

Intro: The Purpose of SNAP

The Supplemental Nutrition Assistance Program (SNAP) is widely regarded as a positive life-line assistance program in the United States (Mande, 2023). It has been linked to significantly improving health outcomes for participants over non-participants with lower chronic disease rates and roughly a 21% reduction in emergency department visits for those who receive the benefit (Carlson, 2022).

In February 2025, the senate introduced the Healthy SNAP Act. This bill would compel the United States Department of Agriculture (USDA) to redefine food that is eligible for purchase through SNAP to exclude food that has been deemed unhealthy by the USDAs own nutritional guidelines. Sen. Mike Lee, who introduced the bill, stated, “American tax dollars should not be used to pay for junk food and endanger the health of the most vulnerable Americans” (Lee, 2022). Will restricting food choices lead to better health outcomes for low-income Americans?

Low-income Americans face additional barriers beyond choice when making dietary decisions, including limited access to nutritious affordable food and restrictions in time needed to prepare healthy food (Shannon, 2014). Without measures to improve food access, will restricting purchases backfire and have unintended negative effects? An empirical evaluation should be done to ensure this policy is working as intended.

Research Questions and Objectives

While a randomized control trial (RTC) is the gold standard typically used to evaluate health outcomes, the speed in which congress is looking to implement this law makes an RTC impractical for evaluating the Healthy SNAP Act. Changes in health outcomes due to dietary changes take time to develop and an RTC would need time to show changes between the treatment and control group. A Difference-in-Differences (DD) analysis was also considered; however, this policy change would impact all SNAP recipients at the same time, eliminating the ability of establishing a natural domestic control group. Using a control group outside the United States (U.S.) is inappropriate due to substantial omitted variable bias caused by substantial differences in social welfare and healthcare programs in other countries. An evaluation method must be used that can isolate the causal impact of the new policy without relying on SNAP recipients or other counties for control groups.

Proposed Evaluation Method

I propose using a Regression Discontinuity Design (RDD) to evaluate the health impact of the Healthy SNAP Act. This approach is ideal for policies that have a built-in cutoff for who is eligible for the benefit. Using low-income people who are just above the SNAP income cutoff as a control group for this evaluation will approximate a study that is similar to a randomized control study.

Evaluation Design	
Question	Does restricting SNAP-eligible food to those deemed as “healthy” by the USDA improve health outcomes for low-income Americans?
Evaluation Type	Regression Discontinuity Design (RDD) The goal of this evaluation is to isolate the effects of the new policy. This evaluation will use trends in health indicators between two groups that have similar life environments.
Evaluation Type Reasoning	An RDD was chosen because it will allow researchers to run a quasi-experiment in which a randomized control study is approximated using the natural experiment that is created at the income cutoff point at which people are eligible for SNAP.
Evaluation Subjects and Approximating Randomization	This evaluation will compare those in the same state who are earning just below the income cutoff for SNAP for one year as the treatment group, to those who earn just above the income cutoff for SNAP for one year as the control group. To strengthen internal validity, we will compare the similarity of groups across key metrics age, education, number of children, type of work, etc. • State: Each State will have their own control and treatment groups that are compared to each other. This is due to benefit programs differing vastly state to state. Comparing people on the state level will eliminate a lot of risk of omitted variable bias by keeping the subjects within the same benefits systems. • Income: Keeping the groups close to the cutoff ensures the evaluation is isolating the effects of the new policy and mitigates the effects of omitted variable biases. A person’s income affects their eligibility for other government programs, including housing assistance, medical programs, and school lunch vouchers. For this evaluation to be valid, these other benefits must have different income cutoff than SNAP to ensure we are observing the true effects of the new policy. In the U.S., income also influences access other health-related resources such as pharmaceuticals, doctor visits, stressors, and time to prepare healthy meals (Lazar, 2018). • Eligible/ Ineligible for SNAP for one year before and after policy change: Evaluating the health effects of food takes time. While it is impossible to determine lifelong health impacts through this evaluation design, we can use health indicators that can change within the one-year time period due to dietary intake. These indicators are common metrics used to evaluate the health benefits of SNAP. It is difficult to go beyond a year, because it is difficult to find data from people who meet all these criteria for more than a year at a time. If study population changes within the study year there will be inconsistencies that can cause inaccurate results. Therefore, collecting individualized data ensures we are testing the new policy effects on health. Due to the fact that health impacts take time to see, we need to be following the health trends of people who remain with the same eligibility status for a long enough time person to see the effects of diet on health.

Data to be Collected	• Subject Qualification Data ○ Metrics that are easily accessible through SNAP enrolment data and tax filings can be used to determine which people we would use as our evaluation subjects. These data include SNAP eligibility, income, age, and occupation. • Health outcome indicators ○ The indicators used will be ones that can change quickly due to diet, are quantitative, and can be measured through routine medical tests. These can include health indicators such as number of emergency hospital visits, rates of new diabetes diagnoses, and blood pressure. All of these metrics can be affected within a year of dietary changes. ○ Collecting medical data for specific people can be difficult. These data can be collected through surveys. However, this information will then be self-reported which can be inaccurate. Additionally, it would be easier to reach the SNAP recipients than non-recipients, because there is no structure in place for reaching the non-SNAP participants in this evaluation. I would suggest using Medicaid data to evaluate the health indicators. Because Medicaid is run by the government, these data are available to the government. Many SNAP users qualify for Medicaid, and about 7% of people who do not qualify for SNAP still qualify for Medicaid. Because income is a large factor in qualifying for Medicaid, it is likely that someone with an income just above the SNAP qualification threshold would be likely to qualify for Medicaid. ○ The best scenario would be to have a large sample of Medicaid eligible people on both sides of the SNAP eligibility cutoff to achieve acceptable statistical power. This would provide an evaluation population with the distinct advantage of readily viable health information, and health insurance uniformity. Allowing us to control for an important confounding variable.
Trend Lines before policy implementation	A linear regression model will be used to evaluate these data. When running a linear regression, we expect to see the movement in trend lines for emergency hospital visits, rates of new diabetes diagnoses, and blood pressure to be similar in both the treatment and control group. We expect that because we are assuming any changes made to the population's health is affecting both the treatment and control group. The level of these indicators may be different in each group, but they could move up and down in similar ways to each other.
Analyzing the Data/ Trend Lines After Policy Change	This evaluation will compare the treatment group's trends to the control group's trends. If the policy is improving people's health, we would expect a declining trend in hospital visits, rates of new diabetes diagnoses, and blood pressure for the treatment group, while the control group shows no statistically meaningful changes. The trends may take some time to appear and is why it is important to collect data over at least a year. On a graph we should see the trend lines for the treatment and control group moving away from each other after the time of policy implementation.
Possible Issues with using RDD	• Self-Selection bias through income gaming: There is a slight risk of people manipulating their income to be below the cutoff to receive SNAP. People can underreport income if it is received as cash, such as cash tips. Hourly employees will also reduce their hours to stay just below the income threshold for SNAP. However, due to the scaled model used in SNAP (the lower one's income gets, the more their benefit is worth), it unlikely someone that is earning close enough to the cutoff off will manipulate

	their income to receive SNAP. The starting amount for people earning just below the cutoff is \$23 for an entire year (United States, 2024). Enrollment in SNAP is not automatic and requires a large amount of work to qualify (. With such a high barrier to receive SNAP and a low payoff just below the cutoff, it is unlikely there will be issues with selection bias around the cutoff. It should be checked that there is no stark jump in the quantity of people who qualify for SNAP at the income cutoff. When graphed the amount of people around the income cutoff point should be a smooth line • Other benefits that use the same cutoff: If any other benefits use the same cutoff as SNAP, there will be no way to isolate the effects of each and this evaluation will only be able to tell us outcomes based on both policy changes happening at one. • Statistical Power: Because there are so many omitted variables that can affect health, the sample size must be large in order to mitigate potential biases caused by unobserved variables. Using data from states with large enough populations and eliminating small states, may be necessary to achieve a large enough statistical power. • Correct Test Population: There is a risk that the chosen range for income just above and below the cutoff may be too big of a range. This range should include recipients receiving enough SNAP benefits to meaningfully impact their diets. The minimal annual benefit of \$23 given to those right below the cutoff, is unlikely to impact their eating habits or health (United States, 2024). It is important to include those who are receiving higher benefits. It is important to choose an upper range that doesn't make a large difference in one's access to health care. It is important to determine if the treatment group and control group both have similar rate of people who, have access to medical insurance and have similar subsidies reducing the cost of care through either Medicaid or the Affordable Care Act. It is also important to compare each group to ensure they are receiving similar benefits. • Spillover: There is a risk of spillover effect in this study. People in the treatment and control group may live in the same neighborhoods. Grocery stores may change what they carry if SNAP recipients are limited to healthier foods, potentially impacting non-SNAP participants. This could lead to health benefits for non-SNAP recipients, biasing the results. However, I do not anticipate stores will stop selling the food that will be excluded from SNAP. These types of foods are typically cheap, convenient and popular. Food diaries can be used to get antidotal evidence of each group's eating habits to monitor spillover effects.
--	--

Conclusion

With the significant impact the Healthy SNAP Act would bring to SNAP recipients' lives, it is important to evaluate the effectiveness of this new policy. The proposed RDD methodology offers an evaluation method that can measure the causal impact of restricting SNAP-eligible foods, while controlling for the multitude of omitted variables that inherently exist while measuring health impacts. Several limitations must be considered in this evaluation, including statistical

power issues and the challenge of selecting an appropriate income range around the eligibility cutoff. Even with these challenges, this evaluation method will allow us to study the natural experiment created by the stark policy change and its income cutoff. These findings will inform future policy to expand access to a healthy lifestyle to low-income Americans.

Sources

Carlson, Steven, and Joseph Llobrera. *SNAP is linked with improved health outcomes and lower health care costs*. Washington, DC, USA: Center on Budget and Policy Priorities, 2022.

Lazar, Malerie, and Lisa Davenport. "Barriers to health care access for low income families: a review of literature." *Journal of community health nursing* 35.1 (2018): 28-37.

“Lee Introduces Healthy Snap Act, Stopping Tax Dollars from Subsidizing Junk Food.” *Mike Lee US Senator for Utah*, 13 Feb. 2025, www.lee.senate.gov/2025/2/lee-introduces-healthy-snap-act-stopping-tax-dollars-from-subsidizing-junk-food.

Mande, Jerold, and Grace Flaherty. "Supplemental Nutrition Assistance Program as a health intervention." *Current Opinion in Pediatrics* 35.1 (2023): 33-38.

Shannon, Jerry. "What does SNAP benefit usage tell us about food access in low-income neighborhoods?." *Social Science & Medicine* 107 (2014): 89-99.

United States, Department of Agriculture, *SNAP – Fiscal Year 2025 Cost-of-Living Adjustments*. Aug. 2024. <https://www.fns.usda.gov/snap/fy-2025-cola>