Deployment of Health Equity Strike Teams to Address COVID-19 Vaccine Disparities in Arkansas, 2021

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See also Kapadia, p. 12.

Minority populations have been disproportionately affected by the COVID-19 pandemic, and disparities have been noted in vaccine uptake. In the state of Arkansas, health equity strike teams (HESTs) were deployed to address vaccine disparities. A total of 13 470 vaccinations were administered by HESTs to 10 047 eligible people at 45 events. Among these individuals, 5645 (56.2%) were African American, 2547 (25.3%) were White, and 1068 (10.6%) were Hispanic. Vaccination efforts must specifically target populations that have been disproportionately affected by the pandemic. (*Am J Public Health*. 2022; 112(1):29–33. https://doi.org/10.2105/AJPH.2021.306564)

The ongoing COVID-19 pandemic has resulted in significant loss of life, with more than 3 million deaths worldwide and more than 645 000 deaths occurring in the United States as of September 1, 2021.[1] Although the pandemic has touched nearly every community in the United States, African Americans, Hispanics, and other minority groups have been disproportionately affected.[2] Similar to the disparities seen in COVID-19 infections and mortality, disparities are being observed in vaccination rates. For example, African Americans represent 12.4% of the US population but only 9.3% of those fully immunized.[3] Hispanics are underrepresented as well, accounting for 17.2% of the population as compared with 16.1% of those fully immunized.[3]

The vaccine disparities seen at the national level also exist in Arkansas, a southern state with relatively large rural, poor, and racial/ethnic minority populations.

INTERVENTION

To address the disparities just described, the Arkansas Department of Health's Office of Health Equity established health equity strike teams (HESTs) to target minority communities throughout the state. HESTs comprise nurses, health educators, public information specialists, and lay community members with skills to foster community relationships and encourage vaccination uptake. HESTs use volunteer groups to staff community vaccination events and assist local pharmacists with data entry into WebIZ, the state's immunization registry. The overarching goal of HESTs is to increase vaccination rates in communities disproportionately affected by the pandemic by rapidly disseminating health information and supporting new and ongoing vaccination clinics in trusted locations.

Data from WebIZ were used to present HESTs with weekly county-level reports highlighting proportions of eligible vaccinated populations by race and ethnicity along with the racial and ethnic compositions of each county in the state. Population estimation data from the US Census Bureau were used to calculate the racial and ethnic distributions for each county and the state. These reports focused on individuals 65 years or older because this population was eligible to receive the vaccine during the evaluation period. The reports allowed HESTs to compare the proportion of eligible residents who have been vaccinated with the proportions of eligible residents at the county and state levels. Disparity calculations were conducted by subtracting the proportion of the minority population receiving the vaccine from the proportion of the minority population at the county and state levels; a negative vaccine disparity indicated that the racial/ethnic group in question was underrepresented among those vaccinated.

The reports also helped HESTs identify counties with the largest vaccination

disparities and plan community outreach and vaccination events. These events were planned to accommodate the two-dose regimen for the Pfizer and Moderna vaccines, with HESTs conducting follow-up events for the second dose.

To address vaccine hesitancy among minority communities, the Office of Health Equity worked with community partners to develop an education campaign to build public trust, simplify the vaccination process, and disseminate prevention materials. Messages from trusted leaders sharing their intent to take the vaccine when it was their turn were used to tailor the campaign to the needs of diverse populations within the state; these messages were posted on YouTube and Facebook and included in radio advertisements. Videos made in English, Spanish, and Marshallese featured these leaders getting vaccinated and documenting their experience. In addition, pamphlets about monoclonal antibody treatment and the Centers for Disease Control and Prevention's V-Safe program were distributed at vaccination events.

PLACE AND TIME

HESTs were dispatched throughout Arkansas starting in January 2021, and efforts are ongoing.

PERSON

The HEST vaccination efforts were available to anyone eligible. However, the target population was eligible people in minority communities, particularly those 65 years or older.

PURPOSE

HESTs were deployed to assist state efforts related to ensuring that minority communities and difficult-to-reach populations had equal access to the vaccine. The purpose of our evaluation was to describe the impact of HESTs in reducing vaccination disparities in Arkansas.

IMPLEMENTATION

HESTs rely on partnerships with the Arkansas Pharmacy Association, the Black Mayors Association, the Legislative Black Caucus, historically Black fraternities and sororities, Arkansas Blue Cross/Blue Shield, Wal-Mart, and Walgreens. Only clinical HEST members administer the COVID-19 vaccine. Health educators provide education and create videos to address vaccine hesitancy.

EVALUATION

HESTs held 45 targeted community vaccination events in nine different counties and 27 cities throughout the state. During these events, 13 470 vaccinations were administered to 10 047 unique individuals. Among those vaccinated, 5645 (56.2%) were African American, 2547 (25.3%) were White, and 1068 (10.6%) were Hispanic (Table 1).

Vaccination disparities improved markedly within one month of HEST activities among individuals 65 years or older. Specifically, there was a decrease in the number of counties with a disparity of 10 percentage points or more in the proportion of vaccines

TABLE 1— Number of COVID-19 Doses Administered at HEST Community Vaccination Clinics, by Month and Race/Ethnicity: 10 US Counties, January–April 2021

Clinic Month	Dose Type	Race/Ethnicity, No.					Total No.
		African American	White	Hispanic	Other	Missing	
January	First dose	412	141	20	19	311	903
February	First dose	1 865	804	79	67	145	2 960
February	Second dose	489	219	25	14	23	770
March	First dose	3 072	1 503	942	135	106	5 758
March	Second dose	1 316	596	13	13	35	1 973
April	First dose	296	99	27	3	1	426
April	Second dose	483	153	24	20	0	680
Total first dose		5 645	2 547	1 068	224	563	10 047
Total second dose		2 288	968	62	47	58	3 423

Note. HEST = health equity strike team.

administered to people aged 65 years or older relative to the minority population. On March 1, 2021, seven counties were in this category with respect to African American populations (Table 2). By April 1, 2021, no counties were in this category. Among the counties with the greatest disparities, County A saw the largest change (8.8 percentage points; −15.8% in March to −7.0% in April). The statewide disparities in population composition and vaccine distribution seen among African Americans decreased from −3.0% to −1.7%.

Similar analyses were conducted for the Hispanic population. Whereas there were no counties with a 10-percentage-point deficit or higher with respect to Hispanic populations, the statewide disparity changed from −0.5% to 0.2% (Table 3). The counties with the greatest disparities in March were mostly nonmetropolitan counties with relatively small urban populations (as indicated by Rural–Urban Continuum Codes).[4]

A total of 33 educational videos (11 of which were in Spanish and two in Marshallese) were created to address vaccine hesitancy among minority communities. These videos were viewed a total of 4815 times during the evaluation period.

ADVERSE EFFECTS

HESTs were not made aware of any adverse events.

SUSTAINABILITY

Currently, there are federal grant opportunities available to address COVID-19 health disparities. The Office of Health Equity submitted a proposal and requested funds to sustain HESTs for two years. These funds would be used to maintain a workforce of 20 to 40 contractors to staff the clinics. In addition, HESTs will seek continued assistance from volunteer organizations.

PUBLIC HEALTH SIGNIFICANCE

Our evaluation highlights the efforts of HESTs in reducing COVID-19 vaccine disparities. Ideally, the distribution of vaccine should mirror the population composition. The goal of the intervention described here was to improve access by conducting vaccination events in largely rural and minority communities. HESTs were instrumental in initiating and completing the COVID-19 vaccination series within the targeted communities. Ensuring equitable vaccine distribution is critical given that

TABLE 2— Comparison of COVID-19 Vaccination Distributions With Population Compositions Among Individuals Aged 65 Years or Older, by Race: 10 US Counties, March 1, 2021, vs April 1, 2021

		Population Composition		Vaccine Distributed March 1, 2021			Vaccine Distributed April 1, 2021		
	Rural–Urban Continuum Code	White (%)	African American (%)	White (%)	African American (%)	Disparity (Percentage Points)	White (%)	African American (%)	Disparity (Percentage Points)
State of Arkansas		87.7	10.6	84.4	7.6	−3.0	81.6	8.9	−1.7
County A	7	50.4	48.5	55.2	32.8	−15.7	48.4	41.6	−6.9
County B	6	48.8	50.4	58.4	35.7	−14.7	47.9	43.8	−6.6
County C	6	59.8	39.2	65.1	28.3	−10.9	60.5	33.4	−5.8
County D	4	74.5	24.7	75.9	13.9	−10.8	69.3	18.9	−5.8
County E	7	74.5	24.9	82.5	14.3	−10.6	73.5	21.5	−3.4
County F	7	74.4	24.6	78.4	14.3	−10.3	73.6	18.0	−6.6
County G	7	65.3	33.4	71.5	23.2	−10.2	62.2	30.9	−2.5
County H	2	73.0	25.2	74.5	15.4	−9.8	70.7	18.1	−7.1
County I	6	81.0	17.9	84.2	8.5	−9.4	79.4	13.0	−4.9
County J	7	72.5	27.3	73.4	18.2	−9.1	70.0	18.5	−8.8

Note. Rural–Urban Continuum Codes are as follows: 1 = counties in metropolitan areas of 1 million population or more; 2 = counties in metropolitan areas of 250 000–1 million population; 3 = counties in metropolitan areas of less than 250 000 population; 4 = urban population of 20 000 or more, adjacent to a metropolitan area; 5 = urban population of 20 000 or more, not adjacent to a metropolitan area; 6 = urban population of 2500–19 999, adjacent to a metropolitan area; 7 = urban population of 2500–19 999, not adjacent to a metropolitan area; 8 = completely rural or less than 2500 urban population, adjacent to a metropolitan area; 9 = completely rural or less than 2500 urban population, not adjacent to a metropolitan area.

TABLE 3— Comparison of COVID-19 Vaccination Distributions With Population Compositions Among Individuals Aged 65 Years or Older, by Ethnicity: 10 US Counties, March 1, 2021, vs April 1, 2021

	Rural–Urban Continuum Code	Population Composition		Vaccine Distributed March 1, 2021			Vaccine Distributed April 1, 2021		
		Non-Hispanic (%)	Hispanic (%)	Non-Hispanic (%)	Hispanic (%)	Disparity (Percentage Points)	Non-Hispanic (%)	Hispanic (%)	Disparity (percentage points)
State of Arkansas		98.1	1.9	88.9	1.4	−0.5	86.5	2.1	+0.2
County 1	6	89.8	10.2	81.6	2.9	−7.3	71.8	5.2	−5.0
County 2	7	96.7	3.3	97.0	0.5	−2.8	95.2	2.2	−1.1
County 3	2	96.4	3.6	87.7	1.1	−2.5	83.8	2.3	−1.3
County 4	7	95.9	4.1	90.8	2.0	−2.1	86.3	3.9	−0.2
County 5	6	96.9	3.1	88.0	1.3	−1.8	83.4	2.1	−1.0
County 6	6	97.7	2.3	92.2	0.5	−1.8	87.0	1.4	−0.9
County 7	7	98.0	2.0	85.9	0.5	−1.5	85.8	0.9	−1.1
County 8	6	95.4	4.6	93.2	3.1	−1.5	90.2	4.2	−0.4
County 9	2	95.7	4.3	91.7	3.1	−1.2	89.4	4.6	+0.3
County 10	9	98.6	1.4	89.5	0.4	−1.0	86.7	0.6	−0.8

Note. Rural–Urban Continuum Codes are as follows: 1 = counties in metropolitan areas of 1 million population or more; 2 = counties in metropolitan areas of 250 000–1 million population; 3 = counties in metropolitan areas of less than 250 000 population; 4 = urban population of 20 000 or more, adjacent to a metropolitan area; 5 = urban population of 20 000 or more, not adjacent to a metropolitan area; 6 = urban population of 2500–19 999, adjacent to a metropolitan area; 7 = urban population of 2500–19 999, not adjacent to a metropolitan area; 8 = completely rural or less than 2500 urban population, adjacent to a metropolitan area; 9 = completely rural or less than 2500 urban population, not adjacent to a metropolitan area.

minority populations have been disproportionately affected by the pandemic.

Ensuring access is one part of a multipronged approach needed to address vaccine disparities. Providing education to those who may be vaccine hesitant is equally important. Rates of vaccine hesitancy have been shown to be higher among racial and ethnic minority groups than among Whites.[5] Several factors account for the increased vaccine hesitancy among these groups, with the most notable being mistrust and concerns about side effects.[5,6] The videos created by the Office of Health Equity featured prominent members of the community who are seen as trusted leaders. These individuals advocated for and emphasized the overall safety of the vaccines in addition to expressing trust in the scientists who developed them. The Arkansas Department of Health maintains a YouTube channel where these videos are posted. States and programs aiming to reduce disparities might consider this approach as a means of addressing vaccine disparities. AJPH

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A. Porter, S. Wells, and C. Smith drafted the article and analyzed the data. N. Zohoori, G. Pro, and M. R. Smith provided significant revisions. S. Wells, C. Smith, and M. R. Smith conceptualized and coordinated the intervention.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

HUMAN PARTICIPANT PROTECTION

The institutional review board of the University of Arkansas for Medical Sciences designated this study as non–human participant research.

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