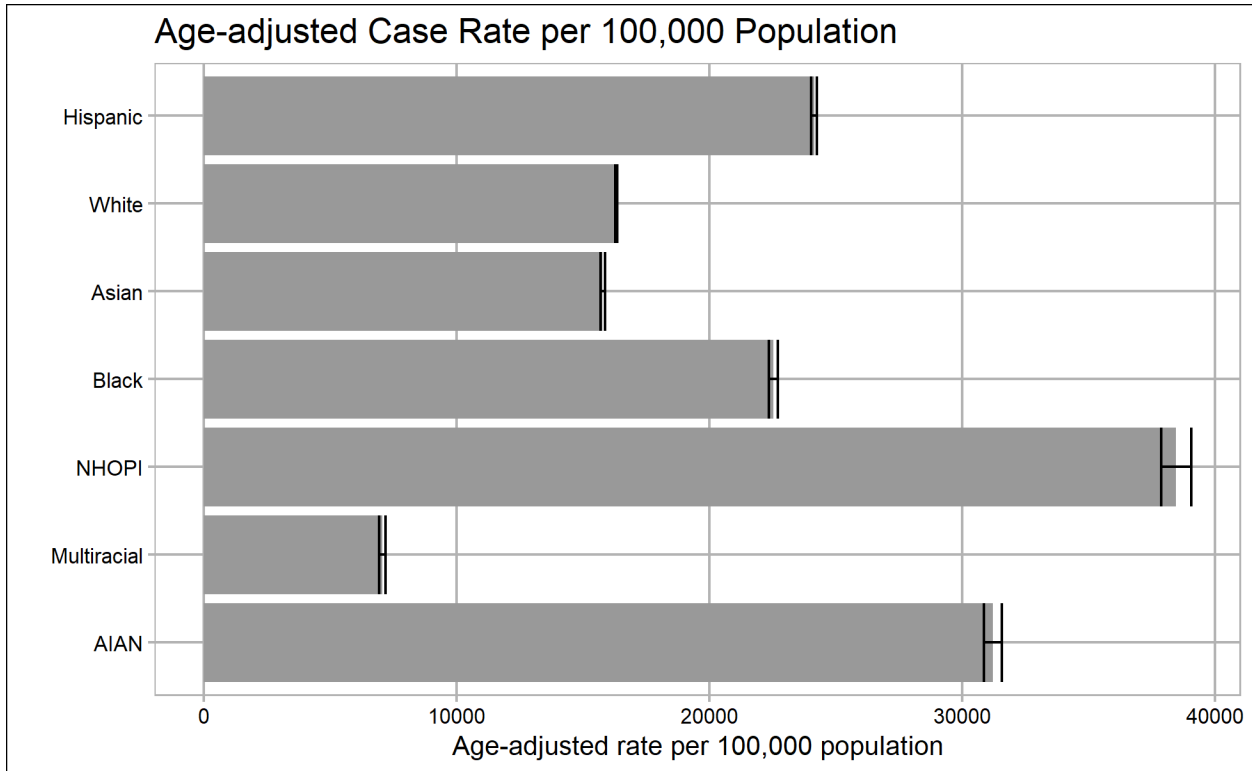
- Asian populations have the lowest death rates among confirmed or probable COVID-19 cases of all race/ethnicity groups.

- 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 2023-01-14**

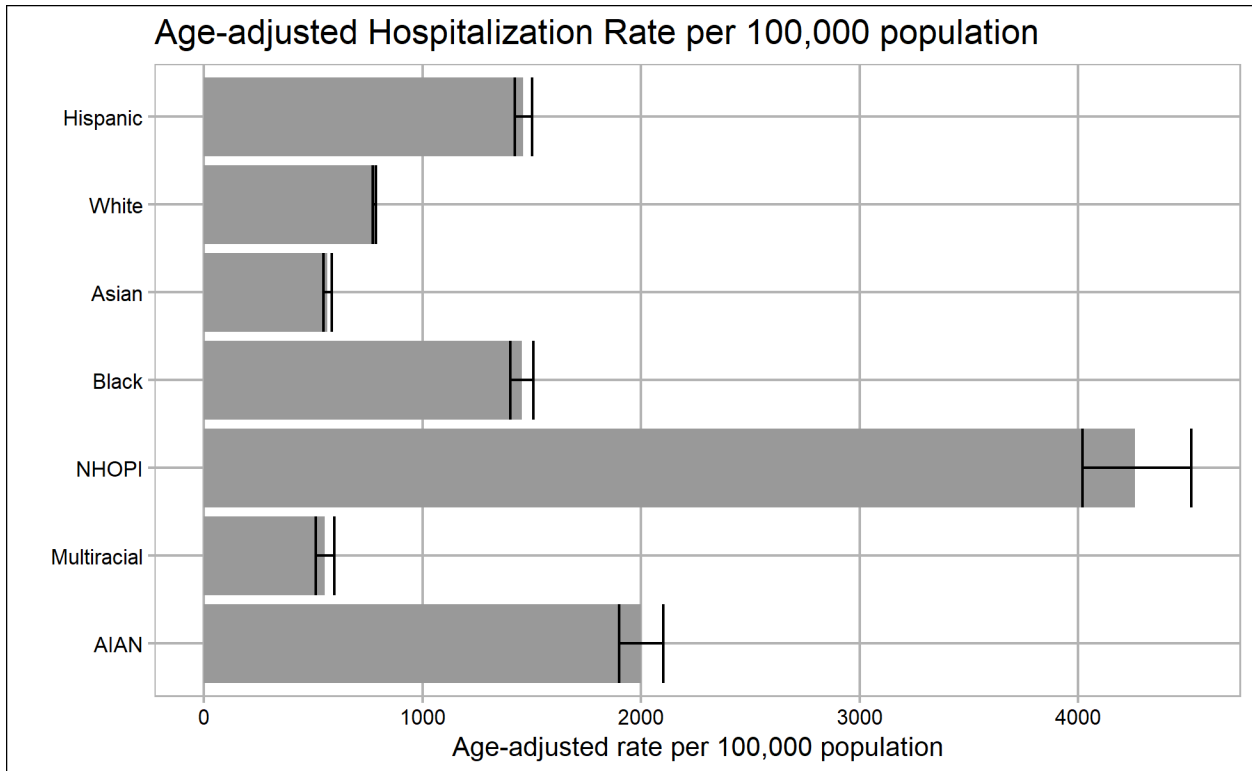
Race/Ethnicity	Case Count	Age-Adjusted Case Rate per 100,000	Hospitalization Count	Age-Adjusted Hospitalization Rate per 100,000	Death Count	Age-Adjusted Death Rate per 100,000
All Races	1,897,430	24782.9	79,184	1034.2	15,329	200.2
Unknown	572,470		13,434		138	
Hispanic	238,719	24150.2	7,961	1461.8	1,327	390.3
White	815,311	16312.9	46,362	780.2	11,714	181.9
Asian	117,384	15775.6	3,319	565.4	845	168.5
Black	70,399	22541.2	3,445	1453.4	530	293.1
NHPI	21,355	38472.5	1,568	4261.1	241	873.2
Multiracial	20,642	7054.2	809	552.2	207	172.5
AIAN	30,013	31212.8	1,640	1998.4	327	469.7
Other	11,137		646		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 2023-01-14



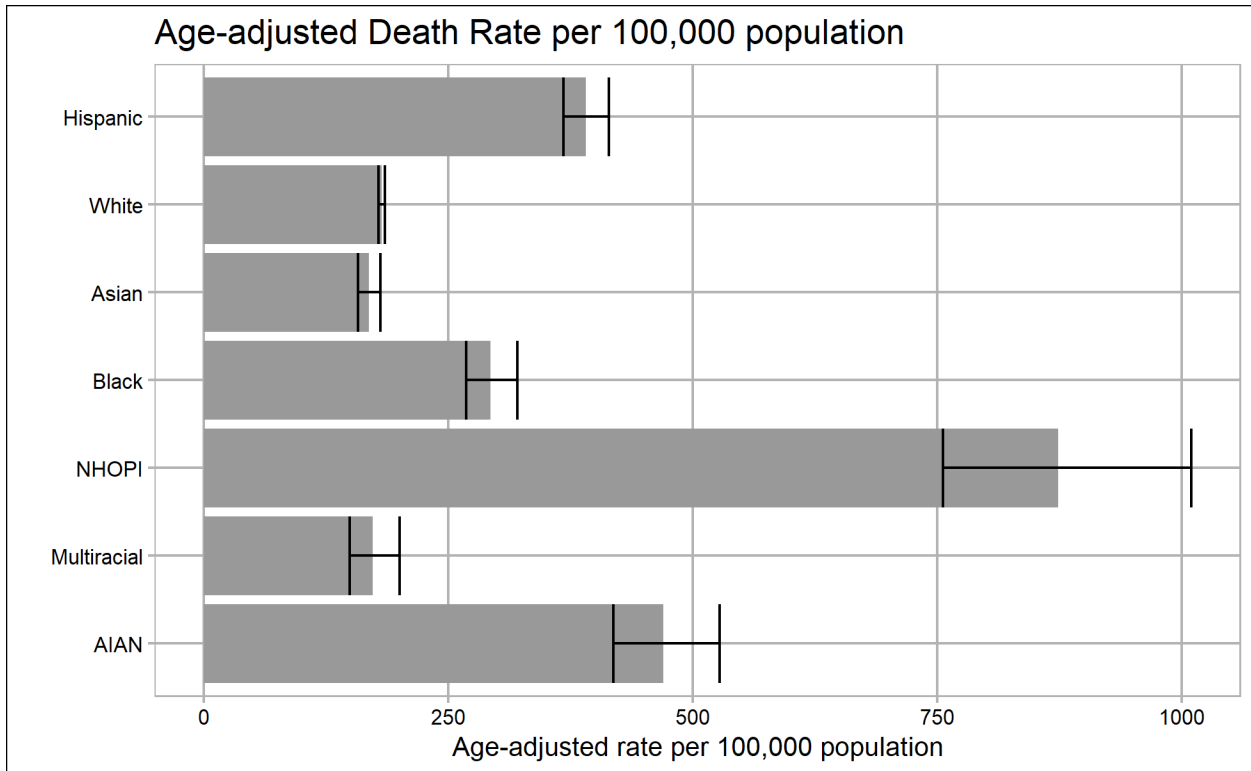
Source: Washington Disease Reporting System (WDRS)

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 2023-01-14



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 2023-01-14



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

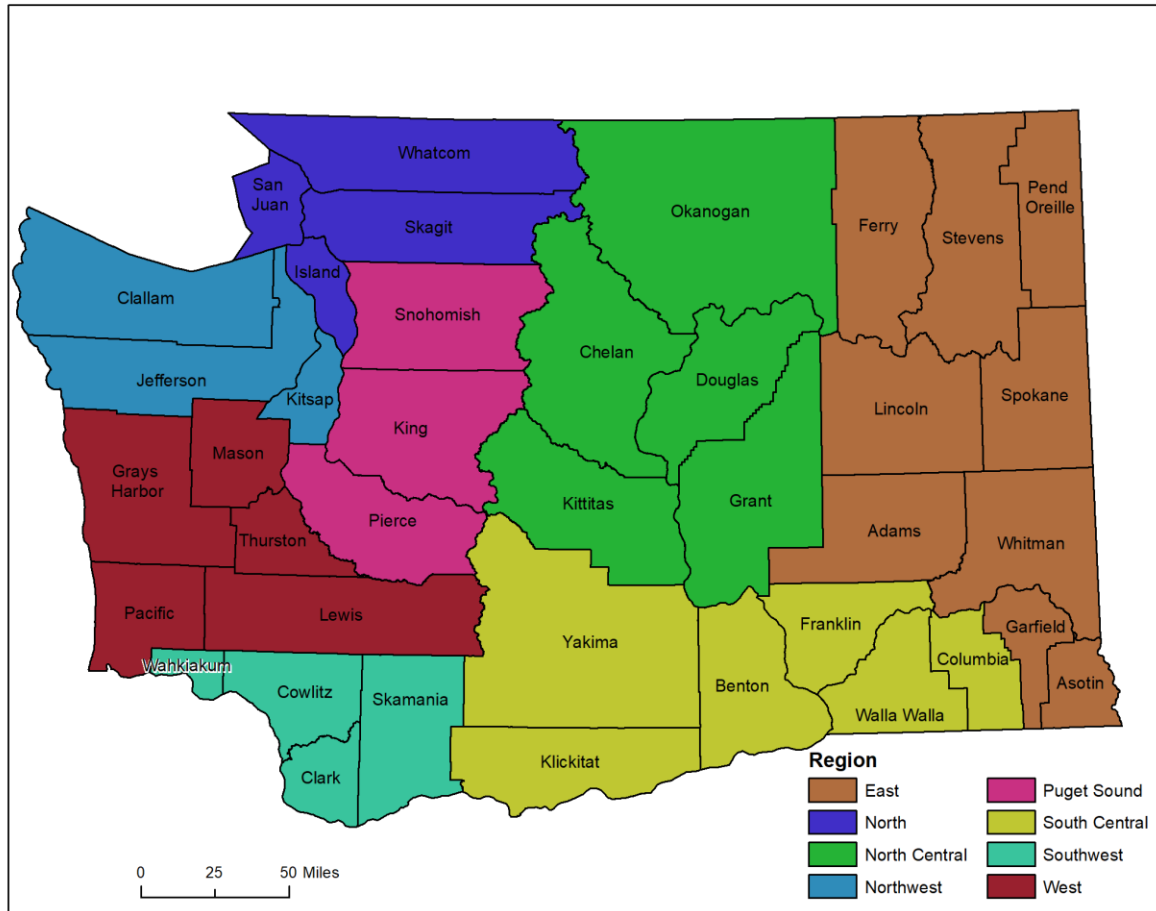
## Analysis of confirmed or probable COVID-19 cases, hospitalizations, and deaths by geographic region

### 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 2023-01-14.**

Region	Case Count	Cases with Unknown Race/Ethnicity	% Cases with Unknown Race/Ethnicity
East	190,726	50,186	26%
North	92,288	36,391	39%

Region	Case Count	Cases with Unknown Race/Ethnicity	% Cases with Unknown Race/Ethnicity
North Central	88,854	20,013	23%
Northwest	71,977	26,232	36%
Puget Sound	983,791	287,783	29%
South Central	204,219	61,498	30%
Southwest	140,132	55,087	39%
West	123,359	33,771	27%
Unknown	3,290	2,240	68%

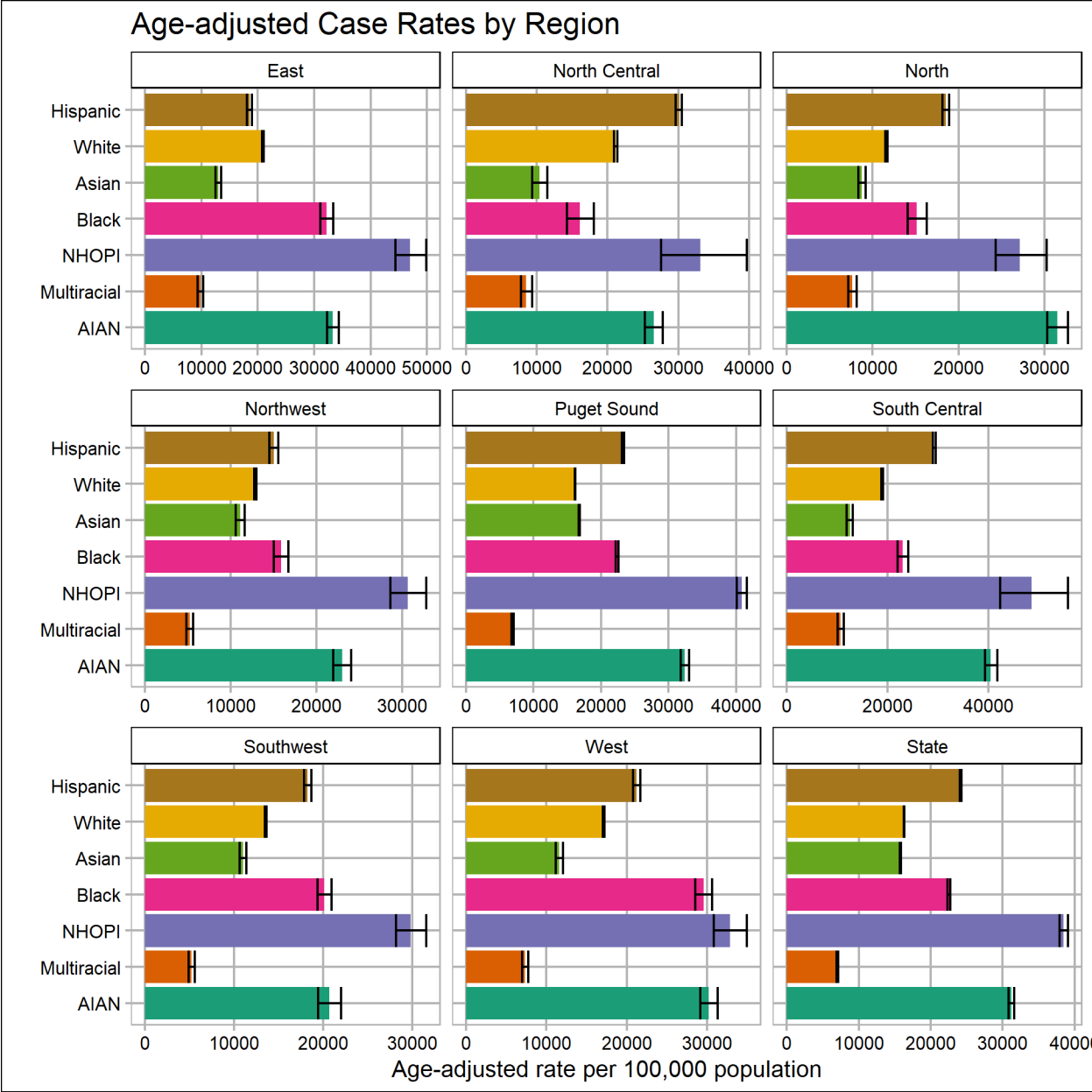
*Source: Washington Disease Reporting System (WDRS)  
Includes data from 2020-03-01 to 2023-01-14*

### **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.

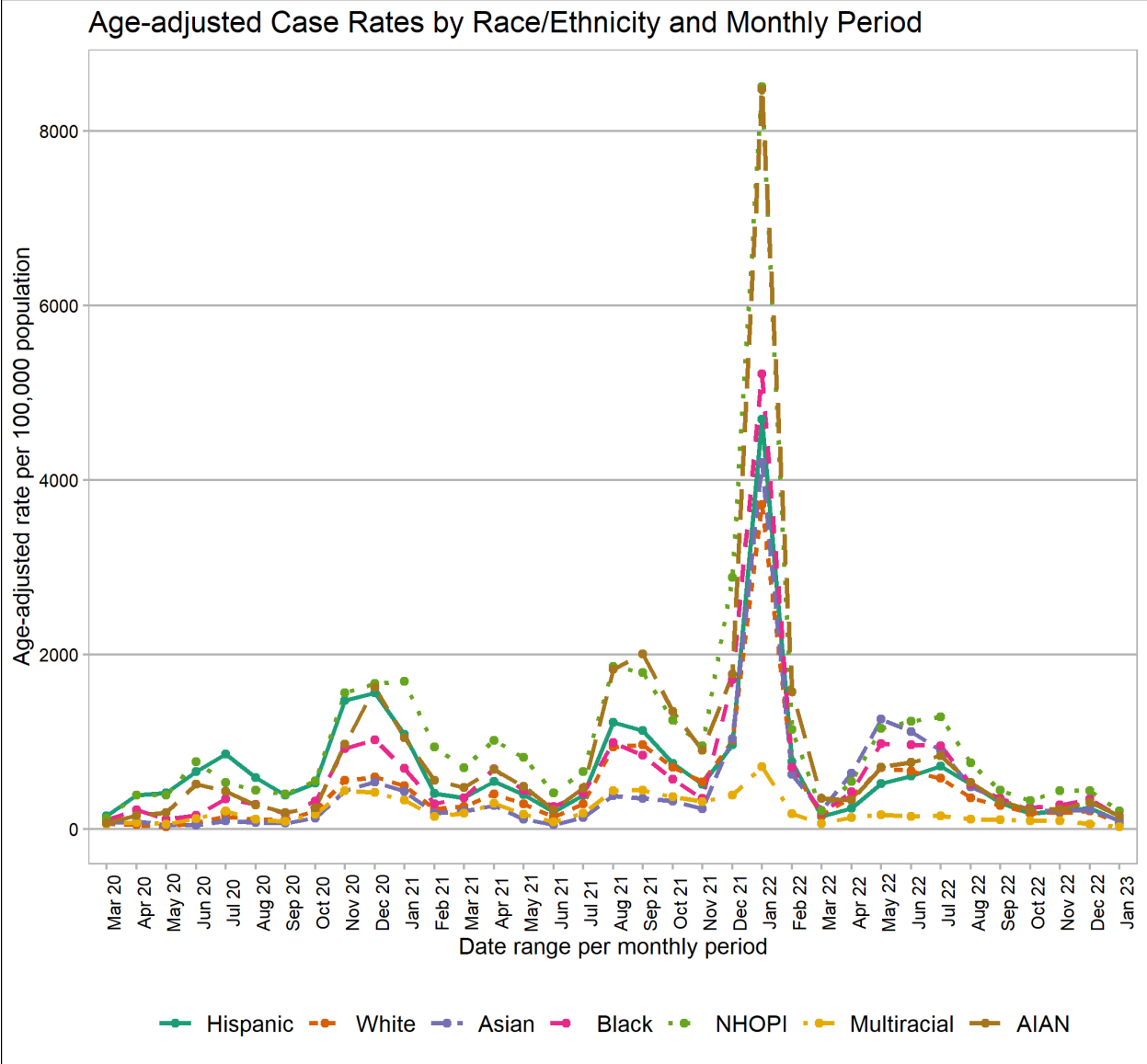


Source: Washington Disease Reporting System (WDRS)

Includes data from 2020-03-01 to 2023-01-14

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

\*January 2023 data include all confirmed or probable cases with a specimen collection date through 2023-01-14 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 NHOPI 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 (December 18, 2022 - January 14, 2023)**

Race/Ethnicity	Two-Week Period	Case Count	Age-Adjusted Case Rate per 100,000	Lower 95% Confidence Interval	Upper 95% Confidence Interval
Hispanic	Dec 18, 22- Dec 31, 22	723	92.6	84.3	101.8
	Jan 01, 23- Jan 14, 23	806	95.2	87.1	104.0
White	Dec 18, 22- Dec 31, 22	4,691	85.6	83.2	88.1
	Jan 01, 23- Jan 14, 23	4,146	76.5	74.2	78.9
Asian	Dec 18, 22- Dec 31, 22	683	95.4	88.3	103.0
	Jan 01, 23- Jan 14, 23	696	97.1	90.0	104.9
Black	Dec 18, 22- Dec 31, 22	379	133.0	119.6	147.9
	Jan 01, 23- Jan 14, 23	416	146.7	132.5	162.4
NHPI	Dec 18, 22- Dec 31, 22	99	208.4	165.2	262.8
	Jan 01, 23- Jan 14, 23	104	208.6	167.2	260.2
Multiracial	Dec 18, 22- Dec 31, 22	44	19.7	13.6	28.6
	Jan 01, 23- Jan 14, 23	56	22.2	15.9	30.9
AIAN	Dec 18, 22- Dec 31, 22	113	121.4	100.7	146.4
	Jan 01, 23- Jan 14, 23	131	149.4	125.0	178.5

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 2023-01-14.**

Language	Case Count	% of Cases	% of WA Population with Limited English Proficiency*
All Cases	1,903,393	100.0%	
Unknown Language	1,487,470	78.1%	
Known Language	415,923	21.9%	
English	364,448	87.6*%	
Marshallese	359	0.1*%	0.1
Vietnamese	1,372	0.3*%	0.5
Russian	1,798	0.4*%	0.3
Chinese (all)	16	0.0*%	0.3
Ukrainian	320	0.1*%	0.2
Somali	368	0.1*%	0.1
Tagalog	186	0.0*%	0.1
Amharic	212	0.1*%	0.1
Other	46,844	11.3*%	

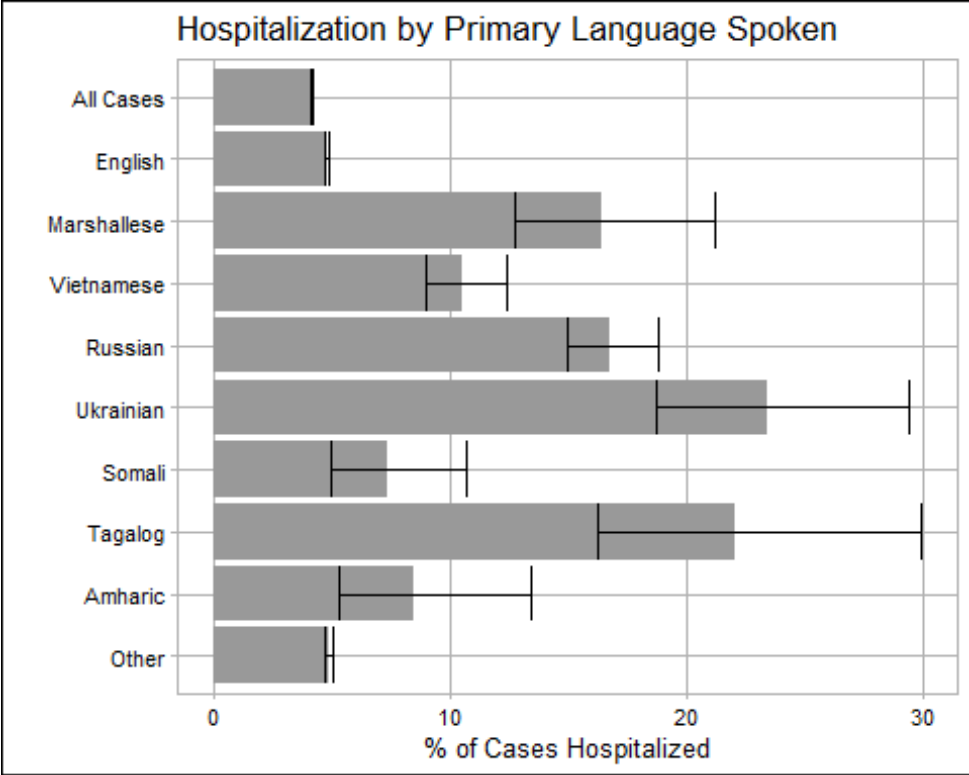
\*For more information on the selected WA populations by primary language reported here, please see the WA OFM methodology, [https://ofm.wa.gov/sites/default/files/public/legacy/pop/subject/ofm\\_pop\\_limited\\_english\\_proficiency\\_methodology.pdf](https://ofm.wa.gov/sites/default/files/public/legacy/pop/subject/ofm_pop_limited_english_proficiency_methodology.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 2023-01-14.**

Language	Case Count	Hospitalization Count	% language specific cases hospitalized
All Cases	1,903,393	79,616	4.2%
English	364,448	17,632	4.8%
Marshallese	359	59	16.4%
Vietnamese	1,372	145	10.6%
Russian	1,798	302	16.8%
Ukrainian	320	75	23.4%
Somali	368	27	7.3%
Tagalog	186	41	22%
Amharic	212	18	8.5%
Other	46,844	2,293	4.9%



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