

## COMMENTARY

## American Indian and Alaska Native People: Social Vulnerability and COVID-19

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The Centers for Disease Control and Prevention (CDC) describes racial and ethnic minority groups and people living in rural communities as specific groups needing to take extra precautions related to COVID-19.<sup>1</sup> According to 2010 Census data, 5.2 million individuals in the United States were identified as American Indian and Alaska Native (AIAN) people, either alone or in combination with one or more other races (1.7% of the US population), a 39% increase since 2000.<sup>2</sup> Further, 2.9 million identified as American Indian or Alaska Native alone (0.9% of the US population).<sup>2</sup> According to Dewees and Marks, 54% of AIAN people live in rural and small town areas.<sup>3</sup> Compared to all other US races, AIAN people have a lower life expectancy by 5.5 years and experience higher rates of death from many chronic illnesses including chronic liver disease and cirrhosis, diabetes mellitus, and influenza and pneumonia.<sup>4</sup> According to the CDC, social vulnerability factors that may weaken a community's ability to prevent suffering and loss in a disease outbreak include poverty, lack of access to transportation, and crowded housing.<sup>5</sup>

The Social Vulnerability Index (SVI) was created by the Agency for Toxic Substances and Disease Registry's Geospatial Research Analysis & Services Program with the focus of aiding public health officials identify and map communities that were most likely to need support before, during, and after a hazardous event.<sup>6</sup> CDC's SVI uses US Census data to determine the social vulnerability of every census tract and county.<sup>5</sup> The SVI assesses 15 social factors comprising 4 themes: (1) Socioeconomic Status (percentage of residents below poverty, unemployed, and with no high school diploma and per capita income), (2)

Household Composition & Disability (percentage aged  $\geq$  65 years, aged  $\leq$  17 years, aged  $>$  5 years with a disability, and single-parent households), (3) Minority Status & Language (percentage minority and who speak English "less than well"), and (4) Housing Type & Transportation (percentage of multiunit structures, mobile homes, crowding, no vehicle, and group quarters). While the SVI includes the just mentioned variables, it also calculates rankings for relative vulnerability based on percentiles if adequate data are available. Since the relative vulnerability ranking values are not computed for tribal tracts, this commentary will focus on social vulnerability percentage values.

The remainder of this commentary is organized as follows: current COVID-19 statistics as of 11:59 pm on July 26, 2020,<sup>7</sup> and 2018 social vulnerability percentages by tribal geographic areas<sup>8</sup> versus US averages,<sup>9</sup> which are presented in the Social Vulnerability of AIAN People section. Brief concluding remarks follow.

### Social Vulnerability of AIAN People

According to the Indian Health Service (IHS), as of 11:59 pm on July 26, 2020, there have been 30,419 positive COVID-19 tests reported.<sup>7</sup> Deaths were not reported and it is also important to remember that reporting by tribal and urban programs is voluntary. Examining the 12 IHS areas shows variability in positive cases, percentage of positive tests, and percentage positive COVID-19 tests out of Census 2020 projected populations.<sup>10</sup> Results for each IHS area are presented in the following order (No. of pos-

**Table 1** Social Vulnerability of American Indian and Alaska Native People by Geographic Area

Geographic Region	# of Tracts	% Pov	% Unemp	% PCI	% NoHSDp	% Age 65+	% Age ≤17	% Disabl	% SngPnt
Albuquerque Area Southwest	25	23.1 (9.3)	12.1 (7.1)	19,137 (7,096)	15.3 (6.1)	14.2 (5.9)	26.5 (7.6)	13.7 (5.5)	12.6 (7.3)
California	88	25.1 (16.6)	14.5 (12.3)	26,570 (24,178)	17.9 (13.7)	16.6 (16.1)	26.9 (13.9)	15.2 (7.6)	15.7 (13.9)
Great Lakes	54	24.7 (12.4)	10.3 (6.9)	24,154 (14,034)	12.3 (6.6)	14.4 (7.2)	28.6 (8.4)	15.5 (5.0)	17.5 (9.8)
Great Plains	31	35.3 (13.7)	13.8 (7.2)	17,120 (6,039)	16.4 (5.1)	10.2 (4.2)	35.5 (5.4)	12.8 (3.0)	18.2 (6.2)
Inter-Tribal Council of Arizona	50	32.1 (12.2)	17.3 (9.4)	17,250 (6,458)	20.7 (10.1)	13.3 (6.4)	27.7 (8.0)	16.8 (8.5)	14.3 (7.7)
Navajo	38	40.2 (7.0)	18.3 (7.1)	12,117 (1,823)	26.9 (7.2)	11.9 (2.3)	28.7 (3.4)	15.5 (4.4)	13.3 (3.3)
Northwest	66	21.9 (12.2)	11.3 (7.7)	23,740 (10,365)	15.3 (9.8)	15.2 (7.7)	25.9 (7.5)	17.5 (8.0)	13.6 (7.7)
Oklahoma Area	16	19.2 (12.8)	6.4 (3.5)	22,353 (6,147)	14.7 (9.3)	16.5 (5.4)	26.5 (8.6)	17.9 (3.9)	11.8 (10.2)
Rocky Mountain	23	24.3 (12.5)	10.0 (6.4)	21,313 (7,208)	11.2 (3.1)	15.2 (6.4)	28.8 (6.2)	13.9 (5.4)	11.3 (5.7)
United South & Eastern Tribes	38	30.0 (15.2)	13.7 (9.8)	20,269 (11,425)	19.7 (8.7)	11.6 (7.9)	31.3 (10.2)	15.7 (5.8)	19.5 (10.0)
All Tribal Areas average	429	27.5 (14.3)	13.3 (9.3)	21,351 (14,282)	17.3 (10.2)	14.2 (9.4)	28.3 (9.5)	15.6 (6.6)	15.2 (9.6)
US average	3141	15.6 (6.5)	5.8 (2.9)	27,036 (6,512)	13.4 (6.3)	18.4 (4.6)	22.4 (3.5)	15.9 (4.4)	8.3 (2.8)

  

Geographic Region	% Minrty	% LimEng	% MUnit	% Mobile	% Crowd	% NoVeh	% GroupQ	% UnInsur
Albuquerque Area Southwest	85.3 (22.4)	1.8 (1.9)	0.3 (0.6)	22.6 (9.0)	7.9 (7.0)	8.3 (4.8)	0.5 (0.7)	20.2 (10.4)
California	79.0 (24.3)	2.8 (8.2)	1.5 (4.5)	23.1 (21.3)	8.4 (11.1)	8.2 (8.1)	0.4 (2.4)	20.5 (14.8)
Great Lakes	60.3 (29.5)	0.4 (0.9)	3.5 (4.7)	9.7 (8.2)	4.0 (3.7)	11.2 (9.2)	1.1 (1.9)	14.5 (11.0)
Great Plains	77.8 (19.4)	0.8 (1.3)	3.2 (3.2)	17.1 (10.3)	12.7 (9.1)	9.8 (5.6)	1.1 (1.3)	27.0 (9.0)
Inter-Tribal Council of Arizona	85.3 (22.8)	1.6 (2.4)	0.6 (1.1)	20.2 (17.5)	7.6 (7.6)	11.8 (10.2)	0.9 (2.1)	21.5 (9.5)
Navajo	98.6 (1.2)	6.3 (3.4)	0.3 (0.6)	21.2 (6.6)	17.4 (5.0)	14.4 (4.4)	0.5 (1.0)	24.0 (6.9)
Northwest	60.4 (28.8)	2.0 (4.0)	3.7 (10.5)	14.1 (10.3)	5.9 (4.9)	7.5 (8.3)	0.9 (2.3)	14.9 (7.4)
Oklahoma Area	49.2 (30.4)	1.4 (3.5)	0.8 (1.2)	13.4 (9.2)	3.4 (3.3)	5.3 (4.1)	1.8 (4.9)	15.3 (6.8)
Rocky Mountain	55.6 (29.0)	0.5 (0.7)	1.5 (2.0)	16.5 (9.5)	6.5 (5.2)	6.0 (4.3)	2.4 (3.5)	24.5 (11.2)
United South & Eastern Tribes	85.5 (14.1)	1.0 (1.5)	3.2 (8.6)	13.8 (13.6)	7.1 (9.1)	12.2 (9.3)	0.7 (1.3)	26.7 (19.3)
All Tribal Areas average	74.8 (27.3)	2.0 (4.6)	2.1 (5.7)	17.5 (14.6)	8.0 (8.4)	9.7 (8.2)	0.9 (2.2)	20.3 (12.4)
US average	23.5 (20.2)	1.7 (2.8)	4.7 (5.7)	12.9 (9.6)	2.4 (2.4)	6.4 (4.5)	3.5 (4.6)	10.1 (5.1)

Data presented as mean(SD).

# of Tracts: Number of census tracts (subdivisions of counties) for Tribal Areas and number of counties for US Average

% Pov: Percentage of persons below poverty estimate

% Unemp: Unemployment rate estimate

% PCI: Per capita income estimate, 2014-2018 American Community Survey

% NoHSDp: Percentage of persons with no high school diploma (age 25+) estimate

% Age 65+: Percentage of persons aged 65+ years

% Age 65+: Percentage of persons aged 17 years

% Disabl: Percentage of civilian noninstitutionalized population with a disability estimate, 2014-2018 American Community Survey

% SngPnt: Percentage of single-parent households with children under 18 years estimate, 2014-2018 American Community Survey

% Minrty: Percentage minority (all persons except white, non-Hispanic) estimate, 2014-2018 American Community Survey

% LimEng: Percentage of persons (age 5+) who speak English "less than well" estimate, 2014-2018 American Community Survey

% MUnit: Percentage of housing in structures with 10 or more units estimate

% Mobile: Percentage of mobile homes estimate

% Crowd: Percentage of occupied housing units with more people than rooms estimate

% NoVeh: Percentage of households with no vehicle available estimate

% GroupQ: Percentage of persons in institutionalized group quarters estimate, 2014-2018 American Community Survey

% UnInsur: Percentage uninsured in the total civilian noninstitutionalized population estimate, 2014-2018 American Community Survey

itive tests, percentage positive tests, percentage positive tests of projected 2020 population)<sup>10</sup>: Alaska (448, 0.5%, 0.3%), Albuquerque (1,484, 4.7%, 1.1%), Bemidji (618, 2.4%, 0.4%), Billings (715, 2.0%, 0.8%), California (369, 5.6%, 0.2%), Great Plains (1,475, 4.2%, 0.9%), Nashville (1,454, 10.0%, 1.0%), Navajo (10,341, 16.4%, 3.6%), Oklahoma City (4,028, 4.5%, 0.9%), Phoenix (7,671, 16.5%, 3.0%), Portland (1,365, 7.8%, 0.5%), and Tucson (451, 9.1%, 1.0%). Navajo and Phoenix specifically stick out with positive test rates above 16% and 3+% of the 2020 population affected.

Table 1 presents social vulnerability statistics for AIAN people by geographic area. Downloaded data were coded into applicable Tribal Epidemiology Center locations (Albuquerque Area Southwest, California, Great Lakes, Great Plains, Inter-Tribal Council of Arizona, Navajo, Northwest Tribal, Oklahoma Area, Rocky Mountain, and United South & Eastern Tribes).<sup>11</sup> Because Alaska had only 1 tract reported in the dataset, it is not presented in the table. Also presented in Table 1 are All Tribal Areas and US averages for easy comparisons.

### Socioeconomic Status Vulnerability

All tribal geographic regions had higher percentages of poverty, unemployment, and lower per capita income compared to US averages (15.6%, 5.8%, and \$27,036, respectively). Percentage poverty ranged from 19.2% (Oklahoma Area) to 40.2% (Navajo). Percentage unemployment ranged from 6.4% (Oklahoma Area) to 18.3% (Navajo). Per capita income was greatest in California (\$26,570) and lowest for Navajo (\$12,117). Regarding percentage of adults with no high school diploma, values ranged from 11.2% (Rocky Mountain) to 26.9% (Navajo). Both the Great Lakes (12.3%) and Rocky Mountain (11.2%) tribal regions had lower percentages of adults with no high school diploma compared to the US average (13.4%).

### Household Composition & Disability Vulnerability

Percentage of individuals aged  $\geq 65$  years in communities ranged from 10.2% (Great Plains) to 16.6% (California). Percentage of individuals aged  $\leq 17$  years ranged from 25.9% (Northwest) to 35.5% (Great Plains). Percentage of community population with a disability was greater than the US average (15.9%) in 3 geographic regions: Inter-Tribal Council of Arizona (16.8%), Northwest (17.5%), and Oklahoma Area (17.9%). All tribal geographic regions had higher percentages of single-parent households compared to the US average (8.3%), which ranged from

11.3% (Rocky Mountain) to 19.5% (United South & Eastern Tribes).

### Minority Status & Language Vulnerability

As expected, all tribal geographic regions reported higher percentage minority compared to the US average (23.5%), which ranged from 49.2% (Oklahoma Area) to 98.6% (Navajo). Five of the tribal geographic regions had higher percentage of individuals over 5 who speak English “less than well” compared to the US average (1.7%). Percentages ranged from 0.4% (Great Lakes) to 6.3% (Navajo).

### Housing Type & Transportation Vulnerability

All tribal geographic regions reported lower percentage of housing in structures with 10 or more units compared to the US average (4.7%), ranging from 0.8% (Oklahoma Area) to 3.7% (Northwest). All tribal geographic regions except 1 (Great Lakes) had higher percentage of mobile homes compared to the US average (12.9%), ranging from 9.7% (Great Lakes) to 23.1% (California). All tribal geographic regions had higher percentage of occupied housing units with more people than rooms compared to the US average (2.4%), ranging from 3.4% (Oklahoma Area) to 17.4% (Navajo). All but 2 tribal geographic regions had higher percentage of households with no vehicle available compared to the US average (6.4%), ranging from 5.3% (Oklahoma Area) to 14.4% (Navajo). All tribal geographic regions had lower percentage of individuals in institutionalized group quarters compared to the US average. Lastly, all tribal geographic regions had higher percentage uninsured compared to the US average (10.1%), ranging from 14.9% (Northwest) to 26.7% (United South & Eastern Tribes).

### Conclusions

Table 1 sheds light on the social vulnerability of AIAN people. With the current pandemic, it is no surprise that AIAN people will be at a high risk for COVID-19 contraction and complications. Of special note is the social vulnerability of the Navajo people, with poverty rates averaging 40.2%, per capita income of \$12,117, 98.6% minority communities, and 17.4% crowding. Utilizing the CDC’s SVI dataset is proposed here as a tool to better understand the potential impact of the COVID-19 pandemic on AIAN communities and their ability to recover from its effects. SVI is readily available data for individual tribal tracts that could prove to be extremely valuable for AIAN health and social

agency organizations. With local organizations stretched thin during this pandemic, taking advantage of easily accessible, freely available tools is a necessity during this time to best determine needs for AIAN communities.

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