

COVID-19 Vaccination Demographic Data Analysis December 15, 2020 – November 16, 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 (≥5 years)
Fully vaccinated	512,340	66%	---
Partially vaccinated	46,534	6%	---
Total number of people initiating vaccination	558,874	72%	781,248

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	288,703	74%	266,325	68.3%	22,378	5.7%	390,175
Male	268,872	69%	244,887	62.6%	23,985	6.1%	391,071
Unknown	1,299	---	1,128	---	171	---	---
Total persons initiating vaccination	558,874	72%	512,340	65.6%	46,534	6.0%	781,248

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)
5 to 11	7,836	11%	26	0.0%	7,810	10.5%	74,297
12 to 15	24,870	59%	22,646	53.3%	2,224	5.2%	42,493
16 to 19	27,345	76%	24,944	68.9%	2,401	6.6%	36,208
20 to 34	118,249	78%	107,265	70.4%	10,984	7.2%	152,342
35 to 49	137,260	78%	127,750	72.4%	9,510	5.4%	176,569
50 to 64	131,883	78%	124,394	73.3%	7,489	4.4%	169,752
65+	111,431	86%	105,315	81.3%	6,116	4.7%	129,586
Total initiating vaccination	558,874	72%	512,340	65.6%	46,534	6.0%	781,248

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	5,788	67%	5,218	60.3%	570	6.6%	8,654
Asian	74,067	79%	68,497	73.4%	5,570	6.0%	93,332
Black	17,812	76%	16,077	68.2%	1,735	7.4%	23,580
Multiracial	598	2%	550	1.7%	48	0.2%	31,429
Native Hawaiian or Pacific Islander	4,717	100%	4,291	97.4%	426	9.7%	4,404
White	320,460	59%	297,710	55.2%	22,750	4.2%	539,681
Other, non-Hispanic	61,245	---	55,401	---	5,844	---	---
Hispanic - All race	46,096	57%	40,869	51.0%	5,227	6.5%	80,167
Unknown	28,091	---	23,727	---	4,364	---	---
Total	558,874	72%	512,340	65.6%	46,534	6.0%	781,248

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

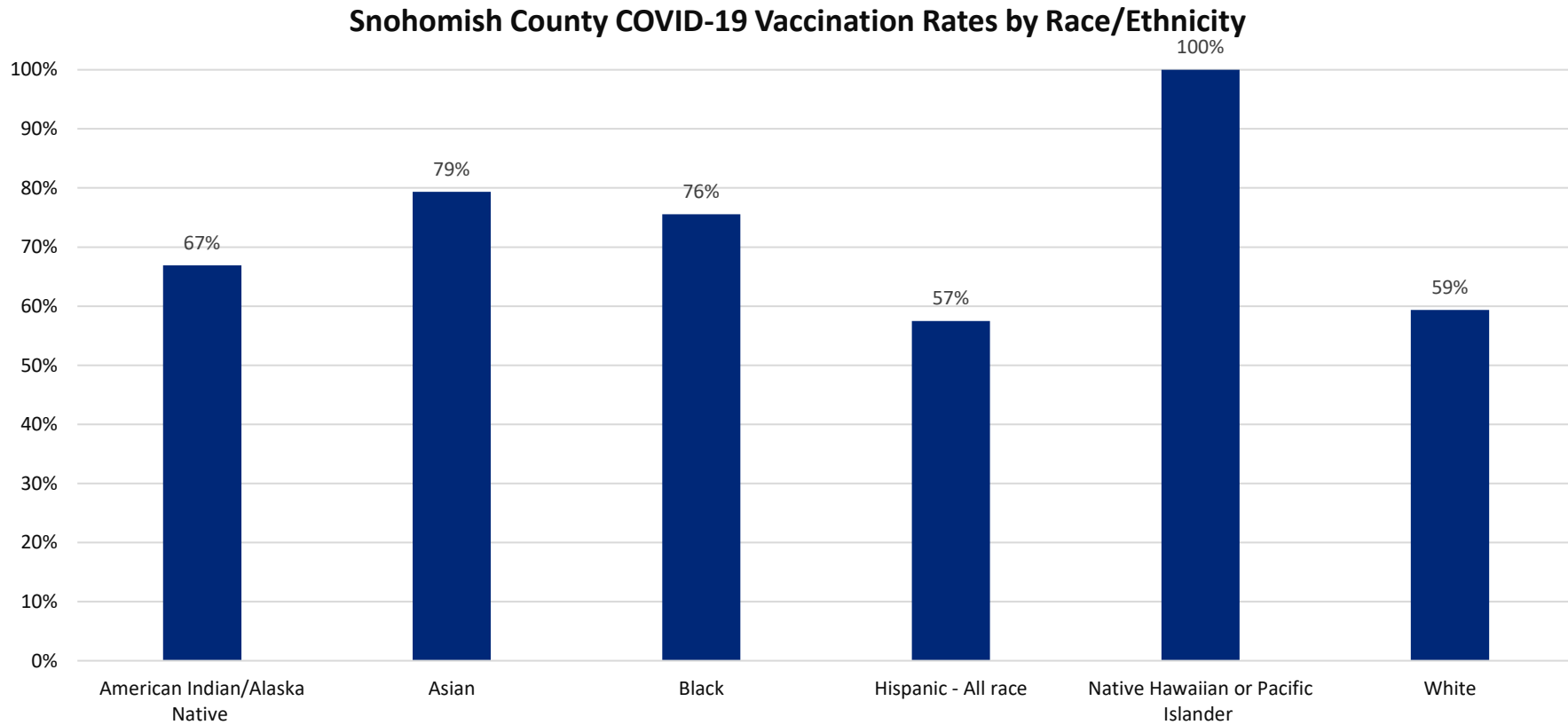


Table 5: COVID-19 vaccine initiation by race and ethnicity relative-risk compared to non-Hispanic White

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	5,788	8,654	67%	1.1	1.1	1.2
Asian	74,067	93,332	79%	1.3	1.3	1.3
Black	17,812	23,580	76%	1.3	1.3	1.3
Multiracial	598	31,429	2%	0.03	0.03	0.03
Native Hawaiian or Pacific Islander	4,717	4,404	100%	1.8	1.8	1.9
White	320,460	539,681	59%	1.0		
Other, non-Hispanic	61,245	---	---	---	---	---
Hispanic	46,096	80,167	57%	1.0	1.0	1.0
Unknown	28,091	---	---	---	---	---
Total persons initiating vaccination	558,874	781,248	72%	---	---	---

Table 6: COVID-19 vaccine recipients by city of residency, Snohomish County, December 15, 2020 – November 14, 2020

City	Zip	People initiating vaccination	Percent of residents initiating vaccination	Total population
Bothell/Mill Creek	98012	55,102	86%	64,417
Edmonds	98020	16,597	82%	20,322
Bothell	98021	26,397	86%	30,753
Edmonds	98026	29,056	79%	36,729
Lynnwood	98036	30,930	78%	39,766
Lynnwood	98037	22,186	75%	29,402
Mountlake Terrace	98043	15,970	76%	21,126
Woodinville	98072	171	0%	38,364
Lynnwood	98087	28,448	73%	39,221
Everett	98201	20,308	69%	29,484
Everett	98203	24,537	69%	35,603
Everett	98204	27,594	64%	42,882
Everett	98208	41,020	72%	57,306
Arlington	98223	25,287	59%	42,880
Darrington	98241	1,059	55%	1,921
Gold Bar	98251	2,472	64%	3,846
Granite Falls	98252	5,753	60%	9,603
Lake Stevens	98258	32,059	97%	32,959
Marysville	98270	32,657	64%	50,972
Marysville	98271	18,971	66%	28,585
Monroe	98272	18,637	59%	31,416
Mukilteo	98275	17,324	81%	21,264
Snohomish	98290	23,363	65%	35,990
Stanwood	98292	15,060	67%	22,547
Sultan	98294	4,081	57%	7,127
Snohomish	98296	18,988	63%	30,373
Total	---	554,027	66%	844,400

*NOTES: 1. Data for this table is from the WAIS repository dataset 11/14/2021. 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.
3. Population estimates are from the Washington State Office of Financial Management unless otherwise specified.

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.