



SNAP & Healthcare

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WHAT IS SNAP?

SNAP stands for the Supplemental Nutrition Assistance Program in the United States and is implemented and maintained by the government. It replaced the food stamp system in the U.S. which provides food aid for families and individuals who meet a specific set of income and resource requirements.





WHY SNAP ?



As food costs rise and wages stagnate, more and more people have been forced to utilize emergency food services. Right now, millions of people across the United States rely on SNAP due to food insecurity.

Populations that turn to the SNAP program are often the most vulnerable, with little to no income nor the resources to buy nutritious food. This contributes to negative health outcomes such as obesity and diabetes, both of which are prevalent issues that should be addressed. However, seeing medical professionals without insurance can be incredibly costly.

By researching the relationship between SNAP participation and healthcare coverage we hope to discover if the people who need healthcare the most are able to receive it. Additionally, we hope to find out more about who these populations are and how the demand for food assistance (SNAP) has changed over the years.



Target Group

The audience we want to reach are policymakers, government representatives, as well as healthcare professionals.

While the listed professionals most likely already have an awareness of what SNAP is, we hope to give more insight into who the program serves and its relationship to healthcare coverage. Following our research, it would be helpful for leaders in policy to consider a more collective framework of well-being. Instead of just looking at individual public programs when discussing budgets, professionals should keep the bigger picture in mind and consider how participation in one public program often means need for support in other areas of well-being.





Data Sources



SNAP7Years: [USDA Food & Nutrition Service](#)

Healthcare5Years: [United States Census Bureau](#)

SNAP2022Race: [United States Census Bureau](#)

Red/Blue States: [CNN](#)

All of the sources that we drew datasets from were United States government agencies. Since they have data collecting and processing policies set in place, we are relatively confident that the data is reliable and unbiased. We used CNN to code the states as red/blue based on political voting preferences from the 2020 election. Considering that the election results are widespread, it is unlikely that the data on CNN is falsified. Therefore we consider this voting data reliable as well.

The only ethical issues we predict is with using voting data to determine political policy, and labeling it as a possible external factor in our research. This could lead to an overgeneralization of the politics of each state, and perpetuate stereotypes, along with increasing tensions & hostility between political parties.

DATA SETS

SNAP7Years:

SNAP participants in 2023, 2022, 2021, 2020, 2019, 2018, and 2017.

1. SNAP Household Participation : Total household count participating in SNAP
2. SNAP Persons Participation : Total person count participating in SNAP
3. SNAP Total Cost : Total amount the government has spent on SNAP
4. SNAP Cost Per Household
5. SNAP Cost Per Persons

Healthcare5Years:

Public Healthcare coverage in 2022, 2021, 2019, 2018, and 2017.

1. Total: Total population
2. With public health coverage
3. Without public health coverage

SNAP2022Race:

The race is based on the household so there are Mixed or "two or more races".

1. SNAP: Yes ONLY (only included column of households that participate in SNAP)
2. Total : Total population
3. White alone
4. Black or African American alone
5. American Indian alone
6. Alaska Native alone
7. American Indian and Alaska Native tribes specified; or American Indian or Alaska Native, not specified and no other races
8. Asian alone
9. Native Hawaiian and Other Pacific Islander alone



Data Quality

The datasets we utilized did not contain any missing values, which speaks to their quality. Again, given that these datasets have been consistently produced and released by government sources over the years, we can consider them to be credible and trustworthy for our analysis.

1. Non-continuous data

Initially, our aim was to analyze the most recent five years of data. However, we encountered a limitation as the Census healthcare dataset began in 2023 and did not include data for 2020. Conversely, the SNAP dataset commenced in 2022. Consequently, we merged the datasets for the years they had in common: 2022, 2021, 2019, 2018, and 2017. This presents a challenge because the years are not sequentially consistent, potentially affecting the continuity of our analysis. Nevertheless, our objective remained to examine the latest available data over a five-year span.

2. Intended missing data

We aimed to investigate the most current data on race, thus we merged the datasets exclusively for the 2022 SNAP participants by race. Consequently, in the combined dataset, the race data for the years 2021, 2019, 2018, and 2017 appear as NA. However, our original intention was not to analyze these years, so their absence was not a concern for our analysis.

3. Race variables

The racial variables were not distinctly delineated, a reflection of the contemporary understanding that identity can be fluid across a spectrum. Therefore, we concentrated our analysis on the primary racial categories available in the dataset: White, Asian, African-American, and Indigenous peoples.

Research Questions

01

Do states with the highest SNAP participation also reflect the highest public healthcare coverage?

02

Does being a primarily red or blue state affect SNAP cost and public healthcare coverage?

03

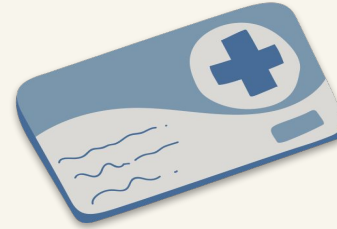
Which racial group participates in the SNAP program the most amongst different states?

04

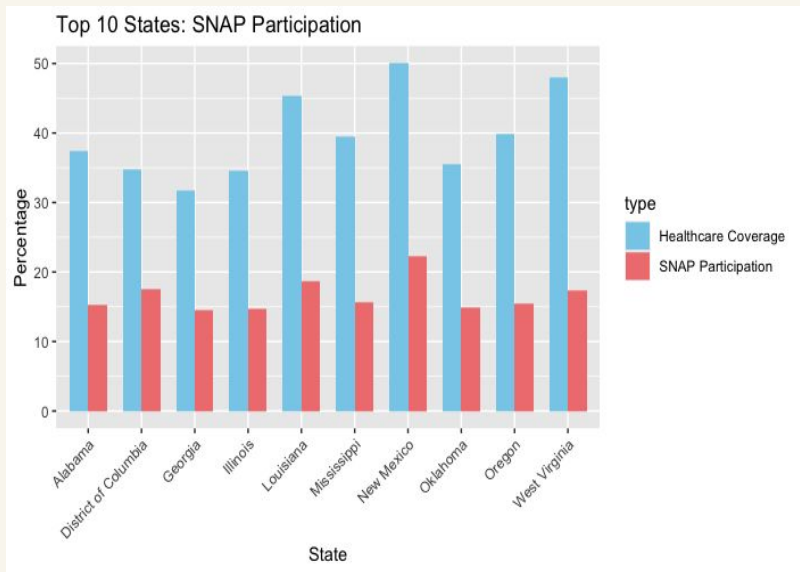
When was the highest participation of SNAP within the last 5 years and is there an upward or downward trend?

01

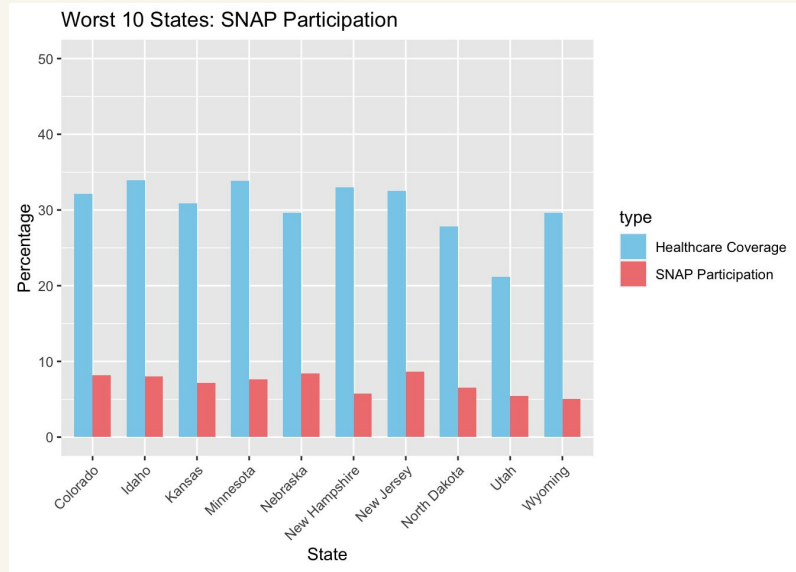
**Do states with the highest
SNAP participation also
reflect the highest public
healthcare coverage?**



This bar plot shows the average percentage of Healthcare Coverage and SNAP Participation, in ten states with the **highest** percent of their population participating in the **SNAP** program.

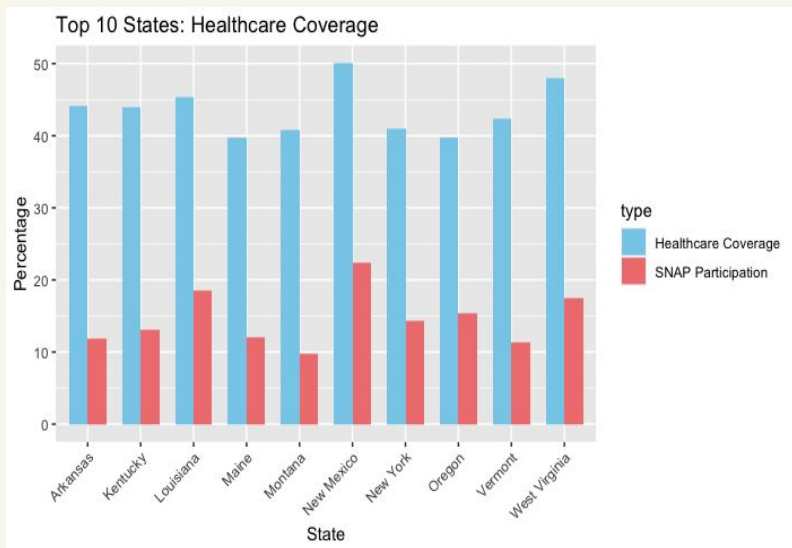


This bar plot shows the average percentage of Healthcare Coverage and SNAP Participation, in ten states with the **lowest** percent of their population participating in the **SNAP** program.

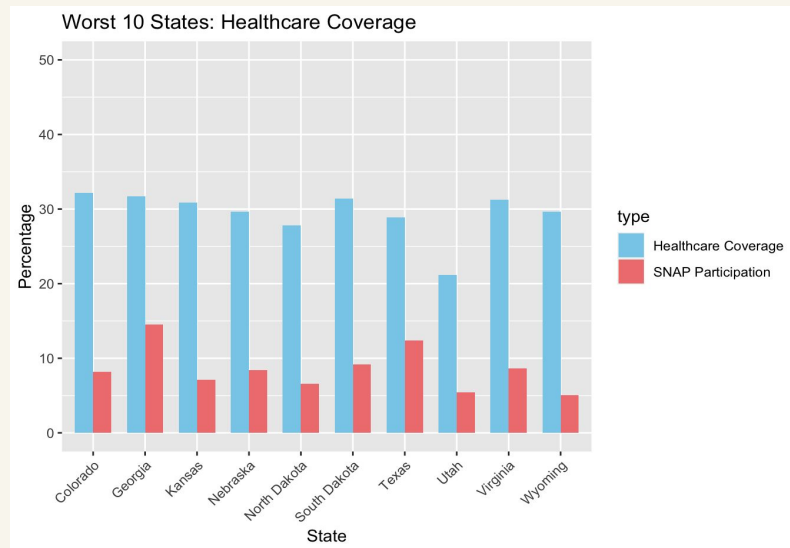


It is notable that in the Top 10 States bar plot, there seems to be a relationship between SNAP Participation and Healthcare Coverage, Higher participation in SNAP corresponded to higher healthcare coverage. However, in the Worst 10 States, there does not seem to be any correlation. Overall, when comparing the two bar graphs, it is observable that states with the highest SNAP participation do not necessarily have the highest healthcare coverage.

This bar plot shows the average percentage of Healthcare Coverage and SNAP Participation, in ten states with the **highest** percent of their population having **healthcare** coverage.



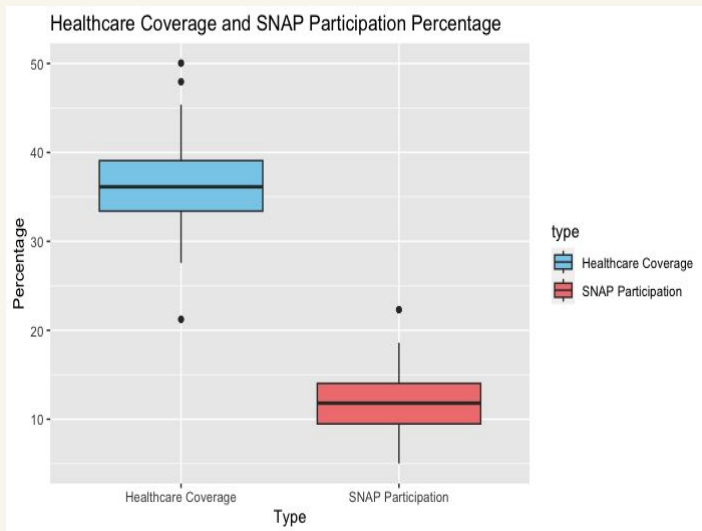
This bar plot shows the average percentage of Healthcare Coverage and SNAP Participation, in ten states with the **lowest** percent of their population having **healthcare** coverage.



The states with the highest healthcare coverage do not necessarily have the highest SNAP participation. When observing New Mexico (most coverage), the rates of SNAP participation are almost double that of Utah (least coverage). It is interesting that New Mexico has both the highest SNAP participation and the highest healthcare coverage. And Utah has the lowest SNAP participation and the lowest healthcare coverage. This could be because Utah has less people living below the poverty line, leading to less demand for SNAP and public healthcare coverage.



Key Takeaways

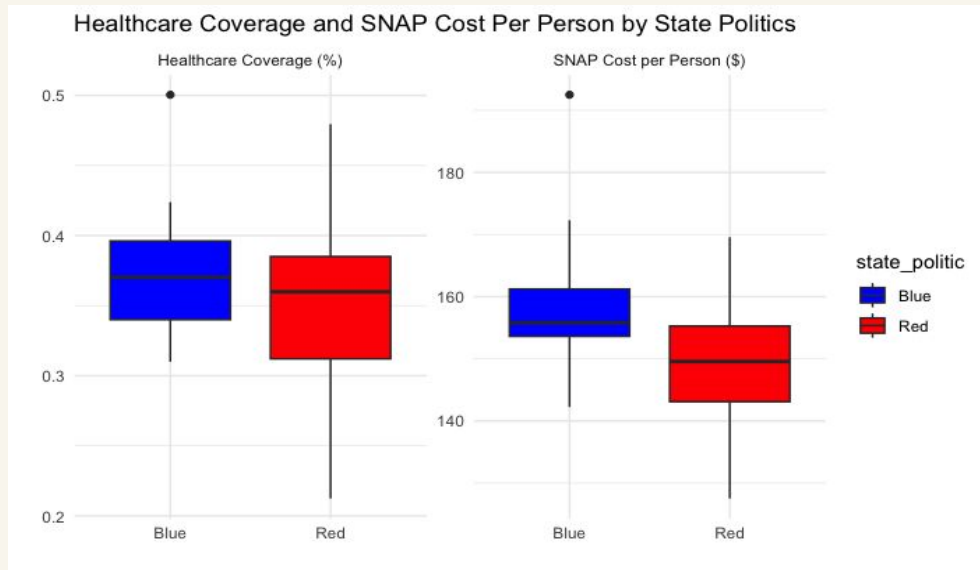


In my findings the states with the highest SNAP participation did not necessarily have the highest healthcare coverage. And across all the states plotted, the percentage of healthcare coverage was more than double of the percentage of SNAP participation. It is interesting that there is such a discrepancy between healthcare coverage and SNAP participation, it likely has something to do with the fact that medical expenses can be much more costly than food without health insurance and perhaps social stigma surrounding the use of “food stamps”. It is concerning that there seems to be no correlation between participation in the SNAP program and having health coverage. The ratio varies from state to state, meaning that as need for food assistance grows, health coverage may not expand along with that need and vice versa, even though having access to both food and medical professionals is incredibly important.

02

Does being a primarily red or blue state affect SNAP cost and public healthcare coverage?





Healthcare Coverage (%)

Blue states appear to have a higher median healthcare coverage ratio than Red states. The data for Blue states is more tightly clustered, indicating less variation in healthcare coverage ratios within these states. Red states show more variability, indicating some Red states with significantly lower healthcare coverage ratios.

SNAP Cost per person (\$)

The median SNAP cost per person is roughly the same for both Blue and Red states, but the range is broader for Red states, suggesting a greater disparity in SNAP costs within these states.

* Alaska and Hawaii have been excluded as outliers (SNAP per person \geq \$200)

Key Takeaways:

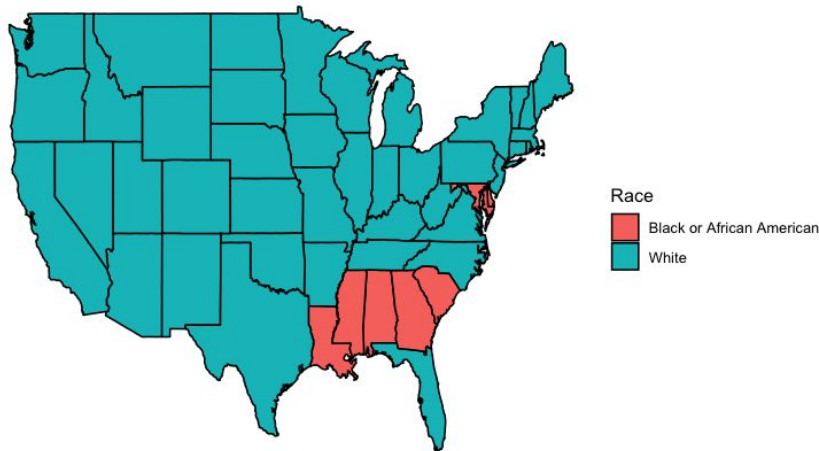
- **Policy Focus in Blue States:** Recognizes that blue states typically prioritize broader public interest policies, while underscoring the importance of considering each state's unique socioeconomic conditions, especially in relation to fundamental needs.
- **Healthcare Policy Considerations:** Advises policymakers to treat healthcare coverage and programs like SNAP as crucial yet separate from the usual policy agenda, emphasizing their significance in overall living conditions.
- **Analytical Context:** Notes that the analysis is not grounded in extensive statistical methods and acknowledges that while political affiliation is a key influence, it's not the sole determinant in shaping state policies.

03

**Which racial group
participates in the SNAP
program the most amongst
different states?**

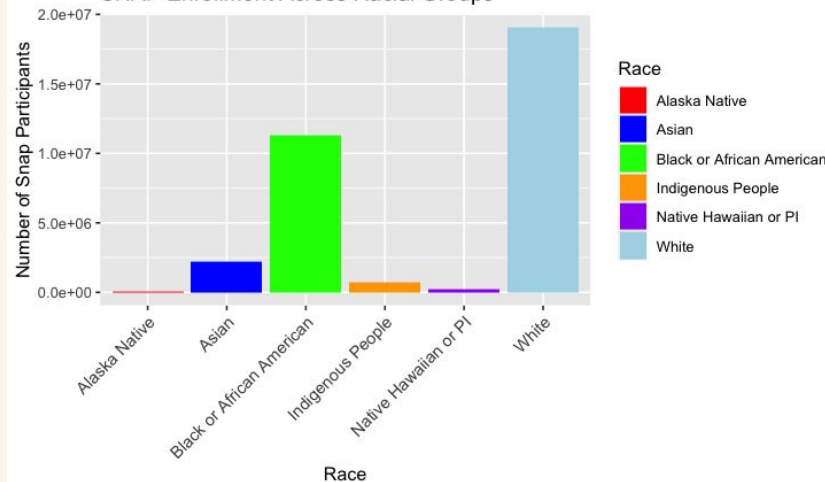


Map of Races that have the Highest SNAP Participants



This map shows the race with the highest number of SNAP participants in each state excluding Alaska and Hawaii. In the Southern region of the U.S., Louisiana, Mississippi, Alabama, Georgia, and South Carolina, the race with the highest participation are Black or African Americans. What is interesting is that there are two states in New England, Maryland, and Delaware, that also have the same race with the highest participation.

SNAP Enrollment Across Racial Groups



The bar plot shows the number of participants across races in all of the US. In descending order of participation, White, Black or African American, Asian, Indigenous People, Native Hawaiian or Pacific Islander, and lastly Alaska Native.

Notes:

Filtered out the demographic "American Indian and Alaska Native tribes specified; or American Indian or Alaska Native, not specified and no other races"



Key Takeaways

The southern region of the US has states where historically they have experienced segregation and discrimination the most has Black or African Americans as the highest participants.

The map graph may show a potential relationship between historical events and SNAP participation.

There was a high rate of White SNAP participants

- Are marginalized groups getting the same access to SNAP as White participants?
- Marginalized groups have a higher chance of experiencing illnesses [1]
- African American women are more likely to experience obesity and other health conditions. [2]
- Could there be an association between higher rates of obesity in marginalized groups and lower SNAP participants?

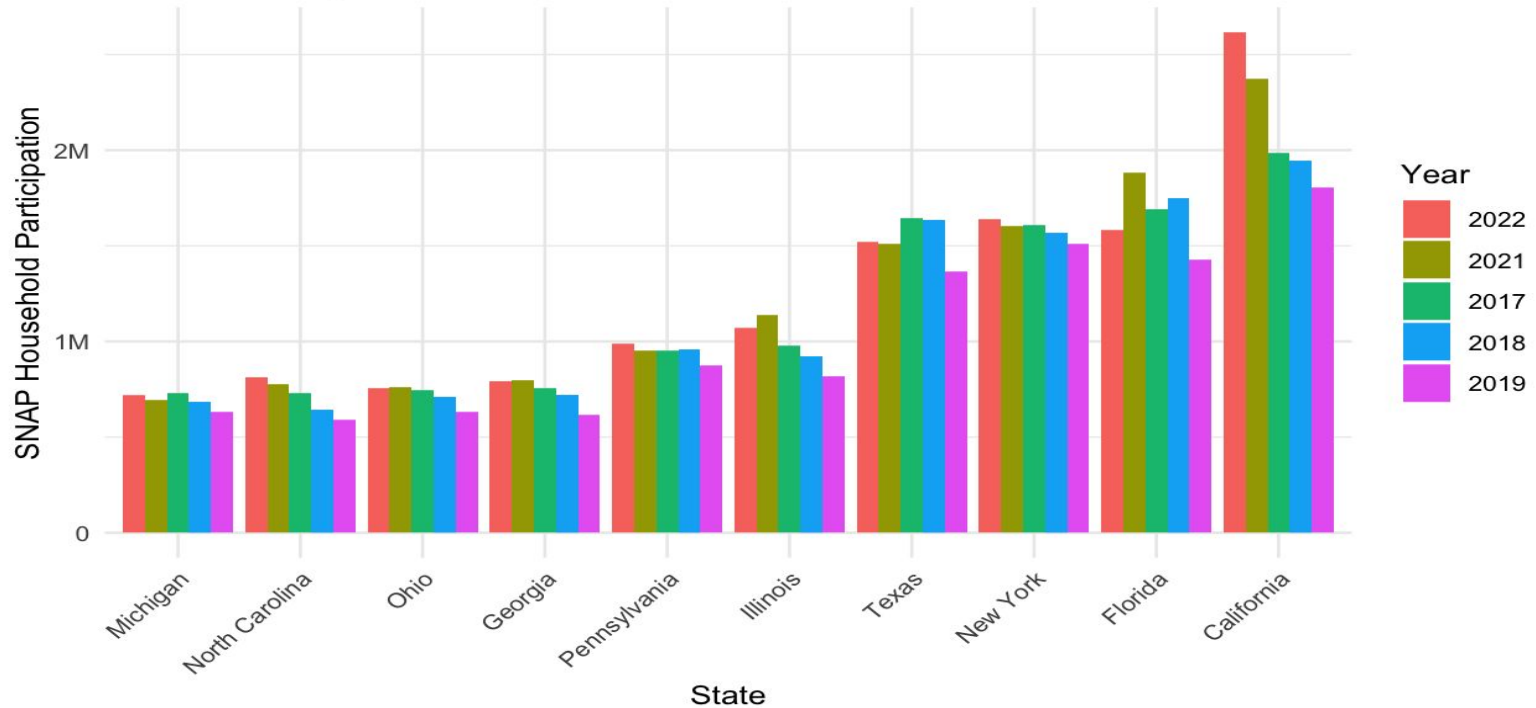
1. Lantz, P. M. (2021, July 15). The Tenets of Critical Race Theory Have a Long-Standing and Important Role in Population Health Science. Milbank Memorial Fund
2. Obesity and African Americans. (n.d.). Office of Minority Health.
<https://minorityhealth.hhs.gov/obesity-and-african-americans#:~:text=African%20American%20women%20have%20the,compared%20to%20non%20Hispanic%20whites.>

04

When was the highest participation of SNAP within the last 5 years and is there an upward or downward trend?



SNAP Participation in Top 10 States



The bar chart show how the states with highest snap participation, how they were upward and downward for the past five years. The year label next to the bar shows in the order of the years, and it's colors to present the upper and the lower. For the highest snap participants in the 10 top states.

Key takeaways

While conducting my research question I found out that 2022 has had the highest number of SNAP participants. With California on top followed by Florida, New York, Texas, Illinois, Pennsylvania, Georgia, Ohio, North Carolina, and Michigan. Before I started working on my code and did the bar chart, I expected that 2019 and 2020 would probably have the most SNAP participants because those were the early years of the COVID pandemic, and many people were out of work, making them highly eligible for SNAP benefits. But the important thing is that people are getting more help, especially in these states. Some research I conducted stated that after the covid hit the SNAP made easier access for people to get the snap. The more accessible the more people joined. I also didn't consider that states like California, Florida, and New York would be the top states for the highest SNAP participation.

CONCLUSIONS



The relationship between healthcare coverage and SNAP (Supplemental Nutrition Assistance Program) participation is complex and indicative of broader policy and socioeconomic dynamics. The findings reveal an inconsistent correlation between these two factors. However, it is observed that states with the highest SNAP participation tend to exhibit overall higher levels of comprehensive healthcare compared to the states with the lowest participation. For example, Utah shows the lowest for both SNAP participation and healthcare coverage while New Mexico has the highest SNAP participation and highest healthcare coverage. To better understand the relationship between the two variables, we looked at possible factors that explain the extreme disparity between certain states.

We found that blue states have a higher budget given to SNAP and have higher rates of healthcare coverage than red states, and since New Mexico is a blue state and Utah is a red state, political preferences might play a role in explaining the differences among states. With political preferences possibly indicating broader socioeconomic factors and public policy, as blue states are known for demonstrating a greater investment in welfare programs, reflecting a policy leaning towards social support. It is important to acknowledge that the Southern U.S. region historically has had a higher Black or African American population, which may explain the race of highest SNAP participation. However, the statistics of the other states does not necessarily explain current health research and outcomes about marginalized groups.

The findings suggest a need for more targeted research and policy interventions that address these disparities on a national level, ensuring equitable access to essential services like healthcare and food assistance across all states and demographic groups. This could involve examining the systemic barriers that contribute to these discrepancies and implementing policies that are sensitive to the unique historical and socioeconomic contexts of different regions and communities.

The background features two faint, light gray rounded rectangular shapes, one positioned near the top center and another near the bottom center.

Questions?