Concurrent Session I

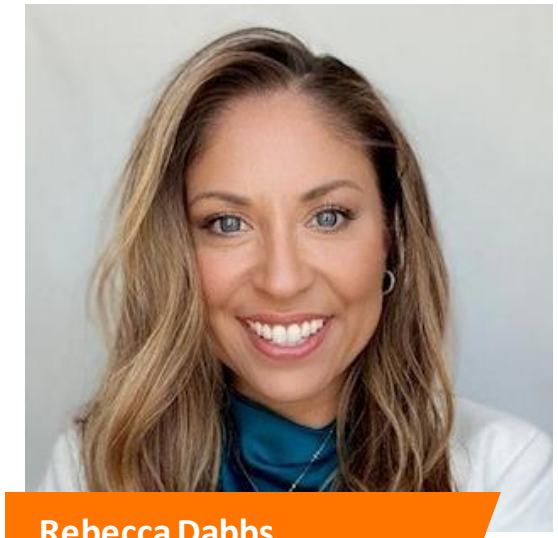
Utilizing Geospatial Science and Technology to Advance Colorectal Cancer Prevention and Early Detection: Example Uses and Potential Future Applications

American Cancer Society | National Colorectal Cancer Roundtable

9:55 AM to 11:10 AM

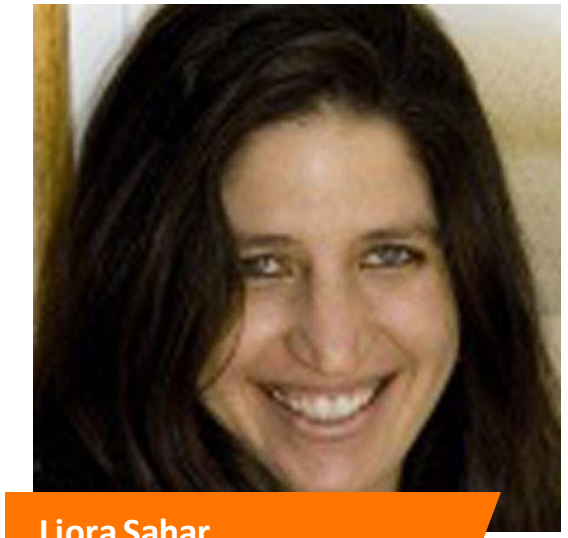
Utilizing Geospatial Science and Technology to Advance Colorectal Cancer Prevention and Early Detection: Example Uses and Potential Future Applications

Moderator
Robert Smith
PhD



Rebecca Dabbs
MPH

Matthew Boudreau



Liora Sahar
PhD, GISP

Using Geospatial Data to Support San Diego's Colorectal Cancer Screening Project

Rebecca Dabbs, MPH
Associate Director, Community Partnerships
American Cancer Society

Using Geospatial Data to Support San Diego's Colorectal Cancer Screening Project

American Cancer Society®

November 2023

Rebecca Dabbs, MPH

Associate Director, Community Partnerships

My role engages with and supports primary care clinics, federally qualified health centers, community clinics, coalitions and collaboratives to increase cancer screening rates and cancer prevention through:

- Evidence-based interventions
- Quality improvement efforts
- Public awareness campaigns
- Patient and provider education

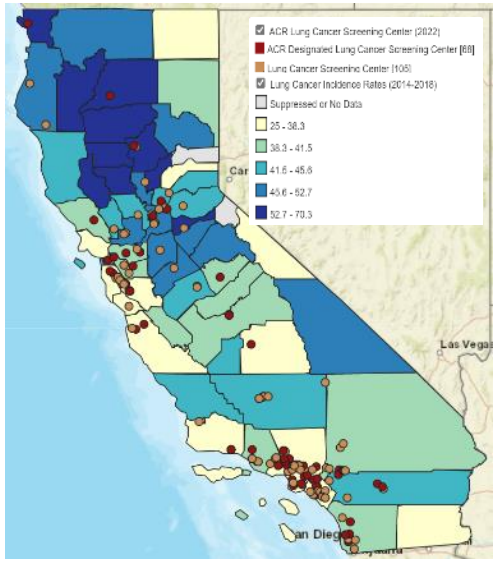
Data is really the foundation for most of the work we do, as it should be.

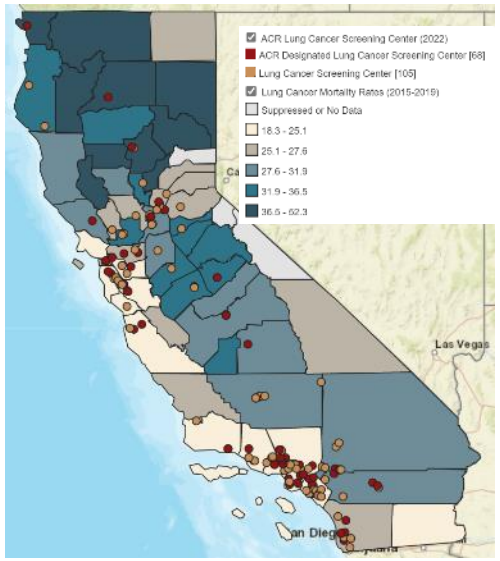
Previous Efforts Using Geospatial Data & GIS

2022 California Lung Cancer Screening Environmental Report

California County Level Lung Cancer Related Data

ACR Lung Cancer Screening Centers with California Lung Cancer Incidence Rates (2014-2018) & Mortality Rates (2015-2019)





San Diego CEOs Against Cancer

CEOs Against Cancer® Executive Circle

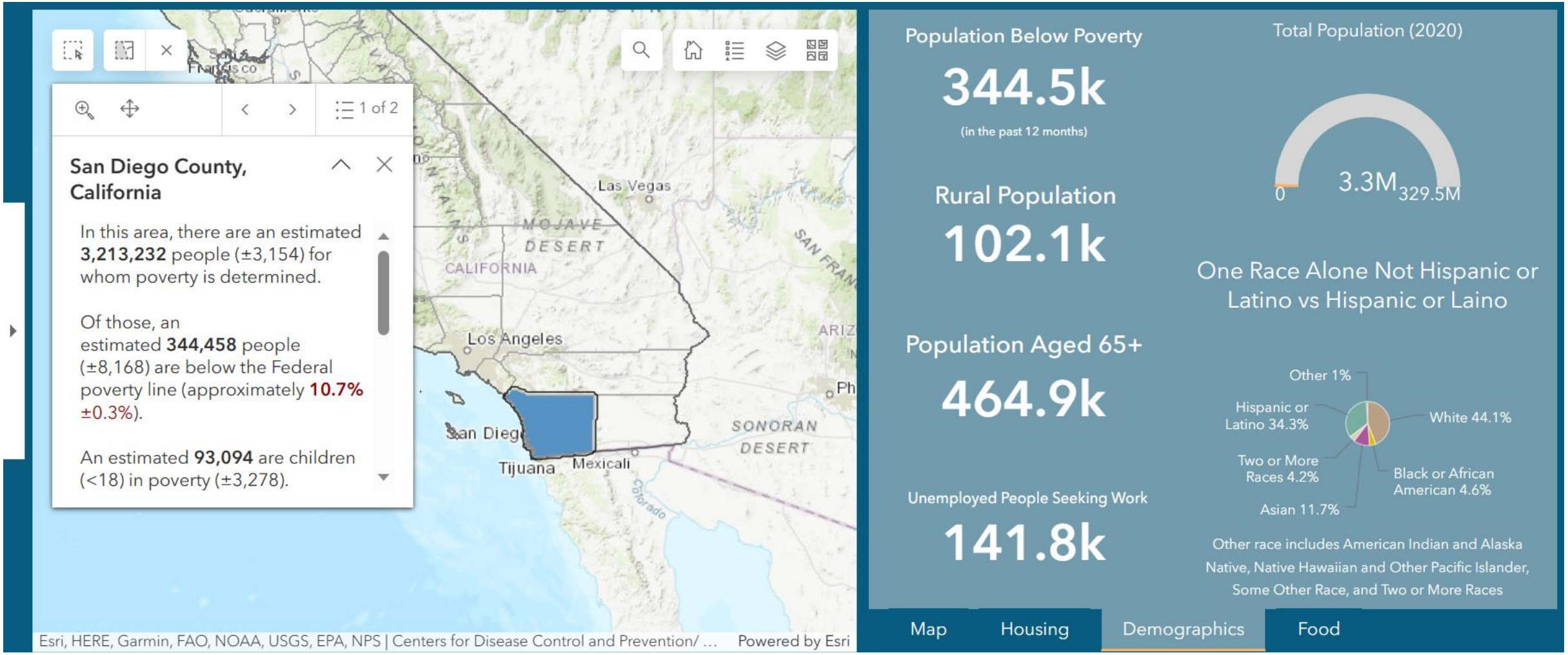
American Cancer Society®

Project Goals:

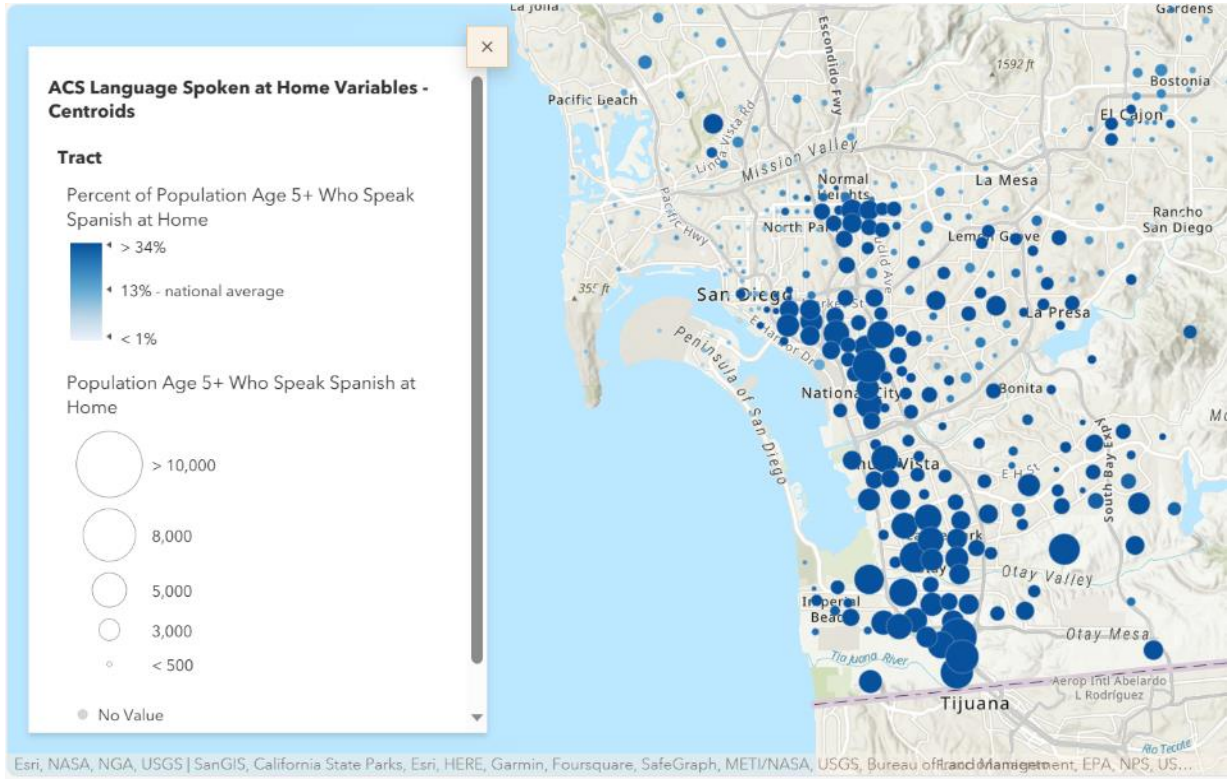
Engage primary care and community clinics in year-long colorectal cancer screening improvement cohort to increase screening among underserved adults age 45-75 in the San Diego area, by:

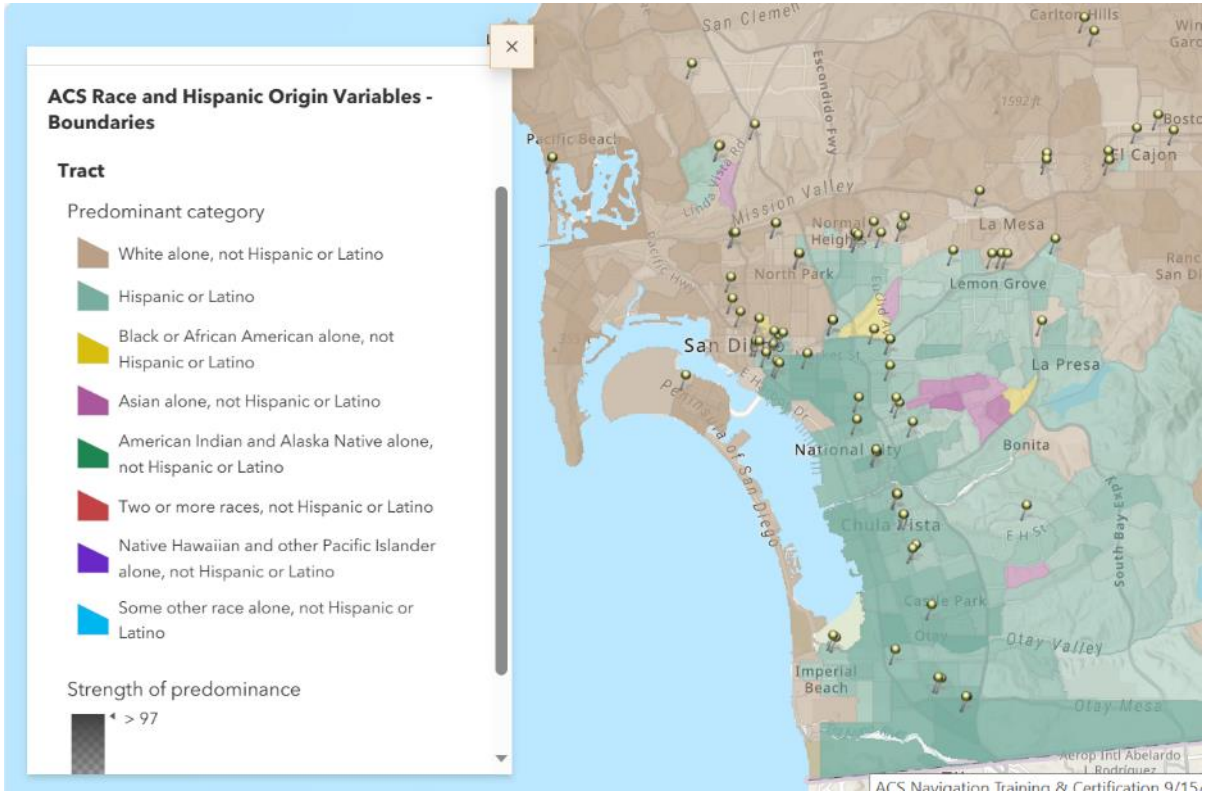
1. Identifying primary care and community clinic (FQHCs) in San Diego and partner with for CRC screening project;
2. Launching colorectal cancer screening initiative at selected primary care and community clinic site;
3. Assisting health system in identifying and addressing system and patient level barriers to colorectal cancer screening and implement evidence-based interventions to increase screening rates; and
4. Increasing public awareness of the value of CRC screening among eligible population.

San Diego County Demographics

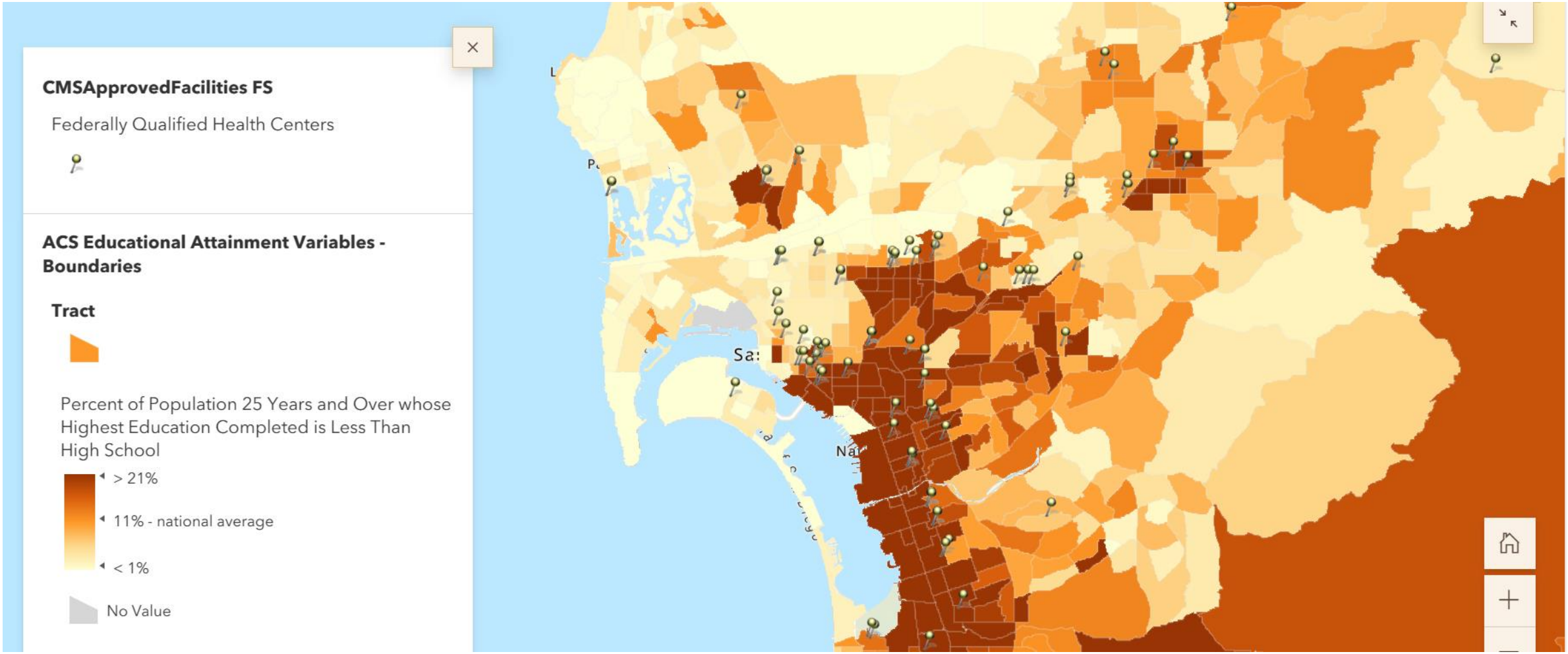


Race and Language Variables

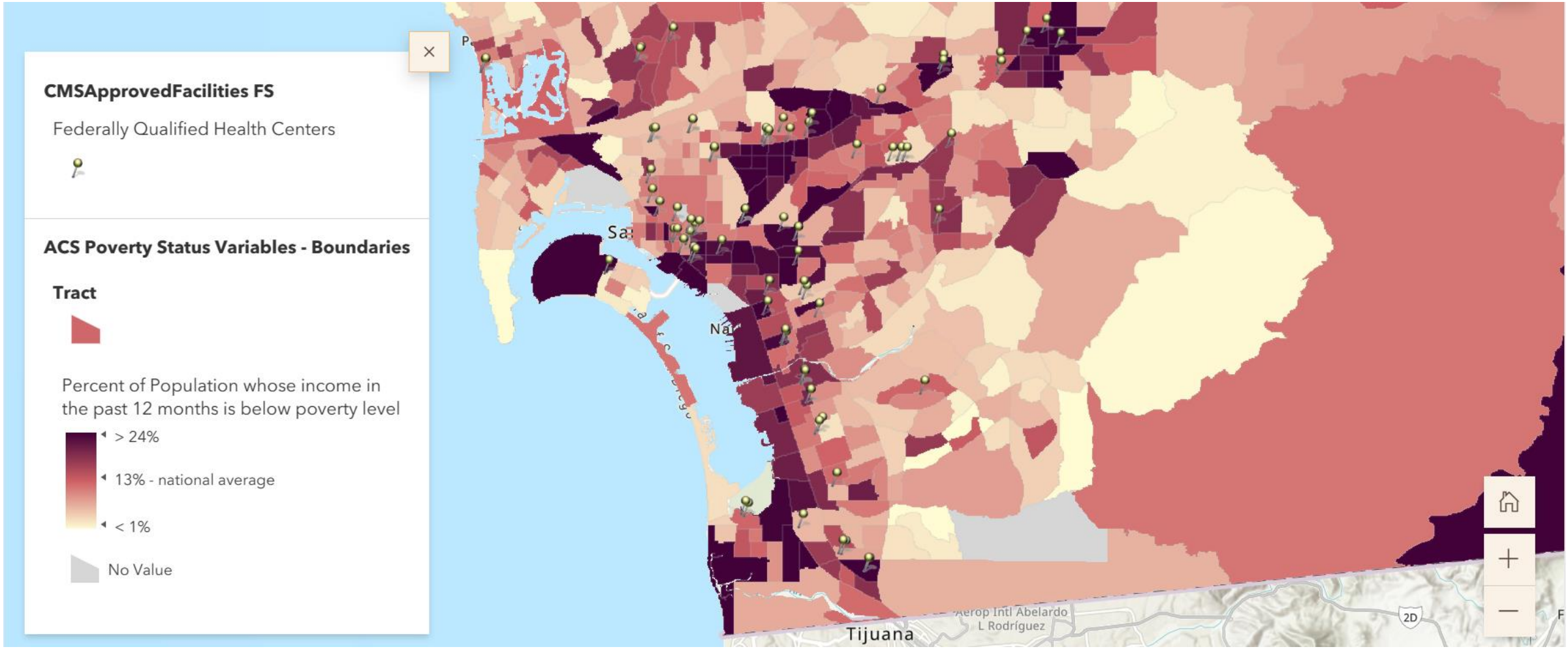




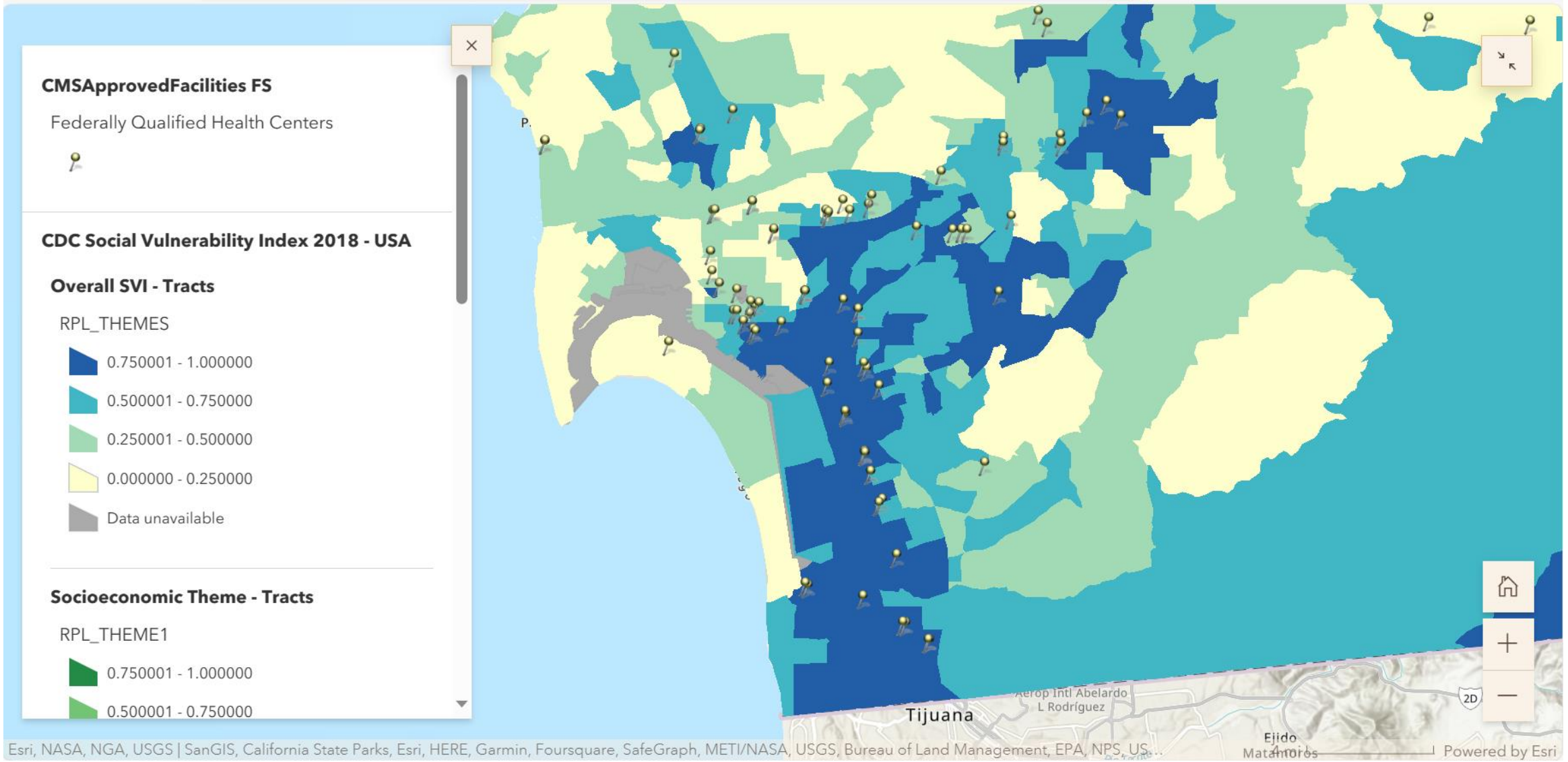
Education Attainment Variables



Poverty Status Variables



Social Vulnerability



Application of Data

Our efforts are more likely to succeed when we recognize and consider the diversity of the community we are trying to reach. The geospatial data will help to:

- Identify patient population & primary care clinic in areas with highest need.
- Use language that is accessible and meaningful to the target population.
- Tailor our intervention and communications efforts.
- Identify structural barriers that can be addressed to best serve different populations.
- Support storytelling to increase fundraising efforts.

"The data maps that have been provided by the GIS Data Science team have been crucial to our project because they clearly and effectively highlight the need for our work. The CEO's that we work with are extremely data driven and having these maps as a resource to share as we are having conversations has strengthened our pitch because it allows people to get a very clear visual of the story we are telling."

Chelsy Clark, ACS Corporate Relations Director

Thank You

American Cancer Society | NATIONAL COLORECTAL CANCER ROUNDTABLE

Thank You

nccrt.org @NCCRTnews #80inEveryCommunity

Employing Data Mapping to Inform Targeting of Colorectal Cancer Prevention Efforts in Rhode Island

Matthew Boudreau
Program Manager, Colorectal Cancer Prevention Program
Rhode Island Department of Health

Employing Data Mapping to Inform Targeting of Colorectal Cancer Prevention Efforts in Rhode Island

Matthew Boudreau
Rhode Island Department of Health (RIDOH)
Colorectal Cancer Control Program

Rhode Island

State in: United States

1,095,610
Population

1,033.9 square miles

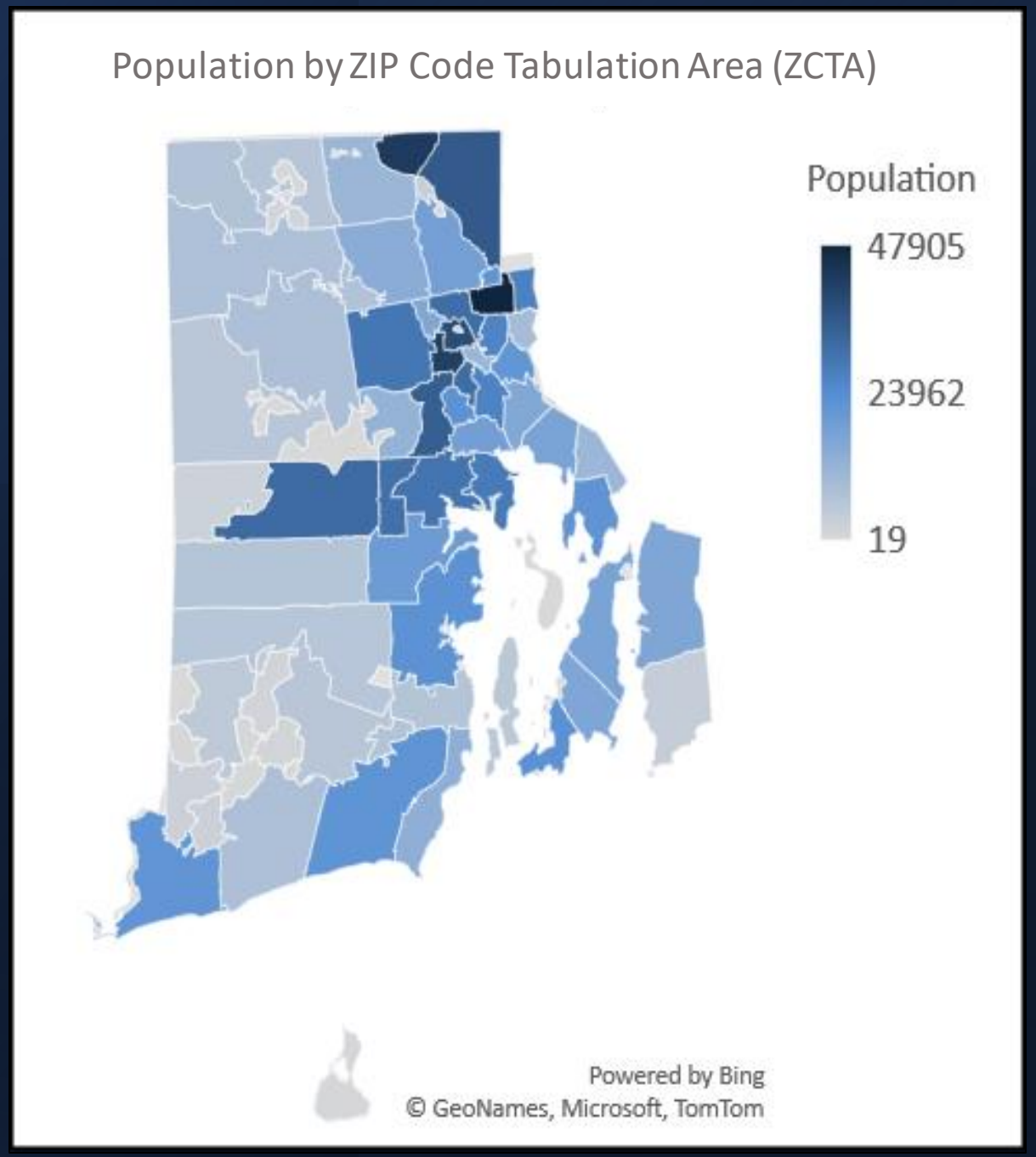
1,059.7 people per square mile

Census data: ACS 2021 1-year unless noted

NOT ACTUAL SIZE!

Rhode Island Census Data, 2021

Race and Hispanic Origin	Distribution
White alone	82.8%
Black or African American alone	9.1%
Asian alone	3.7%
Two or More Races	3.1%
American Indian and Alaska Native alone	1.2%
Native Hawaiian and Pacific Islander alone	0.2%
Hispanic or Latino	17.6%
White alone, not Hispanic or Latino	69.9%



Health System and Clinic Partners – FQHCs

7 of 8 Federally Qualified Health Centers (FQHCs)*

FQHC	# Clinics
Comprehensive Community Action Program (CCAP)	4
East Bay Community Action Program (EBCAP)	3
Providence Community Health Centers (PCHC)	8
Thundermist Health Centers (Thundermist)	3
Tri-County Health Center (Tri-County)	1
WellOne Primary Medical and Dental Care (WellOne)	4
Wood River Health Services (Wood River)	2
TOTAL	**25**

*NOT Partnered with *Blackstone Valley Community Health Care*

Health System and Clinic Partners – CSNCs & IHS

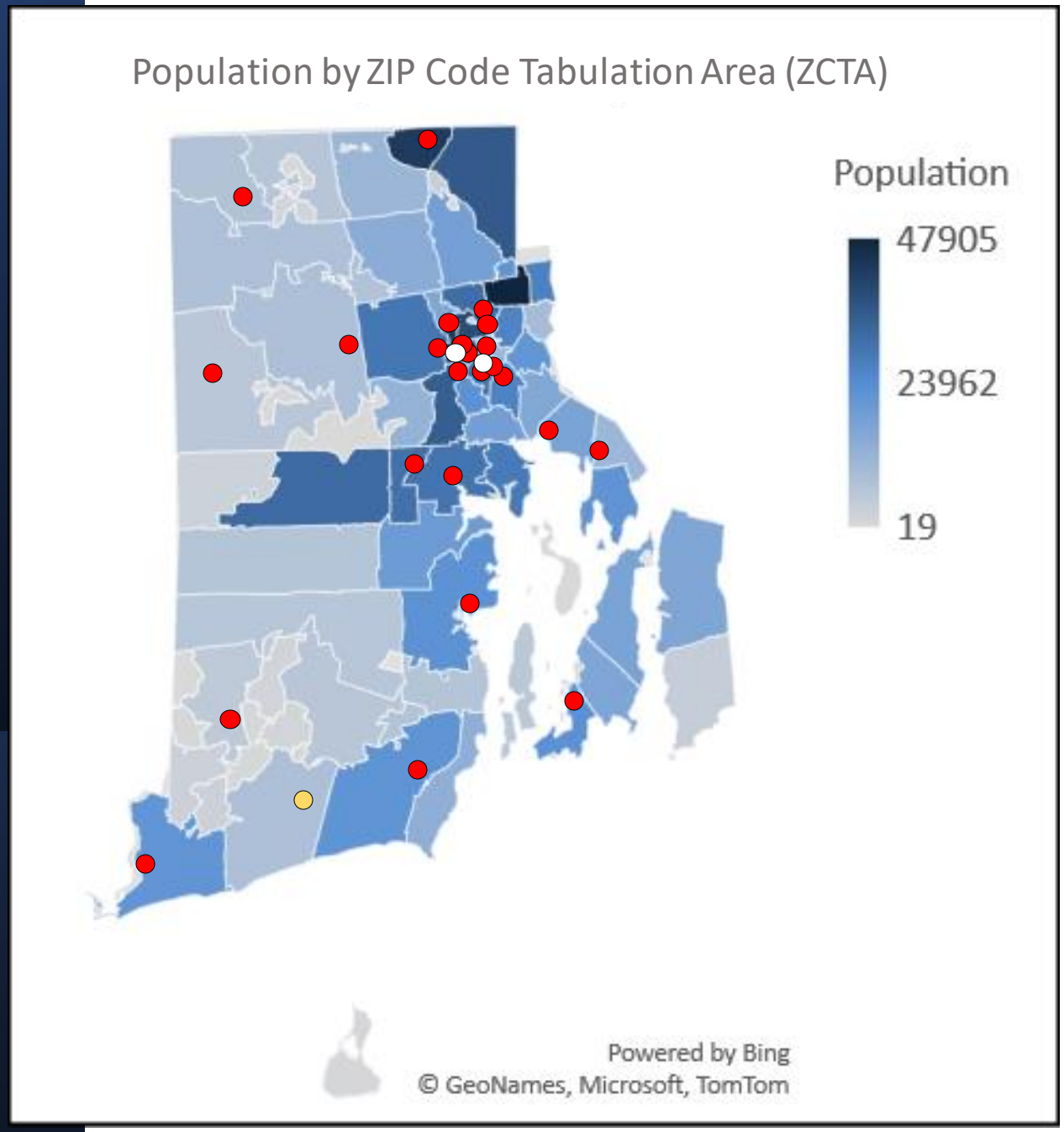
2 Community Safety Net Clinics (CSNCs)

- Clinica Esperanza / Hope Clinic (CEHC)
- Rhode Island Free Clinic (RIFC)

1 Indian Health Service (IHC)

- Narragansett Indian Health Center (NIHC)

Health System and Clinic Partners

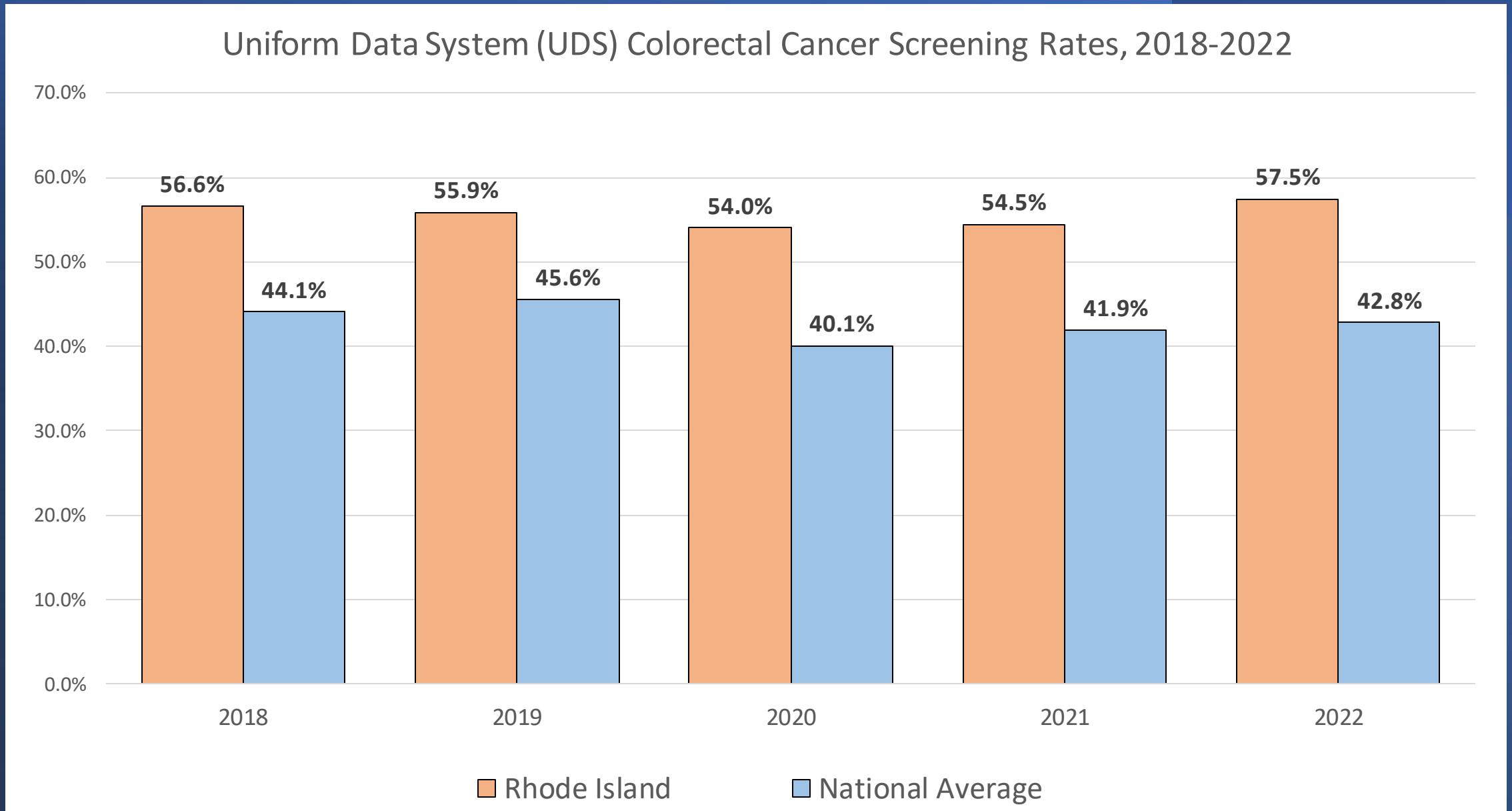


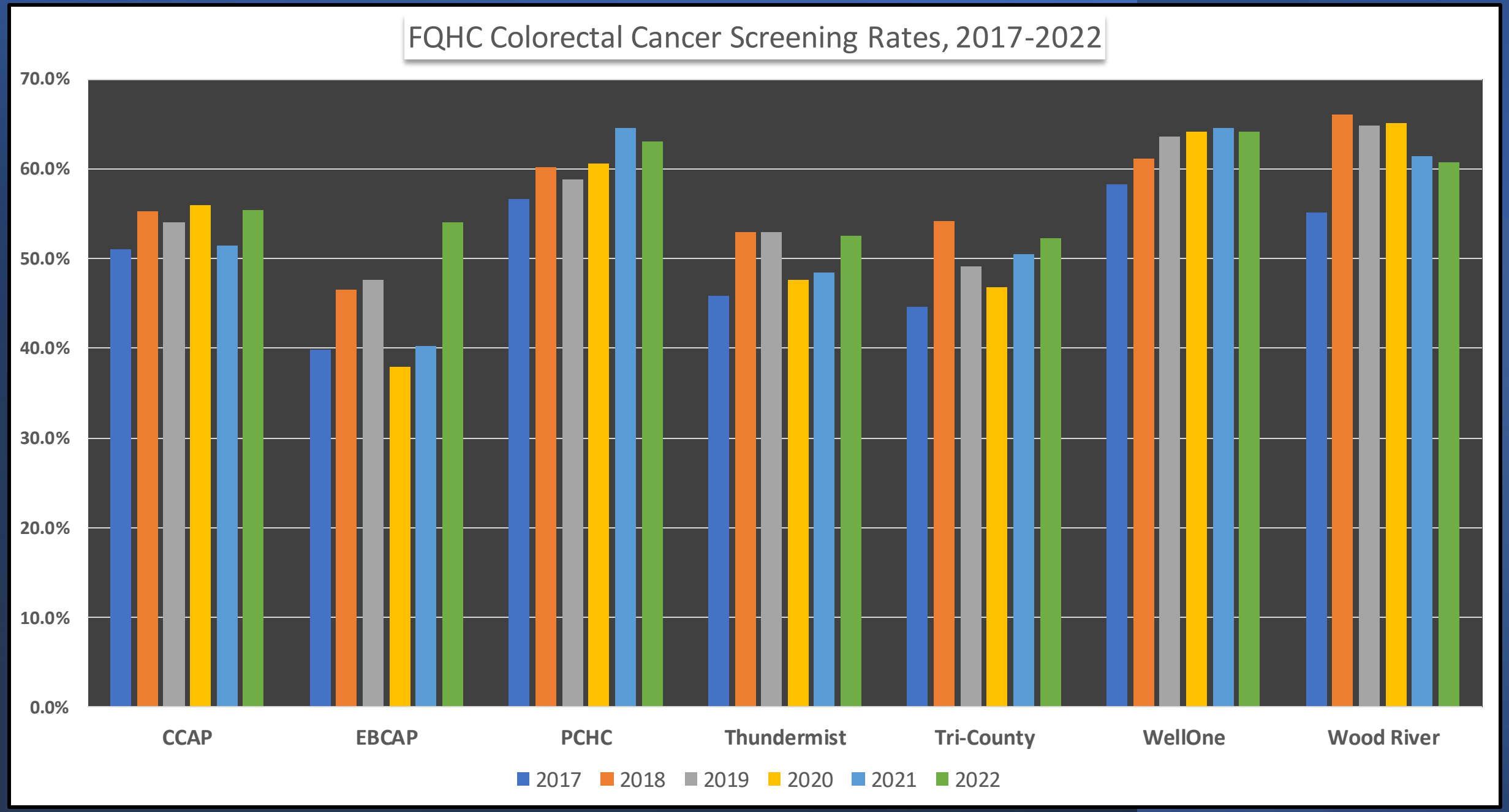
Our partners comprise a **total of 28** clinic locations throughout Rhode Island

FQHC

CSNC

IHC


Uniform Data System (UDS) Colorectal Cancer Screening Rates, 2018-2022
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
56.6%
44.1%
55.9%
45.6%
54.0%
40.1%
54.5%
41.9%
57.5%
42.8%
2018
2019
2020
2021
2022
Rhode Island
National Average


FQHC Colorectal Cancer Screening Rates, 2017-2022
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
CCAP
EBCAP
PCHC
Thundermist
Tri-County
WellOne
Wood River
2017
2018
2019
2020
2021
2022

What we know

- FQHCs serve populations at high risk for being unscreened
- The Rhode Island Colorectal Cancer Control Program (RI CRCCP) has partnered with 7 of the state's FQHCs
- RI FQHC screening rates have increased since 2017, yet there's still more work to be done

BUT…

- What about individuals who are not established FQHC patients? Who are they?
- Where do they live?
- How can we reach them?

Mapping is for everyone!

- Sophisticated Geographic Information System (GIS) options include ArcGIS and QGIS, but these require specialized training and software.
- Often, in-house GIS teams are overloaded with requests and projects.
- Another viable option is to create maps by employing readily available programs, such as Microsoft Excel, with only minimal mapping experience.

Accessible Mapping Tools

1. Identifying Underserved Communities

- CDC PLACES
- CDC/ATSDR Social Vulnerability Index (SVI)

2. Identifying Community Characteristics

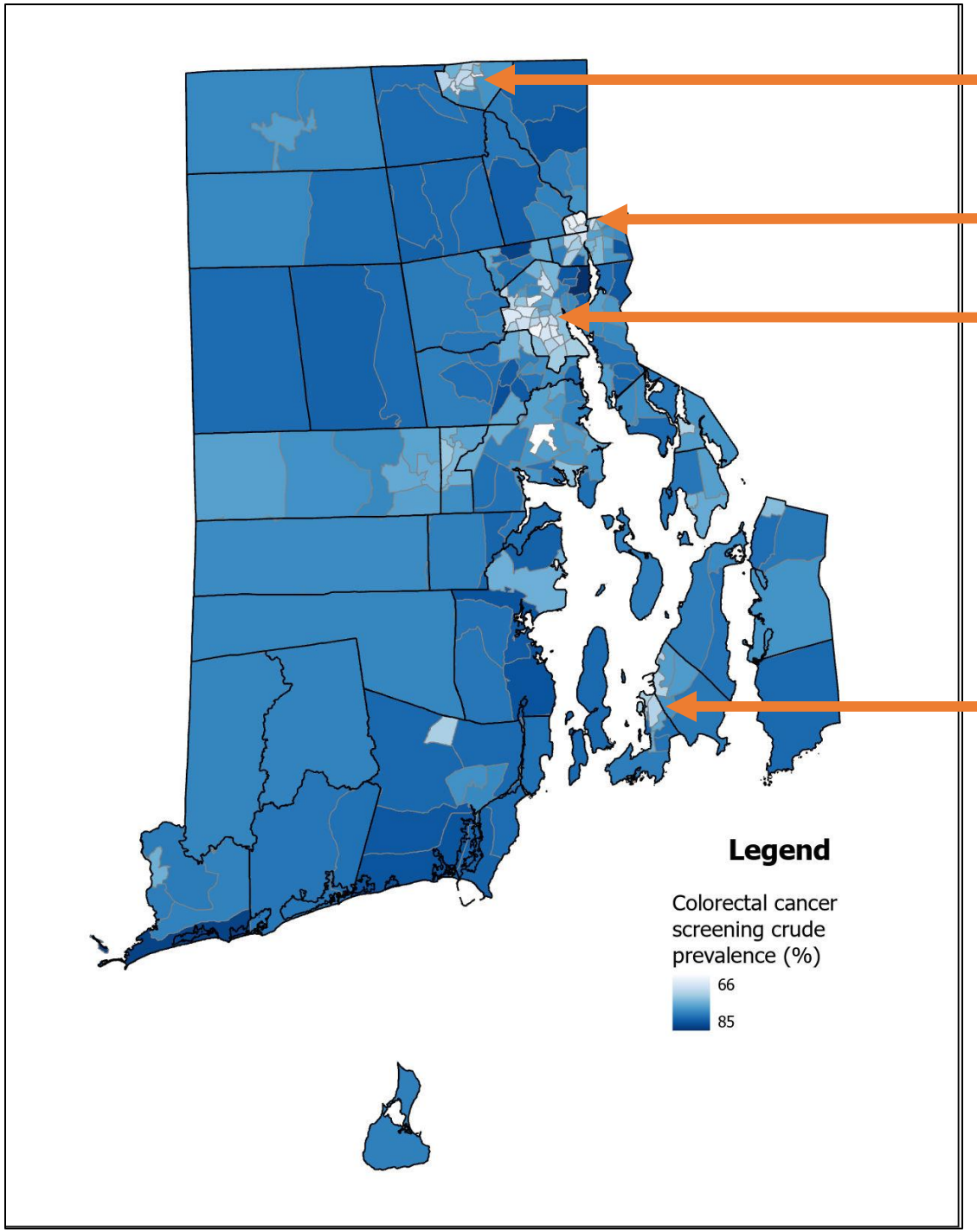
- Census Bureau QuickFacts
- American Community Survey (ACS)

3. Identifying Appropriate Partners

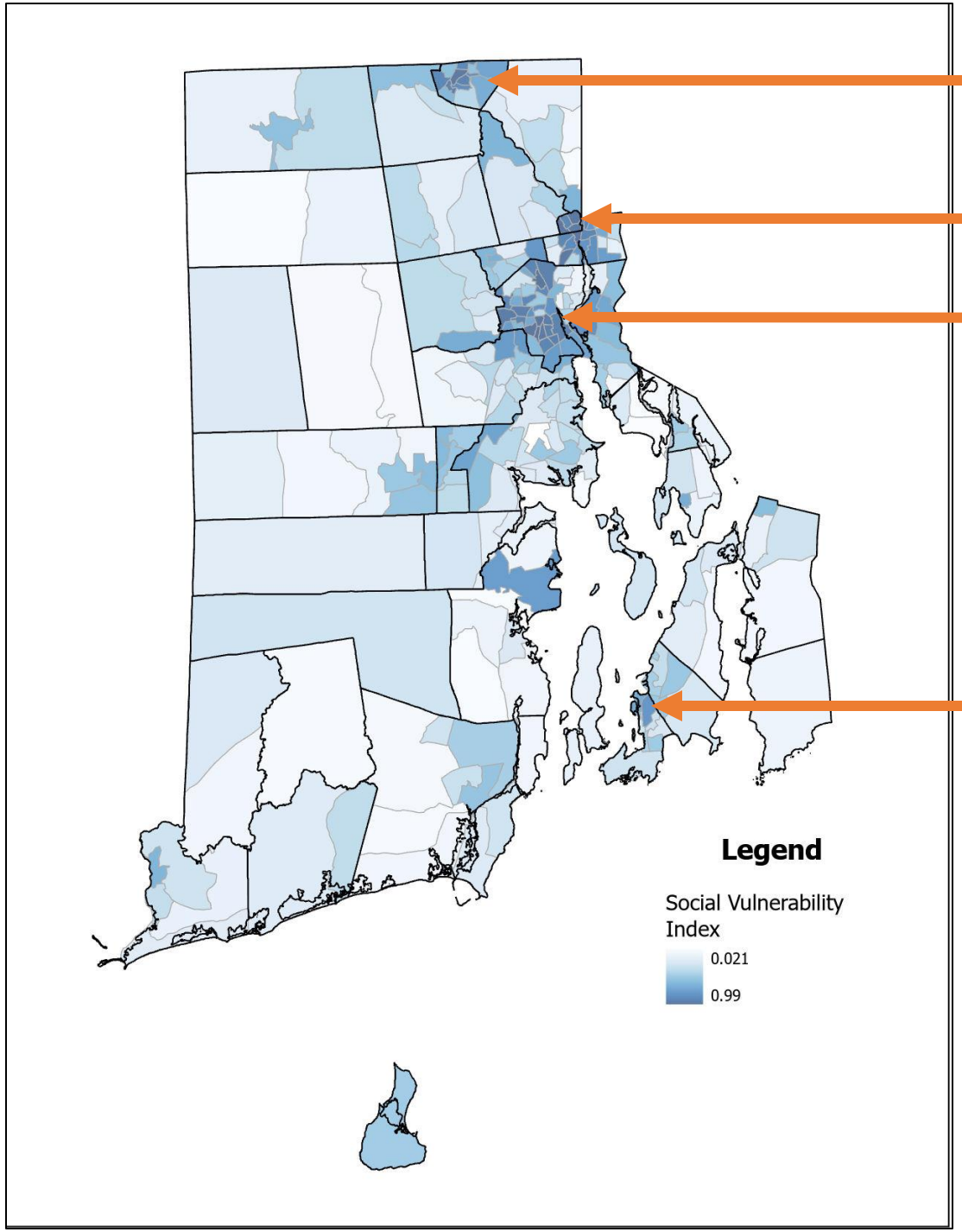
- UDS Mapper
- Google Maps

Colorectal Cancer Screening by Census Tract, 2021

CDC PLACES
https://www.cdc.gov/places/index.html

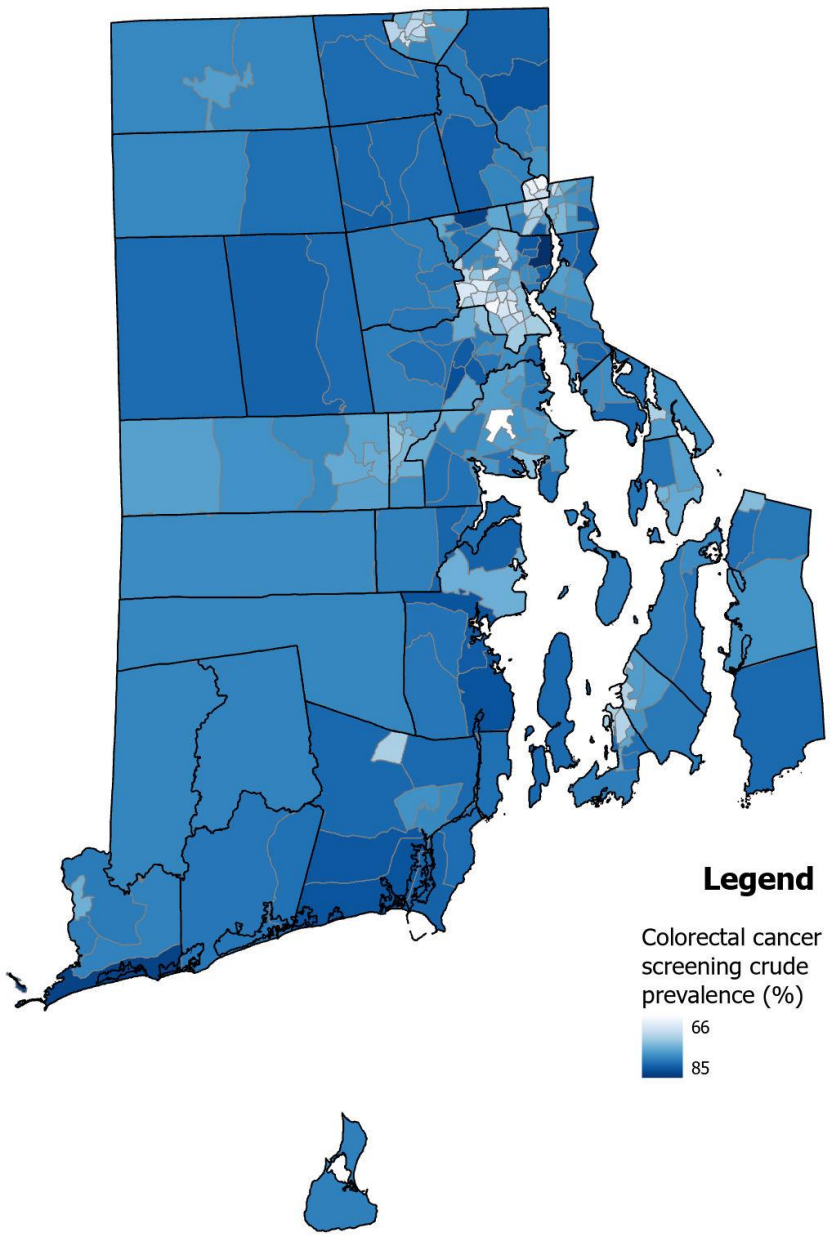


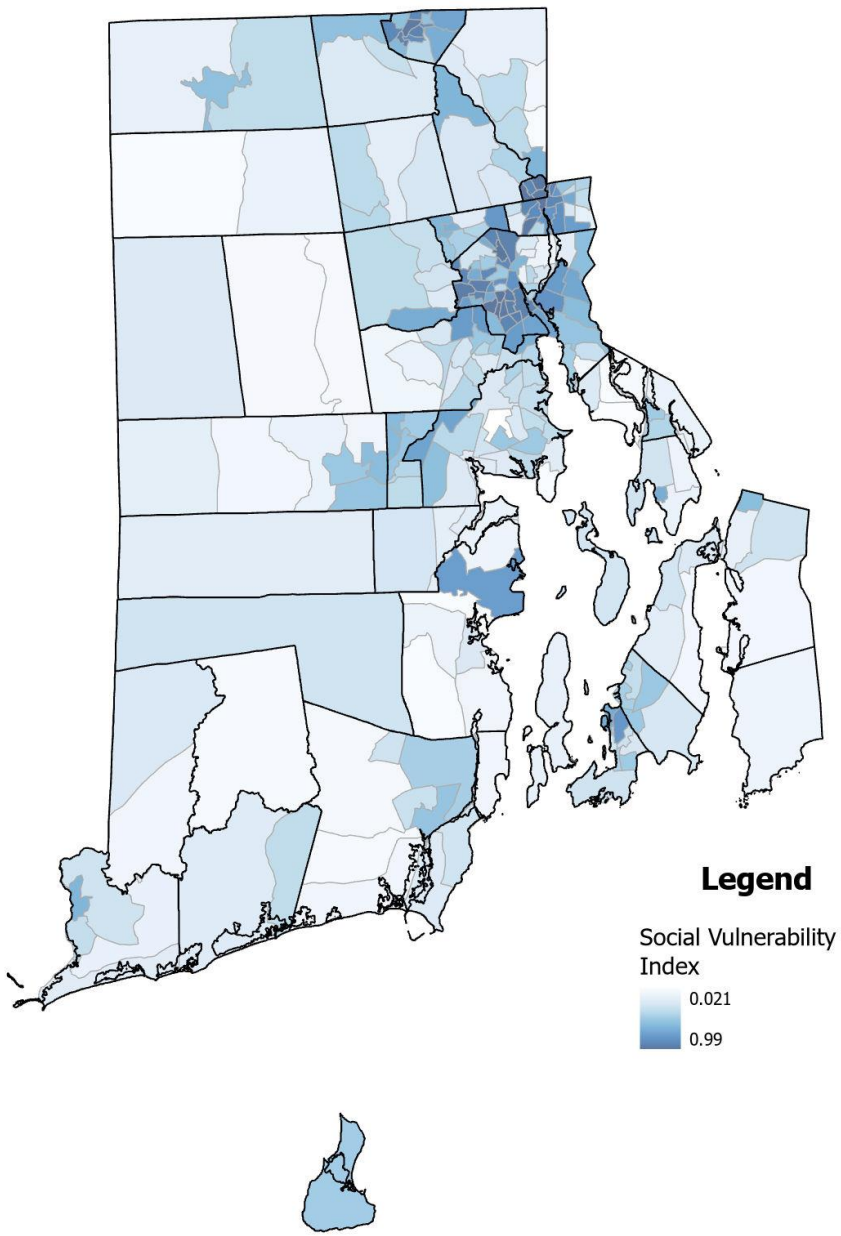
Social Vulnerability Index, 2021



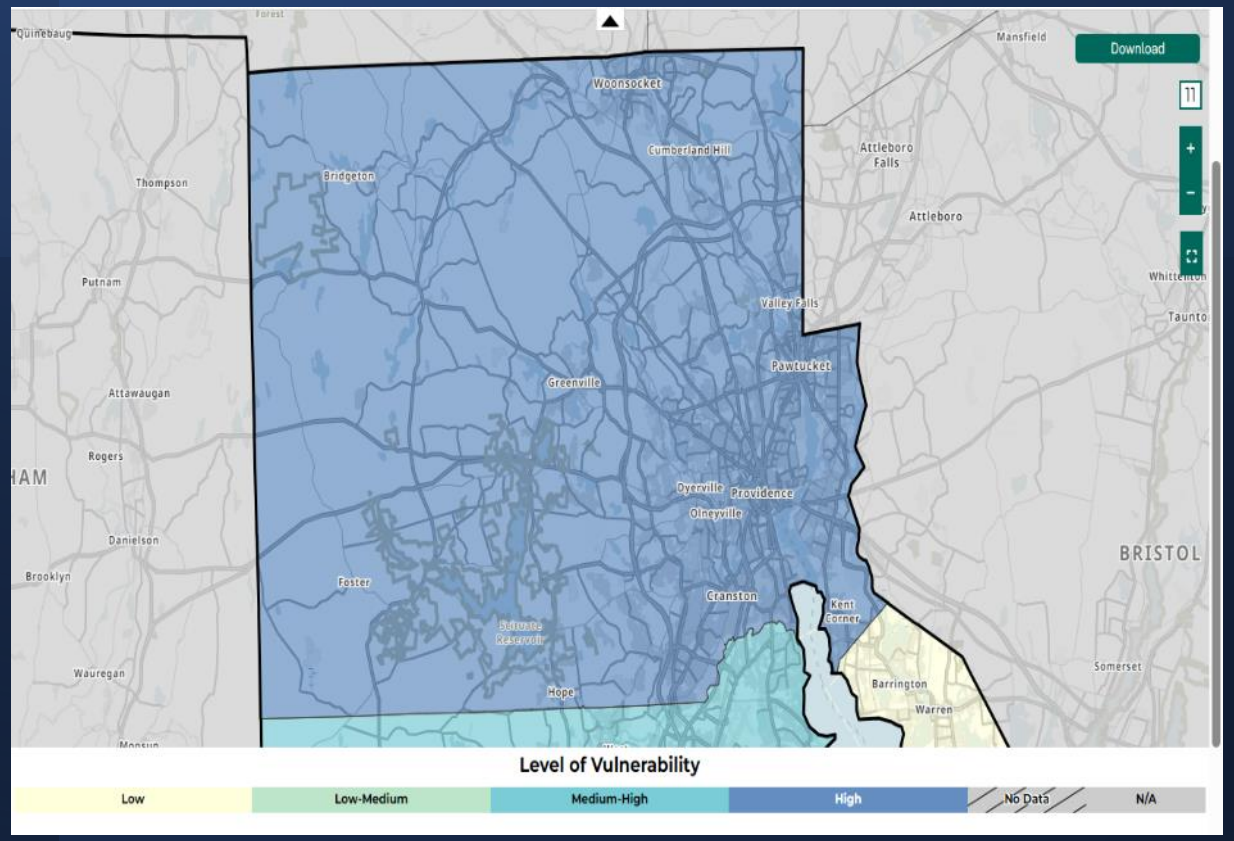
CDC/ATSDR SVI

https://www.atsdr.cdc.gov/placeandhealth/svi/index.html

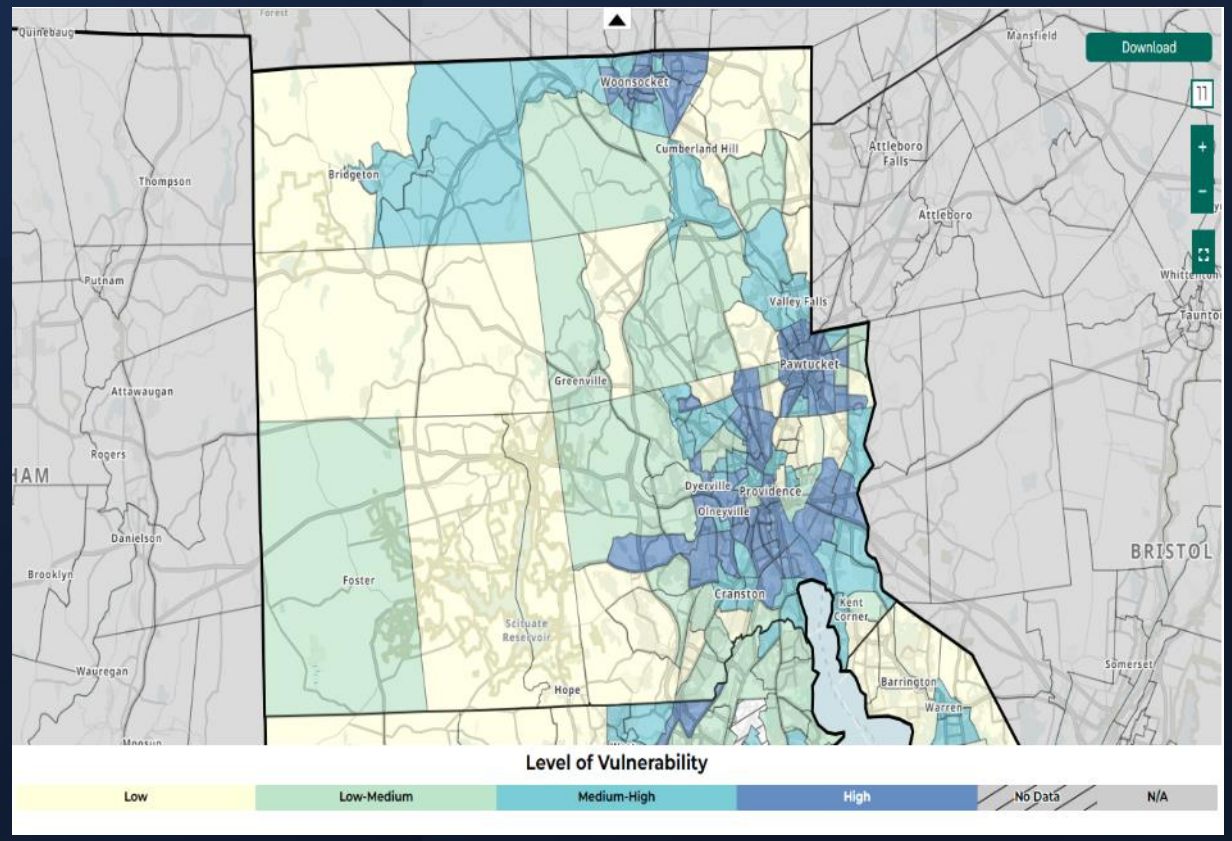

Legend
Colorectal cancer screening crude prevalence (%)
66
85


Legend
Social Vulnerability Index
0.021
0.99

Social Vulnerability Index, 2021
Providence County

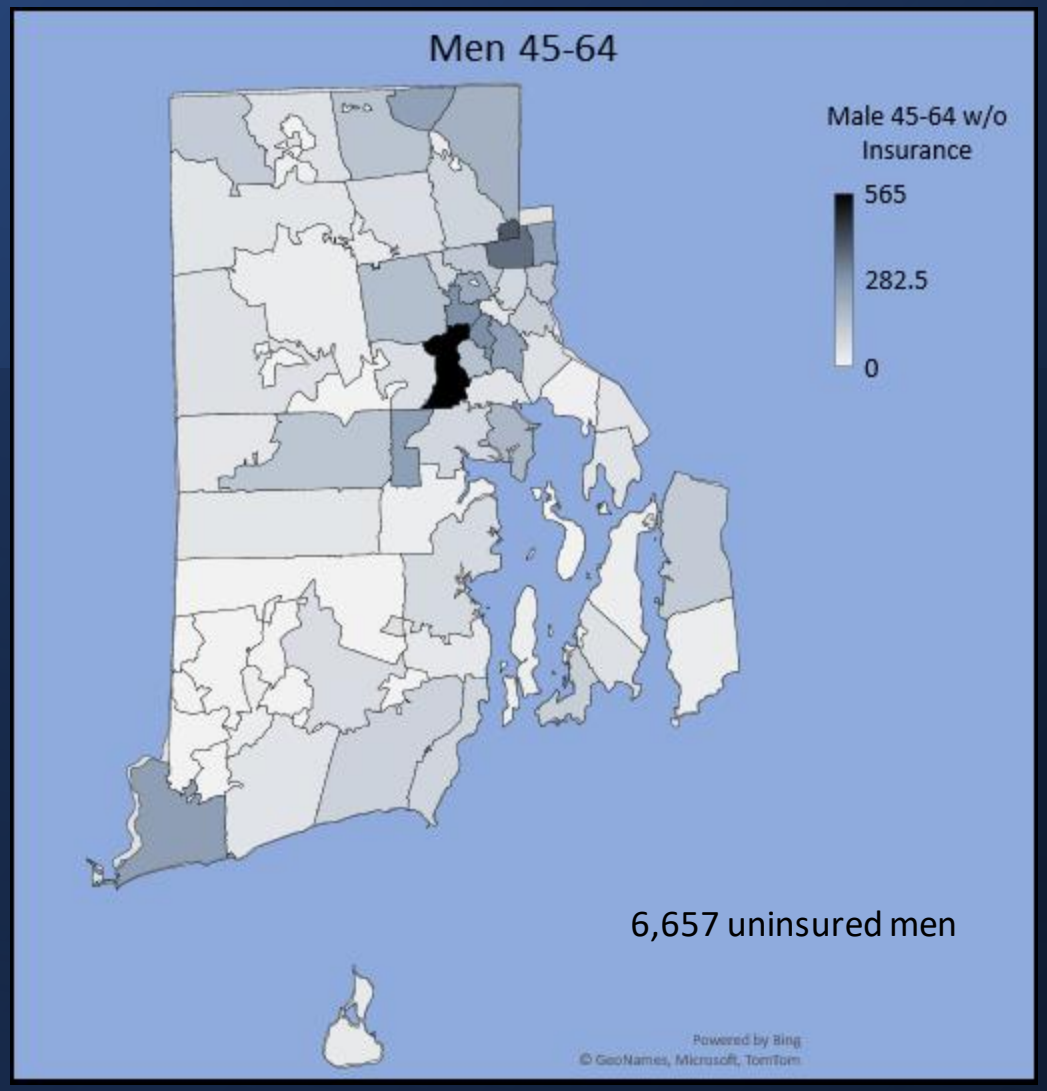


Geographic Unit: Counties

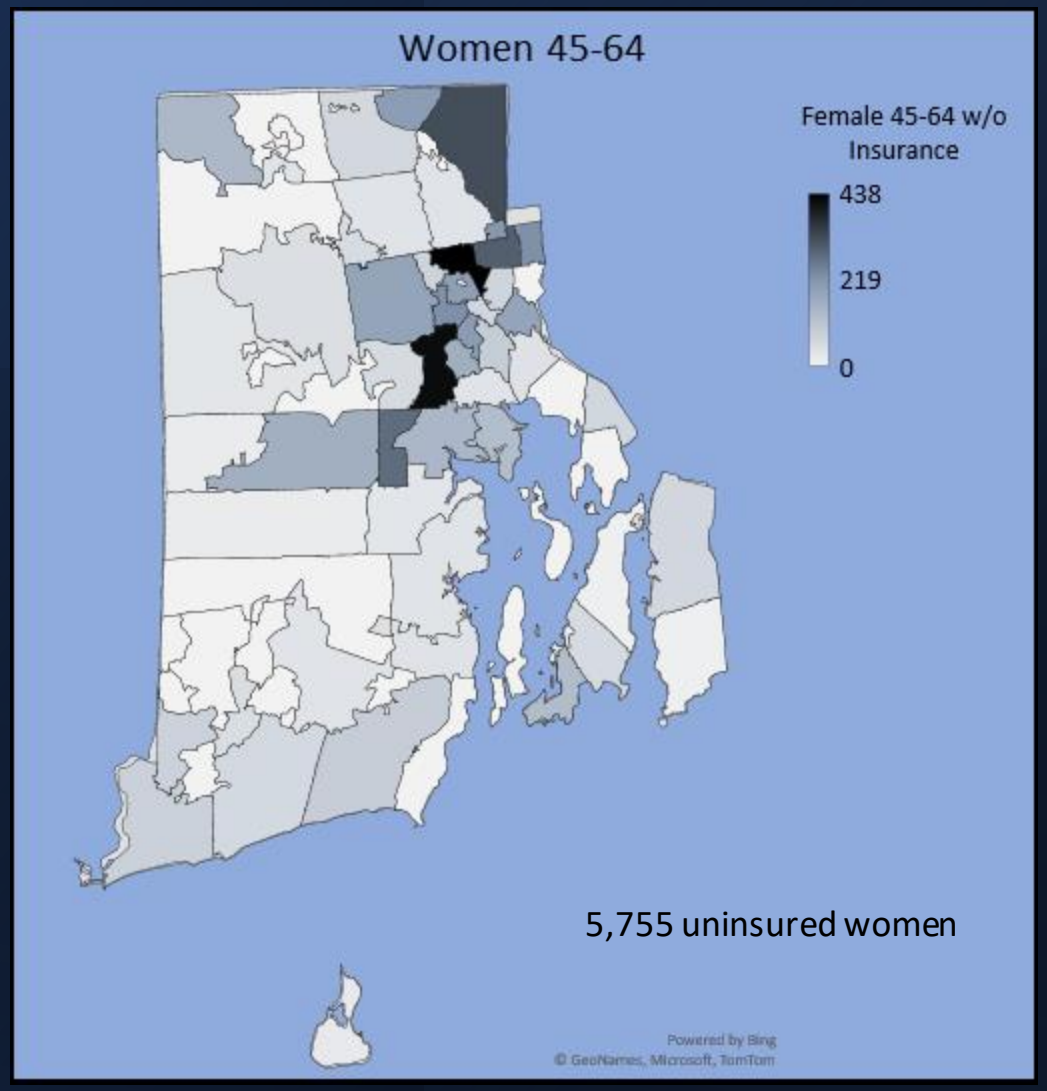


Geographic Unit: Census Tract

Uninsured Men and Women, ACS 2021



6,657 uninsured men



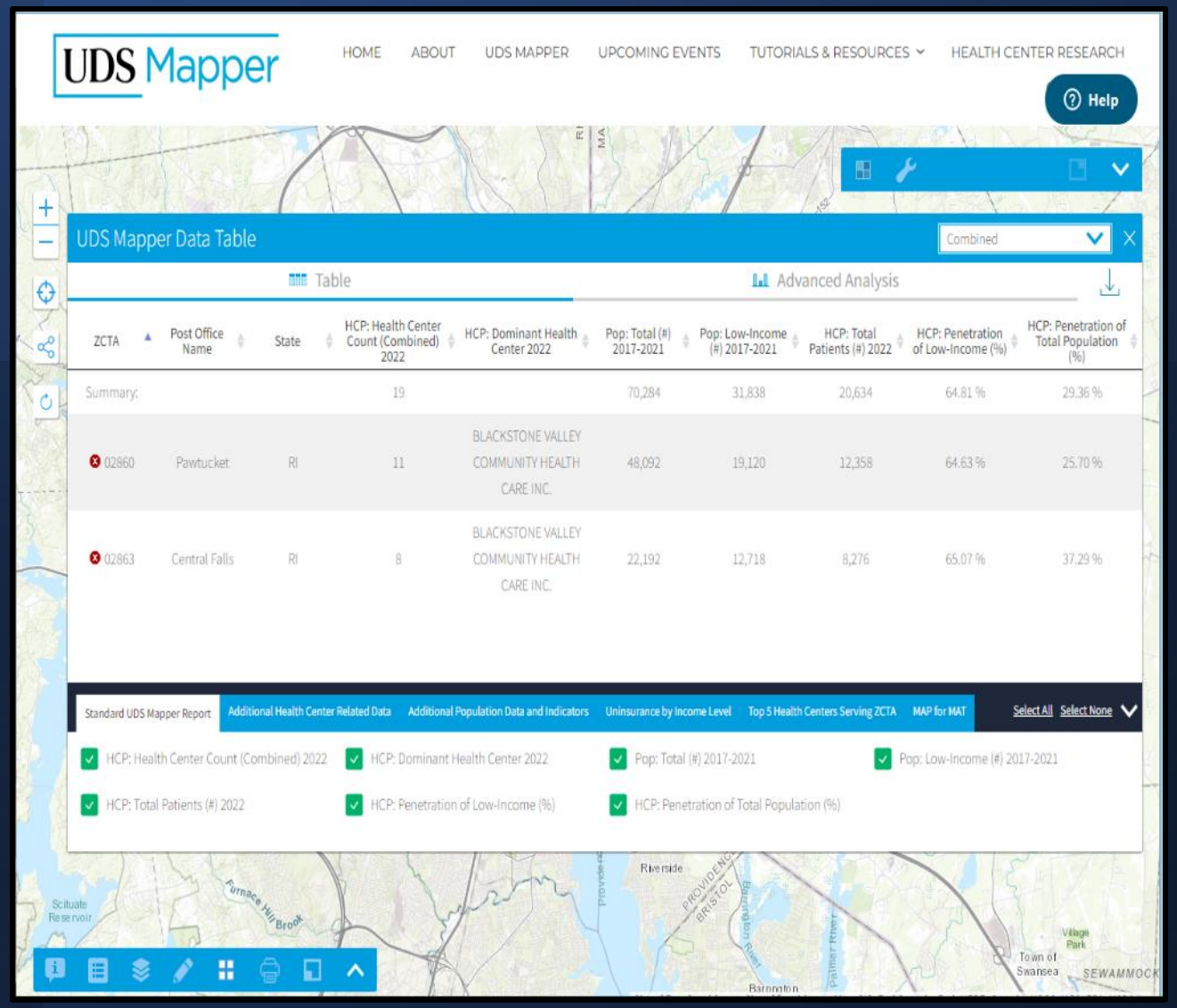
5,755 uninsured women

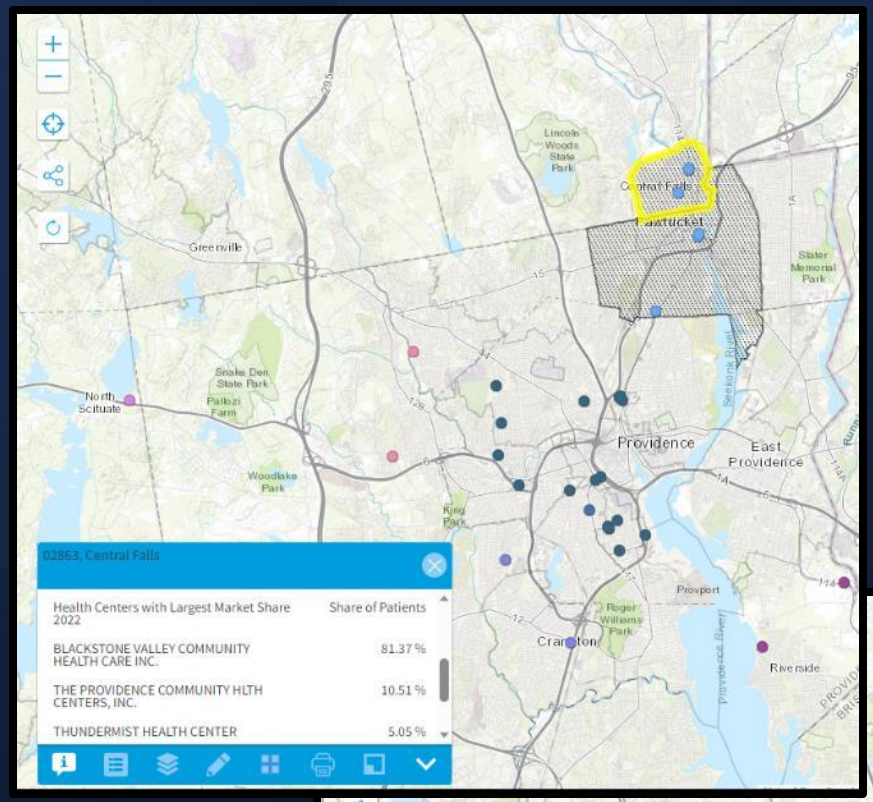
Census Bureau QuickFacts

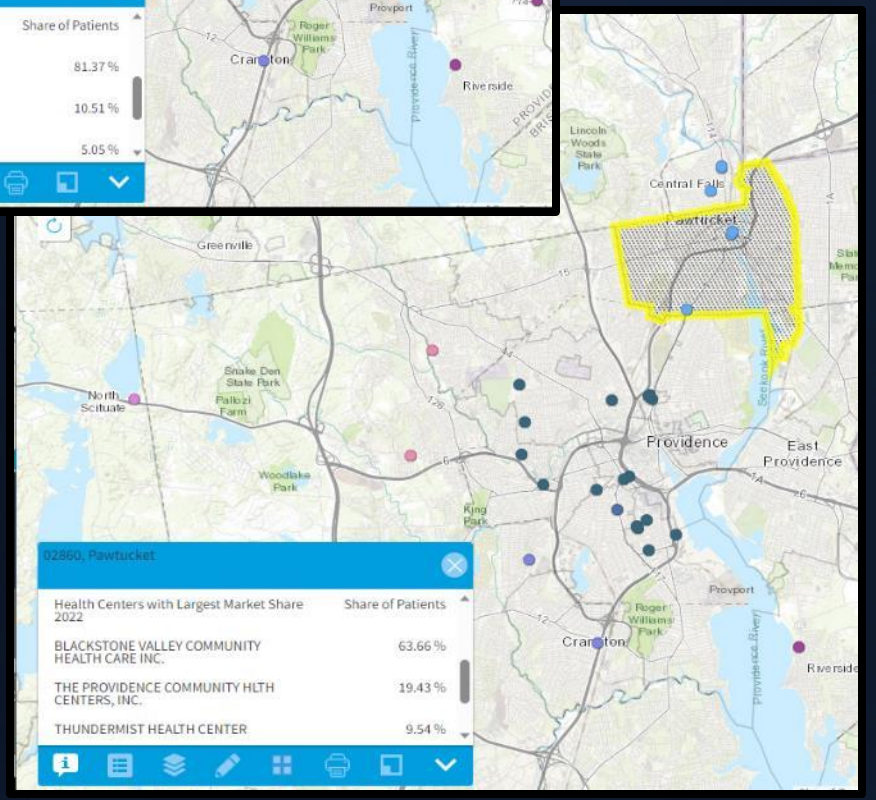
(2017-2021 ACS 5-year estimates)

Population	Pawtucket city, Rhode Island	Central Falls city, Rhode Island
Population Estimates, July 1, 2022, (V2022)	**75,066**	**22,490**
PEOPLE		
Population		
Population Estimates, July 1, 2022, (V2022)	**75,066**	**22,490**
Population estimates base, April 1, 2020, (V2022)	75,612	22,583
Population, percent change - April 1, 2020 (estimates base) to July 1, 2022, (V2022)	-0.7%	-0.4%
Population, Census, April 1, 2020	75,604	22,583
Population, Census, April 1, 2010	71,148	19,376
Race and Hispanic Origin		
White alone, percent	55.8%	42.4%
Black or African American alone, percent (a)	17.6%	6.9%
American Indian and Alaska Native alone, percent (a)	0.5%	0.2%
Asian alone, percent (a)	2.0%	0.3%
Native Hawaiian and Other Pacific Islander alone, percent (a)	0.1%	0.1%
Two or More Races, percent	12.5%	13.5%
Hispanic or Latino, percent (b)	25.2%	71.5%
White alone, not Hispanic or Latino, percent	46.7%	19.6%
Families & Living Arrangements		
Households, 2017-2021	29,666	7,074
Persons per household, 2017-2021	2.52	3.04
Living in same house 1 year ago, percent of persons age 1 year+, 2017-2021	89.7%	81.1%
Language other than English spoken at home, percent of persons age 5 years+, 2017-2021	39.9%	66.6%
Income & Poverty		
Median household income (in 2021 dollars), 2017-2021	$56,427	$40,235
Per capita income in past 12 months (in 2021 dollars), 2017-2021	$30,246	$17,962
Persons in poverty, percent	14.9%	24.9%

UDS Mapper

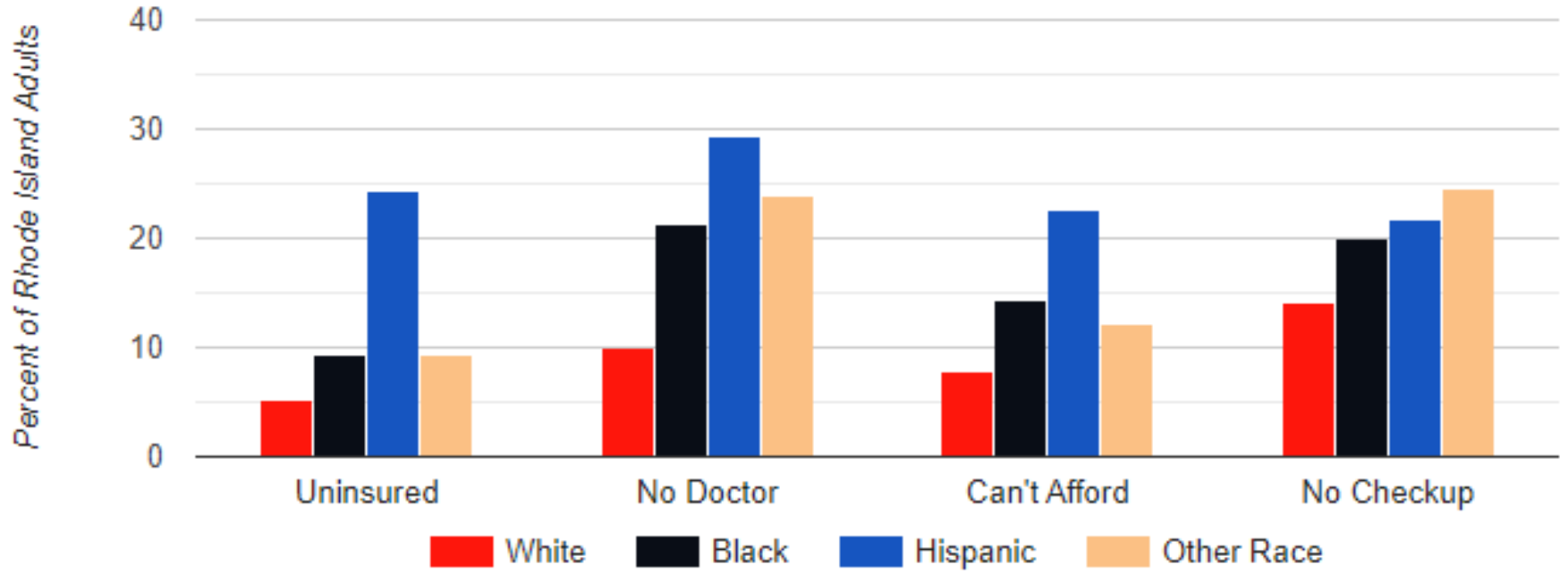






https://maps.udsmapper.org/map

RI Behavioral Risk Factor Surveillance System (BRFSS), 2018



- White, non-Hispanic adults have fewer barriers to access healthcare than other racial/ethnic groups.
- The prevalence of being uninsured, having no doctor, and experiencing cost barriers to seeing a doctor are highest among Hispanic adults compared with all other racial/ethnic groups.

https://health.ri.gov/data/healthcareaccess/

Health System and Clinic Partners – CSNCs & IHS

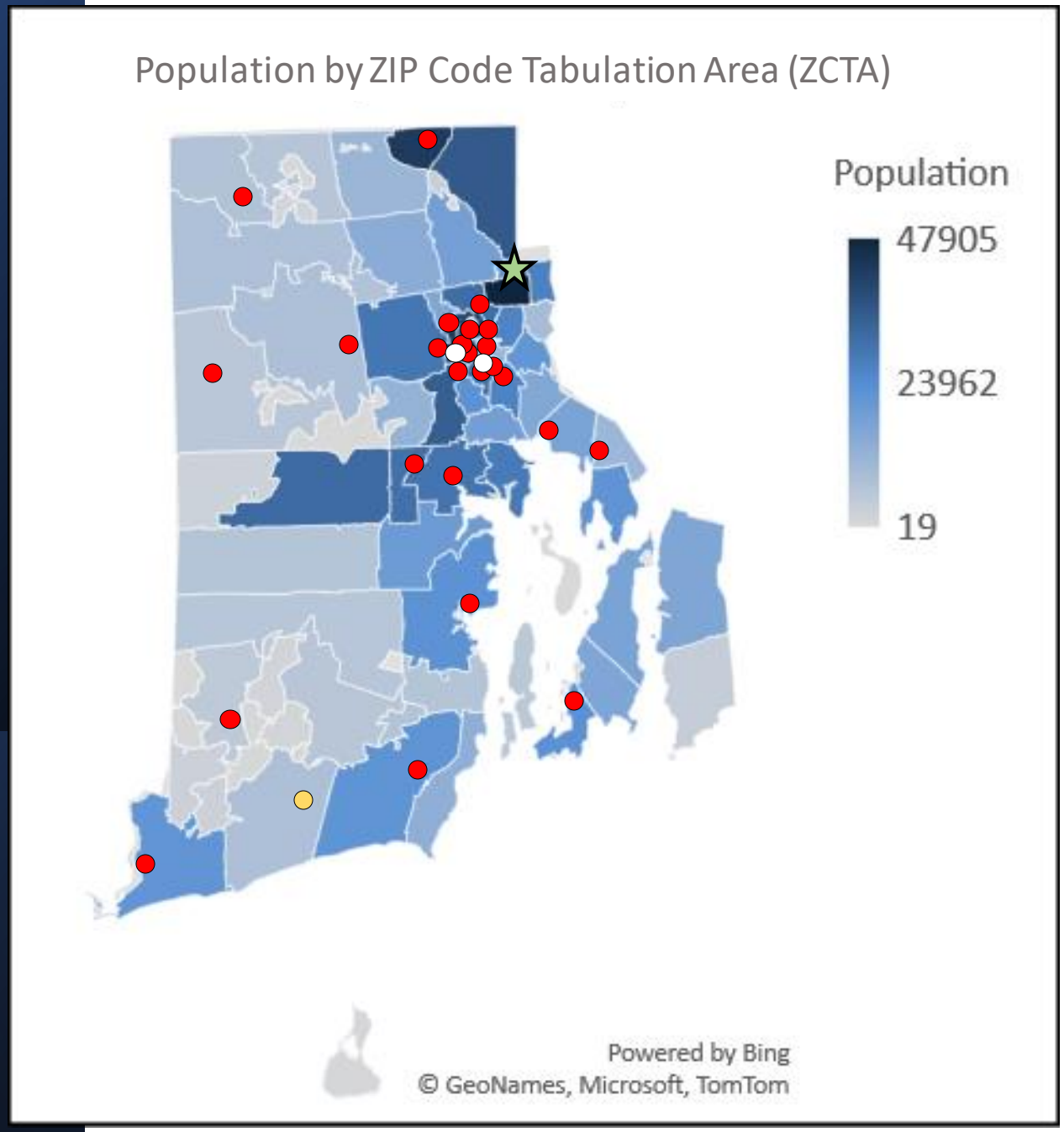
3 Community Safety Net Clinics

- Clinica Esperanza / Hope Clinic (CEHC)
- Rhode Island Free Clinic (RIFC)
- Jenks Park Health Clinic (JPHC)

1 Indian Health Service

- Narragansett Indian Health Center (NIHC)

Health System and Clinic Partners



Our partners comprise a **total of 29** clinic locations throughout Rhode Island

FQHC

CSNC

IHC

Next Steps for Central Falls & Pawtucket

1. Decrease barriers to screening (and increase screening rates) for Jenks Park Health Clinic patients
2. Work with RI Public Health Association and other partners to create culturally and linguistically appropriate small media materials
3. Meet with identified non-profit community organizations, including Progreso Latino, Inc. and YWCA Central Falls
4. Work with The Ministers Alliance of RI on faith-based community outreach
5. Participate in Central Falls and Pawtucket community activities and events

Targeted Outreach

Future Goal:

To mirror the RI BCCEDP (Breast and Cervical Cancer Early Detection Program) initiative in adding QR Codes to small media materials, linking users to a program landing page and dashboard. Data on the number, duration, and location of views can be collected.

Lessons Learned

1. Utilize multiple sources of data
2. Understand the accuracy and limitations of your data
3. Choose appropriate tools and techniques
4. Remember: A map won't speak for itself!

Thanks to Will and Steve for their help!

Steve Williamson, PhD
Planning and Programming Specialist
Rhode Island Department of Health

Will Goedel, PhD
Assistant Professor of Epidemiology
Brown University School of Public Health

Thank you!

Matthew Boudreau
Rhode Island Department of Health (RIDOH)
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American Cancer Society | NATIONAL COLORECTAL CANCER ROUNDTABLE

Thank You

nccrt.org @NCCRTnews #80inEveryCommunity

Utilizing Geospatial Science and Technology to Advance CRC Cancer Prevention and Early Detection

Liora Sahar, PhD, GISP
Senior Director, GIS Data Science
American Cancer Society (virtual)

American Cancer Society | NATIONAL COLORECTAL CANCER ROUNDTABLE

Thank You

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