

A prescription for healthier diets

SuperSNAP in NC



In 2021, 15% of NC households were food insecure.¹ People living with food insecurity tend to have low fruit and vegetable intake and suffer from associated health issues.² Children with food insecurity have increased risk of some birth defects, anemia, mental and behavioral problems, asthma, poor oral health, and poor general health.² Adults with food insecurity have increased risk of mental health issues, diabetes, hypertension, hyperlipidemia, poor sleep, and poor general health.² In NC, the estimated prevalence of diabetes is 12%³ and the estimated prevalence of hypertension is 35%.⁴

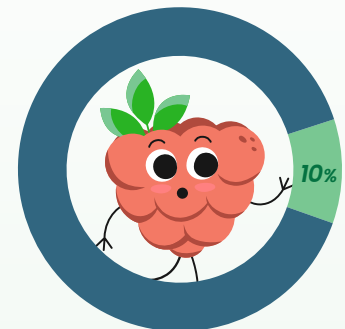
The largest federal program aimed at addressing food insecurity is the Supplemental Nutrition Assistance Program (SNAP). Although the SNAP program has made strides to alleviate food insecurity, the average fruit and vegetable intake among Americans on SNAP remains below that of the general population.⁵ Specifically in North Carolina, 90% of adults do not meet recommendations for fruit intake and 92% do not meet vegetable intake recommendations.⁶

'Food is Medicine' is a philosophy that considers access to nutritious foods critical to disease management and prevention. Consequently, the Food is Medicine movement emerged with a plethora of pilot programs trialing a variety of programs aimed at increasing access to fruits and vegetables for disease management and prevention.⁷ Previous research shows that these programs increase fruit and vegetable consumption, improve diet quality, reduces food insecurity, and improves diet related health conditions in underserved populations.⁸ In addition, increases in spending may have effects beyond health-related outcomes such as multiplier effects in the local economy and increased earnings for local food retailers.⁹

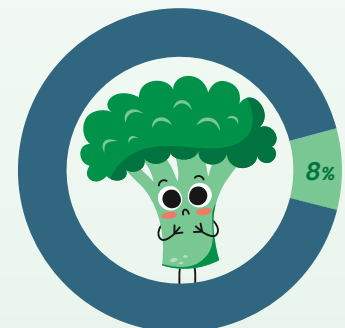
SuperSNAP: A *Food is Medicine* program in NC

One such produce prescription program, the Gus Schumacher Nutrition Incentive Program (GusNIP)-funded SuperSNAP program, which enrolled individuals with diet-related health conditions receiving Supplemental Nutrition Assistance Program (SNAP) benefits in nine federally qualified health centers across North Carolina starting in September 2019. SuperSNAP participants received \$40 per month to spend on fresh, frozen, canned, or dried fruits and vegetables without additives at a participating NC-based chain retailer with around 500 stores across North Carolina. Unused SuperSNAP benefits could roll over for up to two months. Each of the nine health centers were given a predetermined number of SuperSNAP slots based on their patient population size. To support program implementation and clinic agency over the care they provide, clinics could determine who constituted a healthcare provider and what was meant by "diet-related health condition."

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...and 92% do not meet recommended vegetable intake.



● MEET RECOMMENDATIONS
● DO NOT MEET RECOMMENDATIONS

Benefits of Food is Medicine on NC patients, providers, and retailers



PATIENTS

In a survey of 259 of the patients enrolled in SuperSNAP, we found a 14-percentage point decrease in food insecurity. Additionally, 91% of SuperSNAP participants reported being able to afford the fruits and vegetables they wanted while participating in the program — a vast increase from only 12% of participants who reported they could afford the fruits and vegetables they wanted before the program. This increased ability to afford translated into purchases: SuperSNAP enrollees spent an extra \$35 per month on eligible fruits and vegetables compared to a control group that was not enrolled in the program. Two-thirds of participants shared that they were able to reallocate their own money to purchase other items in addition to fruits and vegetables because of the extra money from SuperSNAP. From most to least frequent, they reported purchasing:

More and higher quality proteins:

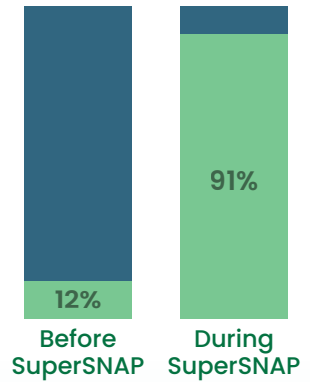
“The extra money in the budget allowed me to purchase better quality food. Less packaged/ processed foods and better quality cuts of meats helped us eat better.”

Staple items and foods to create a full meal:

“The extra supersnap benefits allowed me to use the extra money I had to by my essentials & household needs.. Plus I was able to make well balanced meals. It came at a great time in my life due to immediate health lifestyle change that I had to make. I’m so grateful to have experienced the program.”

Can you afford the fruits and vegetables you want to buy?

YES | NO



Household supplies such as diapers, wipes, and cleaning supplies:

“It help me save money on having to on fresh fruits. And I was able to get diapers and wipes with the money I saved.”

Furthermore, participants reported that SuperSNAP helped them:

Manage chronic conditions and medical bills:

“[SuperSNAP] left me with money to use on other purchases like drs., medicines, etc.” and “Fresh produce coats so much, and I have to watch what I eat because I’m diabetic. SuperSNAP made it easier to eat healthy food.”

Support their families and children:

“Had money left for extras. Plus my kids could eat healthier”



In addition to helping patients purchase fruits and vegetables, other nutritious foods, and necessary goods, just under half (46%) of the survey participants also reported that participating in the SuperSNAP program increased their likelihood of going to their healthcare provider for preventive care. Overall, participants reported high levels of satisfaction with the program with just under 80% sharing that they were likely or very likely to recommend it to friends or family.



HEALTHCARE PROVIDERS

In a survey with 14 healthcare providers who enrolled participants into the SuperSNAP program, we found that **100% of providers believed the program helped them better support their patients.** Providers shared benefits of offering SuperSNAP, including:

“Patients kept their appointments, came in with smiles, had improved QOL [quality of life], had improved weights, blood glucose readings, hemoglobin A1c [measure of diabetic control], and BP [blood pressure] by some chart reviews and many anecdotal reports.”

“[SuperSNAP] improves health and allows [providers] to assist with reducing food insecurity. It is also a great way to engage our patients/clients and share additional information on other services.”

All providers surveyed also believed that the SuperSNAP program would increase fruit and vegetable consumption and improve health conditions amongst their patients, sharing that:

“Fresh produce is essential to a healthy lifestyle and can help regulate diabetes and other health challenges.”

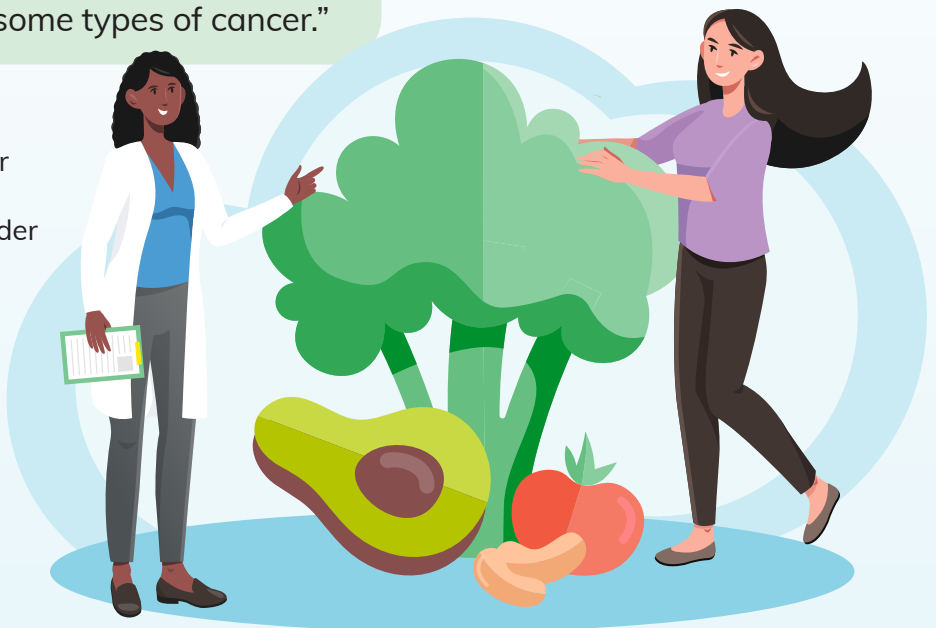
“The cost of fresh fruit and vegetables are expensive and by receiving funds to help not only patients but families to get healthier and stay healthier you will see less visits to hospitals and chronic issues.”

“Chronic, low-grade inflammation can contribute to cardiovascular disease, cancer, type 2 diabetes and other conditions. Studies show that a diet rich in vegetables and fruits can lower blood pressure, reduce the risk of heart disease and stroke and prevent some types of cancer.”

“Primary influences on diet are access and cost. This program removes those barriers.”

Three-quarters of providers believed that patients would likely increase their healthcare utilization because of their participation in SuperSNAP. One provider shared, “I saw it with my own eyes.”

When asked about the costs of implementing this program or if there were any recommendations for future iterations, providers often said there were none that they knew of, with one reporting, “It’s such an easy process to go through, and there are only positive rewards.”

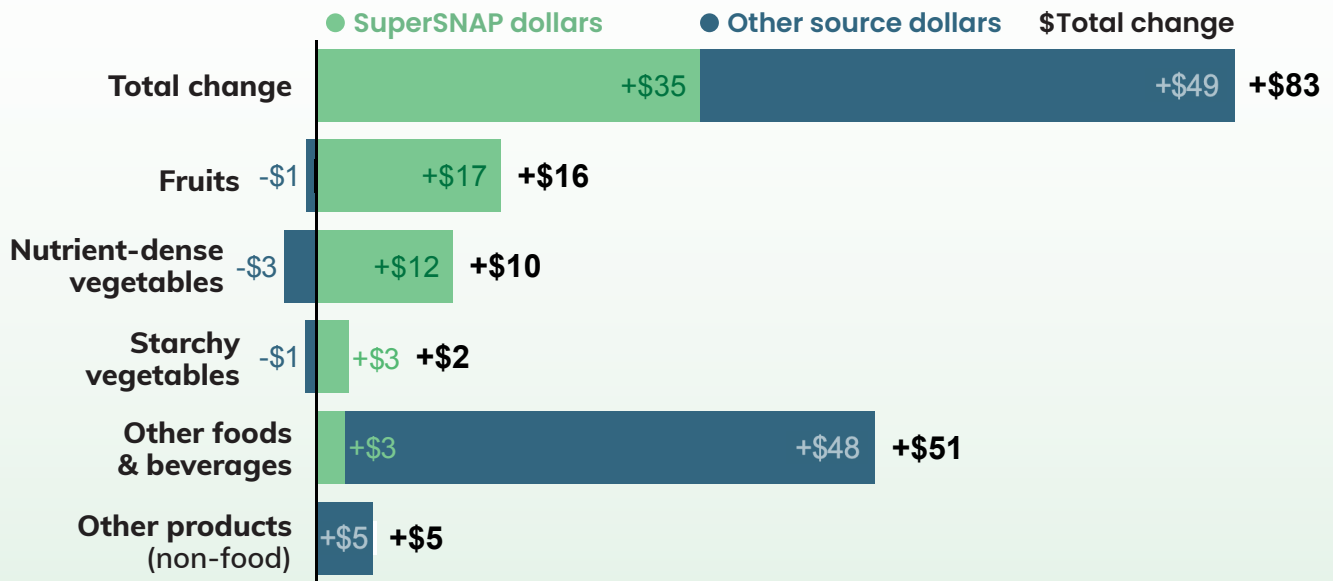




NC RETAILERS

Enrollment in the SuperSNAP program was associated with an extra \$83 spent per person per month in the NC-based grocery store chain, \$76 of which was exclusively spent on food and beverage products. An extra \$16 went towards purchasing fruits, \$10 towards nutrient dense vegetables like kale or spinach, and \$2 towards starchy vegetables like potatoes or corn. The majority (\$35) of the monthly \$40 SuperSNAP allocation was used by participants, who spent \$17 on fruits, \$12 on nutrient dense vegetables, and \$3 on starchy vegetables. An extra \$49 of non-SuperSNAP dollars were spent, of which \$43 went towards purchasing food and beverage products.

Spending increases associated with SuperSNAP



* Some SuperSNAP spending increases are higher than overall increases due to shifting funds from out-of-pocket to SuperSNAP dollars

- America F. The Impact of the Coronavirus on Local Food Insecurity.; 2021. https://www.feedingamerica.org/sites/default/files/2021-03/Local%20Projections%20Brief_3.31.2021.pdf
- Gundersen C, Ziliak JP. Food insecurity and health outcomes. Health Aff (Millwood). 2015;34(11):1830-1839. doi:10.1377/hlthaff.2015.0645
- American Diabetes Association. The Burden of Diabetes in North Carolina. Accessed November 9, 2023. https://www2.diabetes.org/sites/default/files/2021-11/ADV_2021_State_Fact_sheets_North%20Carolina_rev.pdf
- Community & Clinical Connections for Prevention & Health Branch: North Carolina Division of Public Health. High Blood Pressure in North Carolina.; 2020. https://www.communityclinicalconnections.com/wp-content/themes/cccp/assets/downloads/0320/CCCPH_FactSheet_HighBloodPressure-0320.pdf.pdf
- Gregory, Christian, Michelle Ver Ploeg, Margaret Andrews, Alisha Coleman- Jensen. Supplemental Nutrition Assistance Program (SNAP) Participation Leads to Modest Changes in Diet Quality, ERR-147, U.S. Department of Agriculture, Economic Research Service, April 2013.
- Lee-Kwan SH, Moore LV, Blanck HM, Harris DM, Galuska D. Disparities in State-Specific Adult Fruit and Vegetable Consumption - United States, 2015. MMWR Morb Mortal Wkly Rep. 2017;66(45):1241-1247. Published 2017 Nov 17. doi:10.15585/mmwr.mm6645a1
- Gus Schumacher Nutrition Incentive Program (GusNIP). National Institute of Food and Agriculture. Accessed October 13, 2023. <https://www.nifa.usda.gov/grants/programs/hunger-food-security-programs/gus-schumacher-nutrition-incentive-program>
- Newman T, Lee JS, Thompson JJ, Rajbhandari-Thapa J. Current landscape of produce prescription programs in the US. J Nutr Educ Behav. 2022;54(6):575-581. doi:10.1016/j.jneb.2022.02.01
- Berkowitz SA, Curran N, Hoeffler S, Henderson R, Price A, Ng SW. Association of a Fruit and Vegetable Subsidy Program With Food Purchases by Individuals With Low Income in the US [published correction appears in JAMA Netw Open. 2021;4(12):e2142888]. JAMA Netw Open. 2021;4(8):e2120377. Published 2021 Aug 2. doi:10.1001/jamanetworkopen.2021.20377

This research was supported by a grant from The Duke Endowment (#7035-SP).