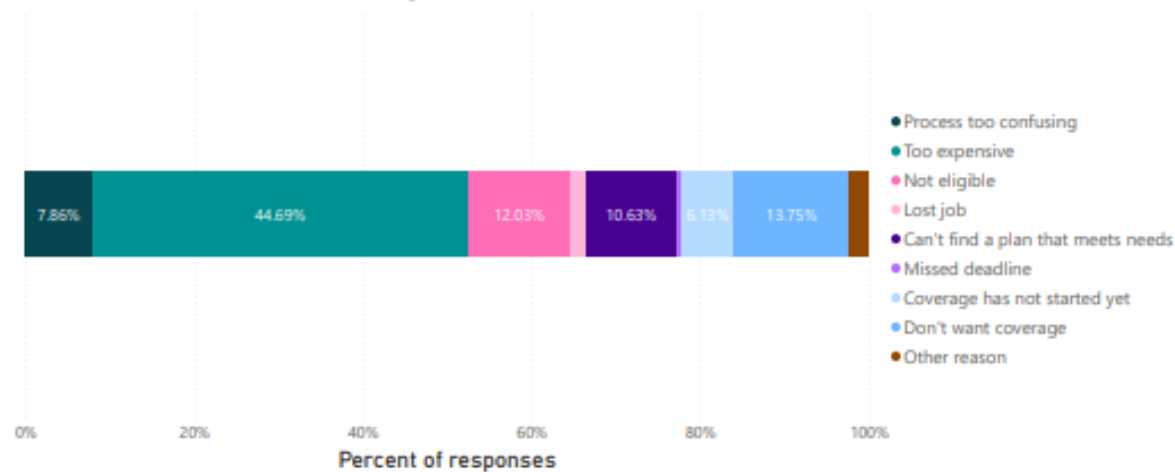# Characteristics of Health Insurance and Access to Care in the United States and Minnesota

Sufficient access to healthcare as defined for this work includes people who do not delay or avoid seeking healthcare services due to cost or location. Uninsured as defined for this work includes those who do not have health insurance and insured means people who do have health insurance.

Some questions that we developed include: how do uninsurance rates vary among demographics such as race, age, sex, income, educational attainment, and citizen status? How does access to healthcare vary nationally? Does access to care vary among Minnesota counties? Can we predict which areas will have more or less coverage based on demographics, income, population count, or other factors?
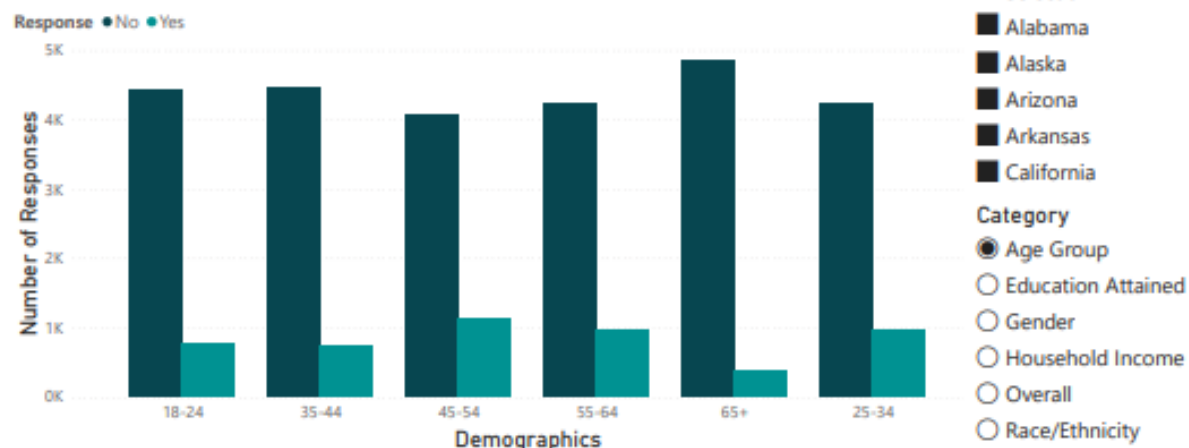
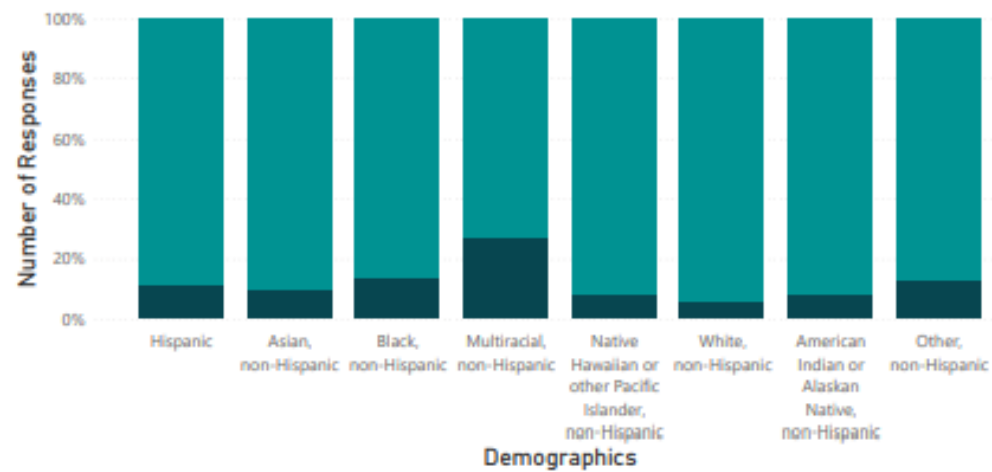## *National*

Reasons Americans Lack Coverage

Legend:
- Process too confusing
- Too expensive
- Not eligible
- Lost job
- Can't find a plan that meets needs
- Missed deadline
- Coverage has not started yet
- Don't want coverage
- Other reason

Bar values: 7.86%, 44.69%, 12.03%, 10.63%, 6.13%, 13.75%

X-axis: Percent of responses (0%, 20%, 40%, 60%, 80%, 100%)

Income Group

1: $0 to $34,999	3: $50,000 to $74,999	5: $100,000 or greater
2: $35,000 to $49,999	4: $75,000 to $99,999	

Has cost prevented you from seeking medical care anytime in the last 12 months?

Response ● No ● Yes

Y-axis: Number of Responses (0K, 1K, 2K, 3K, 4K, 5K)
X-axis: Demographics (18-24, 35-44, 45-54, 55-64, 65+, 25-34)

StateName
- ■ Select all
- ■ Alabama
- ■ Alaska
- ■ Arizona
- ■ Arkansas
- ■ California

Category
- ◉ Age Group
- ○ Education Attained
- ○ Gender
- ○ Household Income
- ○ Overall
- ○ Race/Ethnicity

Do you have any kind of health care coverage?

Response ● No ● Yes

Number of Responses (y-axis): 100%, 80%, 60%, 40%, 20%, 0%

Demographics (x-axis): Hispanic; Asian, non-Hispanic; Black, non-Hispanic; Multiracial, non-Hispanic; Native Hawaiian or other Pacific Islander, non-Hispanic; White, non-Hispanic; American Indian or Alaskan Native, non-Hispanic; Other, non-Hispanic
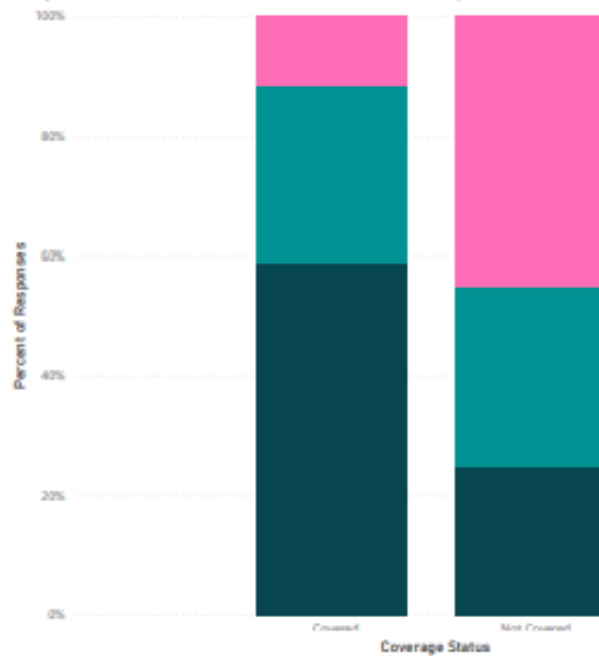
StateName
- California
- Colorado
- Connecticut
- DC
- Delaware
- Florida

Category
- ○ Age Group
- ○ Education Attained
- ○ Gender
- ○ Household Income
- ○ Overall
- ● Race/Ethnicity

Worry over healthcare cost by coverage status

Worry over healthcare cost ● Not worried ● Somewhat worried ● Very worried

Percent of Responses (y-axis): 100%, 80%, 60%, 40%, 20%, 0%

Coverage Status (x-axis): Covered, Not Covered

Coverage status by respondent's place of birth

Coverage Status ● Covered ● Not Covered

Coverage Status (y-axis): 100%, 80%, 60%, 40%, 20%, 0%

Place of birth (x-axis): Born in US, Not Born in US
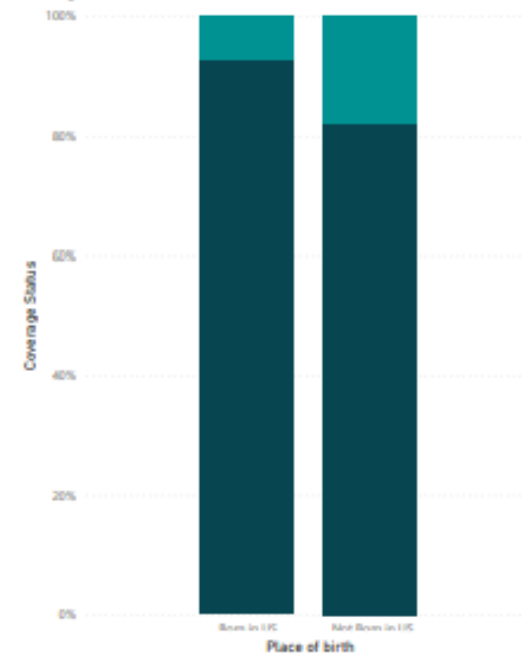
State Name

☐ Select all

☐ Alabama

☐ Alaska

Average Percent Uninsured by Age Group

Sex ● Both Sexes ● Female ● Male

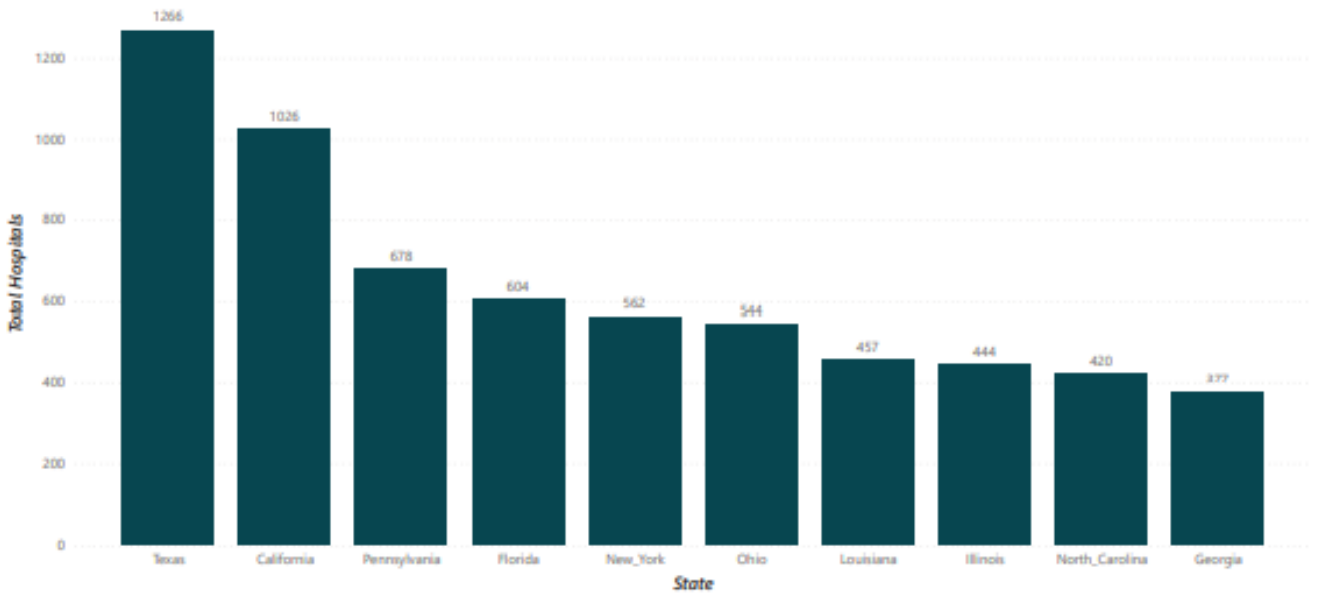## Average Percent Uninsured by State
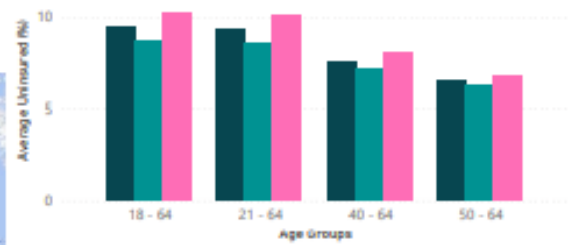
Average Percent Uninsured by Income Level

Sex ● Both Sexes ● Female ● Male
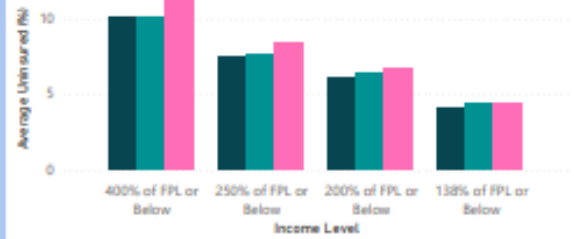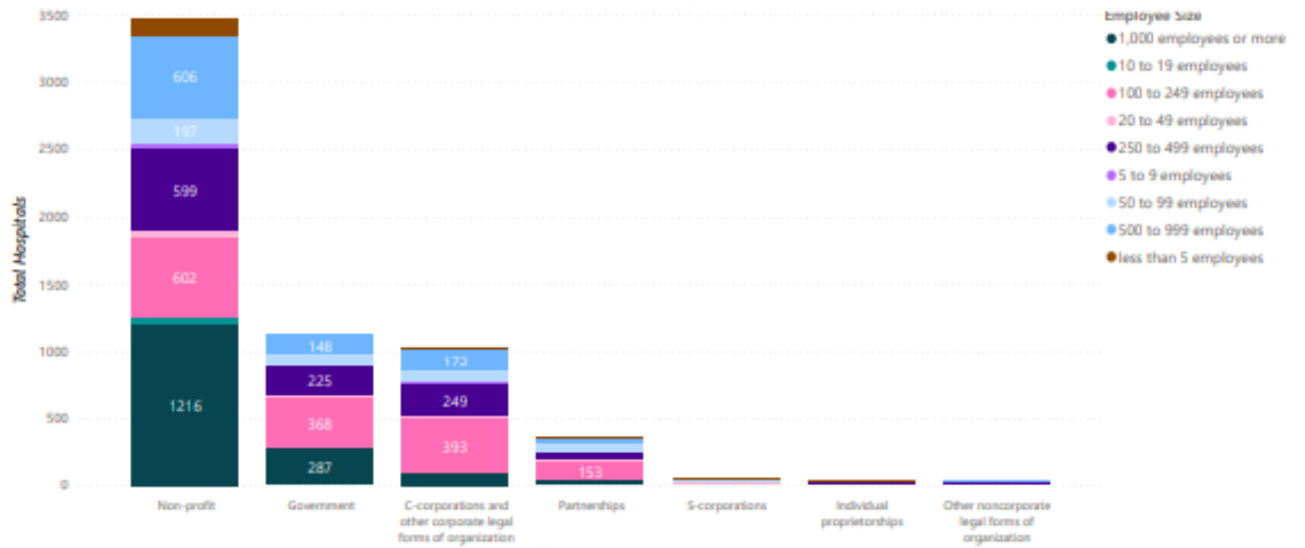

Note: FPL refers to Federal Poverty Line

Top 10 States by Total Hospitals and Type of Hospital

Different Hospital Types

All establishments	C-corporations and other corporate legal	Government	Individual proprietorships	Non-profit	Other noncorporate legal forms of	Partnerships	S-corporations

Total Hospitals by Hospital Type and Employee Size

Employee Size
- 1,000 employees or more
- 10 to 19 employees
- 100 to 249 employees
- 20 to 49 employees
- 250 to 499 employees
- 5 to 9 employees
- 50 to 99 employees
- 500 to 999 employees
- less than 5 employees

Total Hospitals (y-axis: 0 to 3500)

Non-profit: 606, 197, 599, 602, 1216
Government: 148, 225, 368, 287
C-corporations and other corporate legal forms of organization: 173, 249, 393
Partnerships: 153

Different Hospitals

Different Hospital Types

C-corporations and other corporate legal forms of organization	Government	Individual proprietorships	Non-profit	Other noncorporate legal forms of organization	Partnerships	S-corporations

Machine Learning

Predicted Insurance Category from ML Model

0.82K (12.71%)

Insurance Category
- Insured
- Uninsured

(87.29%)
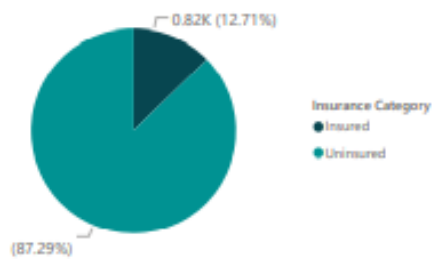
ANOVA Test

ANOVA test was done to see the statistical significant of demographics (age, race, educational attainment, citizen status, and salary) compared to insurance status. Each p value for all ANOVA tests across 5 years were all lower than 0.05 which is the significance level we chose. Thus, each column had a statistically significant effect on insurance status for the years from 2015 to 2019 for the training data.

Actual Insurance Category

Insurance Category
- Insured
- Uninsured

(50%)   (50%)

Minnesota

Average Percent Uninsured by County in Minnesota
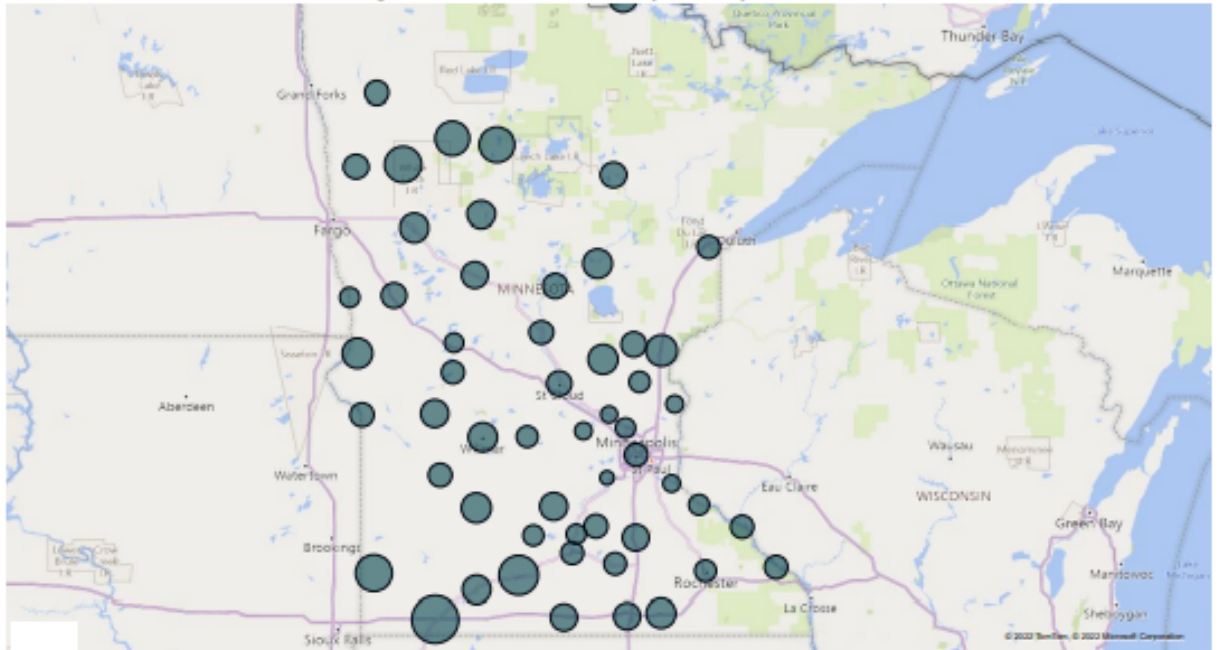
Total Minnesota Hospitals by Type

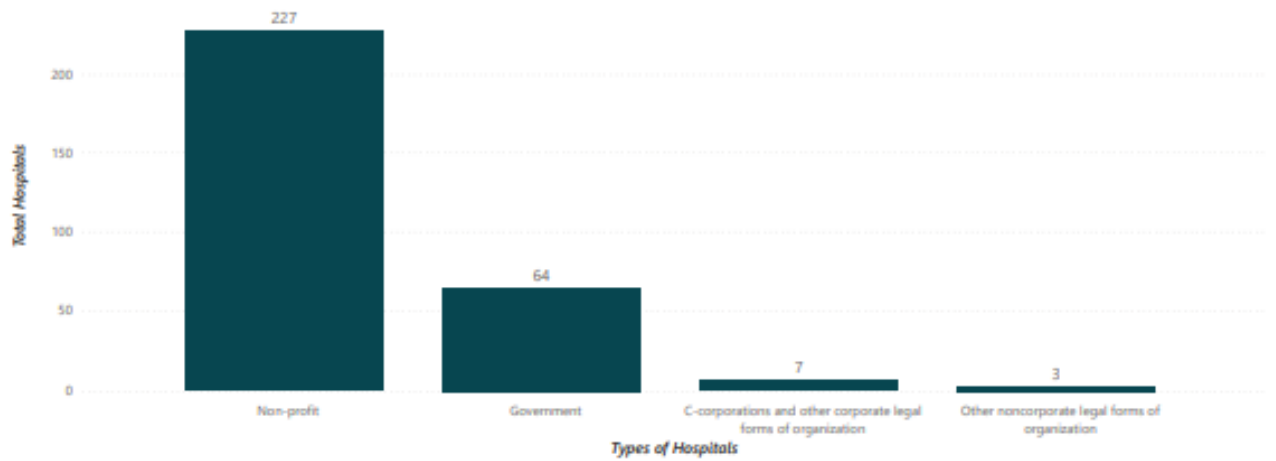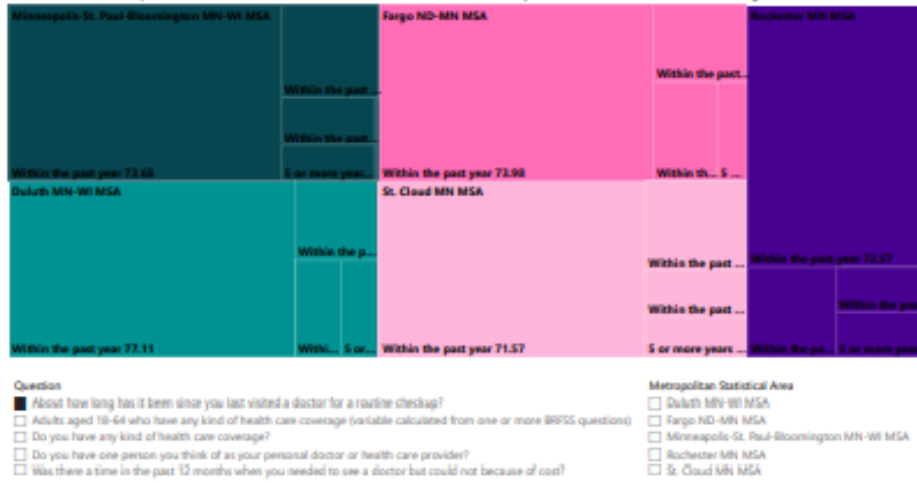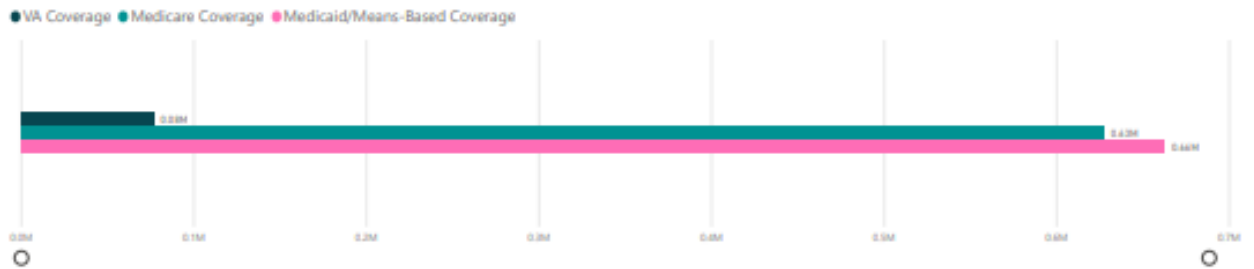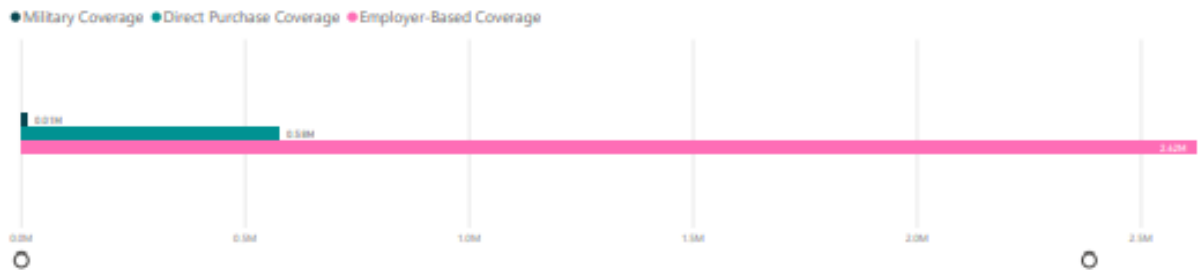## Responses to Insurance-Related Questions in Minnesotan Metropolitan Statistical Areas (in Percentages), 2019

Minneapolis-St. Paul-Bloomington MN-WI MSA		Fargo ND-MN MSA		Rochester MN MSA	
	Within the past ...		Within the past...		
	Within the past...				
Within the past year 73.65	5 or more year...	Within the past year 73.98	Within th... 5 ...	Within th... 5 ...	

Duluth MN-WI MSA		St. Cloud MN MSA			Within the past year 72.57
	Within the p...			Within the past ...	
				Within the past ...	Within the pas...
Within the past year 77.11	Withi... 5 or...	Within the past year 71.57	5 or more years ...	Within the pa... 5 or more year...	

Question

- ■ About how long has it been since you last visited a doctor for a routine checkup?
- ☐ Adults aged 18-64 who have any kind of health care coverage (variable calculated from one or more BRFSS questions)
- ☐ Do you have any kind of health care coverage?
- ☐ Do you have one person you think of as your personal doctor or health care provider?
- ☐ Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?

Metropolitan Statistical Area

- ☐ Duluth MN-WI MSA
- ☐ Fargo ND-MN MSA
- ☐ Minneapolis-St. Paul-Bloomington MN-WI MSA
- ☐ Rochester MN MSA
- ☐ St. Cloud MN MSA

Public Insurance Types by Enrollment Numbers in Select Minnesota Counties

● VA Coverage ● Medicare Coverage ● Medicaid/Means-Based Coverage

- VA Coverage: 0.08M
- Medicare Coverage: 0.63M
- Medicaid/Means-Based Coverage: 0.66M

(axis: 0.0M, 0.1M, 0.2M, 0.3M, 0.4M, 0.5M, 0.6M, 0.7M)

Private Insurance Types by Enrollment Numbers in Select Minnesota Counties

● Military Coverage ● Direct Purchase Coverage ● Employer-Based Coverage

- Military Coverage: 0.01M
- Direct Purchase Coverage: 0.59M
- Employer-Based Coverage: 2.42M

(axis: 0.0M, 0.5M, 1.0M, 1.5M, 2.0M, 2.5M)

Note: These measures include people with more than one type of coverage.

The select counties consist of Anoka, Blue Earth, Carver, Crow Wing, Dakota, Hennepin, Olmsted, Ramsey, Rice, Scott, Sherburne, St. Louis, Stearns, Washington, and Wright Counties.

Private Insurance Enrollment Alone in Select Counties, Minneapolis-St. Paul-Bloomington Combined Statistical Area, 2019


Number of People Enrolled ● 0 - 99,999 ● 100,000 - 199,999 ● 200,000 - 299,999 ● 300,000 - 399,999 ● Over 400,000
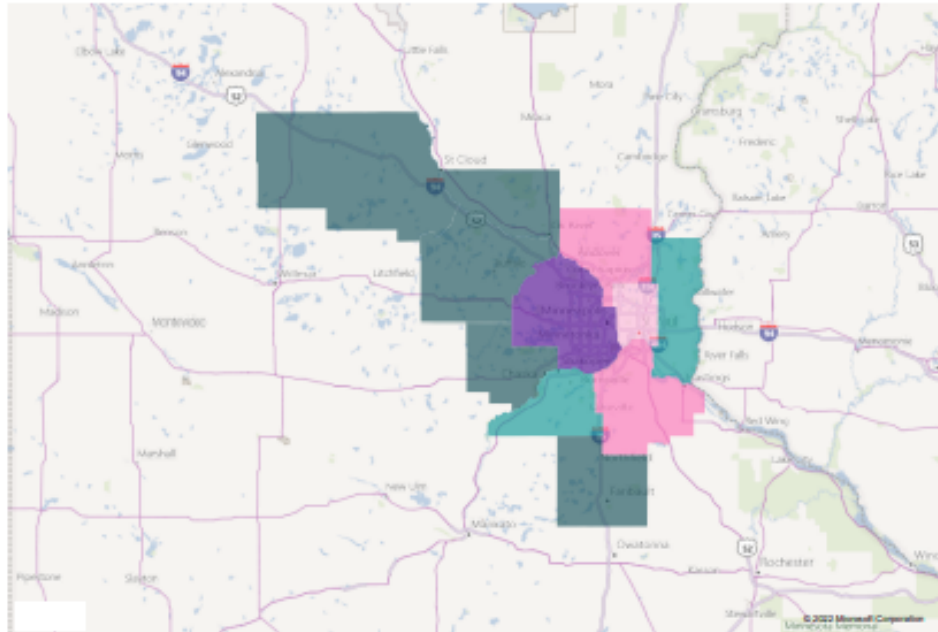
Private Insurance Enrollment

County	Number of People
Hennepin County, MN	796546
Ramsey County, MN	304149
Dakota County, MN	278582
Anoka County, MN	227590
Washington County, MN	176138
Scott County, MN	108380
Wright County, MN	98204
Stearns County, MN	96329
Carver County, MN	76351
Sherburne County, MN	65026
Rice County, MN	39138
Total	**2266433**

Note: Stearns County is also considered part of the St. Cloud Metropolitan Statistical Area.

Employer-Based Insurance Alone or in Combination in Select Counties, Minneapolis-St. Paul-Bloomington Combined Statistical Area, 2019
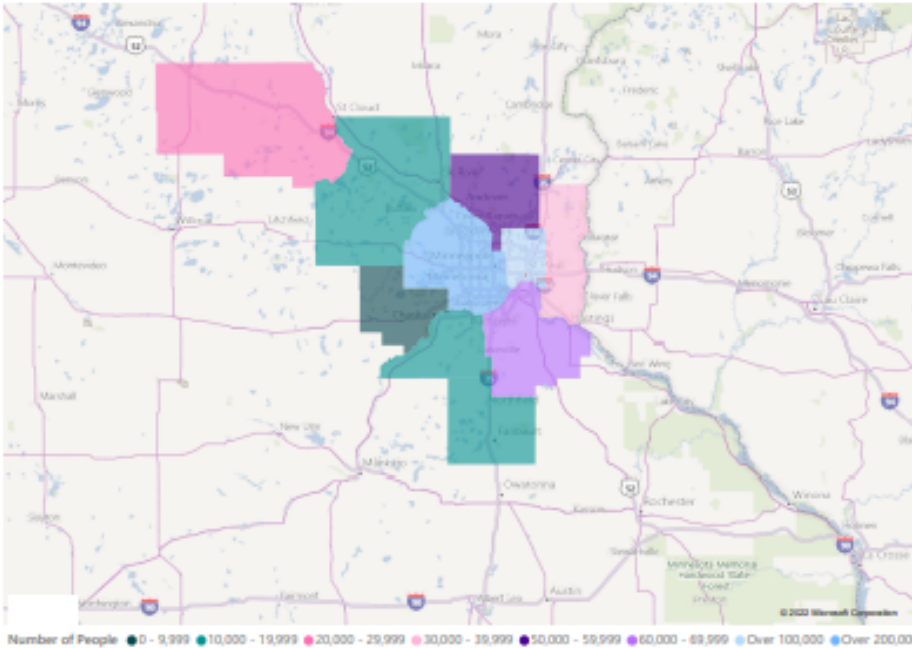

Number of People ● 0 - 99,999 ● 100,000 - 199,999 ● 200,000 - 299,999 ● Over 300,000 ● Over 800,000
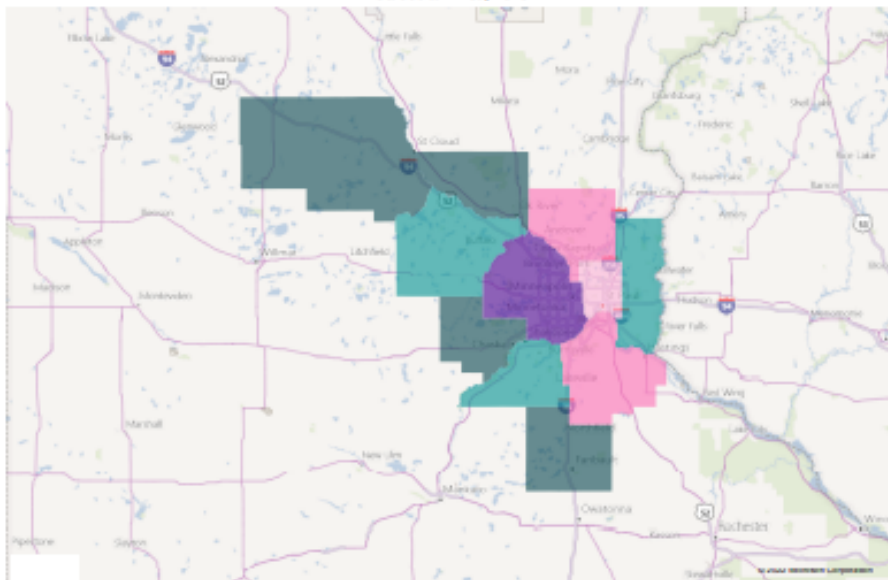
Employer-Based Insurance Enrollment

County	Number of People
Anoka County, MN	234417
Carver County, MN	76914
Dakota County, MN	292971
Hennepin County, MN	803114
Ramsey County, MN	317378
Rice County, MN	39775
Scott County, MN	108173
Sherburne County, MN	65254
Stearns County, MN	97914
Washington County, MN	178932
Wright County, MN	101207
Total	**2316049**

Note: Stearns County is also considered part of the St. Cloud Metropolitan Statistical Area.

Public Insurance Enrollment Alone in Select Counties, Minneapolis-St. Paul-Bloomington Combined Statistical Area, 2019


Number of People ● 0 - 9,999 ● 10,000 - 19,999 ● 20,000 - 29,999 ● 30,000 - 39,999 ● 50,000 - 59,999 ● 60,000 - 69,999 ● Over 100,000 ● Over 200,000

Public Insurance Enrollment

County	Number of People
Hennepin County, MN	220046
Ramsey County, MN	126574
Dakota County, MN	64786
Anoka County, MN	59826
Washington County, MN	32529
Stearns County, MN	28232
Sherburne County, MN	14275
Scott County, MN	14044
Wright County, MN	13078
Rice County, MN	10610
Carver County, MN	9972
Total	**593972**

Note: Stearns County is also considered part of the St. Cloud Metropolitan Statistical Area.

Public Insurance Enrollees Who Worked Fulltime over the Past Year in Select Counties, Minneapolis-St. Paul-Bloomington Combined Statistical Area, 2019

Number of People ● 0 - 9,999 ● Over 10,000 ● Over 30,000
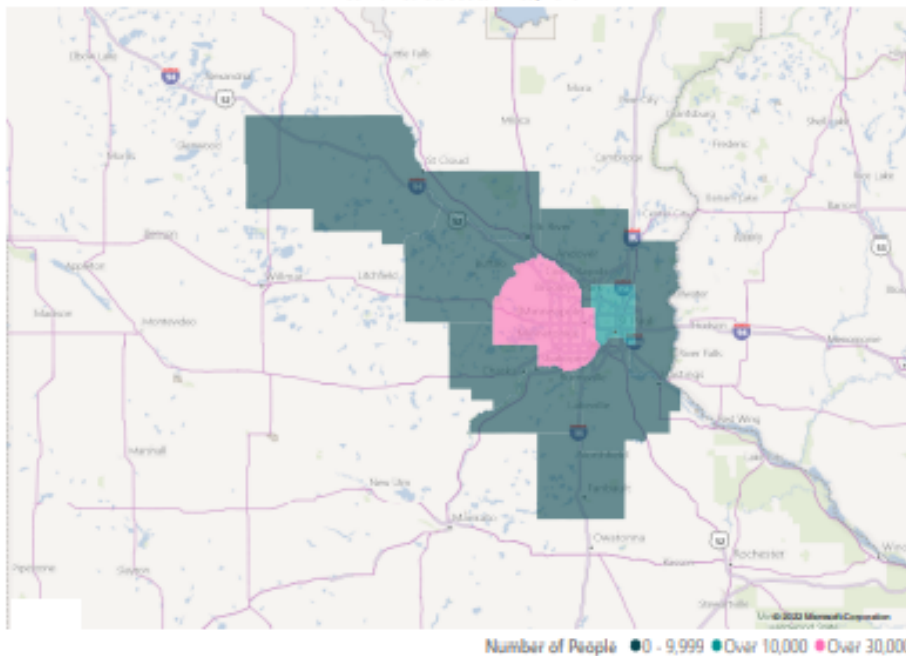
Fulltime Workers with Public Insurance

County	Number of People
Hennepin County, MN	30662
Ramsey County, MN	16856
Dakota County, MN	9231
Anoka County, MN	9076
Stearns County, MN	5558
Washington County, MN	4322
Wright County, MN	2505
Sherburne County, MN	2387
Scott County, MN	1986
Rice County, MN	1249
Carver County, MN	1104
Total	**84936**

Note 1: Stearns County is also considered part of the St. Cloud Metropolitan Statistical Area.

Note 2: Data on whether or not these workers had access to employer-based healthcare was not available.