

Trusted Information Sources About the COVID-19 Vaccine Vary in Underserved Communities

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Background

- COVID-19 has impacted underserved communities, particularly Black and Latino populations¹.
- Greater hospitalization and death rates were impacted by the low uptake of COVID-19 vaccine in early 2021².
- The overall vaccination rate is 53% among Blacks compared to 64.0% among Whites and 91% of Asians³.
- Economic differences increased COVID-19 exposure risk and limited healthcare access⁴.

Objectives

- Identify Vaccine Disparities:** Examine factors behind lower vaccination rates in selected zip codes in WNY.
- Promote Vaccine Education:** Empower the community with reliable information to enhance awareness and informed decision-making about vaccinations.

Methods

Data Collection:

- Identified low vaccination rate zip codes in Western New York using state health department data
- Recruited a convenience sample of English-speaking adults who were 18 years and older from various community locations between July 2022 and November 2022.

Survey:

- Revised survey included demographics, COVID-19-related questions, and the Adult Vaccine Hesitancy Scale (aVHS) by WHO⁵.
- Self-administered paper surveys.

Data Management

- 30% of surveys cross-checked for accuracy
- Cleaned data imported into REDCap
- 498 complete surveys; 87 surveys lacked demographic data due to revisions

Statistical Analysis

- Descriptive stats for continuous and categorical measures
- Various tests and logistic regression models used to analyze relationships and responses

Results

- Collected 599 surveys in WNY (302 in Niagara County; 297 in Erie County)
- 14 surveys were excluded due to ineligibility responses resulting in 359 vaccinated and 40 unvaccinated participants.
- Unvaccinated participants (49%) were concerned about the vaccine causing harm compared to 19% of vaccinated participants.
- Vaccinated participants preferred guidance from the government, healthcare providers, and family. Unvaccinated participants valued more "clinical experience".
- 84% overall vaccination rate; highest among "other" (90%), Asians (89%), Black/African American (87%), and White (83%) participants. No significant differences in vaccination rates by race (p=0.248)

	Total	Unvaccinated	Vaccinated
Gender			
Female	303	44	259
Male	172	31	141
Transgender	3	-	3
Non-conforming, non-binary, or genderqueer	1	-	1
Agender	1	-	1
I Prefer not to answer	1	-	1
Other	2	-	2
Age			
18-24	40	7	33
25-34	65	16	49
35-44	80	23	57
45-54	88	9	79
55-64	102	8	94
65-74	69	6	63
75+	27	3	24
Race			
American Indian or Alaskan Native	14	-	14
Asian	9	1	8
Black or African America	264	35	229
Native Hawaiian or other Pacific Islander	4	2	2
White	128	22	106
I Prefer not to answer	11	2	9
Multiple Races	31	11	20
Other	20	2	18
Ethnicity (Hispanic/Latino/Latina/Latinx)			
Yes	42	5	37
No	384	59	325
I prefer not to answer	21	6	15

Survey Items	Q22: Unvaccinated (N=35)		Q29: Vaccinated/Unboosted (N=52)		p-value
	Yes	Percent	Yes	Percent	
It will cause me harm	17	48.57%	10	19.23%	0.0049
It is too expensive	2	5.71%	5	9.62%	0.6968
COVID-19 is a hoax	5	14.29%	6	11.54%	0.7499
It is unnecessary	10	28.57%	13	25.0%	0.8056
It is not available where I live	-	-	-	-	-
I had trouble making an appointment	-	-	-	-	-
My family told me not to get it	5	14.29%	6	11.54%	0.7499
My friend(s) told me not to get it	5	14.29%	6	11.54%	0.7499
My healthcare provider(s) told me not to get it	1	2.86%	6	11.54%	0.2341

Q22: Select ALL the reason(s) why you decided not to receive the vaccine; Q29: Select ALL the reason(s) why you decided not to receive a vaccine booster

Survey Items	Q24: Unvaccinated (N=40)		Q27: Vaccinated (N=359)		P-Value
	Yes	Percent	Yes	Percent	
Clinical research studies	19	47.50%	153	42.62%	0.6148
Government (such as FDA/CDC/Local health department) guidance	14	35.00%	220	61.28%	0.0020
More Clinical Experience	16	40.00%	58	16.16%	0.0008
Healthcare provider guidance	9	22.50%	220	61.28%	0.0000
Family guidance	6	15.00%	183	50.98%	0.0000
Friend guidance	9	22.50%	126	35.10%	0.1170
Information found on the Internet	12	30.00%	88	24.51%	0.4456
Celebrity endorsements	2	5.00%	32	8.91%	0.5572
Personal Stories	7	17.50%	104	28.97%	0.1400

Q24: Select ALL information sources that would help you decide to get vaccinated; Q27: Select ALL information sources that assisted in you deciding to get your first vaccine

Survey Items (24/27)	Received Vaccine		Female		Age	
	Estimate	P-Value	Estimate	P-Value	Estimate	P-Value
Clinical research studies	-0.4192	0.0594	-0.00786	0.2719	0.0853	0.4973
Government (such as FDA/CDC/Local health department) Guidance	0.4061	0.064	-0.00591	0.4123	0.1254	0.3155
More Clinical Experience	-0.9593	<.0001	-0.0049	0.6153	-0.1116	0.5013
Healthcare provider guidance	0.8859	0.0011	0.0302	0.0002	0.00317	0.9812
Family guidance	0.9106	0.0013	-0.0119	0.1	0.1319	0.2942
Friend guidance	0.4199	0.1109	-0.00807	0.2783	-0.1749	0.1743
Information found on the Internet	-0.0806	0.7363	-0.00977	0.2333	-0.0999	0.4788
Celebrity endorsements	0.3564	0.4973	0.0231	0.0601	-0.0781	0.7101
Personal Stories	0.4588	0.1129	0.00409	0.6063	-0.4107	0.002

Q24: Select ALL information sources that would help you decide to get vaccinated; Q27: Select ALL information sources that assisted in you deciding to get your first vaccine

Discussion

- Concerns about side effects, especially fear of harm, drove hesitancy.
- Vaccinated individuals relied on government, healthcare providers, and family for guidance, underscoring the need for tailored, trustworthy information.
- Diverse hesitancy reasons: COVID-19 beliefs, family influence, and friend recommendations.
- Focused efforts needed for safety and accurate information.
- Government agencies play a crucial role due to high trust.
- Longitudinal and qualitative studies offer deeper insights into hesitancy trends and lived experiences
- Public health campaigns must target Western New York's unique barriers and concerns
- Collaboration among healthcare providers, community leaders, and public health agencies is essential to overcome vaccine hesitancy

Strengths and Limitations

Strengths:

- Mass participation with minimal staffing
- Data collected swiftly addressed the urgent COVID-19 vaccine challenges
- Enabled comparisons across key factors (age, race, gender)

Limitations:

- Participants primarily from urban areas, limits rural insights
- Participant interpretation of the survey questions affected data accuracy
- Study site representation of all community members
- Longitudinal and qualitative studies required for intervention assessment and long-term outcomes.

Conclusions

- Unvaccinated individuals cited potential harm as a primary reason for abstaining from vaccination
- Guidance from government, healthcare providers, and family influenced vaccination decisions
- Ongoing qualitative analysis will provide deeper insights into hesitancy
- Our findings should guide public health efforts to enhance vaccine acceptance, not only in Western New York but throughout the country.

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