SMILE ON 60+ Analysis
DDA2 Cohort

Agenda

- Key Findings
- Demographics
- Program Effectiveness
- Program Opportunities
- Data Collection
- Summary

Key Findings

- 8,707 unique patients, over 2.5 years
- 55% - had a treatment plan developed
- 65% - of patients with a treatment plan were restored to function
- Program is being used by people where tooth loss is greatest - in urban areas
- 50% of questions related to treatment plan/restoration were incomplete

Smile-On Program Ambassadors

| Ambassadors	ID
Dental Clinic Staff	4270
Other	1351
Wisdom Tooth Project Presentation	865
SMILE ON CDHC	565
Unknown	504
This encounter	349
Senior Center	341
TV	199
Flyer	134
Newspaper	49
Dental Hotline	31
SHIP Navigator	24
Health Assist	11
Radio	10
Habitat for Humanity Greater Memphis	2
Tennessee Alliance for Legal Services	2
Total	**8707**

Who is being served?

Age and Gender of Enrollees
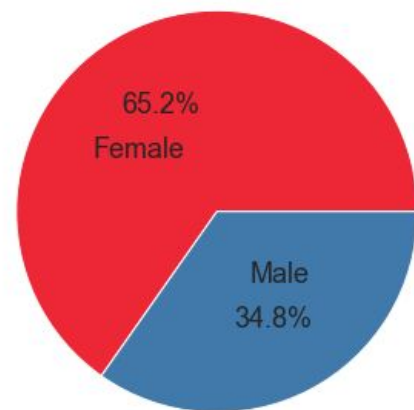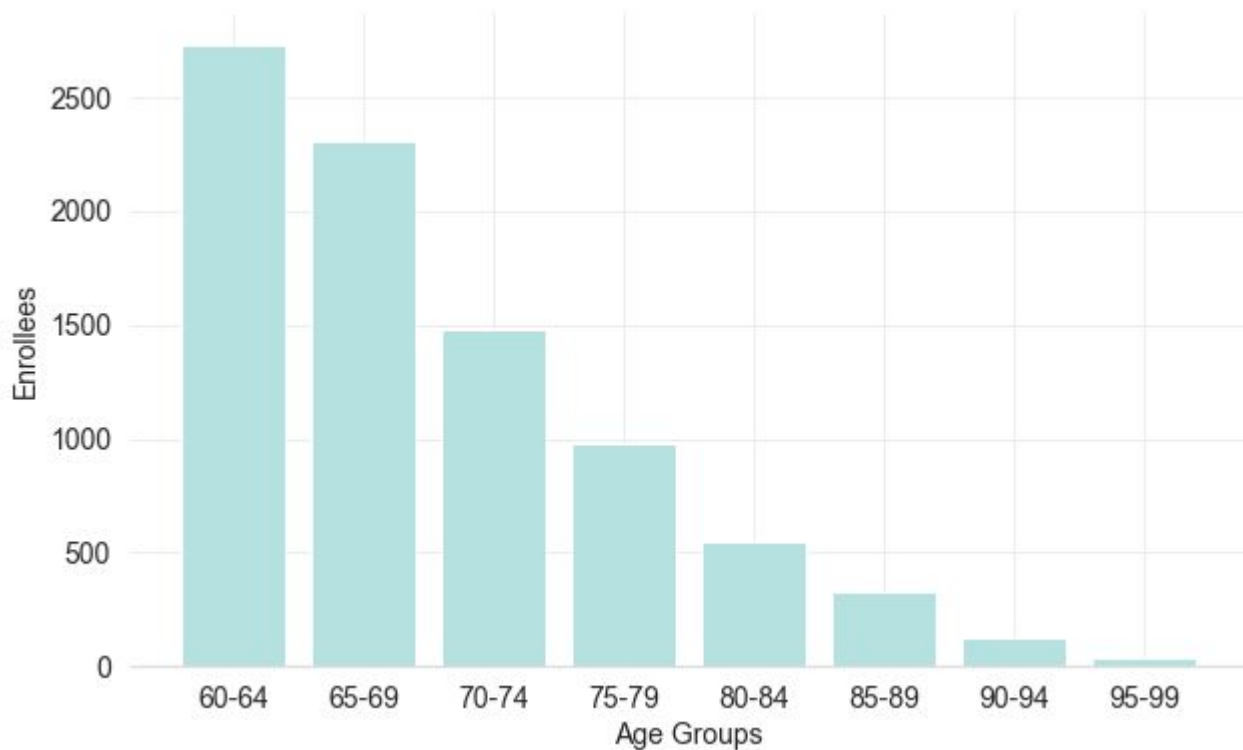
Race and Ethnicity of Enrollees
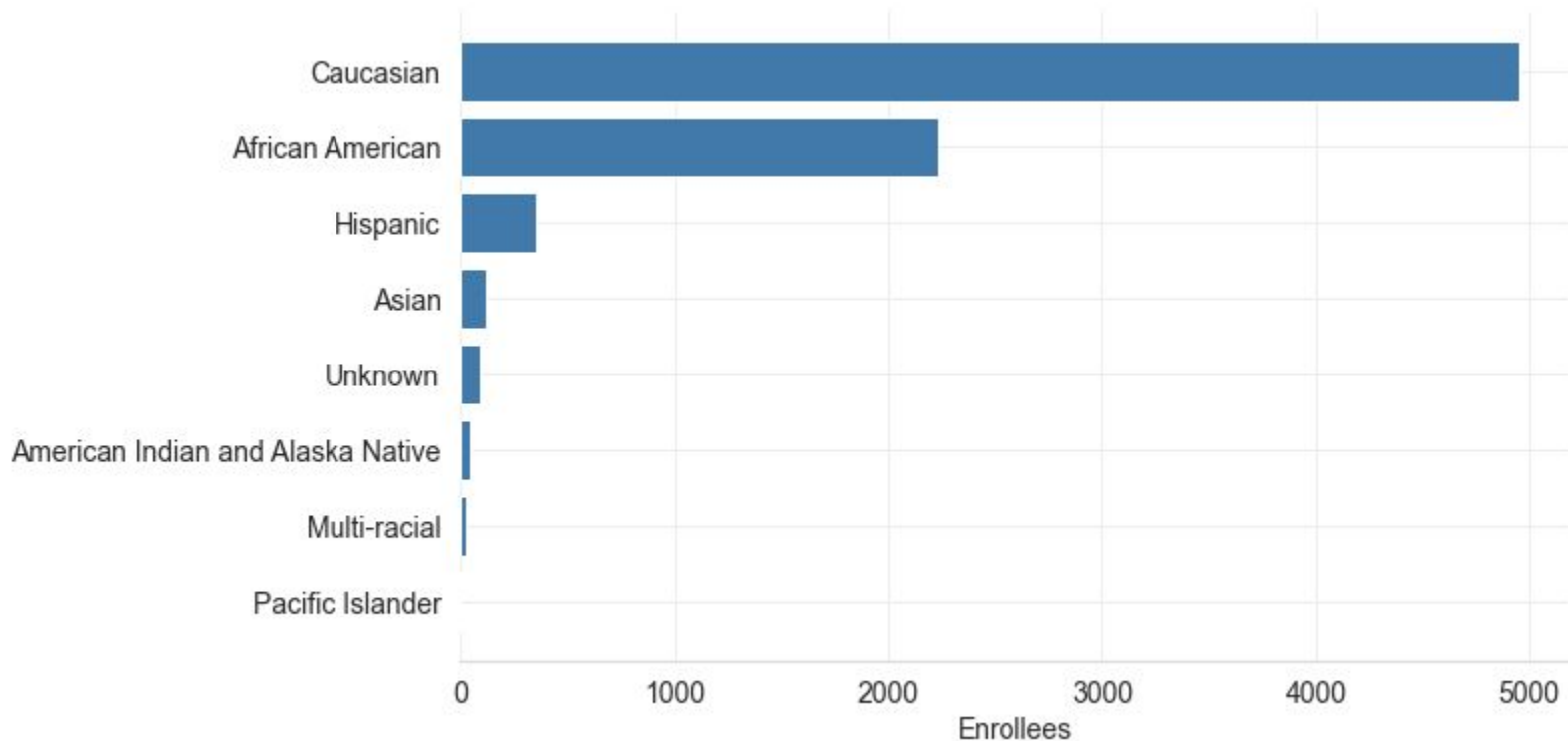
Pre-Screening Questions: Quality of Teeth

Does the appearance of your mouth affect your quality of life?
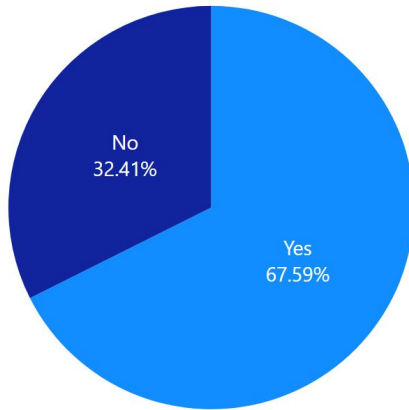
Are You Limited in What You Can Eat?

No 32.41%

Yes 67.59%

No 42%

Yes 58%
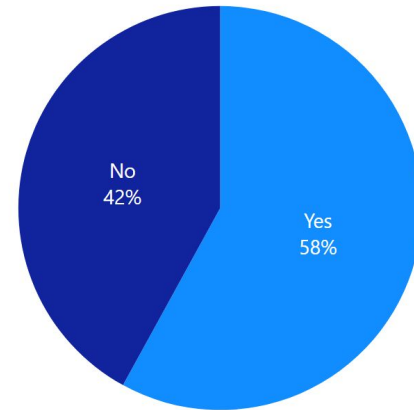
Years Since Last Dental Visit
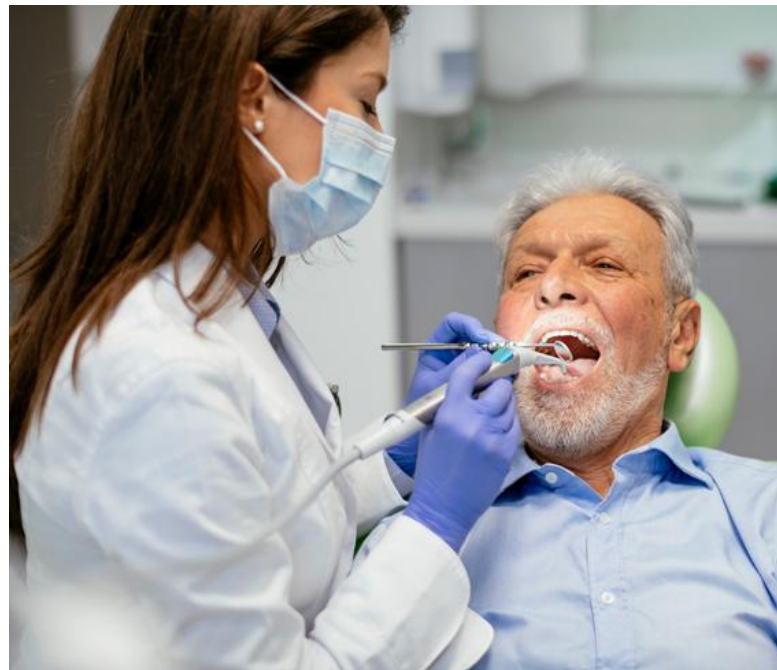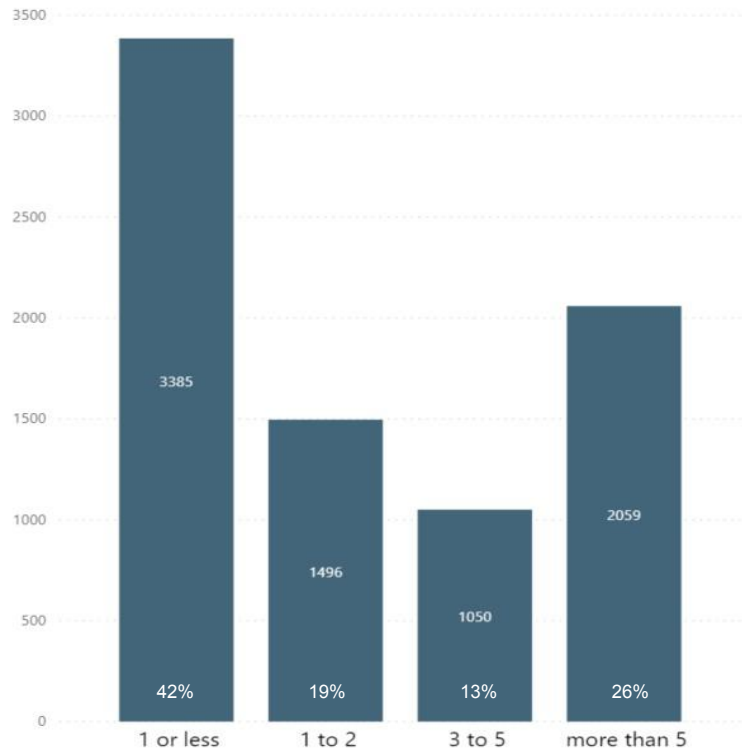
Program Effectiveness

Success Metrics

- Most prevalent dental procedures
- Have patients continued to use the Smile On Program - found a dental home
- Has quality of life improved?
  - Number of treatment plans completed each month
  - Number of patients restored to function

Most Common Procedures
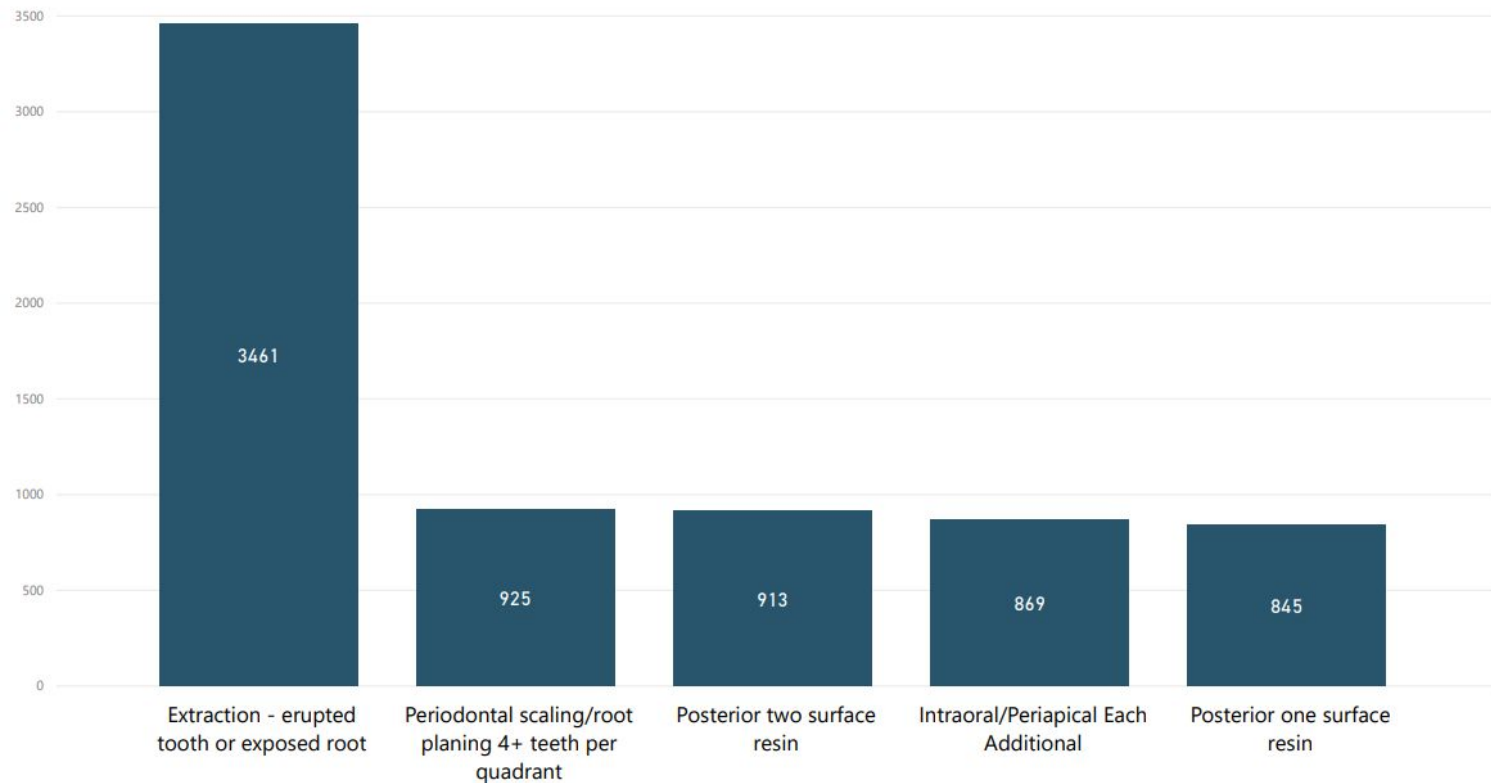
Finding a "Dental Home"
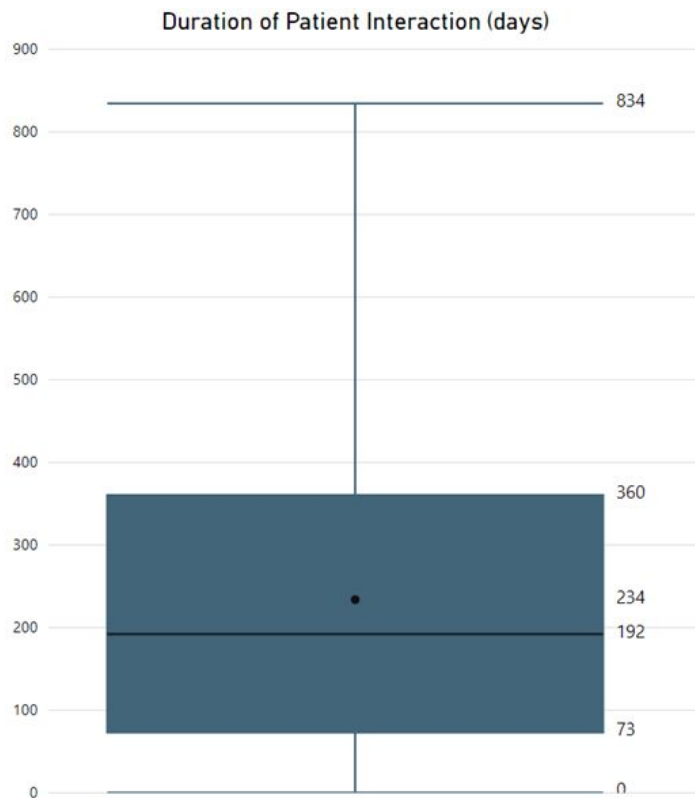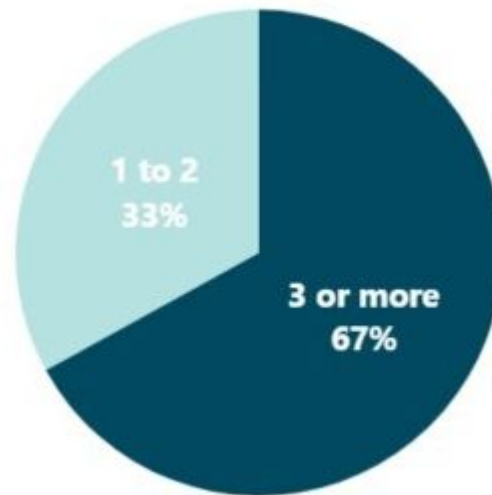
Treatment Plan Complete + Function Restored vs. Volume

2019 Success Rate/Volume by Month

● Success Rate   ● Encounter Volume

188

Average of Encounter Volume

2020 Success Rate/Volume by Month

● Success Rate   ● Encounter Volume

194

Average of Encounter Volume

Clinic Locations with the Most Restored Patients
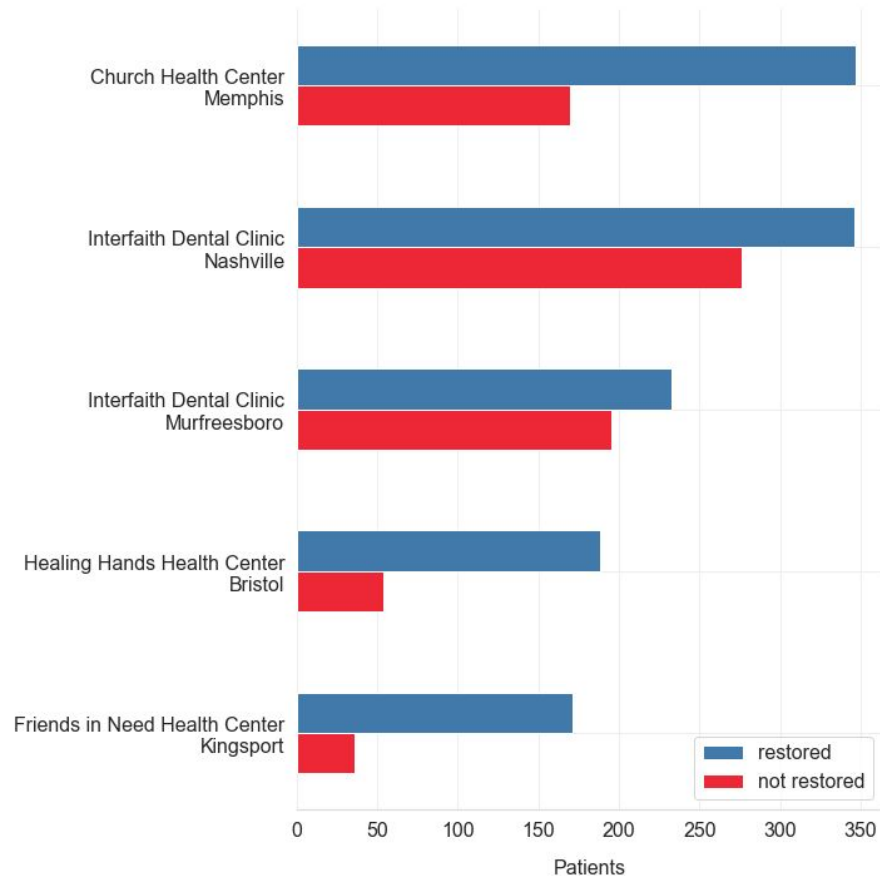
Restored based on clinic's response to the question:

'Was the enrollee able to be restored to function (can chew) and "social six" esthetics (top front six teeth are present and disease free)'

SMILE ON 60+
Program Opportunities

Percentage of Adults Over Age 65 with Complete Tooth Loss
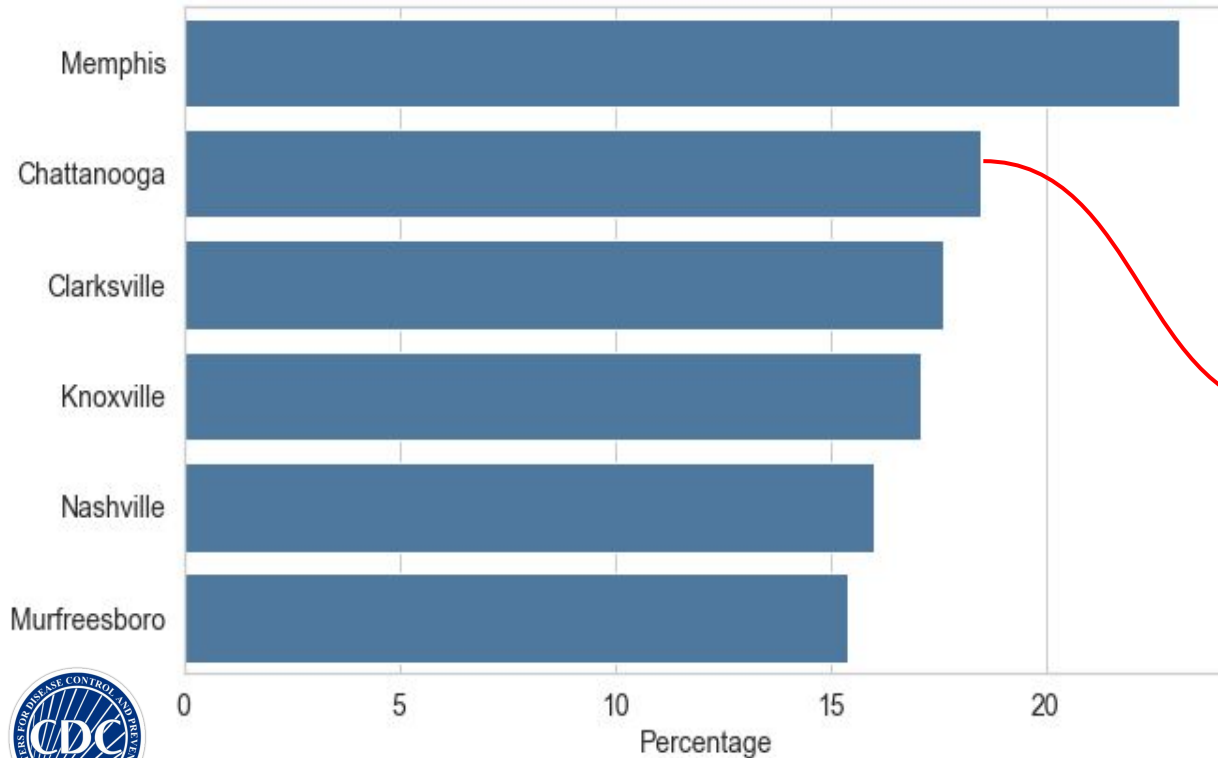
City	Smile On Patients
Memphis	1424
Nashville	1142
Murfreesboro	406
Knoxville	386
Clarksville	120
Chattanooga	18

*Total Number of Smile On Patients who live in each city

Population of Adults Over 65 Living Below the Federal Poverty Line
(30 mile radius from a provider partner clinic)
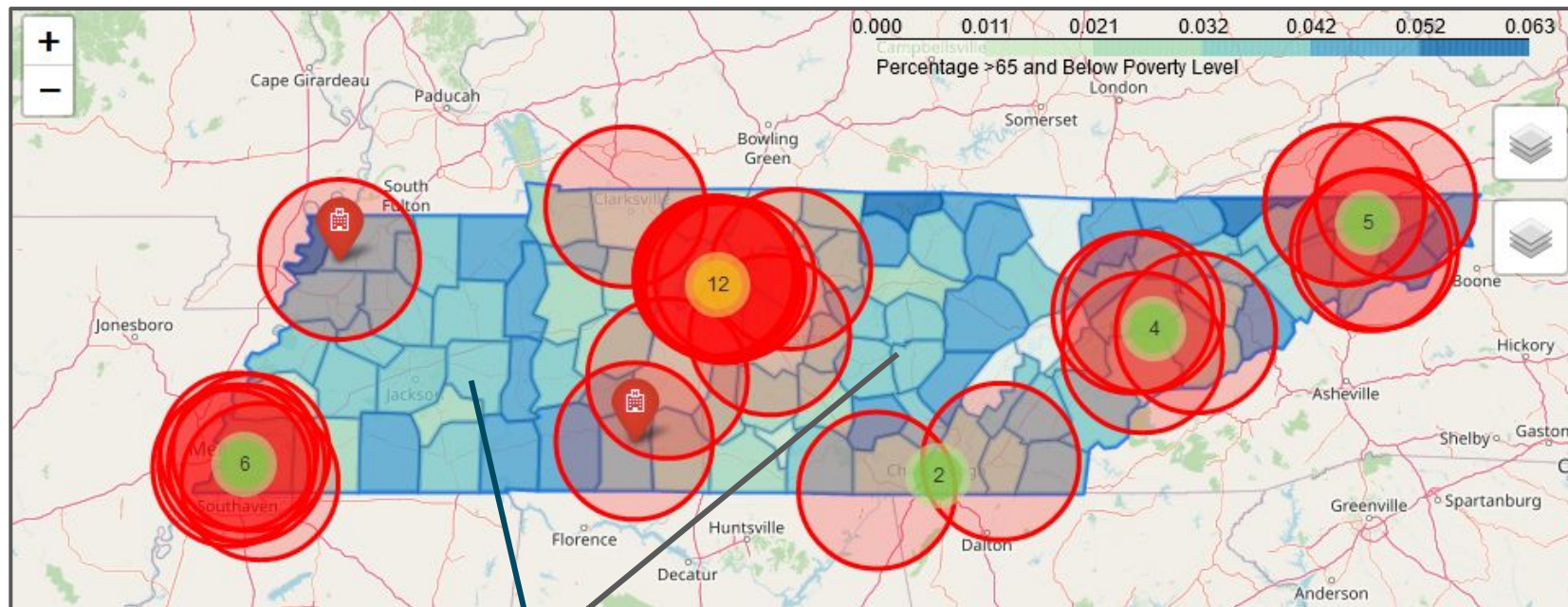
http://data-playground.com/dda2/jdcg_age_poverty_map.html

Potential gaps in coverage

Big Four Factors Contributing to Tooth Loss

The American Dental Association identified the following factors:

- Excessive Alcohol Consumption - 5 or more drinks for men or 4 or more drinks for women in the span of 2 hours
- Smokers - The percentage of adults who smoke daily
- Obesity - Calculated by a combination of self reporting and CDC data, finding adults who report a BMI > 30
- Inactivity - Physical inactivity is the percentage of adults ages 20 and over who reported no leisure-time physical activity in the past month.

Big Four by County

Population Impacted by Big 4 Factors Contributing to Tooth Loss
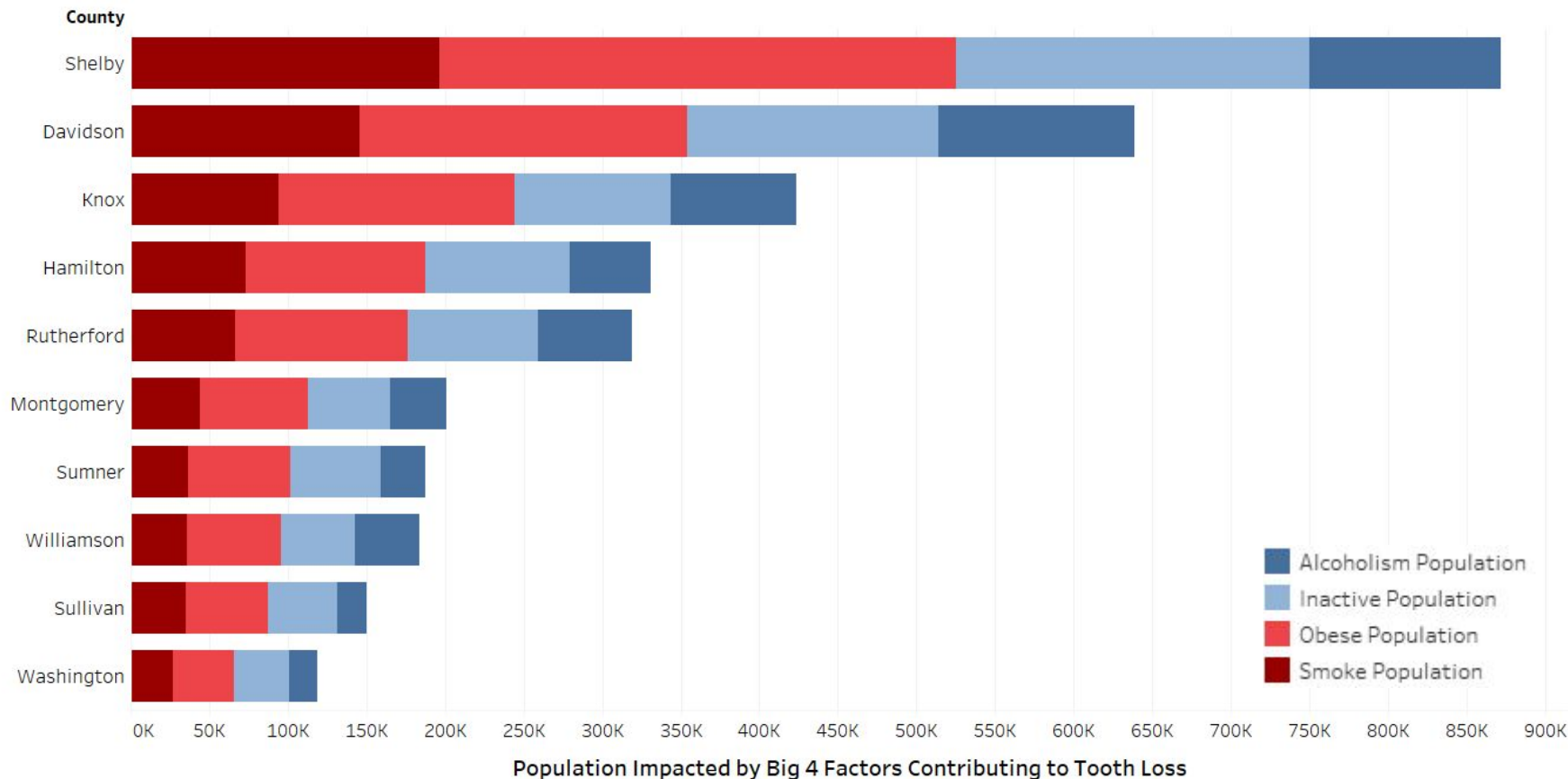
Big Four: Excessive Alcohol Consumption
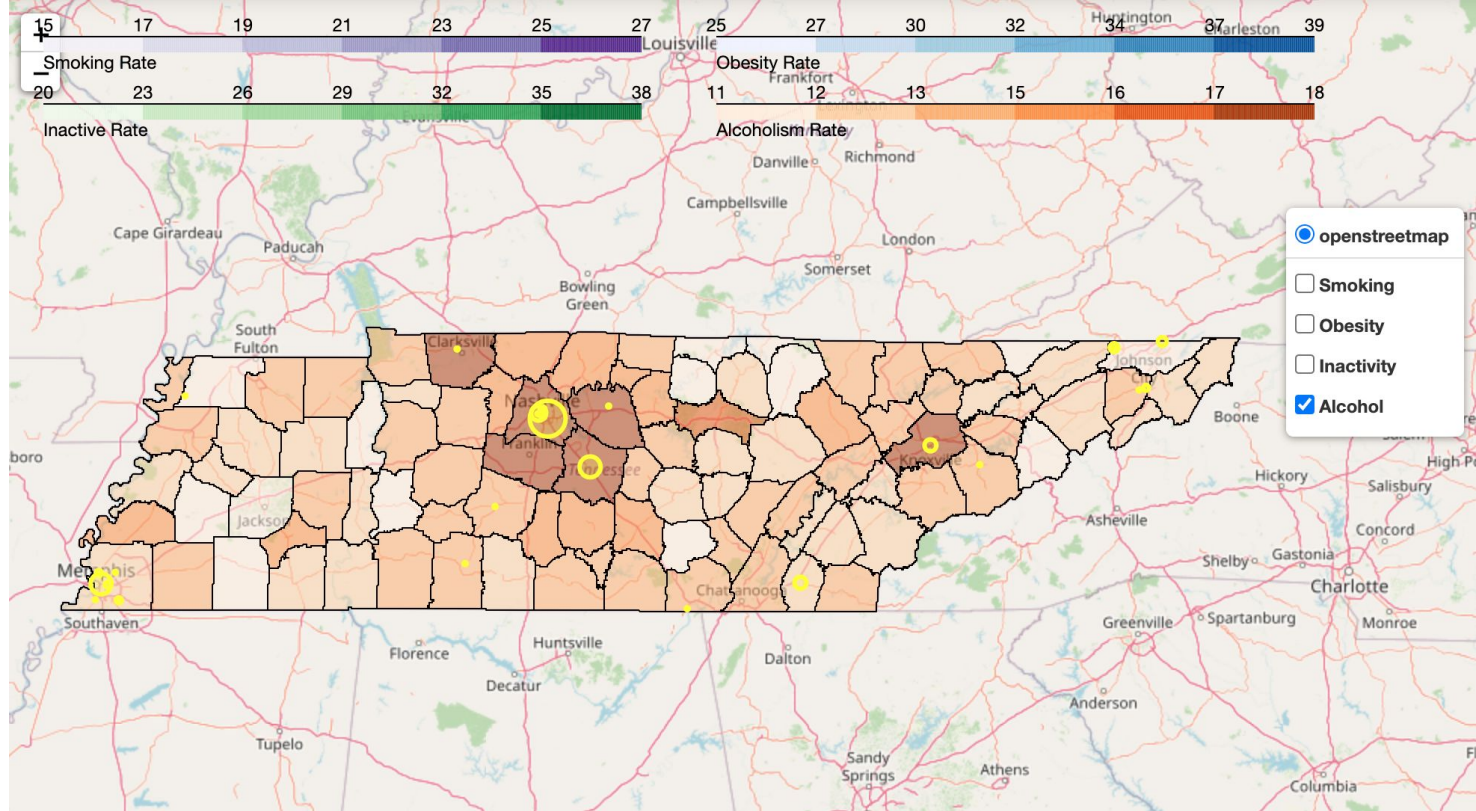
Excessive alcohol consumption is a pattern of binge drinking, or 4+ drinks in a 2 hour window multiple times per week.

Big Four: Inactivity
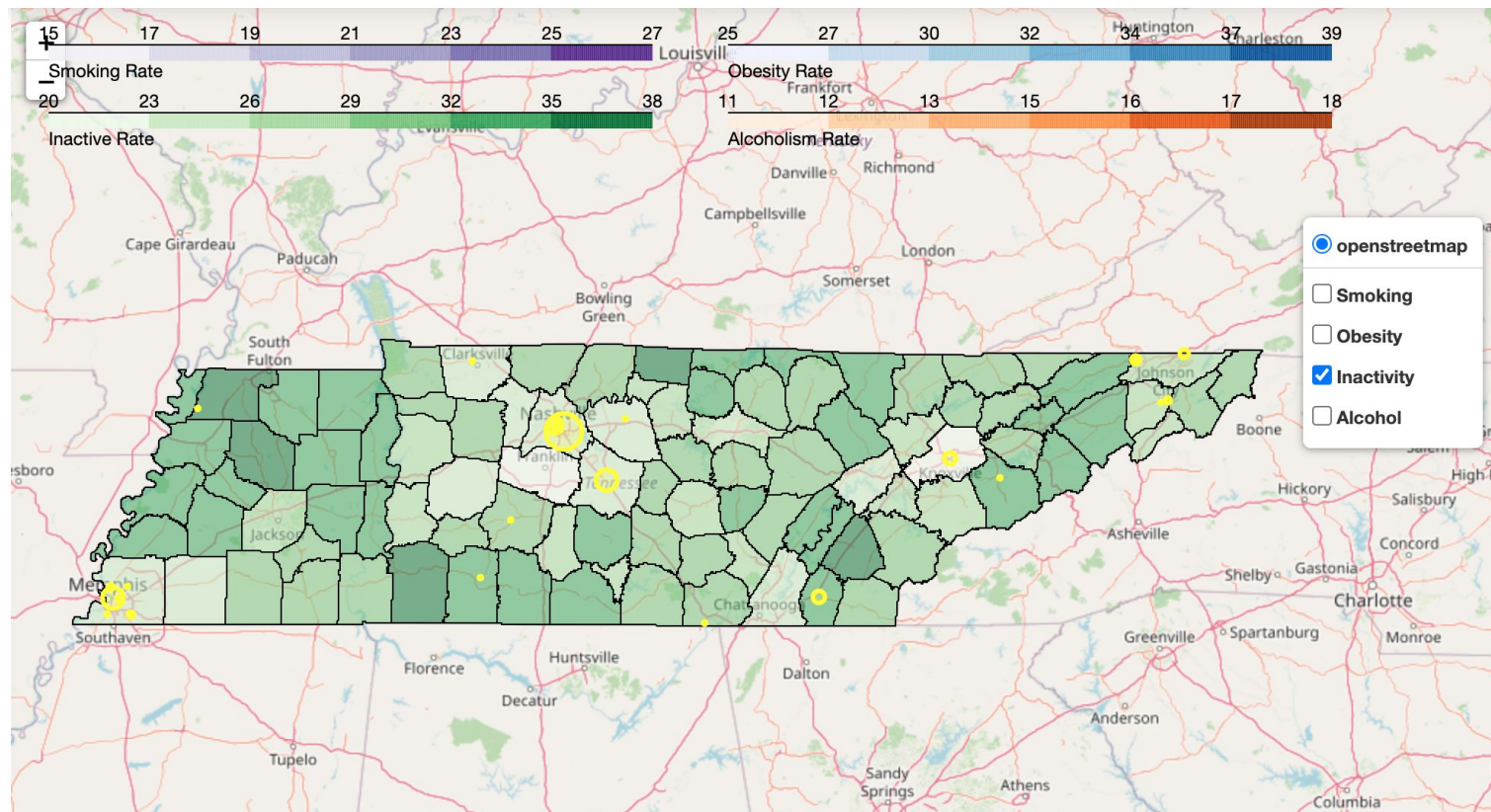
Physical inactivity is the percentage of adults ages 20 and over who reported no leisure-time physical activity in the past month.

Big Four: Obesity
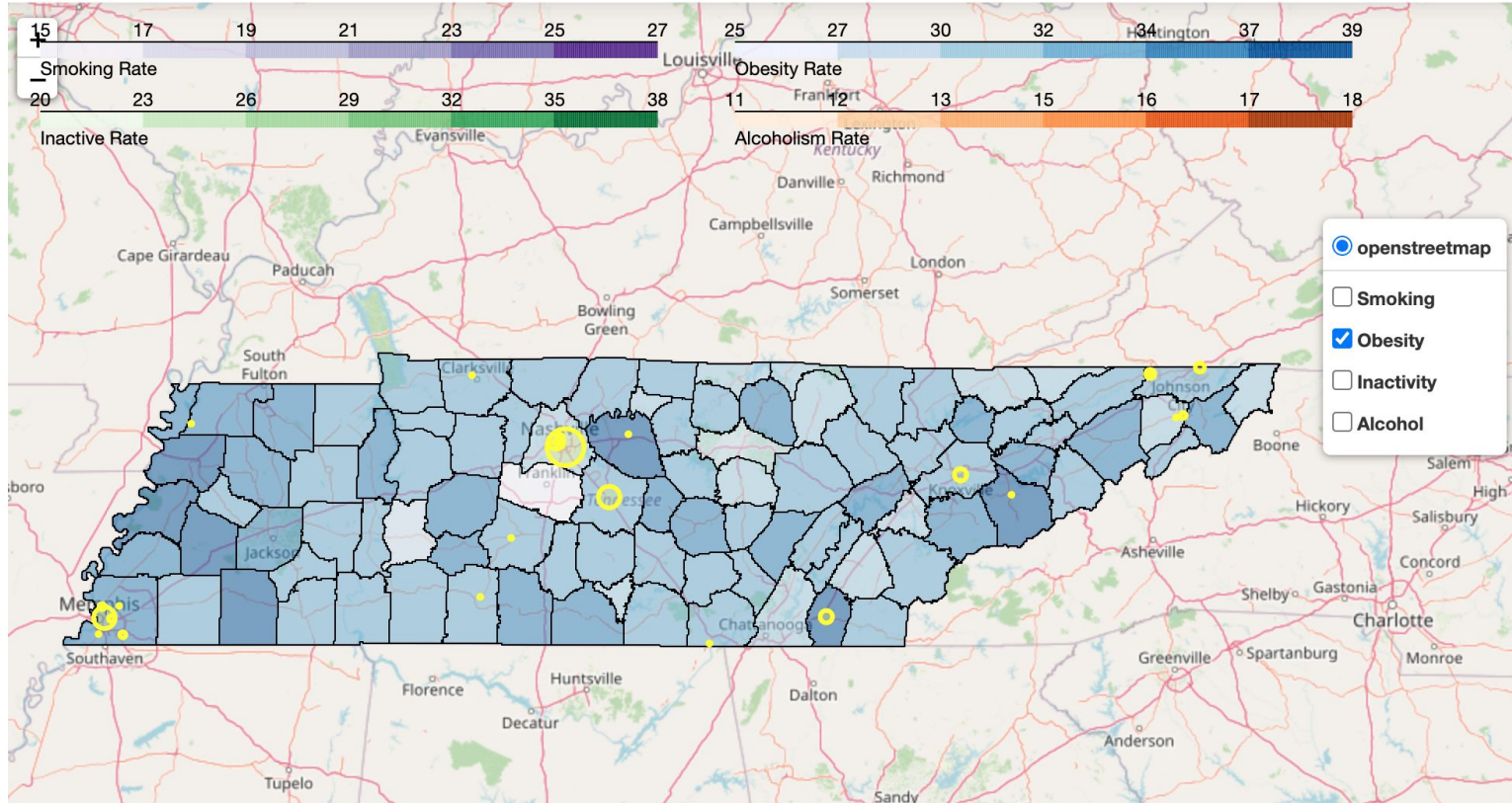
Adult obesity is calculated by a combination of self reporting and CDC data, finding adults who report a BMI within the index.

Big Four: Smoking
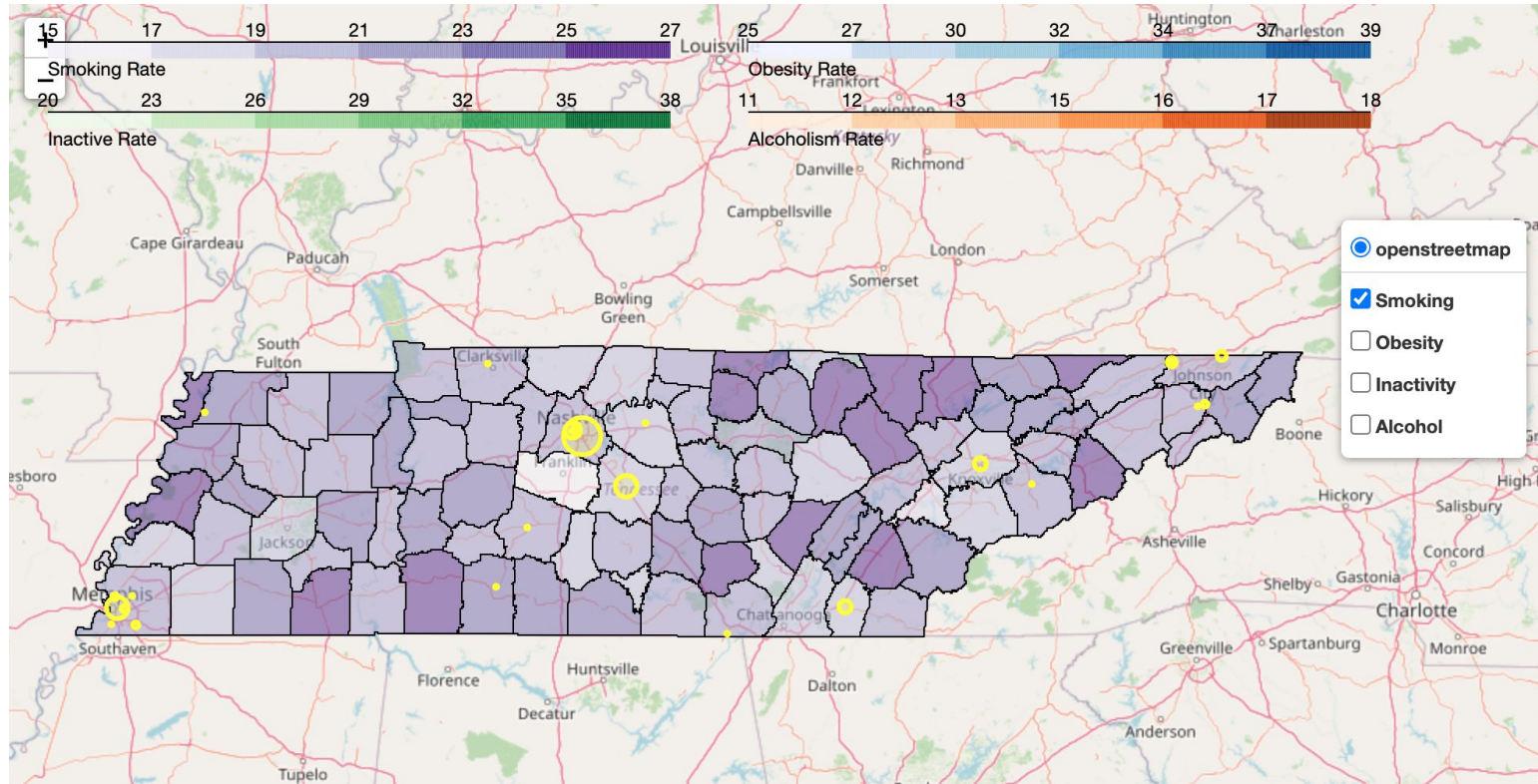
The smoking percentage is defined as the percentage of county adults who smoke daily.

Interactive Maps

Age_Poverty_Map: http://data-playground.com/dda2/jdcg_age_poverty_map.html

Big_Four_Map: http://data-playground.com/dda2/mia_big_four_map.html

Data Collection

Answer Completion Rate - Overall 49.6%

How often do clinics answer these three questions during patient visits?

- Is the treatment plan completed?
- Was a treatment plan created?
- Was the enrollee able to be restored to function?

Answer Completion Rate = $\dfrac{\text{How many non-blank entries were recorded for the above questions}}{\text{The total possible answers that could have been recorded}}$

Answer Completion Rate by Clinic

Treatment Facility

Treatment Facility	Completion Rate
Matthew Walker - Nashville	75%
Friends in Need - Kingsport	72%
Christ Community - Hickory Hill	69%
Matthew Walker - Clarksville	63%
Interfaith Health - Knoxville	63%
Keystone Dental - Johnson City	61%
Church Health Center - Memphis	61%
Smiles Inc. - South Pittsburg	60%
Christ Community - Broad Avenue	60%
TDH - Lawrence Co	57%
Trinity Health Ministries	53%
Healing Hands - Bristol	52%
Karis Dental Clinic - Cleveland	49%
Christ Community - Third Street	48%
Northeast Tennessee - Johnson City	43%
Reelfoot Ministries - Obion	42%
Interfaith Dental - Murfreesboro	42%
Interfaith Dental - Nashville	41%
Appalachian Miles - Mobile	40%
Christ Community - Raleigh	39%
Neighborhood Health - Eastside	33%
Meharry Mobile Dental	31%
Neighborhood Health - Lebanon	23%
Neighborhood Health - Cleveland Park	22%
Neighborhood Health - Napier	20%
Christ Community - Frayser	20%
Mountain Hope Good Shepherd	18%
Neighborhood Health - Mission	17%
TDH - Maury Co	10%
Knox County CAC - Knoxville	0%
Fifty Forward - Nashville	0%

Answer Completion Rate - Top 5 & Bottom 5

Top 5 Answer Completion

Matthew Walker Comprehensive Health Center Inc. - Nashville	75%
Friends in Need Health Center - Kingsport	72%
Christ Community Health Services- Hickory Hill	69%
Interfaith Health Clinic of Knoxville - Knoxville	63%
Matthew Walker - Clarksville	63%

Bottom 5 Answer Completion

Mountain Hope Good Shepherd Clinic	18%
Neighborhood Health - Mission/Nashville	17%
TDH - Maury Co	10%
Fifty Forward - Nashville	0%
Knox County CAC/Office on Aging - Knoxville	0%

Summary

Conclusion:
- Smile On 60+ program is effective in improving the quality of life for seniors
- Opportunity for program in rural areas

Recommendation:
- Need for more complete data collection from clinics

Group GitHub Repositories

https://github.com/NSS-Full-Time-Data-Analytics-2/smile-on-spiderman

https://github.com/NSS-Full-Time-Data-Analytics-2/smile-on-black_panther

https://github.com/NSS-Full-Time-Data-Analytics-2/smile-on-aquaman

https://github.com/NSS-Full-Time-Data-Analytics-2/smile-on-hulk

https://github.com/NSS-Full-Time-Data-Analytics-2/smile-on-lava-girl

https://github.com/NSS-Full-Time-Data-Analytics-2/smile-on-ironman

Sources

Smile On 60+ data provided by Ben Shuler on November 30, 2020

CMS Physician and Other Supplier Payments:
https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Provider-Charge-Data/Physician-and-Other-Supplier2017

Healthcare Common Procedure Coding System (HCPCS) - Ambulatory Payment Classification (APC) Crosswalk:
https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalOutpatientPPS/Addendum-A-and-Addendum-B-Updates

CDC Teeth Loss: https://chronicdata.cdc.gov/500-Cities-Places/500-Cities-Local-Data-for-Better-Health-2019-relea/6vp6-wxuq/data

TN State of Aging Report (2019):https://www.tn.gov/aging/administration/forms-and-publications/2019-state-of-aging-in-tennessee.html

Tennessee Health Rankings (2020): https://www.countyhealthrankings.org/app/tennessee/2020/overview

CMS Visits (2016-2017) versus Smile On Calls (2018-2019) by City

● Smile On Calls ● CMS Visits
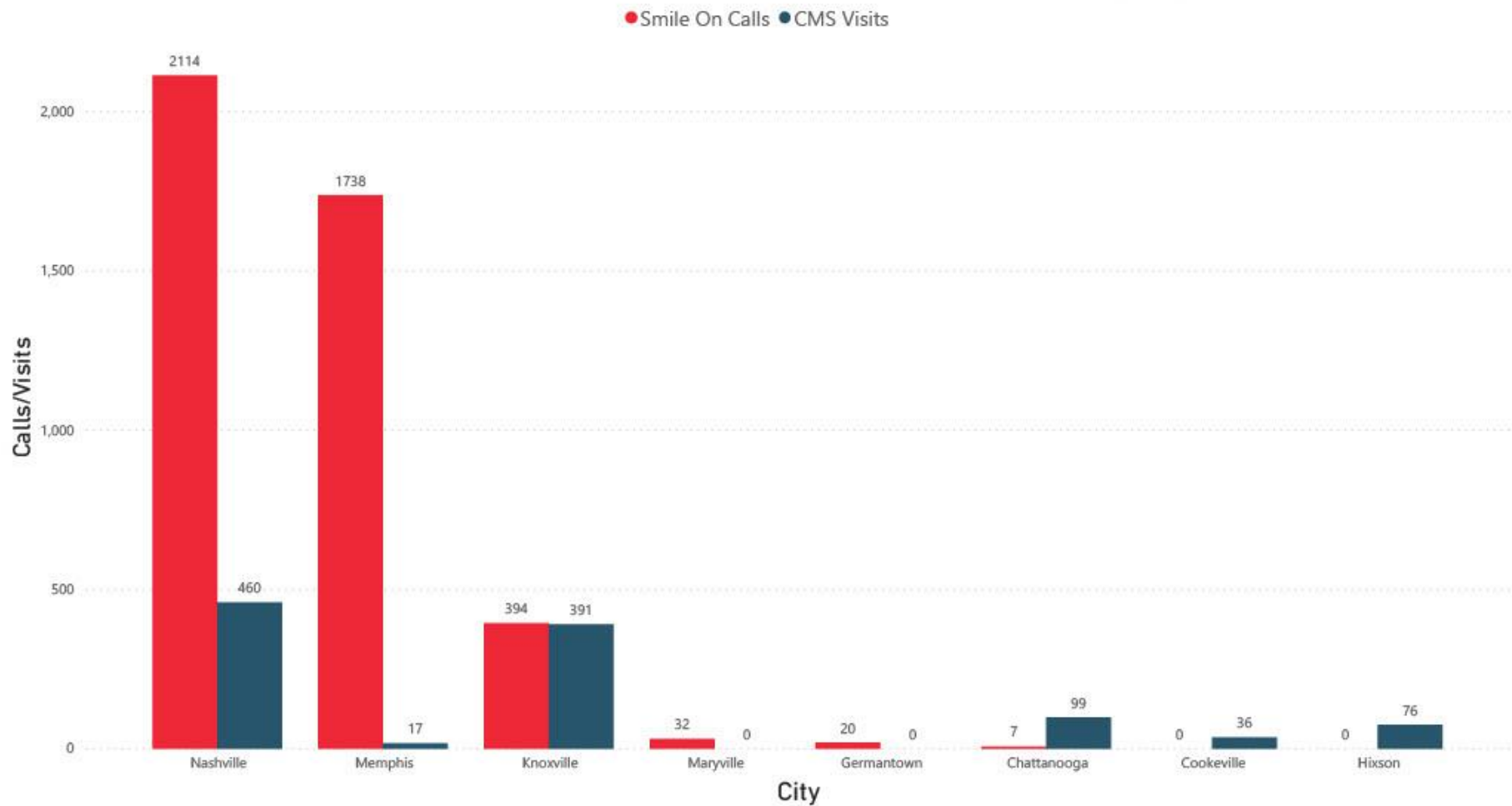
Medicare Coverage for CMS Visits