



Integrating Telehealth as a Social Determinant of Health: Implications for Healthcare Policy, Practice, Planning, and Research

Lois Ritter, EdD, MS, MA, MS-HCA
American Telemedicine Association
Research Director

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Agenda



Considering telehealth as a SDOH



What data to consider



Data sources



Questions



How Telehealth Reduces Inequities



- Improved access
 - Primary care and specialists
 - Disabilities and homebound
 - Timely care
- Convenient
- Cost savings
- Continuity of care
- Eliminates transportation barriers
- Reduces stigma
- Racial concordant care
- Improved medication adherence

Why Consider Telehealth as a SDOH

Telehealth has comparable outcomes to in-person, sometime better, and increases access to care

Its use has increased since before COVID and will continue to be an important part of our healthcare system

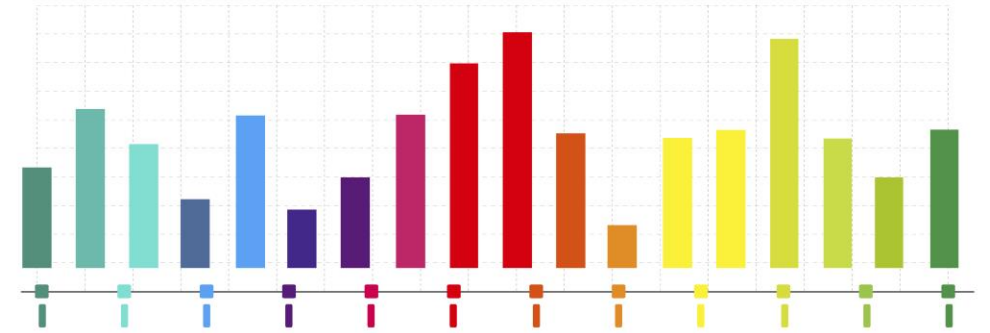
To fully embrace the benefits of telehealth, issues that prevent its use that are nonmedical factors that influence health outcomes are a component of SDOH

Policy changes to address digital SDOH factors may strengthen existing health care and public health systems to allow for patient and community-centered approaches to improve health

A blurred background image showing a person's hands typing on a laptop keyboard. The image is overlaid with a semi-transparent dark blue filter.

Data Types and Sources

Meaningful Data



Digital literacy

The ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills

Digital access

Having equitable, meaningful, and safe access to use digital technologies, services, and associated opportunities

Education

Knowing about telehealth, how to access a provider, insurance coverage, trust

Primary Data

Primary Data

- Data that is collected directly by the researcher or investigator for the specific purpose of addressing the research problem or question at hand.

- Interviews
- Focus groups
- Surveys
- Document reviews
- Observation

Primary Data

Example questions to consider-digital literacy

How confident are you in using the Internet to find health information?

How comfortable are you with using digital communication tools like video conferencing, instant messaging, or social media?

How do you typically verify the credibility of online information?

How comfortable are you with performing basic tasks like sending emails, browsing the web, and using search engines?

How confident are you in identifying online scams, phishing attempts or cybersecurity threats?

Primary Data

Example questions to consider-access

Can you access the Internet?

How do you access the Internet?

Where do you access the Internet?

Do you use your patient portal?

Do you have a private place in your home where you can have a telehealth consultation?

Primary Data

Example questions to consider – education

Are you aware of having a patient portal?

What is your level of knowledge about telehealth?

Does your primary care physician provide telehealth consultants?

Do you know how to locate a telehealth provider?

Does your insurance cover telehealth visits?

How do you compare care via telehealth to in-person?

What is your level of trust in telehealth?

Secondary Data

Example Sources

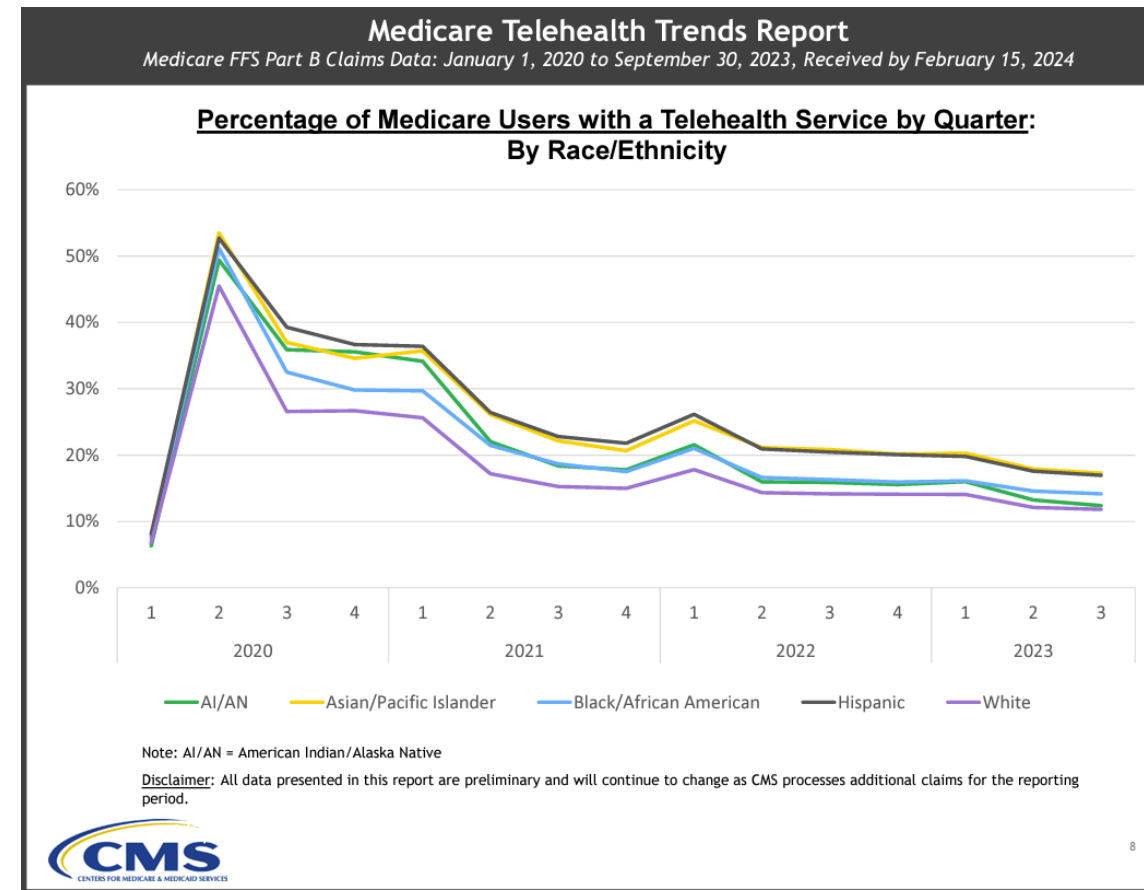
- Government
- Associations
- National or regional surveys
- Industry reports

Secondary Data

- Data that has already been collected by someone else for a different purpose or research study, rather than being collected firsthand or primarily for the current analysis.

Medicare Telehealth Trends Data

- Information on telehealth use by Medicare Fee-for Service
- The Medicare Telehealth Trends dataset provides information about people with Medicare who used telehealth services between January 1, 2020 and September 30, 2023
- The data were used to generate the [Medicare Telehealth Trends Report](#)



Microsoft Digital Equity Data Dashboard

This tool is intended to empower policymakers to identify regions with digital equity gaps, which may be indicated by:

Low rates of broadband availability | Low rates of broadband adoption | Low rates of broadband usage | Gaps in broadband affordability | Low rates of educational attainment
 Low rates of computer ownership | High rates of disability | High rates of poverty | And other indicators

This data can help policymakers direct funding and programmatic investments to the communities most impacted by the digital divide.

[Select a location to view digital equity by census tracts](#)

Alabama	Alaska	Arizona	Arkansas	California	Colorado
Connecticut	Delaware	District of Columbia	Florida	Georgia	Hawaii
Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky
Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota
Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire
New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio
Oklahoma	Oregon	Pennsylvania	Puerto Rico	Rhode Island	South Carolina
South Dakota	Tennessee	Texas	Utah	Vermont	Virginia
Washington	West Virginia	Wisconsin	Wyoming		

Microsoft Digital Equity Data Dashboard

?
DIGITAL EQUITY / ARIZONA

Inputs to determine digital equity

Home **Input**

Trend

- 25+ yrs old without graduating high school
- Households without a desktop or laptop
- Without an internet subscri: broadband of any type
- % people (by county) not using internet at broadband speed
- % of annual median income spent on broadband

Clear selections Reset

County: All

Methodology
Each input selected above generates an index value between zero and one for each census tract relative to all census tracts in the state. For multiple inputs, zero to one values are added together equally to calculate the total index value. With five possible inputs, the maximum index value for a tract is five.

Index values change according to the inputs selected above. Census tracts with the highest index values indicate areas with the highest digital inequities.

Data sources and attributions:

- US Census Data: 2019 American Community Survey
- Internet Service Provider data furnished by [BroadbandNow](#)
- FCC Source Data: FCC Form 477
- Broadband Usage Data: Microsoft Corporation; AI for Good Lab; available on [GitHub](#)
- Code.org. (2021). Computer science access [report](#), data

DATA PROVIDED ON AN "AS-IS" BASIS. View Disclaimers of Warranty and Limitation of Liability [Here](#)

[Download data](#)

[Microsoft AI for Good Lab](#)

Version 2.1

This tool helps state agencies identify areas with the highest digital inequities using a data-driven approach, to maximize resources and investments in the communities most impacted by the digital divide.

Digital equity by census tract

1,526 Census Tracts by Digital Equity and Population

Details by census tract

Census tract	Index value	County	Population	W	B / AA	AI & AN	A	NH & OPI	Other	H	25+ yrs old without graduating high school	Households without a desktop or laptop	Without an internet subscri: broadband of any type	% people (by county) not using internet at broadband speed	% of annual median income spent on broadband
4001942600	3.9	Apache County	1,742	0%	0%	100%	0%	0%	0%	0%	20.9%	88.1%	87.9%	92.6%	3.1%
4001944300	3.8	Apache County	6,011	1%	0%	98%	0%	0%	1%	1%	25.4%	76.3%	89.2%	92.6%	2.9%
4001944902	3.6	Apache County	4,986	1%	0%	97%	0%	0%	2%	3%	25.8%	72.2%	79.7%	92.6%	3.0%
4017942400	3.5	Navajo County	2,577	1%	0%	98%	1%	0%	0%	0%	27.2%	92.8%	87.1%	61.9%	3.0%
4001944202	3.5	Apache County	4,009	0%	0%	98%	0%	0%	2%	0%	21.6%	70.8%	84.0%	92.6%	2.5%
Total			7,050,299	77%	5%	5%	3%	0%	10%	31%	12.9%	20.2%	15.9%	31.8%	

Race - W: White | B / AA: Black or African American | AI & AN: American Indian and Alaska Native | A: Asian | NH & OPI: Native Hawaiian and Other Pacific Islander | Other (includes two or more races)
 Ethnicity - H: Hispanic or Latino

Microsoft Digital Equity Data

Details by census tract

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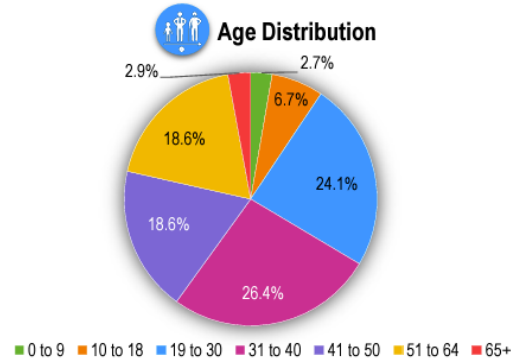
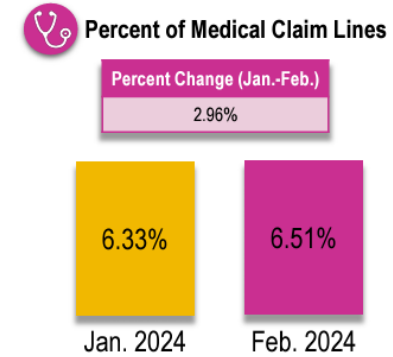
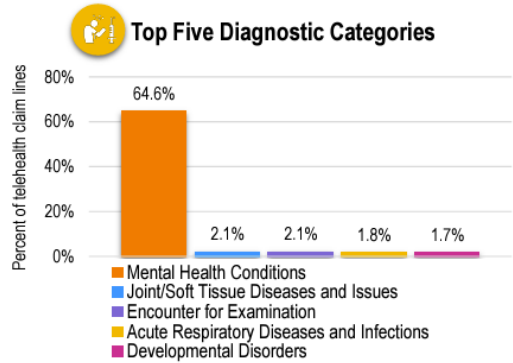
Ethnicity - H: Hispanic or Latino

Regional

FAIRHealth
Know Your Source

Monthly Telehealth Regional Tracker, February 2024

West: AK, AZ, CA, CO, HI, ID, MT, NV, NM, OR, UT, WA, WY



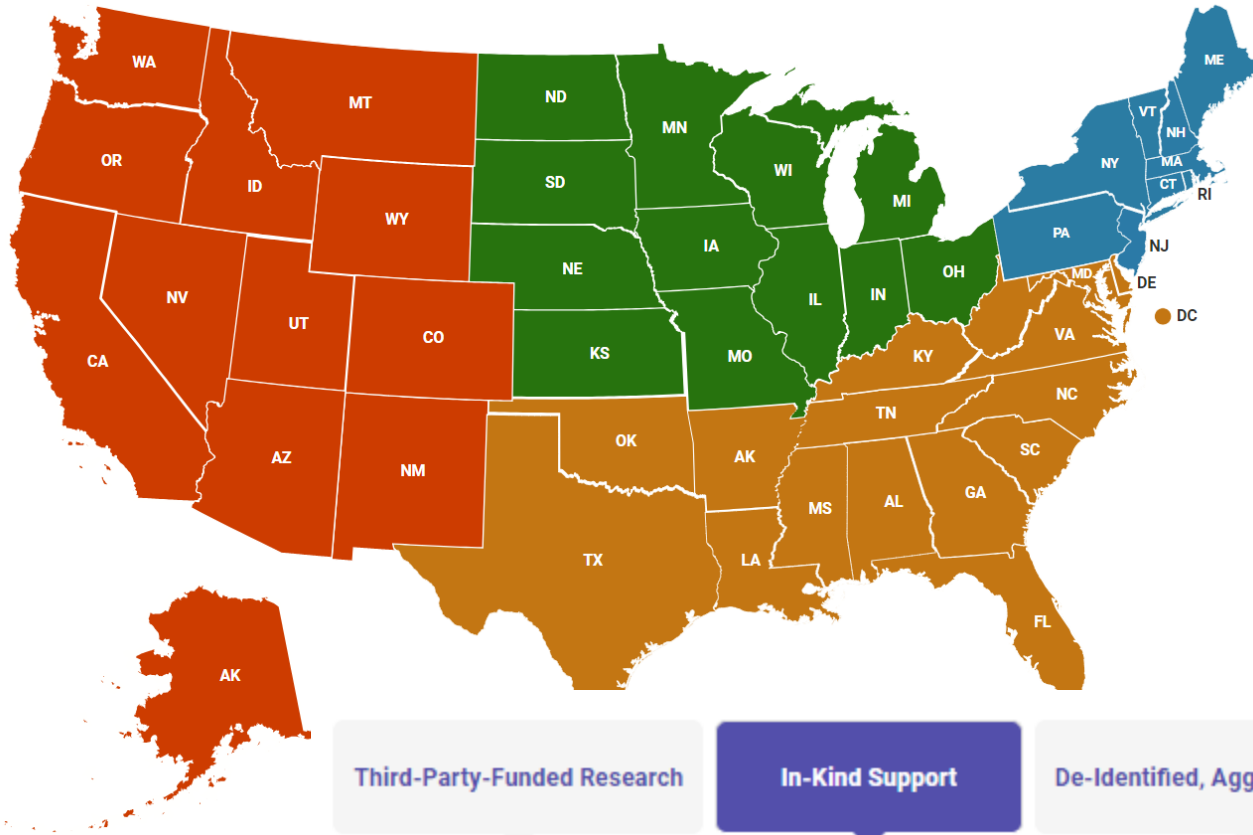
Place of Service Cost Corner

CPT®/HCPCS	DESCRIPTION
90834	PSYCHOTHERAPY, 45 MINUTES

PLACE OF SERVICE	MEDIAN ALLOWED AMOUNT
Telehealth	\$105
Office	\$93

Source: FH NPIC® database of more than 46 billion privately billed medical and dental claim records from more than 75 contributors nationwide. Copyright 2024, FAIR Health, Inc. All rights reserved. CPT © 2023 American Medical Association (AMA). All rights reserved.

Regional



Regional Statistics

Select Month

February 2024 ▾

National Statistics

Select Month

February 2024 ▾ [View](#)

- Third-Party-Funded Research
- In-Kind Support**
- De-Identified, Aggregated Datasets
- FAIR Health White Papers and Data Briefs
- FH[®] Benchmarks



Digital Infrastructure Score

Objective

Provide health stakeholders and leaders with a tool that scores a community's digital infrastructure (i.e. capacity to have a solid, affordable connection to the internet) and adjacent resources that identify key gaps in a solid, reliable connection.

Step 1

1

State: California

Zip code: 90014 (Los Angeles, CA)

Data: Digital Infrastructure Score ...

Digital Infrastructure Score

- Digital Infrastructure Score (DIS)

Internet Access

- Cellular data internet only (% of households), 2017-2021
- Satellite internet only (% of households), 2017-2021

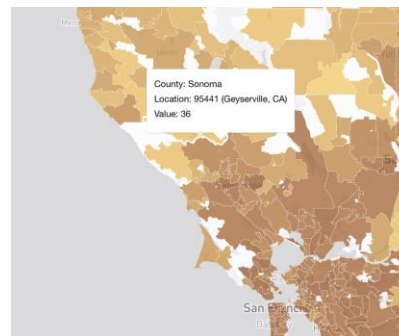
Select geography based on state and zip code

Select the variable of interest.

The default variable is the Digital Infrastructure Score (DIS) which is a composite value based on 1) Baseline ability to access the internet, 2) The speed of that connection, 3) The existence of modalities for that connection, and 4) The comparative data cost of that connection. The score ranges from 0-100. A higher score translates to stronger digital infrastructure.

Step 2

2



Isolate regions or areas with a comparatively low DIS

Step 3

3

Data: Internet access (% of households)

County: El Dorado
Location: 96150 (South Lake Tahoe, CA)
Value: 90.95%

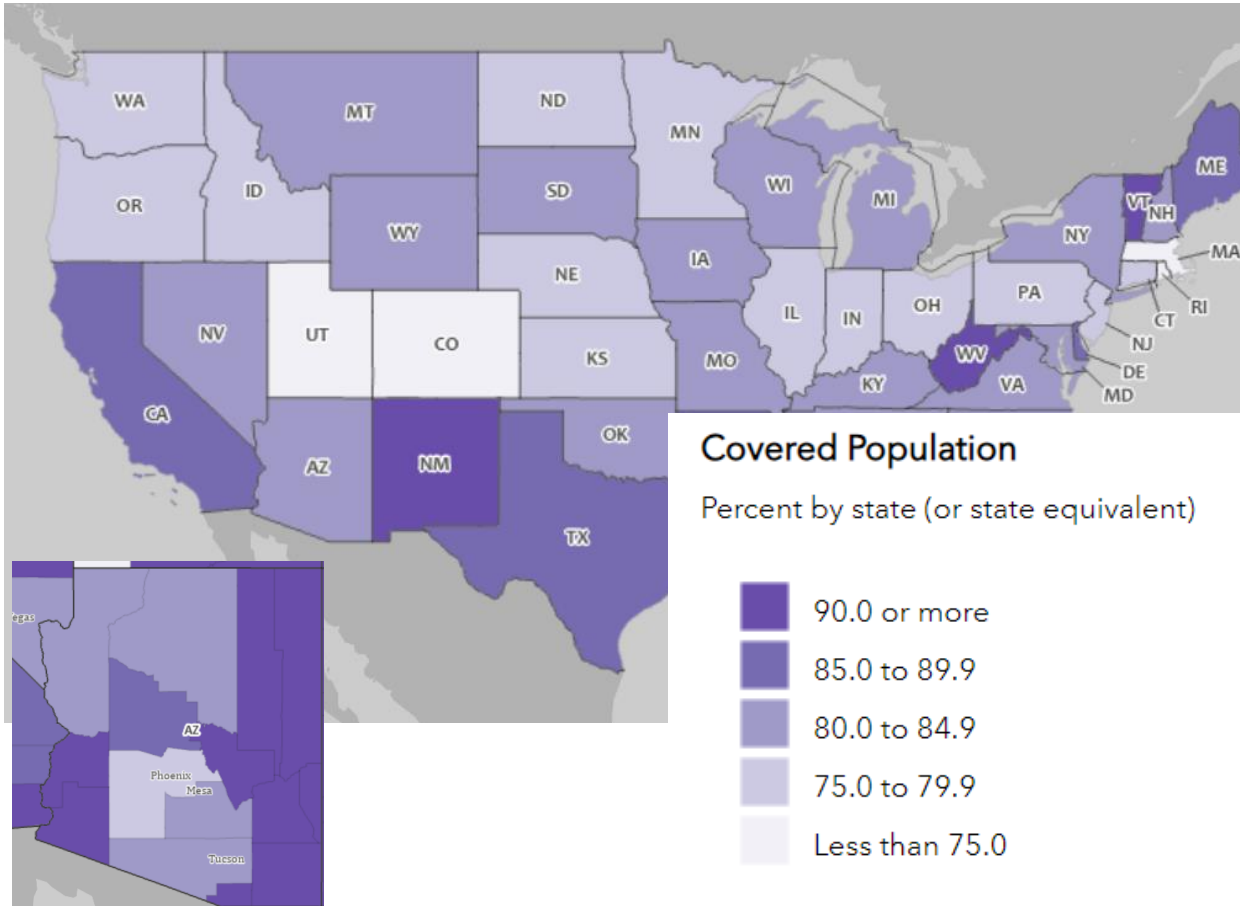
Digital Infrastructure Score (DIS)

Internet Access

- Cellular data internet only (% of households), 2017-2021
- Satellite internet only (% of households), 2017-2021
- No internet (% of households), 2017-2021
- Internet access (% of households), 2017-2021

Leverage the other ancillary variables to deconstruct areas of opportunity for raising a community's DIS.

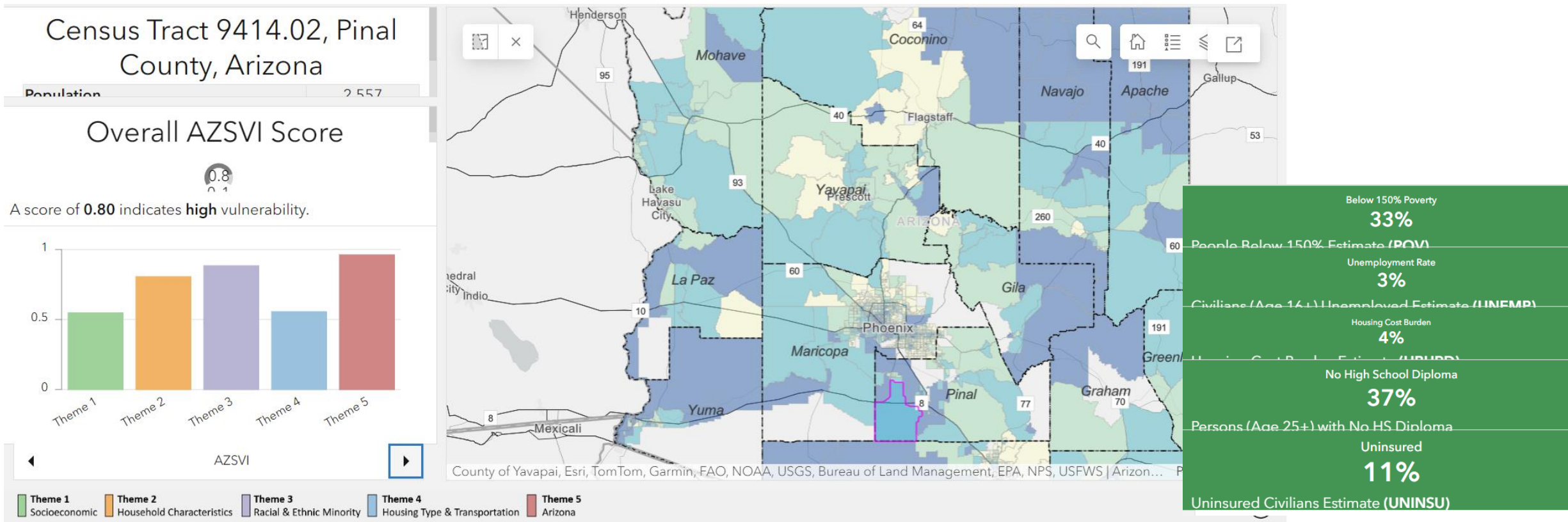
Digital Equity Act Population Viewer



Arizona (04)

- Total population¹: 7,359,197
- Total covered population¹: 5,919,000
- Covered population¹: 80.4%
 - In covered households¹: 20.7%
 - Aged 60 or over¹: 25.0%
 - Incarcerated¹: 0.7%
 - Veteran¹: 6.2%
 - With a disability¹: 13.8%
 - With a language barrier²: 21.7%
 - English learners¹: 8.2%
 - Low literacy³: 23.4%
 - Racial or ethnic minority¹: 48.2%
 - Rural⁴: 13.5%
- Population in households lacking fixed broadband availability⁵: 7.0%
- Population in households lacking computer or broadband subscription¹: 7.4%
- Population not using the internet⁶: 21.1%
- Population not using a PC or tablet computer⁶: 38.2%

Arizona Disparities Map



Uses of This Data



Policy examples

Audio only reimbursement
Interstate licensure



Community planning examples

Community health needs assessments
Create access sites: Internet living rooms
Education needs
Program implementation methods



Research examples

Clinical trials
Impacts of technology on disease management

Summary



Digital literacy, ability to access technology, and education about telehealth are a SDOH



Data should be incorporated into policies, community planning, and research

Questions

Lois Ritter

American Telemedicine Association

Research Director

Lois.ritter@americantelemed.org

References

Centers for Medicare & Medicaid. Medicare (2023, July 17). Telehealth Trends Report. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://data.cms.gov/sites/default/files/2023-09/Medicare%20Telehealth%20Trends%20Snapshot%2020230821_508.pdf

Vogels, E.A. (2021, August 19). Some digital divides persist between rural, urban and suburban America. Pew Research Center.

<https://www.pewresearch.org/short-reads/2021/08/19/some-digital-divides-persist-between-rural-urban-and-suburban-america/>

Resources

American Telemedicine Association Disparities Map

<https://info.americantelemed.org/disparities-advisory-group-toolkit>

Arizona Health Disparities Map

<https://crh.arizona.edu/news/arizona-department-health-services-has-new-tool-address-health-disparities>

Digital Equity Act Population Viewer

<https://mtgis->

[portal.geo.census.gov/arcgis/apps/webappviewer/index.html?id=c5e6cf675865464a90ff1573c5072b42](https://mtgis-portal.geo.census.gov/arcgis/apps/webappviewer/index.html?id=c5e6cf675865464a90ff1573c5072b42)

Fair Health

<https://www.fairhealth.org/fh-trackers/telehealth>

Medicare Telehealth Trends

<https://data.cms.gov/summary-statistics-on-use-and-payments/medicare-service-type-reports/medicare-telehealth-trends>

Microsoft Digital Equity Data Dashboard

<https://app.powerbi.com/view?r=eyJrIjoiM2JmM2QxZjEtYWEzZi00MDI5LTlhZDMtODMzMjhkZTY2Y2Q2IiwidCI6ImMxMzZlZWwLWZlOTItNDVIMC1iZWVILTQ2OTg0OTczZTIzMjIzMiIsImMiOiJF9>