

RAVEN

Report on Adult Vaccine Equity for Natives

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Vaccine Equity: "Everyone having fair and just access to vaccinations"1

All people have equal access and coverage of vaccines regardless of racial, demographic or any other classification.

Throughout the COVID-19 pandemic, the general population has paid higher attention to issues of health equity and vaccine equity. In addition to a concern that public health authorities and health care providers respond adequately to the seriousness of the pandemic, there was increased attention to existing perennial gaps in healthcare disparities and equity. The Native American community has been one such population; having long suffered from increased disease burden, stretched resources, and low trust in institutions that have historically failed them.

As the immediate response to COVID-19 is winding down, with the end of the Emergency Declaration in May of 2023, attention should now be shifted to other adult vaccinations. With the same energy and concern given to COVID-19 vaccinations, there should be increased attention to vaccine equity across all types of immunizations against preventable diseases.

Therefore, NCUIH creates this report to summarize the data around adult vaccines and immunizations in the urban Native American population. This report will show available data indicated a continued gap in vaccination coverage among AI/AN people. This is the age where data defines the parameters of the story. With the story leading our action, having Native American and Urban Native American representation in data and research is essential to achieve vaccine equity.

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Vaccinations and Immunizations Overall

In its mission to protect and improve public health, the Centers for Disease Control and Prevention (CDC) conducted a systematic and expansive survey of Americans, the National Health Interview Survey (NHIS). As a part of this survey, respondents were asked about their vaccination status for a number of preventable diseases. The CDC then published a report providing crucial insights and statistics needed to illustrate the disparity in vaccine coverage for vaccine preventable diseases.

This information highlights the persistent disparities in vaccine coverage among adults. The rates of hepatitis A and B, zoster, and pneumococcal vaccination stand out with substantial differences in coverage rates across different demographic groups (Table 1). However, the notable omission of American Indian/Alaska Native people in this analysis is a troubling limitation. This CDC report collapses the AI/AN population into an "other" category, effectively erasing their presence from the data analysis. There might not have been a large enough sample size for robust statistical comparisons, but the report failed to publish even point estimates of AI/AN vaccination rates for these vaccine preventable diseases. This continues the erasure of AI/AN people from data and research.

This limitation in this important analysis perpetuates the invisibility of AI/AN populations, hindering accurate understanding of the health challenges this community must overcome. By not disaggregating the racial categories, advocates, researchers and policy makers may miss crucial insights and will not have the tools to advocate most effectively for this population. This limitation also reinforces the concept that AI/AN health is not worthy of attention or research. Equally, disaggregation in racial categorization hides success stories and strengths in the community. This ultimately fails to promote vaccine equity, as one cannot address disparities that are not completely understood and documented or recognize the strengths.²

Table 1: Estimated proportion of adults who received adult vaccinations by race | National Health Interview Survey

	Pneumococcal (>65)	Herpes Zoster (>50)	Hepatitis A (> 19)	Hepatitis B (> 19)
Overall	65.8	32.6	24.8	34.2
White	70.1	36.6	24.8	34.5
Black	54.8	18.9	19.4	28.3
Hispanic	46.2	20.7	25.1	32.4
Asian	55.8	33.0	33.1	45.6
Other	62.5	29.9	28.3	40.2

Source: Hung et al, 2023.



Influenza

Influenza continues to be a significant public health challenge, further complicated by the disproportionate impact it has on vulnerable populations. Al/AN people are one of those populations, and this disproportionate effect is observed in many ways. First, a recently published report by the CDC as part of the Morbidity and Mortality Weekly Report titled *"Vital Signs:* Influenza Hospitalizations and Vaccination Coverage by Race and Ethnicity – United States, 2009-10 Through 2021-22 Influenza Series" illustrates the disparity in both burden and utilization of preventative measures. In their analysis of the Influenza-Associated Hospitalization Surveillance Network (FluSurv-NET) they found that over the past thirteen influenza seasons, Al/AN people have had a much higher rate of hospitalizations associated with influenza. From the 2009-10 season to the 2021-22 season, there were 54.6 influenza associated hospitalizations per 100,000 people in the Al/AN population, with a relative risk 1.3 times that of white people. Additionally, the highest rate of influenza associated hospitalization rates occurred in the 2011-12 seasons and the 2021-22 seasons among the Al/AN population; the hospitalization rate was 2.7 times that of the rate in the white population (Figure 1). At the same time, their utilization of the influenza vaccine is lower than most groups. In the 2021-2022 season, Al/AN influenza season prior to that (Figure 2). The double hit of greater burden and less protection illustrates the severity of the disparity and shows the importance of promoting taking the influenza vaccine for this vulnerable community. ³

Figure 1: Influenza Associated Hospitalization Rates among Adults by Race



Figure 2: Influenza Vaccination Coverage Among Adults Aged 18 Years or Older by Race



* Data for 2020-21 season are not included.

Source: Black et al, (2022). MMWR VitalSigns.



Another area of great concern is among AI/AN pregnant people. There is a critical importance for pregnant women, since vaccines protect not only the woman but also confer immunity to the newborn in their initial months of life. Shockingly, AI/AN pregnant people have among the lowest vaccination rates among all demographic groups. Between 2017 and 2020, only 29.89% of pregnant AI/AN people have received the vaccine, compared to 47.7% of Asian pregnant people and 38.82% of White pregnant people. ⁴

Lastly, there is an additional vulnerability among urban AI/AN people in the places that they live. There are AI/AN communities in virtually all cities across the country, several of which are within Urban Indian Organization (UIO) service areas. The CDC tracks influenza-like illness (ILI) activity levels at the core-base statistical (CBSA) level, of which there are 44 CBSA's that overlap with UIO service areas. In the influenza season of 2022-2023, 21 CBSA's in UIO service areas were at very high levels at least once. As of the end of the season, six (6) CBSA's were at an elevated area, that is moderate or higher ILI activity level as of the end of the season. The trajectory of ILI activity level is shown in Figures A.1 through A.44 in the Appendix. Further, AI/AN people tend to live in more vulnerable areas within those cities; people living in these high social vulnerability areas are less resilient to natural disasters including disease.⁵ UIOs serve as vital health hub, offering culturally tailored health care services and education, and their role in disseminating vaccines, particularly for influenza, is pivotal in addressing disparities and promoting health equity. ⁶



HPV

Given innovations of preventative measures available, cervical cancer rates have improved for nearly all groups. However, according to SEER this improvement was not seen for AI/AN people; in fact, the rates slightly increased from 2000-2019. Researchers looked specifically at this community to see if there are access barriers to these preventative treatments.

Using IHS Pacific Northwest clinical encounters data from 2010 to 2020, the researchers analyzed cervical cancer screenings and HPV vaccinations. The researchers found that HPV vaccination has been increasing for AI/AN adolescents and adults during this time at all ages and all genders. By the end of the period, 71.1% of AI/AN females were vaccinated and 41.0% of AI/AN males were vaccinated against HPV. Meanwhile, screening remains low, increasing slowly over the period. Furthermore, the rate of screening among urban AI/AN patients was lower than among rural AI/AN patients.⁷

While HPV vaccinations are rising during this period, they still fall short of the 80% threshold of vaccination outlined by the CDC Healthy People 2030 initiative. Additionally, this study studied the period before the pandemic, which showed a marked reduction in vaccinations across VPD-types due to disruptions in care delivery. Providers and advocates should learn about the successes of vaccine uptake that occurred before the pandemic, to see how it can be replicated now.



Pneumococcal

Prior to the pandemic, the CDC Advisory Committee on Immunization Practices (ACIP) recommended shared clinical decisionmaking (SDCM) in the administration of 13 valent pneumococcal vaccine to all adults over 65 years old. There was a subsequent concern that this new recommendation decreased vaccination rates. Additionally, SDCM may have access issues which prevent people from vulnerable populations such as AI/AN people to interact with their provider and engage in the discussions needed to get the pneumococcal vaccination.

The decreasing trend in pneumococcal vaccinations were compounded as well with the COVID-19 pandemic only four months after the SDCM recommendation was issued. In a manuscript titled "Pneumococcal vaccine uptake among Medicare Beneficiaries aged ≥65 years following the shared clinical decision-making recommendation for 13-valent pneumococcal conjugate vaccine in 2019", researchers analyzed Medicare beneficiaries and their uptake of the 13-valent pneumococcal vaccine. Vaccination rates began to fall in November 2019, when the SDCM was recommended, and continued to fall during the COVID-19 pandemic, likely due to disruptions in care delivery.

However, it appears as though the effects of the pandemic have had a greater impact on AI/AN Medicare beneficiaries. Even prior to the recommendation and the pandemic, AI/AN Medicare beneficiaries had a lower rate of utilization of the vaccine compared to other groups (Figure 3). During the pandemic, vaccination rates fell like they did in other communities, but pneumococcal vaccination rates began to recover starting in May 2020 for other demographic groups. The recovery in vaccination rate among AI/AN Medicare beneficiaries lagged behind those of other groups. It is therefore critical to address this lag to ensure appropriate equity in vaccine access and utilization for AI/AN people.⁸



Figure 1: Pneumococcal Vaccine Market Share among Medicare Beneficiaries by Race



Appendix

Figure A.1: Influenza-Like Activity in Aberdeen, SD (Sioux Falls

Service Area)



Figure A.3: Influenza-Like Activity in Baltimore-Columbia-Towson,

MD (Baltimore Service Area)





Newton, MA-NH (Boston Service Area)



Figure A.2: Influenza-Like Activity in Albuquerque, NM









Figure A.6: Influenza-Like Activity in Boulder, CO (Denver Service

Area)





Figure A.7: Influenza-Like Activity in Butte-Silver Bow, MT (Butte

Service Area)



Figure A.9: Influenza-Like Activity in Carson City, NV (Reno Service



Figure A.11: Influenza-Like Activity in Denver-Aurora-Lakewood,





Figure A.8: Influenza-Like Activity in Chicago-Naperville-Elgin, IL-

IN-WI (Chicago Service Area)



Figure A.10: Influenza-Like Activity in Detroit-Warren-Dearborn, MI (*Detroit Service Area*)



Figure A.12: Influenza-Like Activity in Dallas-Fort Worth-Arlington, TX (Dallas Service Area)





Figure A.13: Influenza Like Activity in Fallon, NV (Reno Service



Figure A.15: Influenza Like Activity in Gardenville Ranchos, NV

(Reno Service Area)



Figure A.17: Influenza Like Activity in Kansas City, MO-KS



Figure A.14: Influenza Like Activity in Flagstaff, AZ (Flagstaff

Service Area)





Service Area)



Figure A.18: Influenza Like Activity in Lincoln, NE (Omaha





Figure A.19: Influenza Like Activity in Los Angeles-Long Beach-

Anaheim, CA (Los Angeles Service Area)



Figure A.21: Influenza Like Activity in Minneapolis-St. Paul-

Bloomington, MN-WI (Minneapolis Service Area)



Figure A.23: Influenza Like Activity in New York-Newark-Jersey City,

NY-NJ-PA (New York City Service Area)



Figure A.20: Influenza Like Activity in Milwaukee-Waukesha-West

Alis (Milwaukee Service Area)



Figure A.22: Influenza Like Activity in Missoula, MT (Missoula

Service Area)





Lake City Service Area)



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Figure A.25: Influenza Like Activity in Oklahoma City, OK

(Oklahoma City Service Area)



Figure A.27: Influenza Like Activity in Omaha-Council Bluffs, NE-

IA (Omaha Service Area)



Figure A.29: Influenza Like Activity in Pierre, SD (Sioux Falls

Service Area)



Figure A.26: Influenza Like Activity in Oxnard-Thousand Oaks-

Ventura, CA (Santa Barbara Service Area)





(Phoenix Service Area)



Figure A.30: Influenza Like Activity in Portland-Vancouver-Hillsboro, OR-WA (Portland Service Area)



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Figure A.31: Influenza Like Activity in Provo-Orem, UT (Salt Lake

City Service Area)



Figure A.33: Influenza Like Activity in Sacramento-Roseville-Arden-

Arcade, CA (Sacramento Service Area)



Figure A.35: Influenza Like Activity in San Diego-Carlsbad, CA





Figure A.32: Influenza Like Activity in Reno, NV (Reno Service Area)





City Service Area)



Figure A.36: Influenza Like Activity in San Francisco-Oakland-

Hayward (Oakland Service Area)





Figure A.37: Influenza Like Activity in San Jose-Sunnyvale-

Santa Clara, CA (San Jose Service Area)





Service Area)



Figure A.41: Influenza Like Activity in Stockton-Lodi, CA

(Manteca Service Area)



Figure A.38: Influenza Like Activity in Seattle-Tacoma-Bellevue, WA

(Washington Service Area)



Figure A.40: Influenza Like Activity in Sioux Falls, SD (Sioux

Falls Service Area)



Figure A.42: Influenza Like Activity in Tucson, AZ (Tucson

Service Area)





Figure A.43: Influenza Like Activity in Tulsa, OK (Tulsa Service Area)



Figure A.44: Influenza Like Activity in Wichita, KS (Wichita Service







Works Cited

² Hung, M; Srivastav, A; Lu, P; Black, C.L.; Jatlaoui, T.C.; Lindley, M.C.; Singleton, J.A. (2023, July 19) Vaccine Coverage among Adults in the United States, National Health Interview Survey, 2021. *Centers for Disease Control and Prevention* AdultVaxView.

https://www.cdc.gov/vaccines/imz-managers/coverage/adultvaxview/pubs-resources/vaccination-coverage-adults-2021.html#print. ³ Black, C.L; O'Halloran, A; Hung, M (2022, October 27). *Vital Signs:* Influenza Hospitalizations and Vaccination Coverage by Race and Ethnicity – United States, 2009-10 Through 2021-22 Influenza Series. *Morbidity and Mortality Weekly Report Centers for Disease Control and Prevention;* 71: 1366-1373. doi: http://dx.doi.org/10.15585/mmwr.mm7143e1.

⁴ Shed, A.; Swank, K.; McPherson, K.; Hartwell, M. (2023, February 17) Trends in Influenza Immunization Among Pregnant Women: A Cross-sectional Examination of the Behavioral Risk Factor Surveillance System from 2017-2022. *Oklahoma State University, Center for Health Sciences*. https://scholars.okstate.edu/en/publications/trends-in-influenza-immunization-among-pregnant-women-a-cross-sec.

⁵ Zeymo, A., Kalweit, A. (2021, August 2) Revealing Vulnerability to COVID-19 in Urban American Indian and Alaska Native Communities. *National Council for Urban Indian Affairs, Research Blog.* https://ncuih.org/2021/08/02/revealing-vulnerability-to-covid-19-in-urban-american-indian-and-alaska-native-communities/.

⁶ Centers for Disease Control and Prevention. (2022, February 8). "CDC FluView Tracker a Weekly Influenza Surveillance Report Prepared by the Influenza Division: Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet. https://gis.cdc.gov/grasp/fluview/main.html.

⁷ Bruegl, A.S.; Emerson. J.; Tirumala, K. (2023) Persistent Disparities of Cervical Cancer Among American Indians/ Alaska Natives: Are We Maximizing Prevention Tools? *Gynecologic Oncology*: 168, 56-61. Doi: https://doi.org/10.1016/j.ygyno.2022.11.007.

⁸ Vietri, J.; Sato, R.; Averin, A.; Weycker, D.; Kumar, M.; Prasa, S.; Chilson, E. (2023) Pneumococcal Vaccine Uptake Among Medicare Beneficiaries Ages ≥65 Years Following the Shared Clinical Decision-Making Recommendation for 13-valent Pneumococcal Conjugate Vaccine in 2019. *Vaccine*; 41, 5211-5215.

¹ Centers for Disease Control and Prevention. (2022, September) *Partnering for Vaccine Equity (P4VE) Program Overview*. Centers for Disease Control and Prevention, National Center for Immunization and Respiratory Diseases.