

COVID-19 Vaccination Demographic Data Analysis December 15, 2020 – September 12, 2021

Table 1: COVID-19 vaccination status among Snohomish County residents having initiated vaccination

Vaccine status	People initiating vaccination	Percent of eligible population	Snohomish County eligible population (≥12 years)
Fully vaccinated	472,699	67%	---
Partially vaccinated	44,857	6%	---
Total number of people initiating vaccination	517,556	73%	706,950

Table 2: COVID-19 vaccine initiation by sex at birth, Snohomish County

Sex at birth	People initiating vaccination	Percent of people initiating vaccination	People fully vaccinated	Percent fully vaccinated	People partially vaccinated	Percent partially vaccinated	Eligible population (≥12 years)
Female	269,164	76%	246,601	69.7%	22,563	6.4%	353,734
Male	247,059	70%	224,931	63.7%	22,128	6.3%	353,216
Unknown	1,333	---	1,167	---	166		---
Total persons initiating vaccination	517,556	73%	472,699	66.9%	44,857	6.3%	706,950

Table 3: COVID-19 vaccine initiation by age group, Snohomish County

Age group in years	People initiating vaccination	Percent of people initiating vaccination	People fully vaccinated	Percent fully vaccinated	People partially vaccinated	Percent partially vaccinated	Eligible population (≥12 years)
12 to 15	23,678	56%	20,248	47.7%	3,430	8.1%	42,493
16 to 19	25,524	70%	22,438	62.0%	3,086	8.5%	36,208
20 to 34	108,876	71%	96,096	63.1%	12,780	8.4%	152,342
35 to 49	128,614	73%	117,258	66.4%	11,356	6.4%	176,569
50 to 64	125,698	74%	116,937	68.9%	8,761	5.2%	169,752
65+	105,166	81%	99,722	77.0%	5,444	4.2%	129,586
Total initiating vaccination	517,556	73%	472,699	66.9%	44,857	6.3%	706,950

Table 4: COVID-19 vaccine initiation by race and ethnicity, Snohomish County

Race/Ethnicity	People initiating vaccination	Percent of people initiating vaccination	People fully vaccinated	Percent fully vaccinated	People partially vaccinated	Percent partially vaccinated	Eligible population (≥12 years)
American Indian/Alaska Native	5,121	66%	4,514	58.1%	607	7.8%	7,774
Asian	69,784	82%	65,056	76.5%	4,728	5.6%	85,065
Black	16,145	77%	14,128	67.0%	2,017	9.6%	21,087
Multiracial	628	3%	586	2.4%	42	0.2%	24,104
Native Hawaiian or Pacific Islander	4,282	110%	3,832	98.2%	450	11.5%	3,904
White	298,443	60%	276,104	55.3%	22,339	4.5%	499,180
Other, non-Hispanic	56,671	---	50,676	---	5,995	---	---
Hispanic - All race	41,042	62%	35,828	54.4%	5,214	7.9%	65,836
Unknown	25,440	---	21,975	---	3,465	---	---
Total	517,556	73%	472,699	66.9%	44,857	6.3%	706,950

Figure 1: COVID-19 vaccine initiation rates by race and ethnicity, Snohomish County

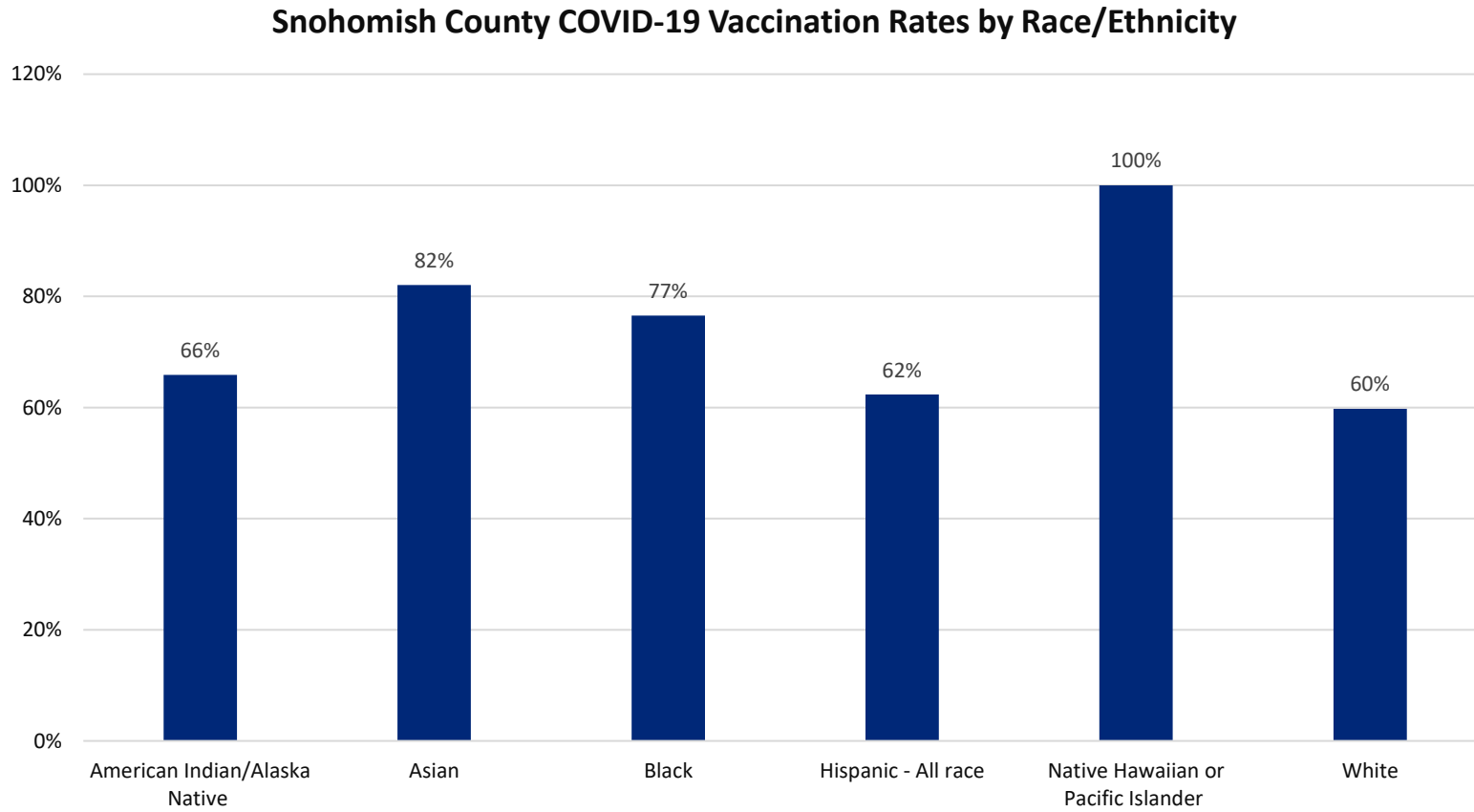


Figure 2: Percent of people who initiated COVID vaccination by race/ethnicity and reporting period

Percent Initiated Vaccination by Race/Ethnicity and Reporting Period Snohomish County

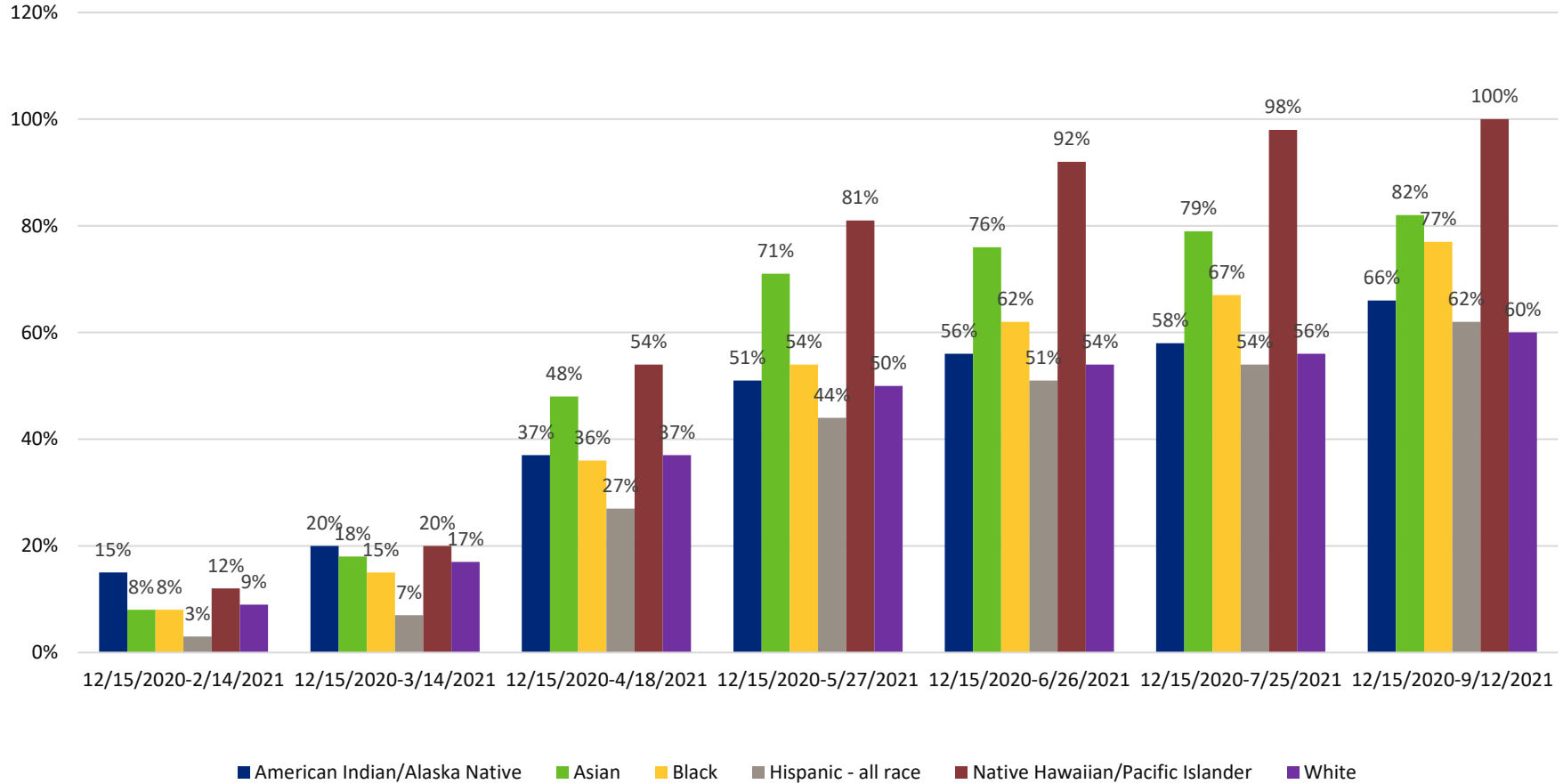


Table 5: COVID-19 vaccine initiation by race and ethnicity relative-risk compared to non-Hispanic White

Race non-Hispanic	People initiating vaccination	Eligible population (≥12 years)	Percent of people initiating vaccination	Relative Risk	95% CI Lower	CI Upper
American Indian/Alaska Native	5,121	7,774	66%	1.1	1.1	1.1
Asian	69,784	85,065	82%	1.4	1.4	1.4
Black	16,145	21,087	77%	1.3	1.3	1.3
Multiracial	628	24,104	3%	0.04	0.04	0.05
Native Hawaiian or Pacific Islander	4,282	3,904	110%	1.8	1.8	1.9
White	298,443	499,180	60%	1.0		
Other, non-Hispanic	56,671	---	---	---	---	---
Hispanic	41,042	65,836	62%	1.0	1.0	1.1
Unknown	25,440	---	---	---	---	---
Total persons initiating vaccination	517,556	706,950	73%	---	---	---

Table 6: COVID-19 vaccine recipients by city of residency, Snohomish County, December 15, 2020 – July 25, 2020

City	Zip	People initiating vaccination	Percent of residents initiating vaccination	Total population
Bothell/Mill Creek	98012	51,403	80%	64,417
Edmonds	98020	15,655	77%	20,322
Bothell	98021	24,721	80%	30,753
Edmonds	98026	27,339	74%	36,729
Lynnwood	98036	28,947	73%	39,766
Lynnwood	98037	20,787	71%	29,402
Mountlake Terrace	98043	14,914	71%	21,126
Woodinville	98072	111	0%	38,364
Lynnwood	98087	26,485	68%	39,221
Everett	98201	18,891	64%	29,484
Everett	98203	22,708	64%	35,603
Everett	98204	25,283	59%	42,882
Everett	98208	38,124	67%	57,306
Arlington	98223	23,120	54%	42,880
Darrington	98241	986	51%	1,921
Gold Bar	98251	2,295	60%	3,846
Granite Falls	98252	5,259	55%	9,603
Lake Stevens	98258	29,377	89%	32,959
Marysville	98270	30,073	59%	50,972
Marysville	98271	17,384	61%	28,585
Monroe	98272	17,465	56%	31,416
Mukilteo	98275	16,189	76%	21,264
Snohomish	98290	21,813	61%	35,990
Stanwood	98292	13,891	62%	22,547
Sultan	98294	3,756	53%	7,127
Snohomish	98296	17,913	59%	30,373
Total	---	514,889	62%	830,500

*NOTES: 1. Data for this table is from the WAIS repository dataset 9/12/2021. Population data per zip code is from the 2018 data.census.gov. 2. Due to limitations in the data set, vaccine coverage figures may not be accurate. These data provide a rough estimate of coverage with respect to geography. For further details, see item 4 under “Data Assumptions/Caveats” in the Appendix.

Appendix A: Data cleaning and assumptions

1. All data is from the Washington State Department of Health Internal Data Dashboard, except for table 6.
2. Table 6 data is from the Washington State Immunization Information System repository dataset.

Data cleaning steps for table 6:

1. Final export is 1 row per RecipientID (unique person ID in repository) using last reported address data by vaccine administration date.
2. Remove known fake records.
3. Remove any records where vaccine was refused.
4. Remove duplicates and records where difference in days between vaccine administration dates is <6. Will need to run through a couple times to account for people who have >1 pair of records that meet these criteria.
 - a) remove exact duplicates on person, vaccine date, vaccine type
 - b) remove remaining records where difference in days between vaccine administration dates is <6. Keep most recently entered.
5. Deduplicate so that only 1 record per RecipientID remains, keeping the most recent record by vax administration date.
6. Recode unincorporated/PO box zip codes to the incorporated/parent zip code.
7. Keep zip codes of interest, exclude the rest. Exclude Woodinville (98072) where county is King (53033). This step excludes by person, not by record.
8. Export dataset with variables RecipientID, city, and zip code.
9. Export frequency table of records by zip code.

Data Assumptions/caveats:

1. Dataset is a snapshot of the WAIS backend/repository data. If an existing/historic record is updated in WAIS, updates will not be reflected in subsequent datasets on that exact row. Updated records may be reported as duplicates in the repository. General cleaning step 4 addresses this issue. This cleaning process is an attempt to mimic:
 - 1.1. the WAIS deduplication process (i.e., general step 4 to keep most recent record when vaccines administered within 5 days of each other)
 - 1.2. what may be shown in the final WAIS dataset of "true" vaccine doses administered
2. RecipientID is the variable used by DOH for unique identifier per person but is known to have some issues/inconsistencies. To be consistent with DOH, we use this unique identifier as well.
3. County code is based on zip code. There are known data quality issues with incorrect zip codes entered, resulting in incorrect county code. Also, several misspelled cities and occasional non-character cities. Addresses are not geocoded and have not been verified to be true locations or residence. Some cities/zip codes may be mismatched or misspelled.
4. Very few (<20) records of fake data are known to exist in the dataset. Those known to exist have been removed.