



Healthcare Business Insights™

2022 Fall member retreat

Furthering digital literacy
(for both staff and patients)

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Associate Professor
University of North Carolina at Chapel Hill



About the speaker



Saif Khairat

Associate Professor
University of North Carolina
at Chapel Hill

- Beerstecher-Blackwell Distinguished Term Scholar, UNC Chapel Hill
- Over a decade of digital health experiences leading numerous national and international funded projects to enhance healthcare services and research
- Research agenda comprises two main areas: (1) telemedicine to bridge health disparities, and (2) health IT usability to improve patient safety

Digital Health contributions

- Digital Health consultant to the World Health Organization
- Telemedicine consultant to the Inter-American Bank
- Over 80 scientific publications
- Over \$5.5 million in digital health funding

UNC at Chapel Hill at a glance

- The University of North Carolina at Chapel Hill, the nation’s first public university, serves North Carolina, the U.S., and the world through teaching, research, and public service. It embraces an unwavering commitment to excellence as one of the world’s great research universities.
- Its mission is to serve as a center for research, scholarship, and creativity and to teach a diverse community of undergraduate, graduate, and professional students to become the next generation of leaders. Through the efforts of its exceptional faculty and staff, and with generous support from North Carolina’s citizens, UNC at Chapel Hill invests its knowledge and resources to enhance access to learning and to foster the success and prosperity of each rising generation.

| Organization facts & figures | |
|------------------------------|--|
| Faculty | 3,887 |
| Student body | 30,011 undergraduate and graduate students |
| Notable achievements | <ul style="list-style-type: none">• 5th among research universities for federal funding devoted to research and development in all fields |
| | <ul style="list-style-type: none">• 12th in annual research volume among U.S. public and private universities |

Sources: <https://www.unc.edu/about/mission/> and <https://uncnews.unc.edu/resources/facts-and-figures/>

Learning objectives

Furthering digital literacy (for both staff and patients)

1. Equip yourself with best practices for telehealth/virtual etiquette and strategies for passing them along to both staff and patients
2. Separately evaluate resources and training tactics for staff and patients on how to prepare for, set up, utilize, troubleshoot and make the most of their virtual appointments
3. Explore how virtual care impacts but can also create new social determinants of health, how to evaluate access by neighborhood and population preferences

Agenda

- 1. Defining “Digital Literacy” and “Digital Divide”**
 - And health equity
- 2. Virtual care best practices and etiquette**
 - For sharing with patients & staff
- 3. Use case of digital health equity**
 - Digital determinants of health
 - Visualizing national access divides
- 4. Social access and equity score**
 - Using North Carolina as an example
 - Social versus access components

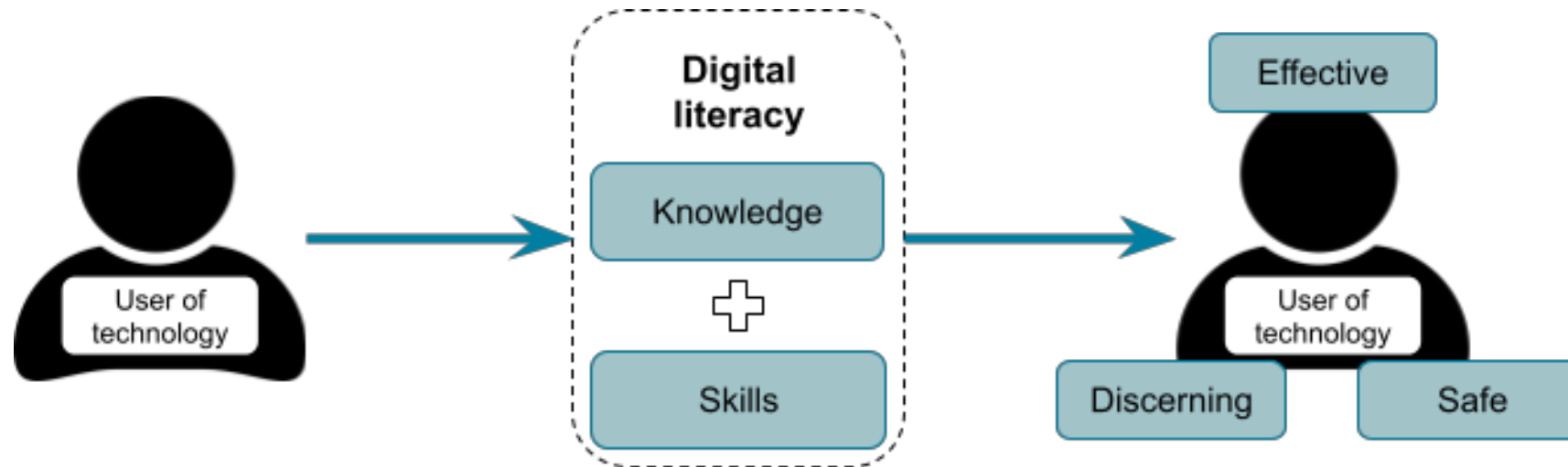
Digital Literacy and the Digital Divide:

Let's start with common definitions

What is Digital Literacy?



The ability to find, evaluate and communicate information through typing and other media on various technology-related platforms.

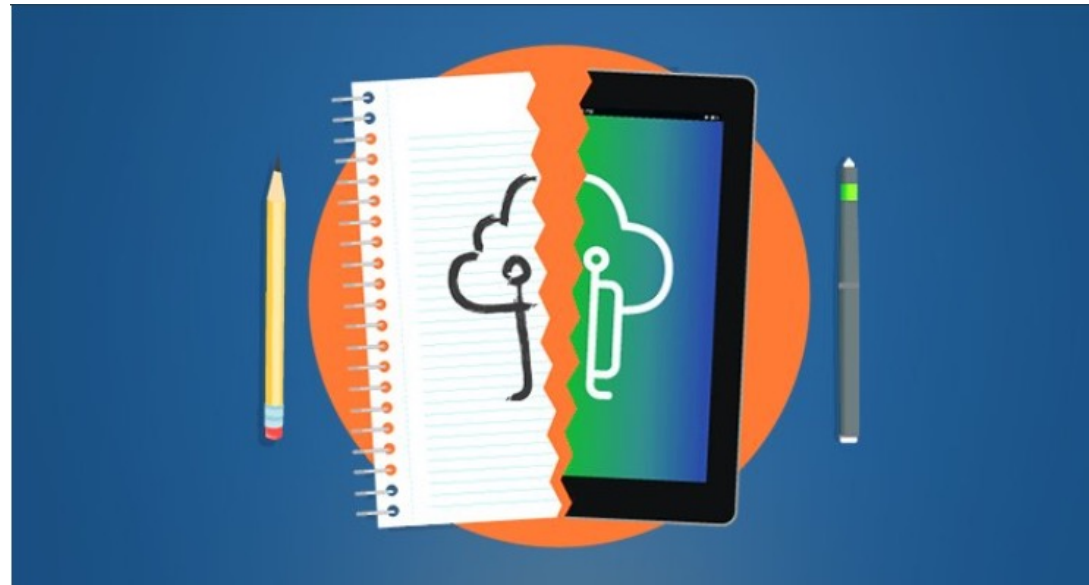


<https://blog.teachcomputing.org/digital-literacy-within-the-computing-curriculum/>

What is the Digital Divide?



The growing gap between underserved populations (poor, rural, elderly, special needs) who do not have access to computers or the internet; and those living in urban and suburban areas who have access.



Source: <https://wsa-global.org/2017/08/23/bridging-the-digital-divide-with-world-summit-awards/>

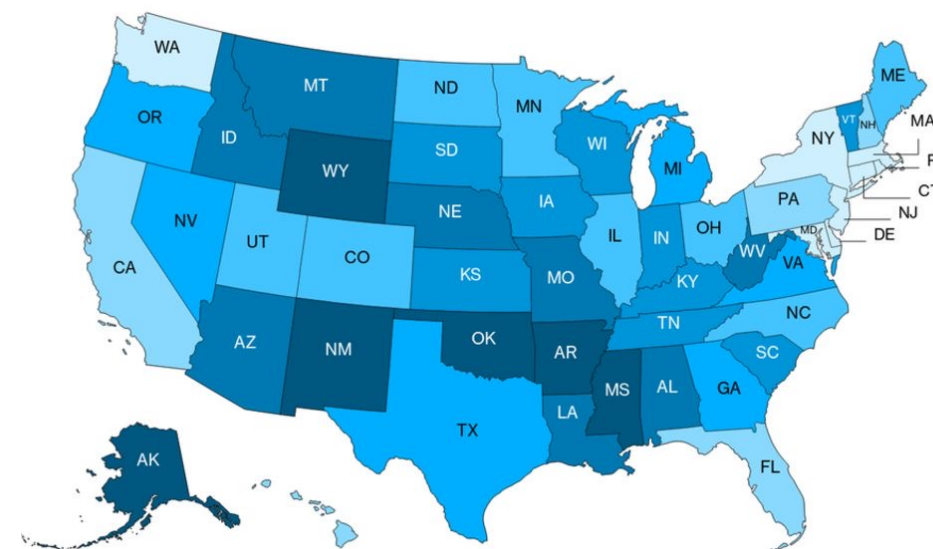
Digital Divide on Both Ends..

Patients

- 21 million Americans lack high-speed internet access (Bloomberg, 2021)
- 15% of American households lack a smartphone and at least 10 percent lack access to the internet beyond cellular data (U.S. Census)
- 50% of rural America without internet access (ITU, 2019)
- 20% do not have a smartphone (Pew Research Center Study, 2021)

Clinicians

- 45% of doctors surveyed said they invested in telehealth during the pandemic
- 41% said they had the technology to deliver telehealth seamlessly (McKinsey Physician Survey, 2021)



Digital Health equity



Digital health equity is the commitment to reduce disparities in health outcomes and in their determinants, including digital use.



Reasons for Digital Literacy



Infrastructure

- Providing access to computers and high-speed internet



Training

- Helping users develop the digital literacy skills needed to use the computer (e.g. how to use a mouse)



Knowledge

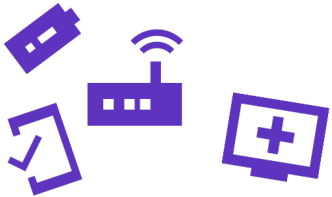
- Helping users develop the necessary skills to evaluate online health information resources

Virtual care best-practices and etiquette

Patients

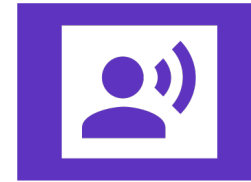
The Challenge: Determining patient suitability for telehealth

Solutions:



1. Screen patients to identify patient-level factors that may eliminate telehealth as an option:

- Own a smartphone, computer, or tablet?
- Have a strong internet connection?
- Have experience using technology?
- Visual or hearing impairment?



2. Establish the goal of each visit and screen to identify clinical factors that may eliminate telehealth as an option:

- Need to communicate bad news or test results?
- Need to obtain diagnostics (e.g., blood test)?
- Complexity of the patient's condition necessitates an in-person appointment?
- Telehealth visit satisfy your documentation requirements?

Patients and teaching virtual etiquette

Challenge: Proper assessment is impeded due to patients' inexperience with technology or an insufficient internet connection

- **Solutions:**



Provide patients with **instructional materials** that outline tips for a successful visit



Rehearse steps on how to join a telehealth visit during the in-person appointment



Encourage patients to consider inviting a **technically proficient family members** to the visit



Refer to images submitted prior to the visit when assessing a condition



Adjust documentation to acknowledge limitations (e.g., "appears to")

Clinicians and administrative staff



Challenge: Uncertainty regarding optimal scheduling protocols for telehealth visits

Solutions:



Allow for a similar length
as in-person appointments



Ensure that the visit time
accommodates both the provider
and facilitating clinician's
schedule



Ensure reimbursement
requirements for
telehealth

Clinicians and administrative staff



Challenge: Define roles and responsibilities of all staff members for an efficient clinical workflow

Solutions:

1. Nurses or administrative staff can help:
 - Prepare the encounter and add documentation templates before the telehealth visit¹
 - Complete rooming as if the patient were onsite²
2. Providers should review paperwork and patient history before the telehealth visit

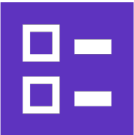
Source:

1. Song E, Milne C, Hamm T. Telehealth Beyond COVID-19: Transforming Best Practice in Wound Care.

2. Song E, Hamm T, Bowles R, Harris K. Adding telehealth to your wound care practice. Presented at the: MidAmerica Wound Healing Society Quarterly Meeting.

3. Engels D, Austin M, Doty S, Sanders K, McNichol L. Broadening our bandwidth: a multiple case report of expanded use of telehealth technology to perform wound consultations during the COVID-19 pandemic. *J Wound Ostomy Continence Nurs.* 2020

Clinicians and administrative staff – *cont'd*



Challenge: Documentation for telehealth services is standardized and meets billing requirements

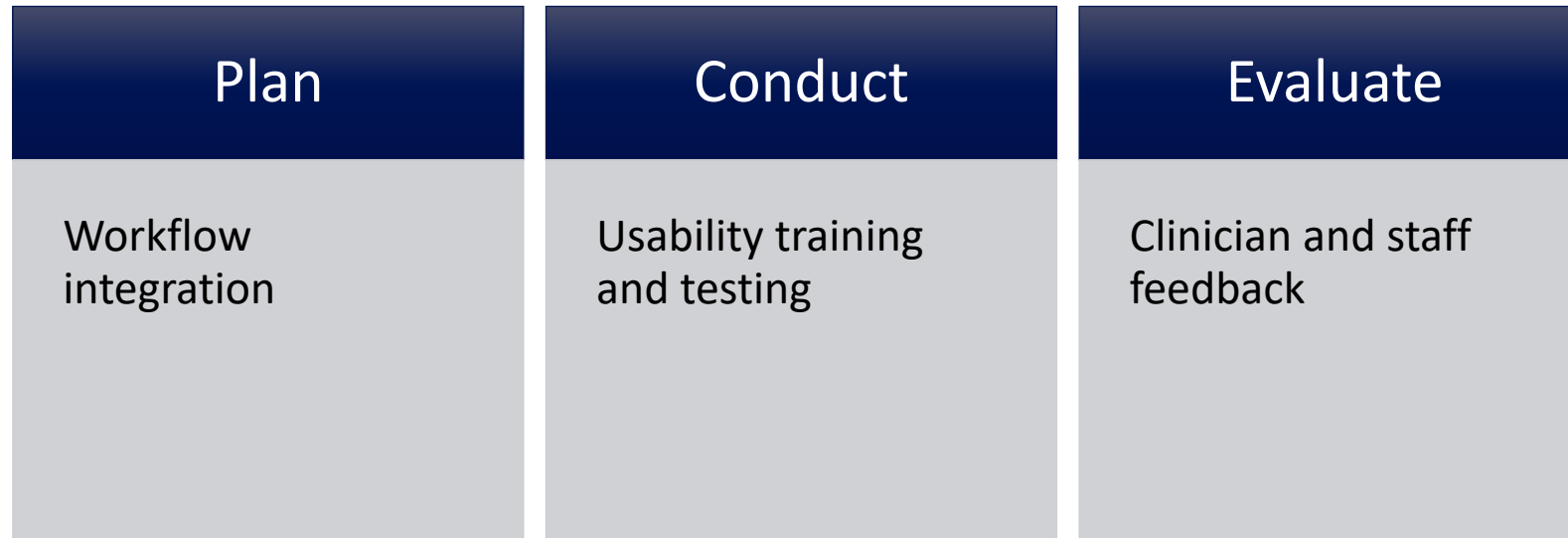
Solutions:

| | |
|-----------|--|
| Ensure | Documentation meets specific payor requirements |
| Use | Documentation templates |
| Recognize | Documentation requirement for telehealth is the same as for in-person visits |
| Develop | Checklist of essential information for staff members to collect |

Clinicians and administrative staff – *cont'd*

Challenge: Staff must adopt and integrate the newly introduced workflows for telehealth services

Solutions:



Clinicians and administrative staff – *cont'd*

Challenge: Collective decision-making

Solutions:



Conduct a needs assessment



Smartphones, not computers



Tailor workflows to practice needs



Set up a triage process



Choose telehealth modalities that best suit your organizational needs



Secure links sent via text messaging



Patients should be trusted to choose how they wish to communicate with providers



Integrate telehealth with existing health IT solutions

Use case of digital health equity

The digital determinants of telehealth

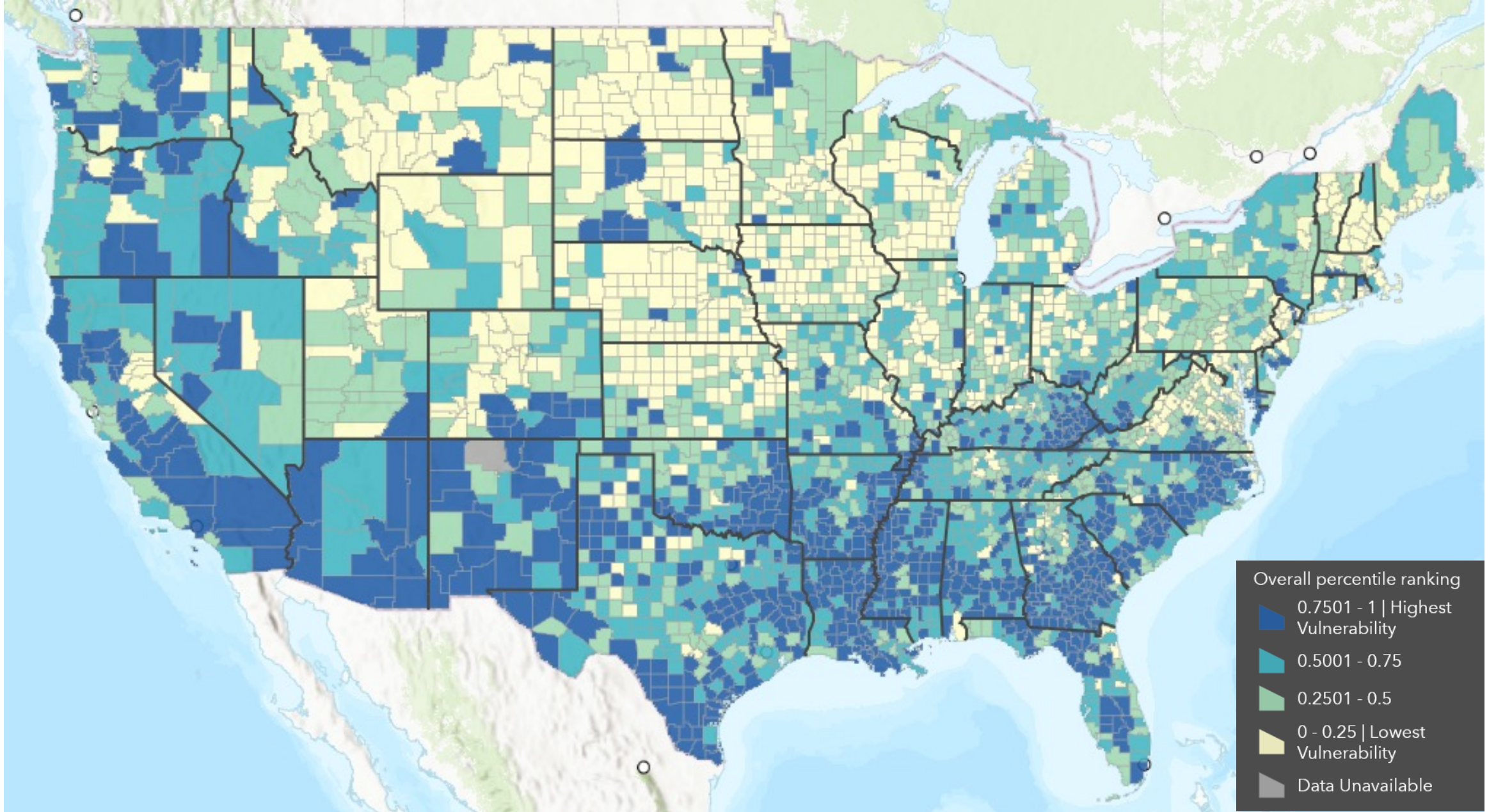
- *Social determinants have a major impact on health outcomes, especially for the most vulnerable populations*
- **CDC Social Vulnerability Index (SVI):**
 - Socioeconomic factors
 - (below poverty, unemployed, income, no high school diploma)
 - Household and disability factors
 - (aged 65 or older, aged 17 or younger, older than age 5 with a disability, single-parent households)
 - Minority and language factors
 - (minority, speak English “less than well”)
 - Transportation factors
 - (multi-unit structures, mobile homes, crowding, no vehicle)

Social Determinants of Health

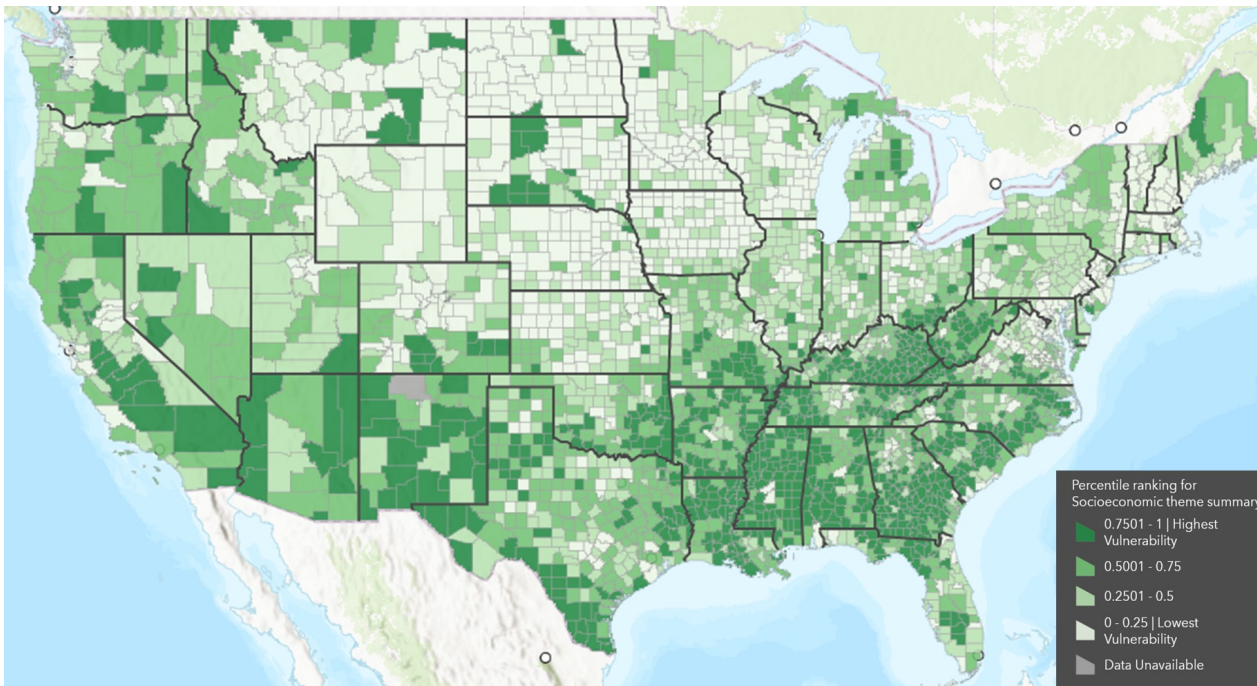


Social Determinants of Health
Copyright-free

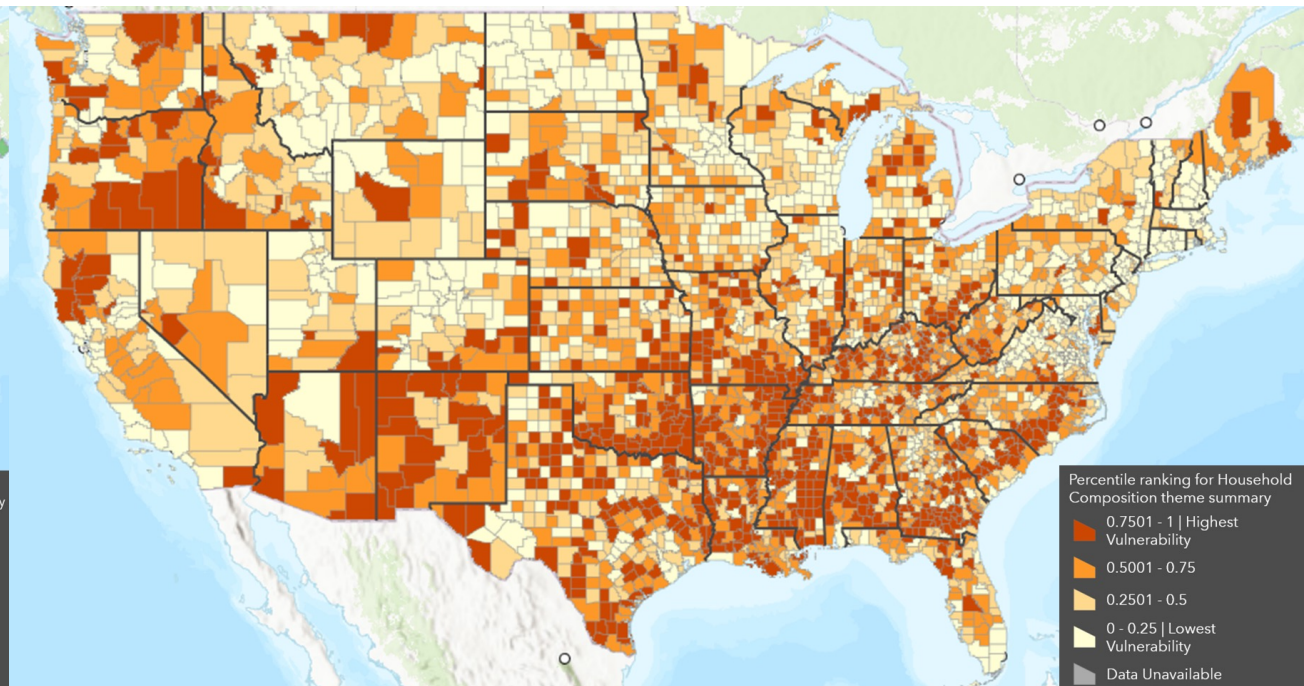
 Healthy People 2030



CDC SVI

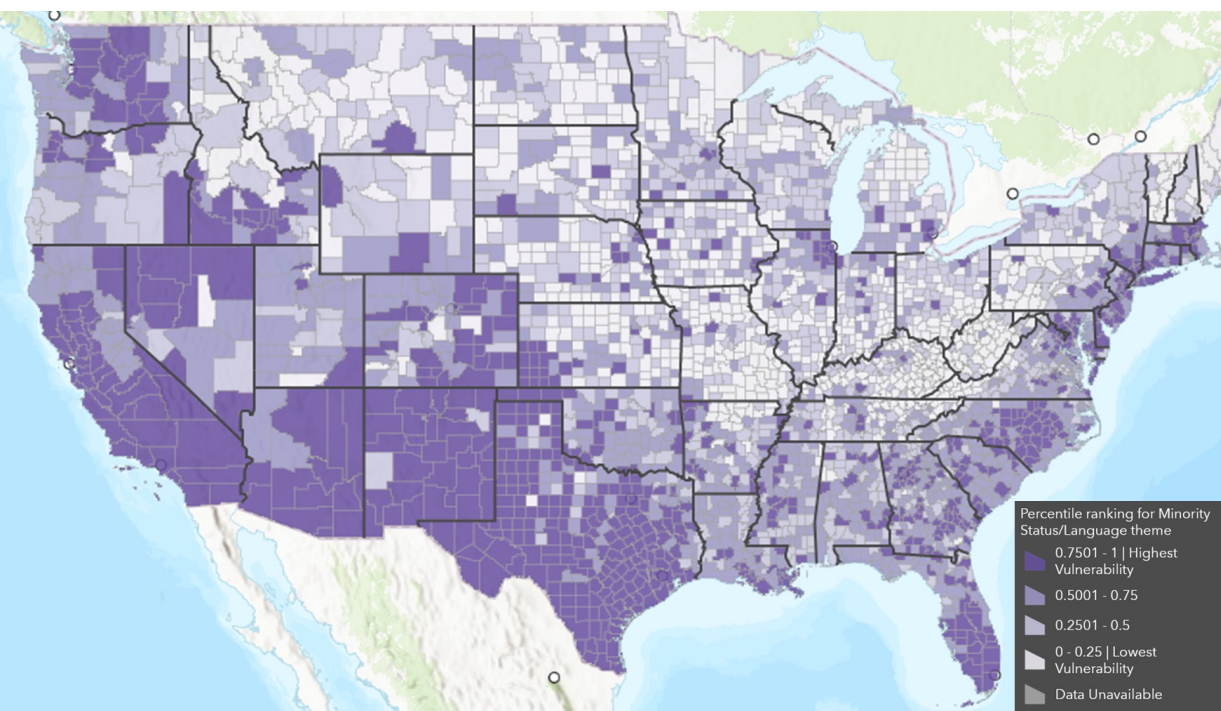


Socioeconomic

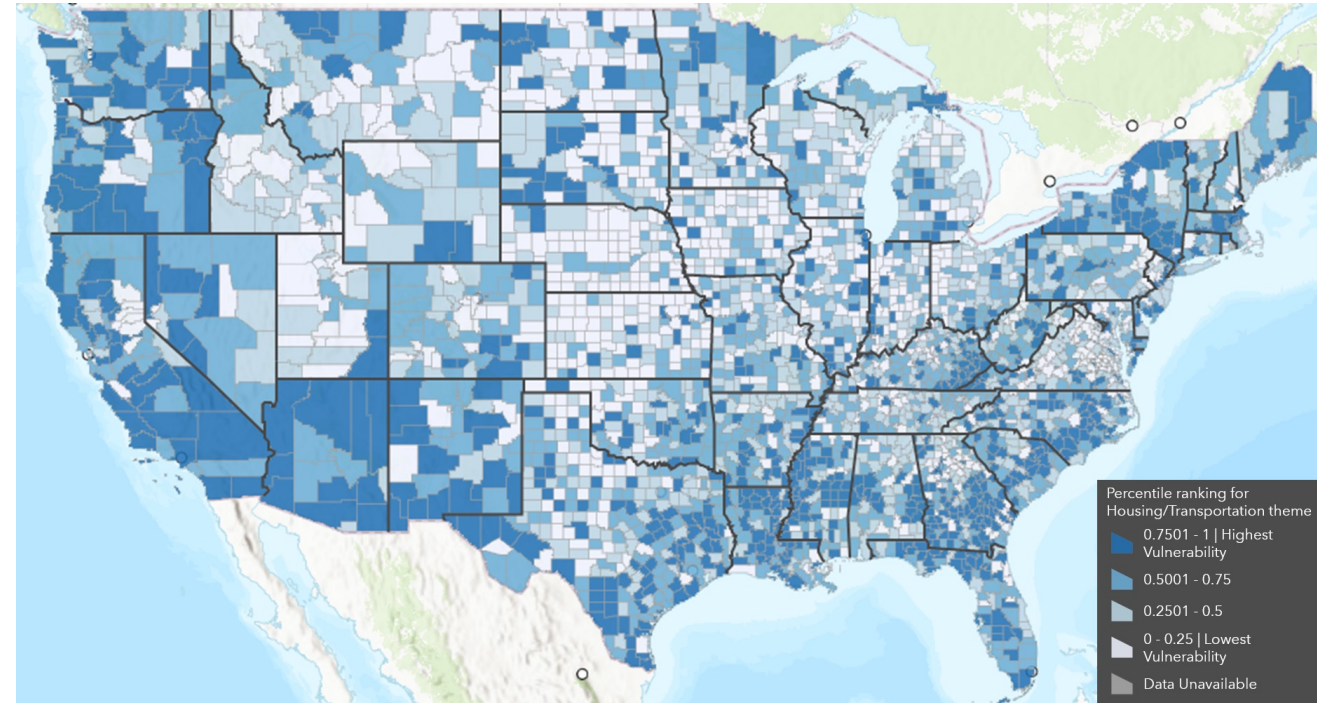


Household composition

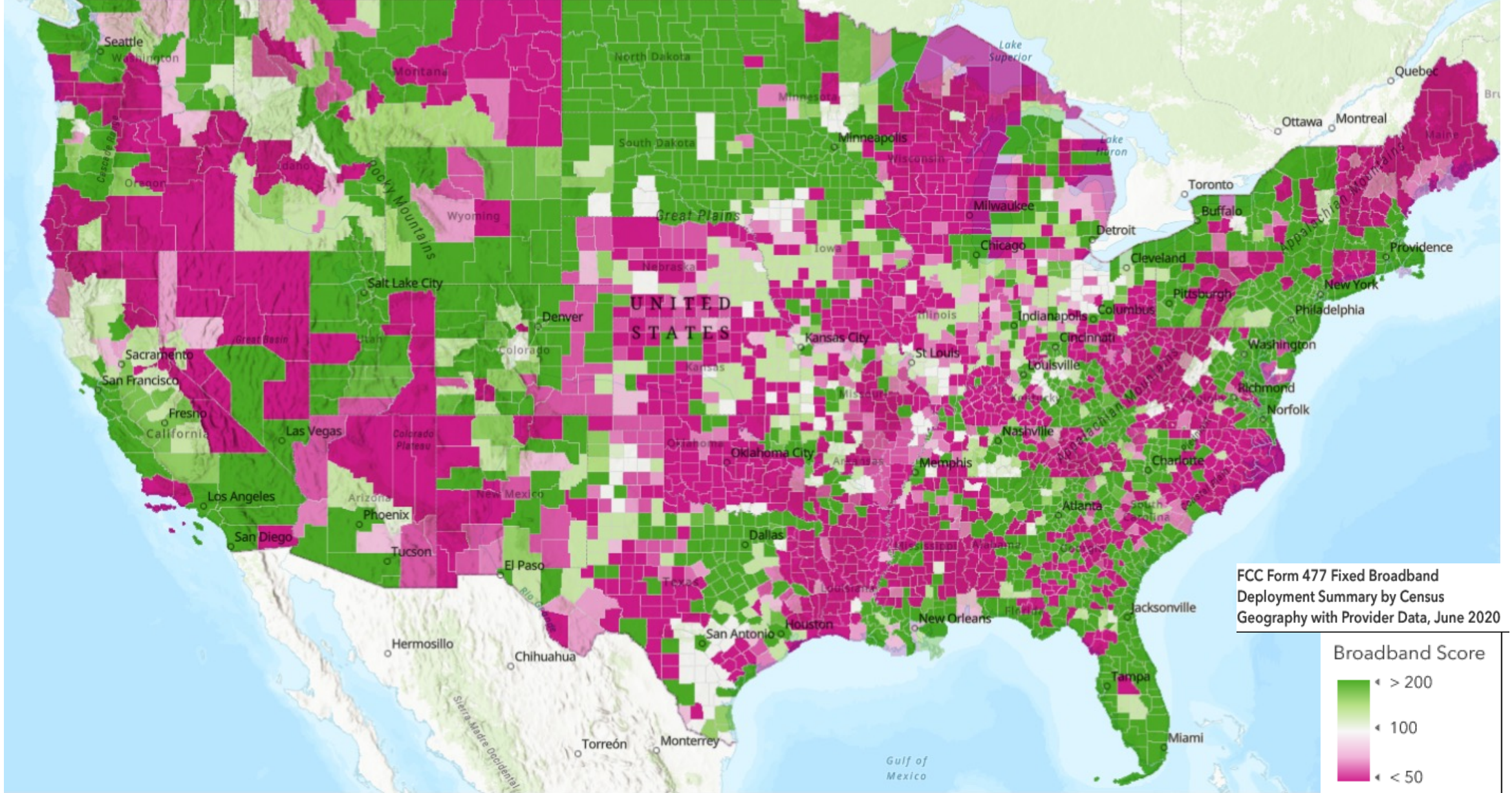
CDC SVI



Minority & language



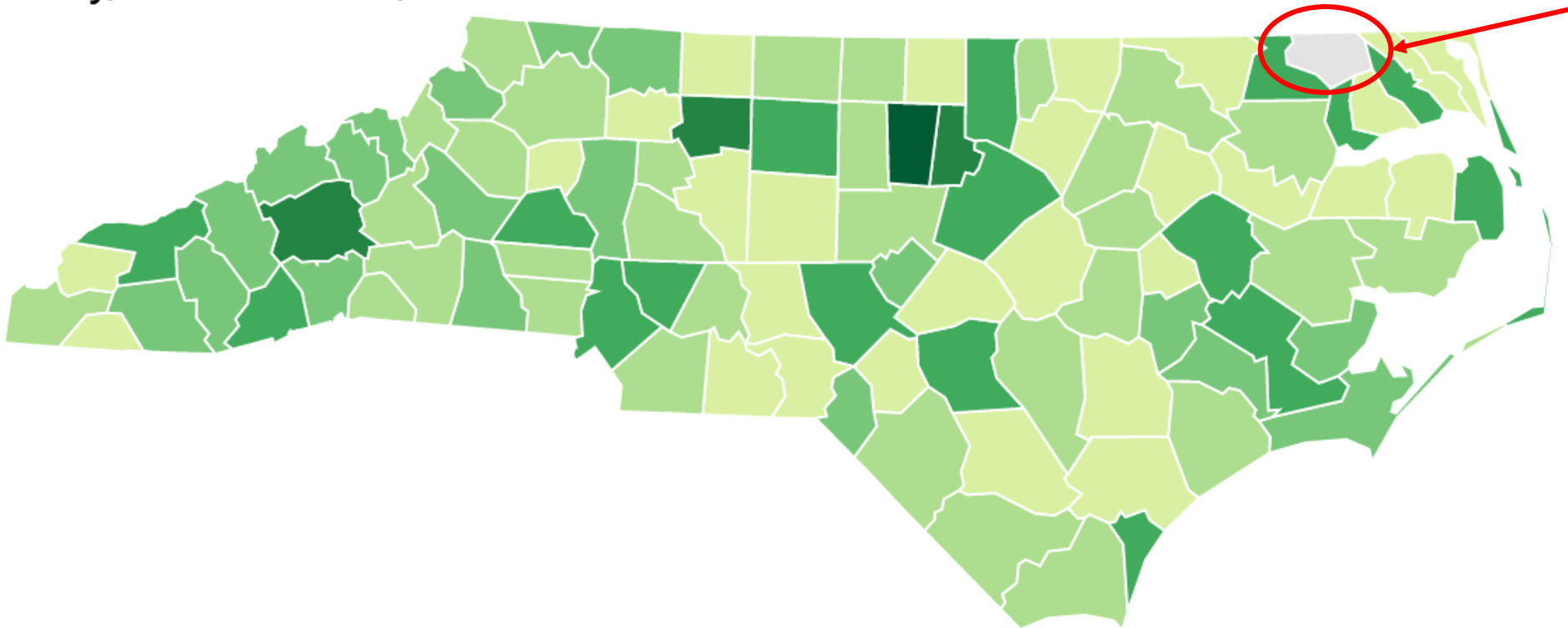
Housing & transportation



Social access and equity score tool - UNC

Health equity in North Carolina

Physicians with a Primary Area of Practice of Primary Care per 10,000 Population by County, North Carolina, 2021



- Health disparity exists in NC and the US
- Some counties in NC have no primary care physicians
- Significant barriers to health access

UNC Virtual Urgent Care

An on-demand, cloud-based telemedicine platform

Offers 24/7 services

Licensed and board-certified physicians

Virtual consultation to diagnose non-emergency medical issues through secure video on your computer or smartphone.

It's patient-centric healthcare that works for patients and around their schedule.

Social determinants of telehealth

Social factors

- American Indian
- Black/African American
- Population in poverty
- Single female head-of-household with children under 18 receiving Food Stamps
- Households with person aged 60+ receiving Food Stamps
- Medicare
- Medicaid

Access factors

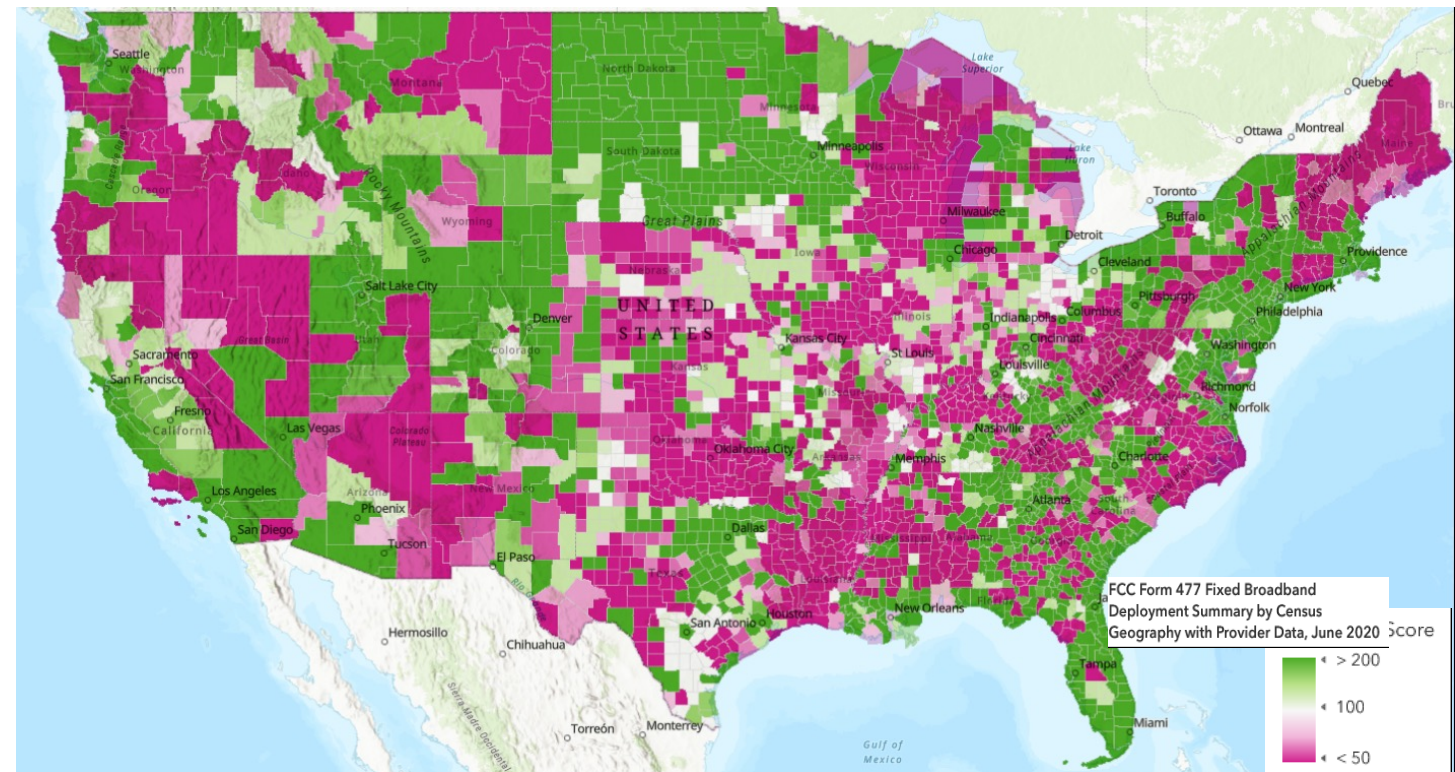
- Health service access (EMS)
- Major road access
- Access to vehicle
- Access to Urgent Care



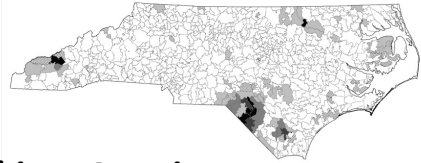
Social determinants of telehealth

Digital factors:

1. Number of all households that have a smartphone
2. All households with cellular data plan
3. Percent of households that have no computer, smartphone, or tablet
4. Percent of households with an internet subscription



American Indian



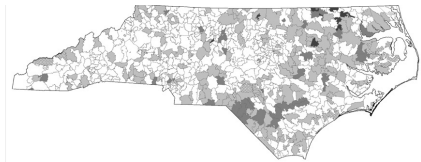
African American



Poverty



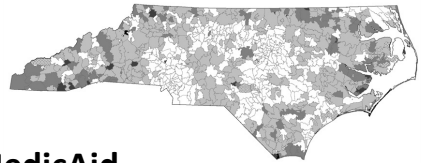
Female HH w/child Food Stamps



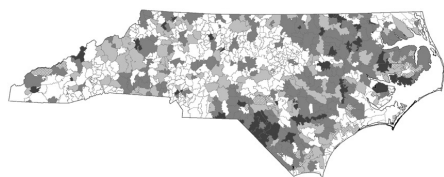
HH w/ 60+ Year Food Stamps



MediCare

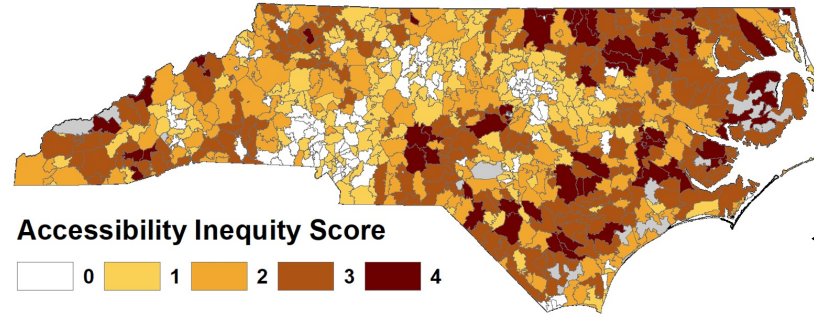


Medicaid

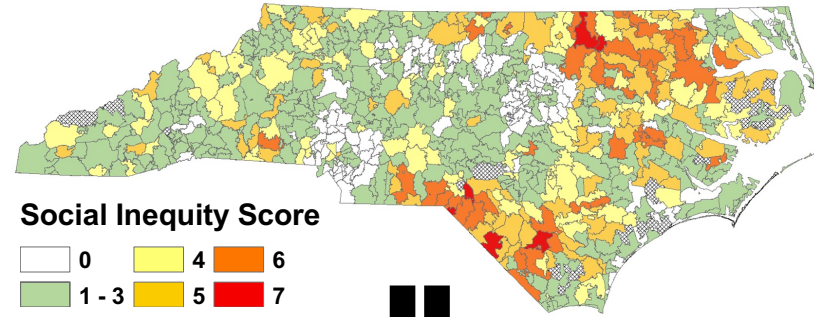


SOCIAL COMPONENTS

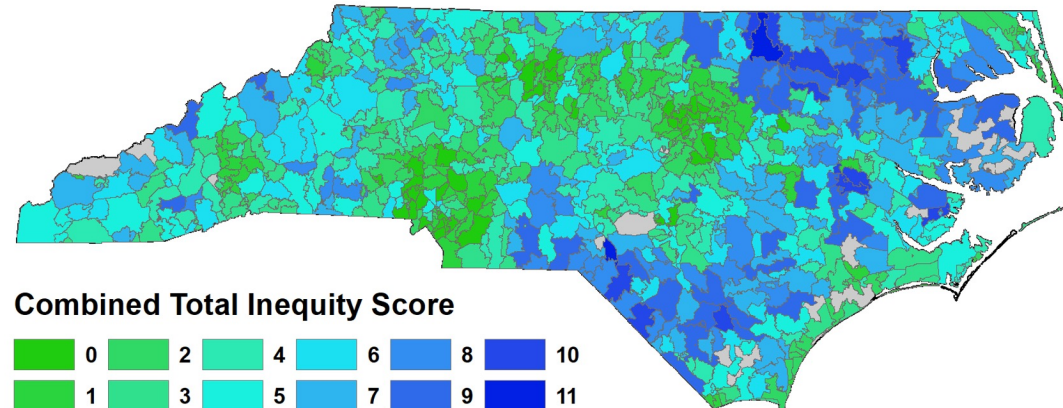
Total Accumulated Accessibility Inequity Measures



Total Accumulated Social Inequity Measures

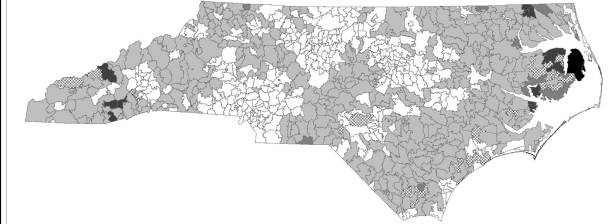


Combined Social and Access Inequity

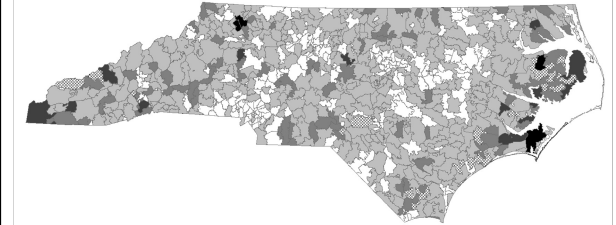


ACCESS COMPONENTS

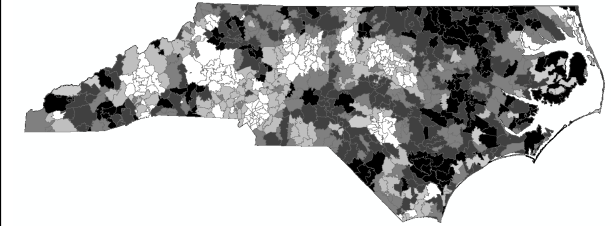
Mean Distance to Health Services
(Emergency Medical Services or Medical Facilities)



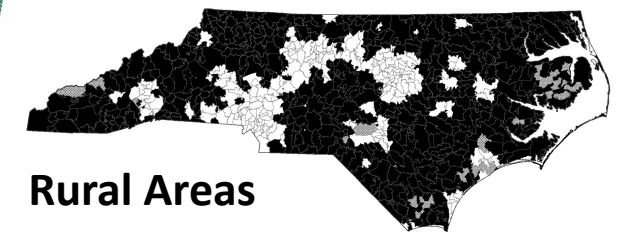
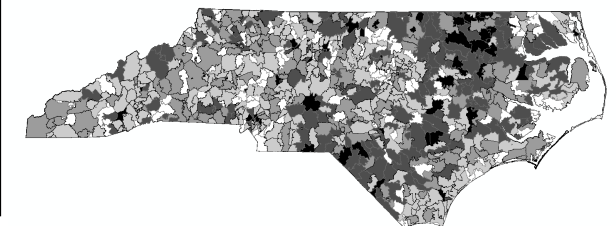
Mean Distance to Primary Roads



Mean Number Broadband Providers



HH No Access to Vehicle



Rural Areas

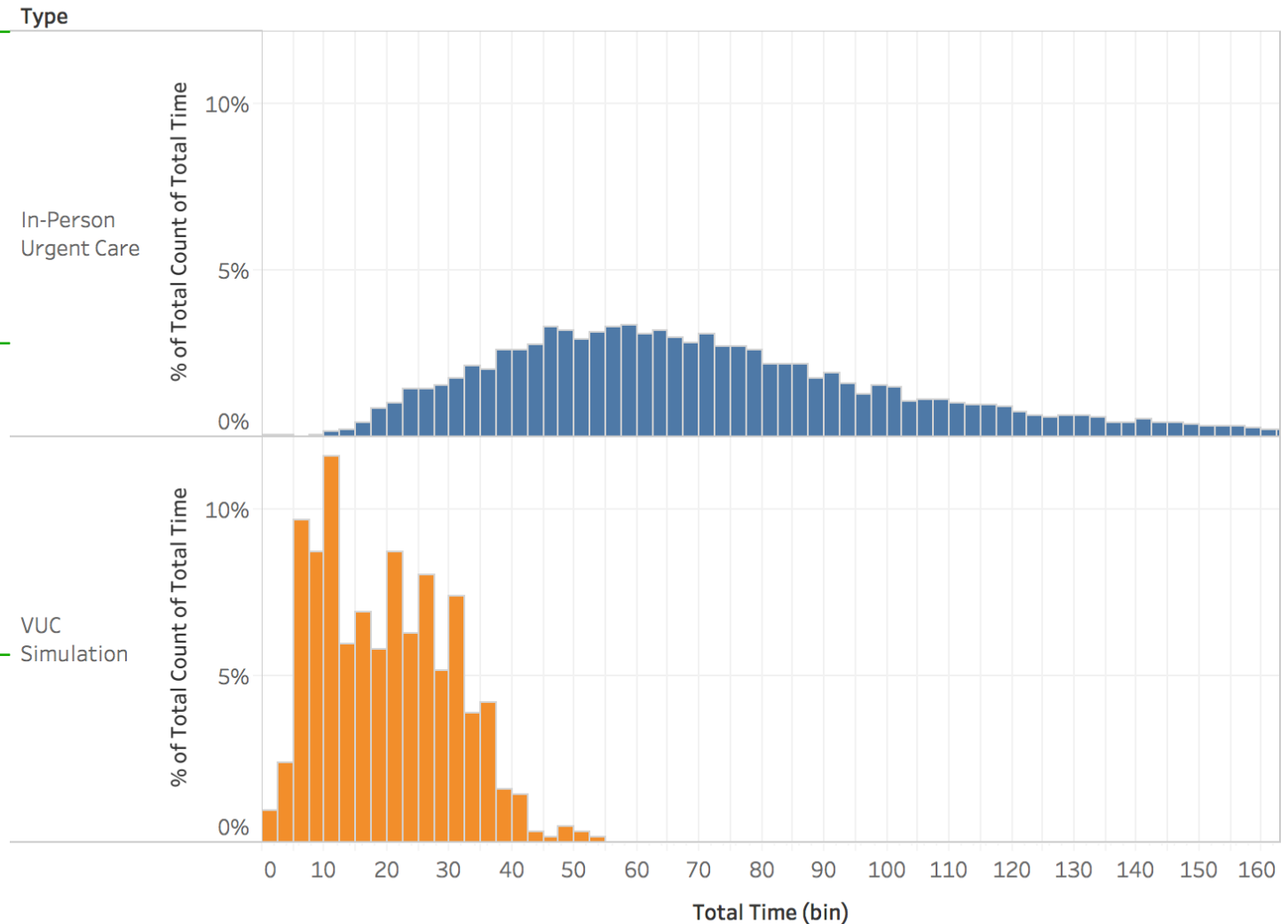
Findings

Telehealth correlates with health disparity factors and can potentially improve health equity and access

The highest reachability was in areas with single parent HH with children under the age 18 years who receive food stamps

The lowest reachability was in areas with core American Indian populations

Total Time Distribution
In-person vs. VUC Simulation



Type

- In-Person Urgent Care
- VUC Simulation

In conclusion:



- Digital health is shaped by knowledge and skills



- Building capacity for patients and providers to improve the user experience is critical



- The use of geospatial analysis can provide insights about our patient populations and their readiness for telehealth



- Digital factors should be considered as a social determinant of health in addition to social and physical access

Thank you

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