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Stretching the Dollar

Community-Informed Opportunities to Improve Healthy Food Access through Dollar Stores

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Terminology

CSPI is an inclusive organization and seeks to foster an environment where all staff, collaborators, and populations that we work with feel a sense of belonging and are affirmed. In this report, we use the gender-inclusive terminology "Latino/a/e." However, throughout the report, we may also use the terms "Hispanic" and "Mexican American" when describing data from previous studies in order to accurately describe the population as it was referenced by the author(s) of each study.

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Executive Summary

Dollar stores are the fastest-growing food retailer in the United States by both sheer number of stores and consumer food expenditure share. Just two corporations, Dollar General and Dollar Tree (which also owns Family Dollar), operate more than 35,000 stores across the country. A limited but growing body of research finds dollar stores offer limited healthy food options and play an especially prominent role in food environments in the South and Midwest regions and in rural communities, Black and Latine communities, and communities with limited financial resources. Media coverage of dollar stores focuses on the low nutritional value of foods available, the stores' interaction with poverty and race, competition with other food retailers, and the increasing number of local policies to prevent dollar stores' spread. In fact, more than 50 communities have passed policies to ban, limit, or improve new dollar stores in their localities.

However, important questions remain unanswered. Do dollar stores and their limited food selection negatively impact communities and their health? Do dollar stores serve a critical role as food sources for communities otherwise lacking food retailers and affordable food options? To begin to address these questions, community voices must be collected and amplified to inform policy and corporate action.

To this end, in April 2022, the Center for Science in the Public Interest (CSPI) conducted the first national survey of consumer utilization and perceptions of dollar stores. Specifically, we surveyed 750 people who live near a dollar store and have limited financial resources. The aims of this survey were to better understand dollar store perceptions, dollar store utilization and shopping patterns, and opportunities to make healthy choices easier at dollar stores.

KEY NATIONAL SURVEY FINDINGS

- **Community members had overall positive perceptions of dollar stores.** Most survey respondents (82%) indicated dollar stores helped their community. Overall, dollar store chains were viewed favorably, ranking third after big box stores and supermarkets, but ahead of convenience, small food, and wholesale club stores.
- **Convenience, affordability, and selection of specialty items motivated shopping at dollar stores.** A multi-faceted concept of convenience emerged as a driver of dollar store utilization that included store proximity, ease of navigating a small store size, and an overall quick shopping trip. Many respondents also mentioned being able to stretch their budget at the dollar store, including Supplemental Nutrition Assistance Program (SNAP) participants purchasing more food with their SNAP benefits.
- **Low-quality products, product availability, store appearance, and inadequate staffing deterred shopping at dollar stores.** Amongst dollar store non-shoppers, 58% stated they did not shop at dollar stores because of the quality of the products available. Additional drawbacks to dollar stores identified by respondents included store cleanliness and organization, insufficient staffing, and inconsistent stocking.
- **Dollar store food shopping was secondary to big box stores and supermarkets but played a larger role for shoppers utilizing SNAP.** Respondents shopped most frequently and acquired the greatest share of food at big box stores and supermarkets, followed by dollar stores. Most respondents shopped at dollar stores for specific items (50%) or to supplement their larger food purchases (31%). SNAP participants reported shopping for food more frequently at dollar stores and purchasing fresh and frozen fruits and vegetables, fresh meat or seafood, pantry staples, whole grains, and pre-made meals more often as compared to non-SNAP participants.

- **Community members strongly supported increasing healthy food and beverage options at dollar stores.** Most survey respondents believed dollar stores should stock more healthy options (81%) and do more to market and identify healthy options (74%). Specifically, there was highest support for dollar stores to provide SNAP fruit and vegetable discounts, stock healthy options and snacks, and identify and place healthy options in prominent locations. Both frequent and infrequent dollar store shoppers were interested in buying healthy pantry staples, fruits and vegetables in all forms, whole grains, and healthy snacks if made available at dollar stores. In addition, some dollar store non-shoppers indicated they would start shopping at their local dollar store if more healthy items were stocked.

Additionally, CSPI has supported mixed-methods research, including store environment assessments, key informant interviews, and focus groups, to better understand dollar store food environments and community perceptions to inform the development of state and local healthy retail policies. Research in Michigan and Baltimore from 2021-2023 found that few dollar stores offered fresh produce, but many stocked a variety of canned and frozen fruit and vegetable items. Community members had mixed perceptions about the healthfulness and affordability of food and beverages available at dollar stores. Aligned with CSPI's national survey findings, there was strong desire for increased availability and marketing of healthy options at dollar stores.

Based on our survey findings and the broader research, news media, and policy context, we developed recommendations to create a healthier retail food environment at dollar stores through policy, corporate, and research action.

POLICY RECOMMENDATIONS

Federal

- **Strengthen SNAP retailer stocking standards.** Strengthening existing stocking standards to better align with the Dietary Guidelines for Americans would make healthy foods more available at all SNAP-authorized retailers, including dollar stores.
- **Create SNAP retailer marketing standards.** Implementing marketing standards, like healthy checkout areas, for SNAP-authorized retailers would place more healthy options in prominent locations of the store and make healthy choices easier for customers.

Local

- **Pass local staple foods ordinances.** A staple foods ordinance for all retailers within a community, including dollar stores, would require retailers to increase the number and depth of stock of healthy foods, thus making healthy foods more available to the community.
- **Expand local dollar store density and conditional use ordinances to include healthy food criteria for new and existing dollar stores.** Some communities have started to impose limits on new dollar stores through dispersal and conditional use ordinances. Strategies for improving on these policies by increasing healthy food availability at dollar stores include requiring dollar store healthy stocking standards, creating a healthy food overlay in the local zoning code, or exempting dollar stores from dispersal limits if they stock a specific variety and number of healthy staple foods.
- **Pass local healthy checkout policies.** A policy that improves the nutritional quality of the food and beverage items sold in areas where shoppers stand in line to pay for their purchases can make all retail food environments in a community more conducive to healthy eating, including dollar stores.

CORPORATE RECOMMENDATIONS

- **Increase the stock of healthy items to increase shopper purchases and new customer acquisition.** By expanding healthy offerings, dollar stores could increase healthy food sales through their existing customers' purchases and draw new customers attracted by dollar stores' expanded healthy food options.
- **Prioritize fresh food expansion in areas with lower incomes and limited food access.** Dollar stores can serve as an important food access point for communities in rural areas and those with limited incomes. Dollar stores should prioritize store concepts that stock fresh, healthy foods like fruits, vegetables, dairy, eggs, and meat in locations with limited incomes and limited food access.
- **Develop and report progress annually on environmental, social, and governance (ESG) priorities that include healthy food access and nutrition goals.** Annual reporting on food and nutrition ESG priorities would establish to shareholders and customers the importance of healthy food access to their business model and philanthropy and create accountability for progress towards those goals.
- **Implement and evaluate SNAP fruit and vegetable financial incentives in dollar stores.** Piloting discounts on fruits and vegetables purchased with SNAP benefits could ensure fruits and vegetables are available and affordable at dollar stores.
- **Expand Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) authorization of dollar stores.** Increasing the number of dollar stores participating in WIC could expand WIC availability, especially in areas lacking a WIC-authorized retailer. Meeting WIC's stocking standards would increase healthy food availability for every person who shops at a WIC-authorized dollar store.
- **Apply for Healthy Food Financing Initiative (HFFI) funding to increase stock and promotion of healthy items and evaluate impact.** HFFI improves access to healthy foods in underserved areas through investments in healthy food retail projects and food supply chain enterprises, including retail equipment that supports healthy food expansion (e.g., refrigeration, signage) and innovative healthy marketing. Dollar stores could apply for HFFI funding to pilot and evaluate innovative healthy food stocking and marketing interventions in their stores and strengthen projects through community partnerships.
- **Partner with community organizations and SNAP state and local agencies to improve healthy food access through dollar stores.** Dollar stores could proactively seek out partnership with SNAP state and local agencies and community organizations to implement and evaluate SNAP Education policy, systems, and environments interventions in dollar stores, such as the stocking and increased marketing of healthy foods.

RESEARCH RECOMMENDATIONS

- **Replicate the CSPI dollar store survey at the local level to inform local policy and corporate interventions.** The CSPI dollar store survey reflects national consumer perceptions but does not represent all communities and their unique retail food environment characteristics and needs. Prior to pursuing local dollar store policy or corporate action, communities could adapt and administer CSPI's survey to ensure interventions are community informed.

- **Conduct research to better understand current dollar store food environments and their variation across the country.** Researchers should explore the adaptation of existing food environment measures, like the Nutrition Environment Measures Survey for Stores, for dollar stores and assess a larger sample of dollar stores across the country, including those serving urban and rural communities.
- **Collaborate with dollar store corporate offices to understand relevant internal research findings, including identifying barriers to improving stock of healthy foods.** Dollar store corporate offices should share their own research findings related to improving healthy food accessibility, including challenges associated with increasing the stock of healthy food items, such as cost, space, and supply chain complexities. Researchers and dollar store corporations should collaborate to better understand those barriers and develop creative solutions that work for retailers and consumers.
- **Pilot healthy food marketing (i.e., product, placement, price, promotion) interventions in dollar stores.** Researchers and corporations should co-design, implement, and evaluate robust healthy marketing interventions, filling a large evidence gap and identifying salient healthy marketing strategies for dollar stores.

Despite the rapid proliferation of dollar stores and growing dollar store research, news media coverage, and policy passage, this is the first national study of community member perspectives of dollar stores. Among dollar store shoppers with limited resources, CSPI found that dollar stores had an important role in their food acquisition and identified a strong desire for dollar stores to make healthy choices more available, affordable, and accessible. Our survey results do not support widespread bans of new dollar stores. However, some communities may want to stop the spread of dollar stores locally and could replicate our survey in their community to inform policy action. Notably, policies to date have only focused on new dollar stores. Critically (and perhaps most importantly), additional policy, corporate, and research solutions are necessary to improve the healthfulness of the existing 35,000 dollar stores across the country, including through the recommendations outlined in this report. Policymakers, corporations, and researchers should leverage the ubiquity of dollar stores to improve healthy food access nationwide.

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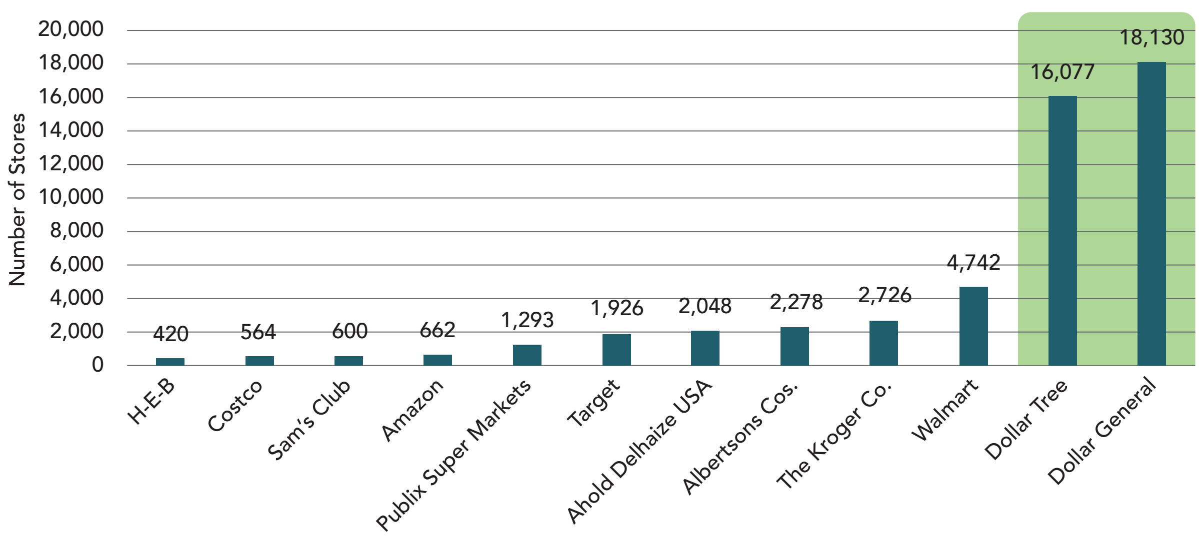
Dollar Stores and Healthy Food Access

There are more than 35,000 dollar stores across the United States,[1,2] more locations than the other top ten largest food retail companies combined (Figure 1).[3] Two companies control the dollar store market—in 2022, Dollar General operated 19,104 stores[1] and Dollar Tree operated 8,134 Dollar Tree and 8,206 Family Dollar stores.[2] Dollar stores are more likely to locate in Black and Latine communities[4] and play a larger role in food acquisition for households with lower incomes and those that live in rural areas.[5] Regionally, there are more dollar stores in the South and Midwest but retailers are rapidly expanding in the West and Northeast.[6] In fact, dollar stores are the fastest growing food retailer in the United States, both by number of stores[6] and household food expenditure.[5]

Figure 1. Largest food retailers[i] in the United States, 2021[3]



Adapted from Chenarides 2023.[7]
[i]Food retailers include supermarkets, super stores, and club stores.

However, it is unclear how rapid dollar store proliferation affects communities. Do dollar stores and their limited food selection negatively impact communities and their health? Do dollar stores serve as a critical food source for communities otherwise lacking food retailers and affordable food options?

The Center for Science in the Public Interest (CSPI) considers these questions in this report. The goal of this report was to understand consumer use and perceptions of dollar stores, as well as how dollar stores could make healthy food more accessible. We first conducted a scoping review of dollar store and healthy food access research, news media coverage, and policies to understand what is currently known on the topic. We then conducted quantitative and qualitative research to gain further insights. Specifically, we conducted a national survey of consumers (n=750) and two local case studies of dollar stores in Baltimore, MD and four cities in Michigan. Based on our research findings, we end the report with recommendations for policymakers, corporate actors, and researchers.

LITERATURE REVIEW

We conducted a literature scan in June 2023, identifying articles using key search terms "dollar stores," "food access," and "food security" in PubMed and Google Scholar to better understand the existing research on dollar store perceptions and the dollar store food environment. We also hand searched for additional articles on Google and within the reference sections of peer-reviewed articles. Given the recent growth of dollar stores as a food retailer, the peer-reviewed dollar store literature is sparse and has largely been conducted in the last five to seven years. After review, 16 articles were included in the literature review.

The following literature review highlights key research findings on dollar stores and their location, food environment, consumer food purchasing behaviors, shopper motivations, and differences across dollar stores and the communities they serve, as well as outstanding research gaps, including some addressed by this report.

Dollar Store Location

Previous research shows that dollar stores are concentrated in the South and Midwest but rapidly expanding in all regions of the U.S.,[4,6] with evidence that dollar stores play a larger role in food acquisition for households in rural areas.[5] Dollar stores are disproportionately located in majority Black and Latine U.S. census tracts and census tracts with higher poverty rates,[4,6,8] areas with lower access to supermarkets and healthy foods relative to higher-income and majority White communities .[9,10] It is unclear whether dollar stores deter grocery stores from entering the market or if dollar stores are meeting a food access need for communities where grocery stores are unwilling to locate.[11] One study found that dollar stores are not more likely to locate in areas with low income and low food access, but once a dollar store enters an area with low income and low food access it is more likely to remain without a supermarket.[11] Another study estimated that when dollar stores enter the market, there is a reduction in the number of small independent grocery stores in that area, as well as decreased volume of fresh produce purchases.[12] Relatedly, a recent modeling study found variation in dollar store impact on competition based on retailer type – supermarkets thrived upon dollar store market entry, whereas smaller retailers like convenience stores closed.[13]

Dollar Store Food Environment

Although existing evidence shows that dollar stores don't typically carry fresh produce,[14-16] they do usually offer frozen and canned fruit and vegetable options, and other healthy products like whole grains, beans, eggs, and milk.[14-18] In some studies, the prices for healthier items at dollar stores were lower[17,18] (and perceived to be lower)[19] compared to other store types such as supermarkets; in one study, fruits and vegetables were 25% lower compared to supermarkets,[17] and in another study 84% of produce and 90% of non-produce items were priced lower than supermarkets.[18] This could be due to the high proportion of frozen and canned fruit and vegetable items driving pricing data[17] as they tend to be cheaper. However, dollar stores do not offer the same variety of healthy options compared to supermarkets and thus had lower healthy food availability scores.[17,18]

Dollar Store Consumer Food Purchasing Behaviors and Shopping Motivations

Aligned with the increase in the number of dollar stores in recent years, households' food purchases at dollar stores increased by almost 90% between 2008 and 2020.[5] While still an overall small share of U.S. household food purchases (2.1%, compared to 58% purchased at grocery stores), dollar stores play a larger role in food acquisition for some groups, including rural communities and people with limited economic resources.[5] One study in Minneapolis and St. Paul found that consumers purchased the most calories at dollar stores compared to other small food retailer store types (e.g., corner stores, pharmacies), and the food purchased tended to be high in added sugar, saturated fat, and sodium.[19] The reasons for shopping at dollar stores are understudied. One study of dollar store shoppers in Minneapolis reported that good prices were a top reason for shopping at dollar stores.[19]

Barriers to Stocking Healthy Foods at Dollar Stores

Increasing availability of healthier foods at dollar stores is not a simple decision. While not yet formally researched, CSPI's conversations with current and former dollar store executives have identified barriers to stocking more healthy foods at dollar stores including:

- **STORE SIZE AND DESIGN.** Dollar stores occupy small buildings relative to other food retailers (on average Dollar General stores are approximately 7,400 square feet).[20] Increasing stock of healthy foods necessitates eliminating currently stocked items or occupying larger building space. Adding fresh foods also requires infrastructure changes like more refrigerators and freezers
- **BUSINESS MODEL.** The dollar store model aims to provide the lowest possible prices by keeping costs low. This includes stocking with a limited assortment approach (i.e., stocking only the best-selling products), maximizing buying synergies, and minimizing marketing and markdowns
- **SUPPLY CHAIN.** Increasing fresh food availability at dollar stores would necessitate added complexities to the dollar store supply chain, including more frequent deliveries and regional distribution centers
- **LOSS OF PRODUCT INVENTORY.** Many healthy foods have shorter shelf lives than less healthy, ultra-processed food items. Dollar stores help minimize their shrink, or loss of product inventory, by stocking limited perishable items and would have to adapt current practices to stock more healthy foods without negative implications for food waste or business bottom line

Variation by Dollar Store Location, Sociodemographics, and Chain

In addition to greater dollar store presence in majority Black and Latine communities, neighborhoods with lower incomes, and rural areas, there is speculation that the dollar store food environment varies by store based on neighborhood sociodemographics and geographic location. However, there is mixed evidence to support this. One regional study in North Carolina found that dollar stores did not offer significantly different products across urban and rural counties.[16] Another study of small and non-traditional food stores in Minneapolis and St. Paul, including dollar stores, found that stores located in predominantly Black and Latine communities had less fresh fruit availability compared to predominantly White communities.[8]

Only one regional study has examined differences in the food environment by dollar store brand (Dollar General, Dollar Tree, and Family Dollar). The results showed some differences in availability of products such as 100% fruit juice, no seasoning/sugar added fruit, milk, cheese, frozen meat, hot dogs, and some sugar sweetened beverages depending on the store brand, and Dollar General consistently had higher food product availability compared to Dollar Tree and Family Dollar.[16] The authors noted that some differences may be a result of differences in product size across stores which may not have been captured in the assessments.[16]

Literature Review Key Gaps and Implications

Only three studies[5,16,18] of the 16 focused solely on describing and understanding the food environment, consumer purchases, or shopper motivations in dollar stores. Other studies that mentioned dollar stores usually focused on "small food stores" or a combination of small food store types (e.g., convenience stores, pharmacies, gas marts, and dollar stores) and did not dig deeply into the dollar stores explicitly.[8,14,15,17,19] Within those studies, the sample size for dollar stores was relatively small, ranging from 4-90 stores. Additionally, there is no food environment assessment tool specifically designed for dollar stores, leading to wide variation in instruments used, making it difficult to compare outcomes across studies.[8,14-18]

Although dollar store chains have undoubtedly conducted their own consumer research, those data are not publicly available. The evidence base could benefit from additional studies with research questions and methodology focused on dollar stores. Additionally, community member perspectives about the role dollar stores play in daily life and food shopping have not been explored. Consumer input is important to consider in dollar store policy development and corporate action, including how households view and use dollar stores to meet food and non-food necessities. Further, no studies to date have examined whether these perspectives differ by important sociodemographic characteristics, such use of nutrition assistance programs.

NEWS MEDIA SCAN

As dollar stores increasingly become a food source for communities across the country, the news media has turned its attention to the industry's successes and failures in feeding Americans as well as the complex interactions dollar stores have with local food systems. Considering the limited academic research addressing this transition, media coverage provides an important view of community sentiment and public discussion of dollar stores as food retailers. The aim of this media scan was to summarize key themes and messages in recent news covering dollar stores and their impacts on local food environments.

We searched Google News with the key search term "dollar stores," "food access," and "food deserts." Google News defaults to 100 articles that most closely meet search terms. We then narrowed the selected articles to 54 news articles that included dollar stores in the headline or byline and were not behind a pay wall.

While just over half of the scanned articles (28) took a neutral stance on dollar stores,[21-48] [23] (43%) were negative in sentiment toward dollar stores[49-71] and just three (6%) presented a positive stance toward the dollar store industry.[72-74]

Four key themes recur across the sample articles selected:

Dollar Stores as a Food Source and the Nutritional Value of Food Available

Over 90% of articles (49) in our sample addressed dollar stores as a source of food and the nutritional value of food available at dollar stores. The vast majority specifically focused on the lack of healthy food in most dollar stores relative to full-service grocery stores.

Dollar Stores, Poverty, and Race

The notion that dollar store corporations disproportionately benefit from communities in poverty and communities of color, especially Black communities, came up with some frequency in our scan. Sixteen (30%) of the articles scanned specifically mentioned race in this context. More broadly, sociodemographic factors that intersect with race (including income, urbanicity, and rurality) were mentioned in every article reviewed for this scan.

Dollar Stores' Competition with Other Food Retailers

A theme which we did not initially scan for but came up frequently in recent news media was dollar stores' impact on communities' local food systems. News outlets reported both on community food systems bolstered by the opening of a dollar store and decimated by downward competition from dollar stores, forcing out local or full-service grocery stores. Within the articles scanned there was no consensus on whether there is a causal relationship in this scenario, and which direction that relationship goes.

Public Policy Addressing Dollar Stores

Finally, public policies related to dollar stores—often limiting their density—were mentioned in 38 (70%) of the articles in this scan. Local policies directed at dollar stores are summarized below in the local policy scan.

News Media Scan Key Findings and Implications

Recent news coverage of dollar stores as related to food access reflects a population and press with mixed sentiment and opinions of the increasing prevalence of dollar stores and their place within the American food system. Media coverage reflects some skepticism of dollar stores' ability to provide nutritious foods and varying approval of public policy interventions related to this industry.

LOCAL POLICY SCAN

Communities and policymakers across the country are working to strengthen their local food systems by advocating for policies that limit the number of dollar stores within specific geographic areas and ensure dollar stores stock more healthy options. These policies respond to concerns that dollar stores may disincentivize full-service grocery stores from entering or remaining in local markets, while providing residents with insufficient healthy options. Two recent publications surveyed the dollar store policy landscape and were key sources for the policy summary below. McCarthy et al., 2022 conducted a policy scan of local policies to limit dollar store introduction or expansion from 2018-2020 to develop a legal database to inform future policies and programs.[75] A 2023 report by The Institute for Local Self Reliance examined the recent history of dollar store expansion and detailed local community responses and policies passed limiting dollar store spread.[76]

Emergence and Prevalence of Dollar Store Policies

In 2018, the city council in Tulsa, Oklahoma enacted an ordinance targeting dollar store market entry.[77] Soon after, grassroots advocacy for policies limiting dollar store expansion began taking off across the country.[76] In the four years following, dollar store development proposals were blocked by community opposition at least 75 times.[76] In this same period (2018-2022), at least 54 local governments implemented policies that limited the entrance of new dollar stores.[76] Stated motivations for policy change included increasing the availability of healthy food options, expanding food retail options, supporting local economy and local businesses, improving safety and preventing blight, enhancing community aesthetics, and addressing labor and cost concerns.[75] A vast majority of enacted policies are expressly motivated by the lack of healthy food options available at dollar stores.[75,76] However, few communities have conducted community research prior to dollar store policy and development. The City of New Orleans commissioned a study that included characterization of the city's dollar stores, neighborhoods' public health, city land use policy, and recommendations based on the study findings.[78] After passing a dollar store moratorium, DeKalb County, Georgia analyzed dollar store food environments and associations of dollar store presence with negative social outcomes.[79]

Nearly all the communities that have enacted policies targeting dollar stores are in the South and Midwest,[75] reflecting where the largest proportion of dollar stores are located.[4,6] In an analysis of dollar store policies enacted between 2018 and 2020, over three quarters of the communities where such policies were passed had a poverty rate above the national average and in almost 90% of the municipalities which passed dollar store policies, the percentage of the population who identified as Black was greater than the national average.[75]

Communities have used a variety of policy mechanisms to address new dollar store proliferation and/or healthy food availability (Table 1).

Table 1. Local dollar store policy mechanisms

Policy mechanism	Description	Examples
Ban or time-limited moratorium	Moratoriums include banning permit applications or rezoning such that no new dollar store can be introduced within a defined area, often used to preserve the status quo, as a community or legislature considers a new zoning ordinance or other local policy.	A zoning ordinance in Stonecrest, Georgia bans small box discount stores in high-rise mixed-use zones.[80]
Conditional use ordinance	A conditional use ordinance allows for local government to approve or deny each new dollar store, often with an approval process that ensures specific standards are met.	A conditional use ordinance in Fate, Texas only allows small box discount stores via special use permits.[81]
Permitting ordinance	A permitting ordinance allows local government to specify or cap the number of permits awarded within a specific area.	A permitting ordinance in Forest Park, Georgia caps permits for small box discount stores at three.[82]
Dispersal ordinance	A dispersal ordinance allows a local government to define a minimum distance between dollar stores.	A dispersal ordinance in Lauderhill, Florida requires new dollar stores locate a minimum of one mile from existing small box discount stores.[83]
Policies to increase healthy food availability	Local governments can use several different policy mechanisms to incentivize business owners to increase healthy food availability.	The zoning code in Tulsa, Oklahoma creates a Healthy Neighborhoods overlay, which sets small box discount store dispersal limits but exempts stores that contain a prescription pharmacy or dedicate a minimum floor area to selling fresh meat, fruits, and vegetables.[77]
Staple foods ordinance	Local governments can use staple foods ordinances to require food retailers (including dollar stores) to stock specific foods within a specific area.	A staple foods ordinance in Minneapolis, Minnesota requires food retailers (the code's definition encompasses dollar stores) to stock certain staple foods, including dairy and dairy alternatives, animal and vegetable proteins, fruits and vegetables, juice, whole grains, and legumes.[84]

Local Policy Scan Key Findings and Implications

Local policies targeting dollar stores have largely focused on stopping new dollar store spread and increasing healthy foods available at new dollar stores or in neighborhoods where dollar stores are located. Local governments have implemented a variety of policy mechanisms across the country, mostly without in-depth community research. However, given dollar stores' prevalence broadly and especially in communities with limited access to nutritious food, more policy options are needed to specifically address increasing healthy food options at existing dollar stores, in addition to incentivizing or requiring new dollar stores to stock an adequate selection of healthy food.

Survey Methods

DATA COLLECTION

CSPI conducted a cross-sectional mixed-methods online survey among U.S. adults to assess respondents' dollar store shopping habits and perceptions (Appendix A). The goal of this survey was to contribute to the knowledge base on dollar store shoppers' lived experiences, provide a baseline understanding of how community members view and utilize dollar stores, and inform future policy efforts. We contracted with an external firm to administer focus groups and a national survey. To inform survey question development, in February 2022 we conducted two focus groups of urban and rural frequent dollar store shoppers with limited economic resources via Zoom (n= 24). We asked the focus group participants questions related to dollar store perceptions, dollar store utilization, and nutrition-promoting opportunities at dollar stores. We recruited survey participants via a national online sample of people who had previously agreed to be contacted for research surveys from April 8 to April 26, 2022. To be eligible for the survey, respondents had to be at least 18 years old, report living near a dollar store, and either participate in the Supplemental Nutrition Assistance Program (SNAP) in the past 12 months or live in a household with an annual income less than 200% of the federal poverty level (FPL). The 48-question survey included closed- and open-ended questions and aimed to answer three primary research questions:

1. What are the perceptions of dollar stores amongst shoppers with limited resources?
2. How do shoppers with limited resources use dollar stores?
3. What are opportunities for dollar stores to improve healthy food access for their customers and communities?

The Supplemental Nutrition Assistance Program (SNAP)

The Supplemental Nutrition Assistance Program (SNAP) is the largest federally funded domestic food assistance program. In 2022, SNAP provided monthly benefits to 41 million Americans with incomes less than 130% FPL.[85,86] The average benefit amount was less than three dollars per person per meal per day.86 Nearly 260,000 retailers are authorized to accept SNAP benefits, including many dollar stores.[87] To accept SNAP, SNAP-authorized retailers must stock at least a small number of staple food items, including at least three varieties of 1) fruits or vegetables, 2) dairy, 3) meat, poultry, or fish, and 4) grains or cereal.[88]

STATISTICAL ANALYSIS

We utilized survey weights for all analyses to make the sample more representative of demographic characteristics of SNAP participants based on the most recent SNAP participation race, ethnicity, and gender data.[89] We used descriptive statistics (frequencies) to summarize sociodemographic characteristics and the findings for each of the three research questions outlined above. We used chi-squared tests to assess key differences of interest, including SNAP participation (SNAP vs. non-SNAP participants) and dollar store shopping frequency (frequent shoppers vs. infrequent shoppers). We also explored differences by geographic location (urban vs. rural), however, no notable differences emerged, thus those results were excluded from the report for length considerations. All quantitative analyses were conducted using Stata 16.1.

We conducted thematic analyses from open-ended survey questions to determine key themes from each question response. We chose representative quotes based on research team discussion to exemplify key findings from the survey within each research question.

Survey Results

In total, 750 people from across the U.S. who self-identified as living near a dollar store completed the survey. The majority of respondents were White (74%) females (64%) with an annual household income of $34,900 or less (80%). Respondents represented both urban (50%) and rural (46%) geographic areas, and most were at risk for food insecurity[90] (59%) or participated in SNAP (62%) at some point within the last year. The majority of respondents (87%) reported having adequate transportation for food shopping activities (Table 2 and Appendix B, Supplemental Table 1).

Table 2. Sociodemographic characteristics of survey respondents (N= 750)

Characteristic	%
Age, years	
18-24	3.5%
25-34	12.3%
35-44	17.4%
45-54	13.4%
55-64	19.6%
65-74	25.5%
75+	8.3%
Race/ethnicity[i]	
Asian or Pacific Islander	1.9%
Black	18.7%
Indigenous	2.7%
Latine	15.3%
White	73.6%
Decline to answer	0.4%
Gender (female)	63.9%
Annual household income	
$0-$25,800	61.3%
$25,801-$34,900	18.5%
$34,901-$44,000	5.9%
$44,001-$53,000	5.2%
$53,001-$62,100	4.3%
$62,101-$71,200	1.5%
$71,201-$80,300	2.0%
$80,301-$89,400	1.3%
Employment status	
Full time	15.0%
Part time	6.2%
Unemployed	28.6%
Self-employed	7.9%
Retired	42.3%
SNAP participation in the last year	62.2%

Geographic location	
Urban	49.8%
Suburban	4.5%
Rural	45.6%
Unsure	0.1%
At risk for food insecurity[ii]	58.8%
Adequate transportation for food shopping	86.6%

[i]For this question, respondents could select all that applied, and therefore the percentages do not total to 100%.
[ii]Defined as an affirmative response to one or both questions on the 2-item Hunger Vital Sign screener.[90]

The vast majority of respondents had shopped at a dollar store before (97%) and 75% were frequent chain dollar store shoppers, shopping at Dollar General, Dollar Tree, or Family Dollar more than once a month. Most participants lived within 4 miles of a dollar store (67%) and reported being able to travel to their closest dollar store in less than 15 minutes (86%). Urban respondents reported living closer to their nearest dollar store relative to rural respondents: urban respondents most commonly reported living within less than one mile or under five minutes from a dollar store, and rural respondents most commonly reported living within 1-2 miles or 5-14 minutes from a dollar store (Table 3).

Table 3. Dollar store shopper frequency and proximity to dollar stores among survey respondents (N=750)

Characteristic	%	
Dollar store shopper[i] **(% yes)**	97.1%	
Dollar store food shopper[ii] **(% yes)**	81.5%	
Frequent dollar store chain shopper[iii] **(% yes)**	74.9%	
Distance from home to nearest dollar store	**Urban (N=297)**	**Rural (N=408)**
Under a mile	23.3%	10.4%
1-2 miles	16.6%	13.2%
3-4 miles	5.4%	7.0%
5-9 miles	2.8%	9.9%
10-30 miles	1.1%	4.9%
More than 30 miles	0%	0.1%
Unsure	0.7%	0.1%
Travel time to nearest dollar store		
Under 5 minutes	23.3%	17.3%
5-14 minutes	20.5%	20.4%
15-29 minutes	3.7%	7.0%
30-44 minutes	2.2%	0.6%
45-60 minutes	0.1%	0.2%
More than 1 hour	0%	0.1%

[i]Dollar store shopping at any dollar store type at any frequency (daily shopping to shopping one time per month or less vs. never shopping).
[ii]Respondents who reported purchasing food at dollar stores.
[iii]Frequent shopping at dollar store chains (Dollar General, Dollar Tree, Family Dollar) defined as shopping several times per month or more.

SURVEY RESPONDENT PERCEPTIONS OF DOLLAR STORES

Overall, respondents had positive perceptions of dollar stores. When asked "do you believe that dollar stores help or harm your community," 82% of respondents believed they help their communities. In response to the question "how favorable is your opinion of the following stores," respondents ranked dollar stores relatively favorably, and this favorability extended across specific dollar store banners. Although slightly below big box stores (e.g., Walmart, Target) and supermarkets, dollar stores ranked ahead of wholesale club stores, small food stores, and convenience stores (Table 4). In fact, when asked what kind of store respondents would want if a new food store were to open in their communities, dollar stores were the third choice behind supermarkets and big box stores. This finding is particularly surprising given that all participants already lived close to a dollar store.

Table 4. Favorability of food retailers and desire for a hypothetical new store in respondents' neighborhood (N=750)

Store type	Favorability[i] of store type	Desired store for hypothetical new store
Big box	85.4%	26.1%
Supermarket	81.9%	29.9%
Dollar Tree	80.1%	18.8%[ii]
Dollar General	70.9%	18.8%[ii]
Pharmacy	69.0%	2.3%
Family Dollar	62.4%	18.8%[ii]
Convenience	51.7%	3.4%
Small food store	42.4%	8.9%
Wholesale club	40.1%	10.6%

[i]Percentage of respondents who indicated they had a "very favorable" or "somewhat favorable" opinion of store type.
[ii]This question asked about 'dollar stores' generally, not about specific dollar store chains.

Most respondents reported shopping at dollar stores in some capacity (97%). Responses to the open-ended question "what comes to mind when you think of shopping at your local dollar store" included respondents' main reasons for shopping at the dollar store, notably convenience, affordability, and the unique selection of items.

Respondents described dollar stores as "convenient," "easy [to] access," and a "quick shopping trip" in the open responses. Respondents reported that dollar stores are close by (living near a dollar store was an inclusion criteria), making them easily accessible, including for those who are disabled:

> *"They are convenient for those who are disabled and on a fixed income. They are closer to those neighborhoods and make it easy for them to shop on a budget."*

> *"It's smaller. I don't have to walk a mile [within the store itself] to get milk."*

Additionally, many respondents discussed the affordability of dollar stores and saw a benefit for people who participate in SNAP or are on a fixed income. Respondents discussed saving money at the dollar store, the good value of the products, and bargain deals:

> *"I live in a senior complex. We have a Dollar Tree right up the street. I feel that it has a good impact on this community because we all are on social security and or state aid. It helps us to be able to get a few things we otherwise couldn't afford."*

> *"I can stretch the food stamp dollar farther at the dollar store."*

Some discussed seeking out specific items at the dollar store that you can't find elsewhere:

> *"...carries some snack items hard to find elsewhere."*

> *"I am usually looking for something specific that I know is available at a low price."*

In the open responses, some of the most common negative perceptions of dollar stores included the lack of cleanliness, cheaply-made and low-quality products, and inconsistent stocking.

Respondents discussed store cleanliness as a downside to dollar stores, and mentioned cluttered aisles and lack of organization:

> *"...but the store is cluttered, understaffed, dirty, under stocked, cluttered and piled up aisles."*

> *"Dirty, unorganized."*

Several participants reported that dollar stores may often be out of stock of the items they want or need, or that stocking is inconsistent, and wished for better stocking standards:

> *"Chaotic, nothing is stocked and most stuff is is [sic] in boxes and on carts."*

> *"I dread that they are usually out of stock of what I need."*

Participants felt that some products are not of high quality and, therefore, may not last long:

"Inexpensive, cheap, not good quality."

"I just think the items are cheap and don't usually hold up very long at all."

While most survey respondents reported shopping at dollar stores in some capacity, 25 respondents reported never shopping at dollar stores of any kind. The top five selected reasons for not shopping at dollar stores were:

- **I don't generally consider dollar stores as a place I'd shop (73%)**
- **Dollar stores do not have the quality of products I want (58%)**
- **I prefer to get everything I need at other stores (39%)**
- **The food is highly processed and bad for you (29%)**
- **There are no healthy food options available (24%)**

DOLLAR STORE UTILIZATION AND FOOD SHOPPING PATTERNS

Overall, dollar stores were secondary to supermarkets and big box stores as retail formats for food shopping, but played a larger role in food acquisition for shoppers utilizing SNAP. Shopping frequency was aligned with reported retailer favorability as described above: respondents most frequently shopped for food at supermarkets and big box stores, followed by dollar stores, specifically Dollar General and Dollar Tree. Of note, respondents participating in SNAP reported shopping more frequently for food at all dollar store chains relative to non-SNAP participants (Table 5).

Table 5. Food shopping frequency[i] at each store type, overall and by SNAP participation (N=750)

Store type	Overall	SNAP participation		
		SNAP (N=385)	Non-SNAP (N=365)	Difference
Supermarket	78.4%	79.9%	75.9%	4.0%
Big box	67.6%	69.4%	64.6%	4.8%
Dollar General	43.6%	47.5%	37.2%	10.3%*
Dollar Tree	39.3%	45.0%	29.7%	15.3%*
Convenience	31.4%	38.0%	20.4%	17.6%*
Family Dollar	28.6%	33.8%	20.0%	13.8%*
Small food store	24.5%	28.1%	18.5%	9.6%*
Pharmacy	23.0%	25.6%	18.8%	6.8%
Wholesale club	16.7%	18.0%	14.4%	3.6%
99 Cent Store	15.1%	18.5%	9.5%	9.0%*
Dollar Plus	10.7%	13.2%	6.6%	6.6%*

*P < 0.05, meaning that there is a statistically significant difference between SNAP and non-SNAP participants.
[i]Frequency is defined as shopping more than once per month.

In addition to food shopping frequency, the survey asked respondents where their household does most of its food shopping. Dollar stores ranked similarly for primary food source—dollar stores were the third-most common primary food shopping venue behind supermarkets and big box stores (Appendix B, Supplemental Table 2). And among shoppers at the major dollar store chains (Dollar General, Dollar Tree, and Family Dollar), respondents were more likely to shop for specific food items (50%) or reported dollar stores as being supplement to their main food shopping (31%) (Appendix B, Supplemental Table 3).

Apps, online retail, and grocery delivery have become increasingly important in food shopping in the U.S. About 16% of respondents used a dollar store mobile application and 5% used a third-party delivery app such as Instacart for dollar store shopping. Among those who reported using apps at dollar stores, they were most commonly used to access coupons (53%).

When asked, "do you buy the following items from your local dollar store," the top food items purchased from dollar stores by dollar store chain shoppers included pantry staples (e.g., rice, beans, flour), canned fruits and vegetables, and dairy. Significantly more SNAP participants were more likely to report purchasing fresh and frozen fruits and vegetables, fresh meat or seafood, pantry staples, whole grains, and pre-made meals at dollar stores as compared to non-SNAP participants (Table 6).

Table 6. Types of foods purchased at chain dollar stores, overall and by SNAP participation (N=625[i])

Food Items	Overall	SNAP participation		
		SNAP (N=331)	Non-SNAP (N=294)	Difference
Pantry staples	60.5%	65.0%	53.0%	12.0%*
Canned fruits or vegetables	58.4%	59.4%	56.7%	2.7%
Dairy	50.8%	53.6%	46.2%	7.4%
Whole grains	49.4%	54.9%	40.1%	14.8%*
Pre-made meals	36.0%	40.6%	28.3%	12.3%*
Frozen fruits or vegetables	28.7%	32.0%	23.2%	8.8%*
Fresh fruits or vegetables	19.5%	23.3%	13.0%	10.3%*
Fresh meat or seafood	13.6%	17.0%	7.9%	9.1%*

*P < 0.05, meaning that there is a statistically significant difference between SNAP and non-SNAP participants.
[i]Respondents who shopped at dollar store chains (Dollar General, Dollar Tree, Family Dollar) at least once per month.

OPPORTUNITIES FOR HEALTHIER DOLLAR STORES

Overall, respondents wanted healthy options to be more available, accessible, and affordable at dollar stores. When asked "if the following healthy items were stocked at your local dollar store, would you purchase that item," frequent and infrequent dollar store shoppers alike were interested in a variety of healthy products, especially fruits and vegetables in all forms, healthy snacks, whole grains, healthy pantry staples, and healthy drinks (Table 7 and Appendix B, Supplemental Figure 1).

Table 7. Desire to buy healthy options if made available, by dollar store shopping frequency (N=724[i])

Food items	Overall	Dollar store shopping frequency		
		Frequent shoppers[ii] (N=559)	Infrequent shoppers[iii] (N=165)	Difference
Healthy pantry staples	74.8%	85.4%	73.7%	11.7%*
Canned fruits or vegetables	74.5%	85.1%	74.7%	10.4%
Healthy snacks	70.2%	85.3%	79.8%	5.5%
Whole grains	68.7%	81.0%	68.7%	12.3%
Fresh fruits or vegetables	67.1%	81.2%	69.0%	12.2%
Frozen fruits or vegetables	65.5%	79.7%	69.3%	10.4%
Healthy drinks	58.5%	75.5%	47.8%	27.7%*
Healthy frozen meals	58.8%	74.8%	56.4%	18.4%*
Frozen meat or seafood	47.0%	65.4%	33.6%	31.8%*
Healthy pre-made meals	48.5%	67.0%	42.5%	24.5%*
Fresh meat or seafood	43.7%	61.6%	28.1%	33.5%*

*P < 0.05, meaning that there is a statistically significant difference between frequent and infrequent dollar store shoppers.
[i]Respondents who shopped at dollar stores.
[ii]Frequent shopping defined as shopping more than once a month at dollar store chains (Dollar General, Dollar Tree, Family Dollar).
[iii]Infrequent shopping defined as shopping less than once a month at dollar store chains (Dollar General, Dollar Tree, Family Dollar).

Respondents who never shopped at dollar stores (N=25) were asked, "if the following healthy items were stocked at your local dollar store, would you shop at that dollar store?" Current dollar store non-shoppers showed interest in dollar stores offering healthy options such as healthy pantry staples (34%), canned fruits and vegetables (26%), healthy pre-made meals (23%), and healthy snacks (21%).

Most respondents believed dollar stores have a responsibility for their community's health and supported increasing stock and marketing of healthy items at dollar stores; however, there was less support for decreasing unhealthy items (Table 8). There were significantly more SNAP participants who felt that dollar stores have a responsibility to improve the health of their communities as compared to non-SNAP participants.

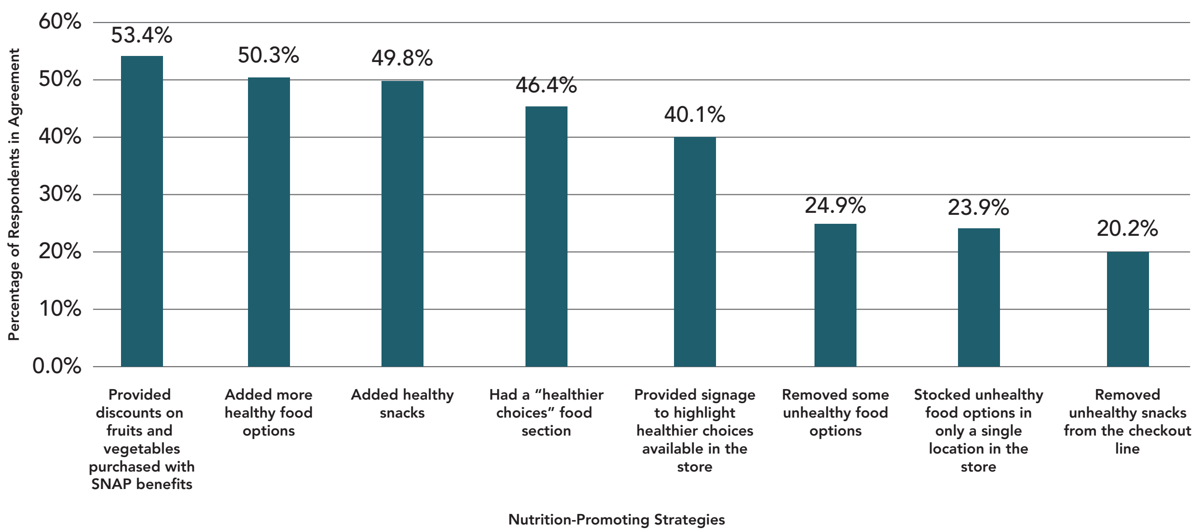
Table 8. Support for opportunities to promote healthier dollar stores, overall and by SNAP participation (N=750[i])

Health-promoting opportunities	Overall support	SNAP participation		
		SNAP (N=385)	Non-SNAP (N=365)	Difference
Dollar stores should stock more healthy options. (N=659)	81.1%	81.3%	80.6%	0.7%
Dollar stores should do more to market and identify healthier options. (N=630)	74.0%	76.5%	69.5%	7.0%
Dollar stores have a responsibility to improve the health of the communities to which they belong. (N=630)	64.5%	71.4%	53.3%	18.1%*
Dollar stores should stock fewer unhealthy food options. (N=630)	44.3%	45.3%	42.4%	2.9%

*P < 0.05, meaning that there is a statistically significant difference in the proportion of respondents who agreed between SNAP and non-SNAP participants.
[i]For each question, those who respondent "I don't know" were dropped from the analysis

This trend of support for increasing healthy options over decreasing unhealthy options continued for specific interventions to create a healthier retail food environment in dollar stores, with respondents more likely to shop at dollar stores with improved pricing, promotion, and stock of healthy items, and less influenced by the removal and manipulation of unhealthy items (Figure 2).

Figure 2. Nutrition-promoting changes to dollar stores that would increase likelihood of shopping at dollar stores (N=750)



SURVEY LIMITATIONS

Given the survey sample size (N=750) and that it was not sampled to be nationally representative, the findings may not be generalizable to all communities across the United States. We also excluded people who did not live near a dollar store and who had higher incomes from the survey, therefore results are not generalizable to these groups. Of note, the majority of survey respondents identified as White. However, we applied survey weights to the data for all analyses to increase representativeness. Our sample also had a relatively high proportion of respondents over the age of 55, and many in this study were also retired, therefore our results may not be reflective of the perspectives of younger working adults. Finally, the survey results were self-reported as opposed to being objectively measured.

SURVEY KEY FINDINGS AND IMPLICATIONS

Our survey found that dollar stores play an important role in food acquisition for shoppers with limited financial resources and identified opportunities for improving the dollar store food environment. Key findings include:

- **Respondents had overall positive perceptions of dollar stores.** Most survey respondents (82%) indicated dollar stores helped their community. Overall, dollar store chains were viewed favorably, ranking third after big box stores and supermarkets, but ahead of convenience, small food, and wholesale club stores. This finding contrasts the negative sentiment in many news media articles and motivations for local dollar store policies.
- **Convenience, affordability, and selection of specialty items motivated shopping at dollar stores.** A multi-faceted concept of convenience emerged as a driver of dollar store utilization that included store proximity, ease of navigating a small store size, and an

overall quick shopping trip. Many respondents also mentioned being able to stretch their budget at the dollar store, including SNAP participants getting more with their SNAP benefits. This aligns with two existing studies that found lower food prices at dollar stores compared to supermarkets.[17,18]

- **Low-quality products, product availability, store appearance, and inadequate staffing deterred shopping at dollar stores.** Amongst dollar store non-shoppers (n=25), 58% stated they did not shop at dollar stores because of the quality of the products available. Additional drawbacks to dollar stores identified by broader survey respondents included store cleanliness and organization, insufficient staffing, and inconsistent stocking, some of which are issues that have been raised in recent media and news articles.
- **Dollar store food shopping was secondary to big box stores and supermarkets but played a larger role for shoppers utilizing SNAP.** Respondents shopped most frequently and acquired the greatest share of food at big box stores and supermarkets, followed by dollar stores. This is not surprising given that existing research shows that dollar stores have less variety as compared to supermarkets,[17,18] and that people are typically willing to travel farther to get to a supermarket to do their food shopping.[91] Most respondents shopped at dollar stores for specific items (50%) or to supplement their larger food purchases (31%). SNAP participants reported shopping for food more frequently at dollar stores and purchasing fresh and frozen fruits and vegetables, fresh meat or seafood, pantry staples, whole grains, and pre-made meals more often as compared to non-SNAP participants.
- **Community members strongly supported increasing healthy food and beverage options at dollar stores.** Most survey respondents believed dollar stores should stock more healthy options (81%) and do more to market and identify healthy options (74%). Specifically, there was highest support for dollar stores to provide SNAP fruit and vegetable financial incentives, stock healthy options and snacks, and identify and place healthy options in prominent locations. Both frequent and infrequent dollar store shoppers were interested in buying healthy pantry staples, fruits and vegetables in all forms, whole grains, and healthy snacks if made available at dollar stores. Additionally, some dollar store non-shoppers indicated they would start shopping at their local dollar store if more healthy items were stocked.

Case Studies

In addition to the national survey on community perceptions of dollar stores, CSPI supported mixed-methods dollar store research conducted by Wayne State University in Michigan and Johns Hopkins University in Baltimore, Maryland, including store environment assessments and key informant interviews and focus groups with dollar store shoppers and non-shoppers. This research aims to support the development of community-informed state and local policy to create a healthier retail food environment. This section describes preliminary findings and policy implications from these state and local case studies.

DATA COLLECTION

Research teams collected data in four cities in Michigan (Detroit, Flint, Grand Rapids, and Lansing) from July 2021 to August 2022, and in Baltimore City since January 2023. In both locations, research teams used qualitative and quantitative formative research to understand the dollar store food environment (Table 9). In Michigan, Wayne State conducted focus groups with community members across four cities and used the Nutrition Environment Measures Survey in Stores (NEMS-S)[92] for in-store assessments. In Baltimore, Johns Hopkins conducted in-depth interviews with Baltimore City community members and used an adapted version of the NEMS-S for in-store assessments.

Table 9. Data collection methods in Michigan and Baltimore

Data source	Michigan (N)	Baltimore (N)
Focus group participants	17	--
In-depth interviews	--	13
In-store assessments	83	20

RESULTS

Focus Groups and In-Depth Interviews

Results from the focus groups in Michigan and in-depth interviews in Baltimore encompassed three concepts related to dollar store perceptions and utilization: food prices, food availability, and store cleanliness. The key findings align with CSPI focus group and survey findings.

Food Prices

While dollar stores were perceived to have products that are affordably priced, participants in Michigan still named price as important to their shopping experience. Participants noted the tiered pricing strategy used in dollar stores and reported the name "dollar store" was problematic since items can cost more than a dollar. In Baltimore, there were mixed findings about prices with some respondents reporting cost savings at dollar stores, and others reporting paying more for certain items (e.g., soda) at dollar stores.

Food Availability

Across both locations, participants voiced a strong desire for increased healthy options at dollar stores. Not only was there demand for increased stocking of those options, but also for making the healthier choice the easier choice by placing them more prominently and having sections dedicated to healthier choices, identified by signage.

Store Cleanliness

Similar to CSPI survey respondents, respondents in Michigan and Baltimore had concerns about the cleanliness and appearance of dollar stores. Respondents reported that stores were dirty and unorganized externally and internally. Importantly, the clutter in the aisles was viewed as a barrier for disabled shoppers.

STORE ENVIRONMENT ASSESSMENTS

The appearance and cleanliness of dollar stores in Michigan were better overall than those in Baltimore. In Baltimore, over half of the stores had trash outside, and almost all stores had trash or dirty/cluttered floors inside. For food availability, only 1 store in Baltimore offered fresh produce. Canned produce items were common in both locations, followed by frozen produce items.

Table 10. Selected store characteristics of dollar stores in Michigan (N=83) and Baltimore (N=20)

Characteristic	Michigan N (%)	Baltimore N (%)
Outside environment		
Trash observed outside	13 (15.7%)	11 (55.0%)
Graffiti observed outside	3 (3.6%)	3 (15.0%)
Inside environment		
Trash observed inside	4 (4.8%)	17 (85.0%)
Dirty floors/clutter observed inside	9 (10.8%)	18 (90.0%)
Odor observed inside	1 (1.2%)	2 (10.0%)
Food availability		
Fresh fruit	0 (0%)	1 (5.0%)
Canned fruit	41 (49.4%)	20 (100.0%)
Frozen fruit	22 (26.5%)	9 (45.0%)
Fresh vegetables	0 (0%)	1 (5.0%)
Canned vegetables including beans	63 (75.9%)	20 (100.0%)
Frozen vegetables	34 (41.0%)	17 (85.0%)
Milk	48 (57.8%)	16 (80.0%)

CASE STUDY KEY FINDINGS

The case studies provide a brief snapshot of key findings in Michigan and Baltimore, and therefore implications are limited to the scope presented here. Findings underscore the demand for improving dollar stores in terms of store appearance and stocking of healthy items. Each case supports existing literature demonstrating a lack of fresh produce. Key findings include:

- **Community members had a strong desire for increased availability and promotion of healthy choices.** In both case studies, community members expressed a desire for increased stocking of healthy food and beverage options and signage and placement strategies to promote them.
- **Many dollar stores stocked canned and frozen fruits and vegetables but most lacked fresh produce.** Few dollar stores in Michigan and Baltimore, MD stocked fresh fruits and vegetables. However, most Baltimore stores and some Michigan had canned and frozen options. Many also stocked milk.
- **Community members were concerned about dollar store appearance and cleanliness.** In both cases, interview and focus group participants highlighted the lack of cleanliness and organization at dollar stores. Dollar store environment assessments, particularly in Baltimore, found presence of trash and clutter inside and outside of the stores.

Recommendations

Based on findings from the CSPI national survey and state and local case studies, as well as insights from a review of the existing dollar store research, media coverage, and policies, we provide recommendations for three audiences: policymakers at the federal and local levels, dollar store corporations, and researchers. Our recommendations focus on improving healthy food availability, accessibility, and affordability at dollar stores to better serve their communities.

POLICY RECOMMENDATIONS

Federal Policy

Expand SNAP retailer stocking standards. Customers can only make healthy purchases at dollar stores if healthy foods are available. Our survey found that 81% of respondents agreed that dollar stores should stock more healthy options, with even greater support amongst shoppers that utilize SNAP. Nearly 260,000 retailers participate in SNAP,[87] the nation's largest domestic nutrition assistance program.[85] SNAP-authorized retailers are currently required to stock only a small number of foods, three units of three varieties across four categories (fruits or vegetables; dairy products; meat, poultry, or fish; and breads or cereals), or 36 items total.[93] Retailers can increase stock of healthier foods—a recent study found that most (86%) small food stores in areas with lower incomes already carried more than double the varieties of fruits and vegetables that SNAP requires.[94] Additionally, stocking standard expansion should be aligned with the recommendations in the Dietary Guidelines for Americans to increase the availability of foods that promote health and reduce the risk of chronic disease.[95] Stronger, nutrition-promoting SNAP retailer stocking standards would require all retailers that accept SNAP, including dollar stores, to increase the number of healthy food offerings at their stores nationwide.

RELEVANT CSPI NATIONAL SURVEY FINDING

81% of respondents believe dollar stores should stock more healthy options

Create SNAP retailer marketing standards. Unfortunately, even when healthy foods are available, marketing of unhealthy foods deters customers from making healthy choices. Most (74%) CSPI survey respondents believed dollar stores should do more to market and identify healthier options for customers. Most foods marketed by retailers have low nutritional value.[96] Prominent locations in food retailers, like checkout areas, feature predominantly unhealthy items, with more unhealthy items marketed at dollar store checkouts than other food retailers.[97] SNAP healthy placement standards could require all SNAP-authorized retailers, including dollar stores, to place only healthier items in key areas like the checkout area, aisle endcaps, and front of store. Placement promotion is a promising marketing strategy,[98] and placement of healthy food items is associated with increased sales.[96] The creation of SNAP healthy placement standards would not only make more healthy food items accessible but increase healthy food promotion and, ultimately, sales.

RELEVANT CSPI NATIONAL SURVEY FINDING

74% of respondents believe dollar stores should do more to market and identify healthy options

Recommendations to Promote Healthy Retail Food Environments: Key Federal Policy Opportunities for the Farm Bill

In January 2023, CSPI in partnership with the Johns Hopkins Bloomberg School of Public Health and Healthy Eating Research, a national program of the Robert Wood Johnson Foundation, convened food and beverage retailers and manufacturers, SNAP participants, and public health researchers, practitioners, and advocates to develop federal policy recommendations to support healthy food retail and healthy food marketing in-stores and online. The recommendations outlined in this report largely focused on opportunities that could be leveraged via SNAP and the farm bill.

Local Policy

Pass local staple foods ordinances. Local staple foods ordinances mandate retailers stock a minimum number of food items across specific healthy food categories (e.g., fruits and vegetables, whole grains, dairy). Minneapolis implemented a staple foods ordinance in 2008,[84] but its effectiveness was unclear due to lack of compliance and enforcement.[99] A staple foods ordinance could mandate stocking requirements across all retailers or specify small box discount stores. A well-designed, enforceable staple foods ordinance could increase healthy food availability at existing dollar stores.

Expand local dollar store density and conditional use ordinances to include healthy food criteria for new and existing dollar stores. Our survey and case studies found that fresh fruits and vegetables were unavailable at most dollar stores, but there was a high interest in purchasing them if made available. Our survey also found an overall positive perception of dollar stores, however, some communities have identified local dollar store proliferation as problematic and enacted local policies to limit the introduction of new dollar stores, for example by imposing dispersal or conditional use limits. These communities can also address the strong desire for increased healthy food availability by incentivizing or mandating healthy food expansion at new and existing dollar stores, including requiring dollar store healthy stocking standards, creating a healthy food overlay in the local zoning code, or exempting dollar stores from dispersal limits if they stock a specific variety and number of staple foods.

Dollar Store Model Ordinance

CSPI has developed a dollar store model ordinance that includes a menu of policy options the can be adapted for state and local dollar store ordinances.

Pass local healthy checkout policies. The pervasiveness of unhealthy food and beverage marketing at prominent locations like checkout areas goes against what customers desire—our survey found that most respondents want dollar stores to stock and market more healthy items. Healthy checkout refers to efforts to improve the nutritional quality of the food and beverage items sold in areas where shoppers stand in line to pay for their purchases. Healthy checkouts can have a meaningful impact on public health and nutrition equity.[100-103] A local healthy checkout policy can change the shopping environment to make it easier for customers and their children to avoid impulse purchases of drinks and snacks with poor nutritional quality at all retailers in a locality, including dollar stores.

Healthy Checkout And Keep Soda in the Soda Aisle Model Ordinances

CSPI has developed two healthy retail model ordinances related to in-store product placement. The first ordinance creates healthy checkout areas. The second ordinance keeps soda in the aisle rather than at checkout and numerous other locations throughout the grocery store.

CORPORATE RECOMMENDATIONS

> **RELEVANT CSPI NATIONAL SURVEY FINDING**
>
> **Most dollar store shoppers would buy healthy pantry staples, fruits and vegetables in all forms, whole grains, and healthy snacks if stocked at their local dollar store**

Increase the stock of healthy items to increase shopper purchases and new customer acquisition. Dollar stores have limited healthy food availability.[17,18] Our survey found that both frequent and infrequent dollar store shoppers would buy healthy items if available at dollar stores, including healthy pantry staples (79%, 69%), canned fruits or vegetables (79%, 59%), whole grains (72%, 65%), healthy snacks (72%, 65%), fresh fruits or vegetables (71%, 55%), and frozen fruits or vegetables (69%, 53%). Additionally, our survey found that current dollar store non-shoppers would start shopping at their local dollar stores if more healthy items were stocked, including healthy pantry staples (34%), canned fruits or vegetables (26%), healthy pre-made meals (23%), healthy snacks (21%), and frozen fruits or vegetables (20%). Dollar stores face challenges to increasing stock of healthy items, including dollar store size, supply chain, and business model considerations (Barriers to Stocking Healthy Foods at Dollar Stores, pg. 10) and should be further studied to identify solutions that address the needs of retailers and consumers. By expanding healthy offerings, dollar stores could increase existing customers' purchases and expand their customer base.

> **RELEVANT CSPI NATIONAL SURVEY FINDING**
>
> **65%** of respondents believe dollar stores have a responsibility to improve the health of their communities

Prioritize fresh food expansion in areas with lower incomes and limited food access. Nearly 40 million Americans live in areas where residents have lower incomes and food access.[104] A majority (65%) of our survey respondents believed dollar stores have a responsibility to improve the health of the communities to which they belong. Dollar stores may serve as an important food access point—dollar stores tend to locate in majority Black and Latine communities where access to supermarkets is more limited.[4] However, most dollar stores do not currently stock fresh produce—only 16% of Dollar General locations[111] and a small number of Family Dollar locations sell fresh fruit or vegetables.[112] Dollar stores should prioritize expanding dollar store models that stock more healthy and fresh food items like fruits, vegetables, dairy, eggs, and meat, such as DG Market, to communities that stand to benefit the most from increased healthy food availability. Dollar stores could utilize existing tools, like the USDA Food Environment Atlas, to identify stores in areas with lower incomes and limited food access to prioritize renovation and expansion.[105]

Develop and report progress annually on environmental, social, and governance (ESG) priorities that include healthy food access and nutrition goals. Dollar stores can voluntarily set measurable, timebound ESG priorities demonstrating to shareholders and customers how they will prioritize healthy food access and nutrition in their business and philanthropy. Recently, Dollar Tree released an environment and social sustainability update, but its scope does not include food access or nutrition.[106] Dollar General releases an annual ESG report with a section on food access efforts, including donations to Feeding America, fresh produce expansion, and a "Better for You" product assortment and recipes.[107] Dollar Tree should expand future ESG reports to include food access and nutrition priorities and progress, and Dollar General could strengthen existing priorities. For example, Dollar General established a goal of fresh produce expansion to 10,000 stores, more than half its current locations, "over the next few years,"[107] but should be establishing a target year and prioritizing stores serving areas with limited food access. Additionally, Dollar General works with a Registered Dietitian on its "Better for You" brand that identifies items that align with the Dietary Guidelines for Americans,[108] but could establish ESG priorities to increase the sales of these healthier items. For example, Ahold Delhaize USA sets public healthy sales goals and discloses the percentage of food sales that meet their nutritional criteria from their Guiding Stars program.[109] Evidence-based corporate dollar store ESG priorities that improve healthy food access and nutrition could increase healthy food availability and accessibility nationwide.

Implement and evaluate SNAP fruit and vegetable financial incentives in dollar stores. Even if dollar stores stock fresh, frozen, and canned fruits and vegetables, they may remain inaccessible to many shoppers if they can't afford them. In our survey, more than half of respondents indicated they would be more likely to shop at a dollar store that offers SNAP incentives. The most common barrier to achieving a healthy diet for shoppers that utilize SNAP is the affordability of healthy foods.[110] SNAP incentives provide a discount on fruits and vegetables purchased with SNAP benefits and increase purchases and consumption of fruits and vegetables.[111] Nearly 3,000 retailers participate in the Gus Schumacher Nutrition Incentive Program (GusNIP), the federal SNAP nutrition incentive grants program; however, no dollar stores currently participate.[112] Dollar stores could partner with local advocates and researchers on a GusNIP grant to pilot nutrition incentives at their stores.[113] Alternatively, they could apply for a USDA waiver to independently offer discounts on SNAP fruit and vegetable purchases, as Meijer recently did.[114] A SNAP incentive pilot at dollar stores should evaluate multiple outcomes of interest to assess intended and unintended customer impact, including fruit and vegetable sales and consumption, sales and consumption across other food categories, and food and nutrition security. SNAP fruit and vegetable financial incentives could be a triple win for retailers, customers, and the community.[115] However, evaluating their impact before scaling is critical.

RELEVANT CSPI NATIONAL SURVEY FINDING

53% of respondents would be more likely to shop at dollar stores if they provided discounts on fruits and vegetables purchased with SNAP benefits

Expand Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) authorization of dollar stores. WIC provides nutrition assistance to pregnant, breastfeeding, and postpartum women, infants, and children up to the age of five who meet income eligibility criteria.[116] Although 14 million people are eligible for WIC, fewer than half of WIC-eligible families are enrolled.[117] While more than 250,000 retailers participate in SNAP,[87] only 46,000 retailers participate in WIC.[118] Few dollar stores currently accept WIC. Dollar stores could expand WIC availability by accepting WIC in more stores, especially in areas lacking a nearby WIC-authorized retailer. By meeting the more extensive WIC stocking standards,[119] dollar stores would increase healthy food accessibility for WIC participants and healthy food availability for everyone who shops at a WIC-authorized dollar store. To support WIC expansion, more research should be conducted to understand the barriers to WIC authorization of dollar stores.

Apply for Healthy Food Financing Initiative (HFFI) funding to increase stock and promotion of healthy items and evaluate impact. Additional federal programs exist to increase the availability and accessibility of healthy food at dollar stores. HFFI improves access to healthy foods in underserved areas through investments in healthy food retail projects and food supply chain enterprises.[120] HFFI project scope includes retail equipment that supports healthy food expansion (e.g., refrigeration, signage) and innovative healthy marketing.[120] Unlike GusNIP, retailers can apply directly for HFFI funds. Dollar stores could apply for HFFI funding to pilot and evaluate innovative healthy food stocking and marketing in their stores. These projects could be strengthened through community partnership to better design and evaluate healthy marketing interventions in dollar stores.

Partner with community organizations and SNAP state and local agencies to improve healthy food access through dollar stores. SNAP Education (SNAP-Ed) is a federally-funded program that is implemented by SNAP state and local agencies to provide people who are SNAP-eligible with nutrition education and improve the policies, systems, and environments (PSE) of communities to promote health.[121] Dollar stores could proactively seek out partnership with SNAP state and local agencies and community organizations to implement and evaluate PSE interventions in dollar stores, such as the stocking and increased marketing of healthy foods. The collaboration between Louisiana State University Ag-Center SNAP-Ed, community leaders, and Dollar General to increase stock and marketing of healthy foods at a local dollar store in a small Louisiana town that lacked a grocery store could serve as a model that could be scaled.[122]

RESEARCH RECOMMENDATIONS

Replicate the CSPI dollar store survey at the local level to inform local policy and corporate interventions. Our survey reflects national consumer perceptions but does not represent all communities and their unique retail food environment characteristics and needs. Before pursuing local dollar store policy or corporate action, advocates and researchers should adapt and administer CSPI's survey in their communities (Appendix A). Change agents can ensure proposed interventions center community voices by first seeking to understand a community's dollar store perceptions, usage, and desire for change.

Conduct research to better understand current dollar store food environments and their variation across the country. Existing research, including the findings presented in the Michigan and Baltimore case studies in this report, finds dollar stores have limited healthy food availability.[17,18] However, dollar stores have prioritized fresh and frozen expansion in recent years,[107] creating variation from store to store and community to community. Additionally, while existing research has used robust, validated instruments to assess the dollar store food environment,[17] these instruments are not tailored to the dollar store environment and also miss some key measures of food accessibility, like marketing. Researchers should explore the adaptation of existing food environment measures, like the Nutrition Environment Measures Survey for Stores, to assess a larger sample of dollar stores across the country, including those serving urban and rural communities.

RELEVANT CSPI NATIONAL SURVEY FINDING

Of the dollar stores assessed, zero Michigan dollar stores and one Baltimore dollar store stocked fresh fruits or vegetables

Collaborate with dollar store corporate offices to understand relevant internal research findings, including identifying barriers to improving stock of healthy food options. While the CSPI survey is the first publicly available national study on dollar store perceptions and utilization, dollar store corporations have conducted many studies to better understand their customers. Dollar store corporate offices should consider sharing their previous findings related to improving healthy food accessibility to inform policy, corporate, and research progress. Importantly, challenges associated with increasing the stock of healthy food items, such as cost, space, and supply chain may be a deterrent for dollar stores to increase stock of healthy foods. Researchers and dollar store corporations should collaborate to better understand those barriers and develop creative solutions that work for retailers and consumers.

RELEVANT CSPI NATIONAL SURVEY FINDING

50% of respondents would be more likely to shop at dollar stores if they provided provided more healthy options

Pilot healthy food marketing (e.g., produce, placement, price, promotion) interventions in dollar stores. Current evidence finds healthy food marketing interventions can increase healthy food purchases and consumption in the retail setting,[98] including through product,[123] price,[124] placement,[96] and promotion interventions.[125,126] However, to our knowledge, healthy marketing interventions have yet to be implemented and evaluated in dollar stores. Our survey found that about half of respondents would be more likely to shop at a dollar store if it added more healthy options (50%), had a healthier choices food section (46%), and provided signage to highlight healthier choices (40%). Corporate dollar stores and researchers should collaborate on a rigorous, multi-component healthy marketing intervention and evaluation that includes control and experimental stores and key outcomes that include purchases, consumption, and food and nutrition security. Previous healthy retail research collaborations between researchers, retailers, and advocates could serve as a model.[96] A pilot would not be possible without corporate dollar store buy-in and would be made more robust with a data-sharing agreement and shared expertise on intervention design, feasibility, and scalability. External researchers would bring additional credibility to the pilot as well as nutrition, marketing, and evaluation expertise. A corporate-research partnership to co-design, implement, evaluate, and publicly disseminate a rigorous healthy marketing intervention would fill a large evidence gap and identify salient marketing strategies for dollar stores.

Conclusions

Despite the rapid proliferation of dollar stores and growing dollar store research, news media coverage, and policy passage, this is the first national study of community member perspectives of dollar stores. Among shoppers with limited resources, CSPI found that dollar stores had an important role in their food acquisition and identified a strong desire for dollar stores to make healthy choices more available, affordable, and accessible. Case studies from Michigan and Baltimore, MD underscore the value of state- and local-level research for informing dollar store policy and provide models for other municipalities to follow. Our survey results do not support widespread bans of new dollar stores. However, some communities may want to stop the spread of dollar stores locally and could replicate our survey in their community to inform policy action. Notably, policies to date have only focused on new dollar stores. Critically (and perhaps most importantly), additional policy, corporate, and research solutions are necessary to improve the healthfulness of the existing 35,000 dollar stores across the country, including the recommendations outlined in this report. Policymakers, corporations, and researchers should leverage the ubiquity of dollar stores to improve healthy food access nationwide.

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Appendix A – CSPI Dollar Store Community Perceptions Survey

2021 POVERTY GUIDELINES FOR THE 48 CONTIGUOUS STATES AND THE DISTRICT OF COLUMBIA	
Persons in family/household	**Poverty guideline**
1	$12,880
2	$17,420
3	$21,960
4	$26,500
5	$31,040
6	$35,580
7	$40,120
8	$44,660

For families/households with more than 8 persons, add $4,540 for each additional person.

INTRODUCTION

Hello and thank you for taking this quick survey. We'd love to learn a little bit more about you and your shopping experiences and habits.

You have the opportunity to make your voice heard.

So, how about it? Let's get started.

SCREENER QUESTIONS

We're going to start with a few questions to ensure we get an accurate representation of the public. These questions are completely anonymous and confidential and are used only for statistical purposes.

S1 In which state do you live? **[RECORD—DROP DOWN MENU]**

S2 What is your age?

1. Under 18 **[TERMINATE]**
2. 18-19
3. 20-24
4. 25-29
5. 30-34
6. 35-39
7. 40-44
8. 45-49
9. 50-54
10. 55-59
11. 60-64
12. 65-69
13. 70-74
14. 75 and older

S3 Including yourself, how many people live in your household? **[DROP DOWN MENU]**

S4 Are you a parent or caregiver with at least one child under the age of 18 living at home?

1. Yes
2. No

S5 Which of the following best describes your yearly household income in 2021?

USE CHART AT TOP OF SCREENER TO DETERMINE <200% OF FPL QUALIFIER.

1. $0
2. $1-$25,800
3. More than $25,800, but less than $34,900
4. More than $34,900, but less than $44,000
5. More than $44,000, but less than $53,000
6. More than $53,000, but less than $62,100
7. More than $62,100 but less than $71,200
8. More than $71,200 but less than $80,300
9. More than $80,300 but less than $89,400
10. More than $89,400 **[TERMINATE]**
11. REFUSED **[TERMINATE]**

S6 Have you participated in the Supplemental Nutrition Assistance Program (SNAP) in the past year?

1. Yes
2. No

ALL PARTICIPANTS MUST EITHER (1) PARTICIPATE IN SNAP: S6 = 1 OR (2) HAVE HHI <200% OF THE FEDERAL POVERTY LEVEL: S6 & S3 + CHART AT TOP OF SURVEY

S7 Do you or any members of your household work in any of the following jobs or industries (currently or previously)? Please select ANY that apply. [MULTIPLE SELECT]

1. Market Research or Public Opinion Research [TERMINATE]
2. Advertising, Marketing, or Public Relations [TERMINATE]
3. At a newspaper, magazine, radio or television station or any other journalistic outlet **[TERMINATE]**
4. Food manufacturing **[TERMINATE]**
5. At a grocery store **[TERMINATE]**
6. At a dollar store **[TERMINATE]**
7. None of these

S8 Which of the following stores are near you? "Near" means that it doesn't take much longer to get to this store than it would to drive to other stores in your area… that it's NOT significantly "out of the way" for you. Please choose all that apply. **[RANDOMIZE]**

1. Family Dollar
2. Dollar Tree
3. Dollar General
4. Dollar Plus

5. 99 Cent Store
6. Chain grocery store
7. Supermarket
8. Small food store like a corner store or bodega
9. Discount or big box store like Walmart or Target
10. Wholesale club like Costco or BJs
11. Pharmacy store like CVS or Walgreens
12. Convenience store like 7-11 or Mini Mart
13. None of the above **[ANCHOR—EXCLUSIVE]**

TERMINATE RESPONDENT IF S8 DOES NOT PUNCH 1-5

S9 How close is the nearest dollar store to your residence?

1. Under a mile
2. 1-2 miles
3. 3-4 miles
4. 5-9 miles
5. 10-30 miles
6. More than 30 miles
7. I'm not sure

S10 How much time does it take you to travel to the closest dollar store?

1. Under 5 minutes
2. 5-14 minutes
3. 15-29 minutes
4. 30-44 minutes
5. 45-60 minutes
6. More than an hour

BODY OF SURVEY QUESTIONS

1. In a few words or phrases, please describe what comes to mind when you think of shopping at your local dollar store. **[OPEN RESPONSE RECORD]**

2. How favorable is your opinion of the following stores? **[MATRIX QUESTION—RANDOMIZE A-K]**

A. Family Dollar
B. Dollar Tree
C. Dollar General
D. Dollar Plus
E. 99 Cent Store
F. Supermarket
G. Small food store like a corner store or bodega
H. Discount or big box store like Walmart or Target
I. Wholesale club like Costco or BJs
J. Pharmacy store like CVS or Walgreens
K. Convenience store like 7-11 or Mini Mart

1. Very favorable
2. Somewhat favorable
3. Neutral
4. Somewhat unfavorable
5. Very Unfavorable
6. I don't know enough to rate

3. Hypothetically, if a new store which sells food were built in a very convenient location near to you in your community, which of the following types of stores would you want it to be? **[RANDOMIZE]**

1. A dollar store
2. A supermarket
3. A small food store like a corner store or bodega
4. A discount or big box store like Walmart or Target
5. A wholesale club like Costco or BJs
6. A pharmacy store like CVS or Walgreens
7. A convenience store like 7-11 or Mini Mart

4. **[ASK ONLY IF 3=1]** You indicated that you would want an additional dollar store added to your community. Which dollar store would you prefer? **[RANDOMIZE]**

1. Dollar Tree
2. Dollar General
3. Dollar Plus
4. Family Dollar
5. 99 Cent Store
6. Any of these [ANCHOR]
7. None of these [ANCHOR]

5. How often would you say that you shop at the following stores? **[MATRIX QUESTION—RANDOMIZE A-K]**

A. Family Dollar
B. Dollar Tree
C. Dollar General
D. Dollar Plus
E. 99 Cent Store
F. Supermarket
G. Small food store like a corner store or bodega
H. Discount or big box store like Walmart or Target
I. Wholesale club like Costco or BJs
J. Pharmacy store like CVS or Walgreens
K. Convenience store like 7-11 or Mini Mart

1. Daily
2. A few times a week
3. Once a week
4. A few times a month
5. Once a month or less
6. Never

IF ANY Q5A-E=1:5 CODE AS 'DOLLAR STORE SHOPPER'

IF ALL Q5A-E=6 CODE AS 'DOLLAR STORE NON-SHOPPER'

6. **[ASK ONLY IF Q5A-E=1:5 DOLLAR STORE SHOPPER]** How do you or other members of your household usually get to the dollar store? **[RANDOMIZE]**

    1. Drive our own car
    2. Use someone else's car
    3. Some else drives me
    4. Walk
    5. Use public transportation
    6. Use a rideshare or taxi
    7. Ride a bicycle
    8. Other **[ANCHOR]**

7. **[ASK ONLY IF ALL Q5A-E=6 'DOLLAR STORE NON-SHOPPER']** What are the reasons you don't routinely shop at a dollar store? Please select ALL that apply. **[RANDOMIZE—MULTIPLE SELECT]**

    1. It is not conveniently located
    2. It does not have the variety of products I want
    3. It does not have the quality of products I want
    4. There are no healthy food options available
    5. It is too expensive
    6. I do not like the experience of being in a dollar store
    7. The lines are too long
    8. I do not like the layout of the store
    9. I don't generally consider dollar stores as a place I'd shop
    10. Shopping at a dollar store would make me feel ashamed
    11. I prefer to get everything I need at other stores
    12. The food is highly processed and bad for you
    13. They sell products that are bad for the environment
    14. They do not accept WIC
    15. They are putting other locally owned small businesses out of business
    16. Other **[SPECIFY]**

8. Do you believe that dollar stores help or harm your community? **[FLIP]**

    1. Helps my community a lot
    2. Helps my community a little
    3. Neither helps nor harms my community
    4. Harms my community a little
    5. Harms my community a lot

9. In a few words, why do you feel dollar stores have that impact on your community? **[OPEN RESPONSE RECORD]**

10. **[ASK ONLY IF ANY Q5A-E=1:5 'DOLLAR STORE SHOPPER']** When you shop at a dollar store, do you spend more time shopping for food or for non-food items? **[RANDOMIZE]**

1. For food
2. For non-food items

[TEXT ON SCREEN]

Now we'd like to switch topics and discuss the food that you purchase for your household.

11. **[SHOW ONLY IF RECEIVING ANY OF THE QUESTIONS BELOW A-K]** How often would you say that you shop for groceries or food products at the following stores? **[MATRIX QUESTION—RANDOMIZE A-K]**

A. **[ASK ONLY IF Q5A = 1-5]** Family Dollar
B. **[ASK ONLY IF Q5B = 1-5]** Dollar Tree
C. **[ASK ONLY IF Q5C = 1-5]** Dollar General
D. **[ASK ONLY IF Q5D = 1-5]** Dollar Plus
E. **[ASK ONLY IF Q5E = 1-5]** 99 Cent Store
F. **[ASK ONLY IF Q5F = 1-5]** Supermarket
G. **[ASK ONLY IF Q5G = 1-5]** Small food store like a corner store or bodega
H. **[ASK ONLY IF Q5H = 1-5]** Discount or big box store like Walmart or Target
I. **[ASK ONLY IF Q5I = 1-4]** Wholesale club like Costco or BJs
J. **[ASK ONLY IF Q5J = 1-5]** Pharmacy store like CVS or Walgreens
K. **[ASK ONLY IF Q5K = 1-5]** Convenience store like 7-11 or Mini Mart

1. Daily
2. A few times a week
3. Once a week
4. A few times a month
5. Once a month or less
6. Never

IF ANY Q11A-E=1:5 CODE AS 'DOLLAR STORE FOOD SHOPPER'

12. Where does your household do most of its food shopping? **[RANDOMIZE]**

1. Dollar stores
2. Supermarkets
3. Small food stores like a corner store or bodega
4. Discount or big box stores like Walmart or Target
5. Wholesale clubs like Costco or BJs
6. Pharmacy stores like CVS or Walgreens
7. Convenience stores like 7-11 or Mini Mart
8. At other types of stores **[ANCHOR]**

13. **[ASK ONLY IF Q11A-E=1:5 'DOLLAR STORE SHOPPER]** Which best describes how your household shops for food? **[RANDOMIZE]**

1. Shops at the dollar store first and then supplements with other types of stores
2. Shops at other types of stores first and then supplements with the dollar store
3. There are specific items I purchase at the dollar store and specific items I purchase at other types of stores
4. I am unsure **[ANCHOR]**

14. Who is responsible for the majority of food or grocery shopping in your home?

1. Myself
2. I share the responsibility with someone else
3. Someone else

15. How frequently do you or your family shop for groceries? **[FLIP]**

1. Daily
2. A few times a week
3. Once a week
4. A few times a month
5. Once a month or less

16. Do you feel that you have adequate access to transportation for grocery and food shopping?

1. Yes
2. No

17. **[ASK ONLY IF S4=1 AND ANY Q5A-E=1:5 'DOLLAR STORE SHOPPER']** How frequently do you bring your child with you to the dollar store? **[ROTATE]**

1. All the time
2. Very frequently
3. Somewhat frequently
4. Rarely
5. Never

18. **[ASK ONLY IF Q17=1:4]** When you bring your child to the dollar store is your overall shopping experience better or worse than visiting without them? **[ROTATE]**

1. Better
2. About the same
3. Worse

19. **[ASK ONLY IF ANY Q5A-E=1:5 'DOLLAR STORE SHOPPER']** Which of the following types of apps do you use for your dollar store shopping? **[RANDOMIZE – MULTIPLE SELECT]**

1. An app from the dollar store itself
2. An app from a third-party organization like Instacart
3. Other **[ANCHOR]**
4. I do not use any type of app for my dollar store shopping **[ANCHOR – EXCLUSIVE]**

20. **[ASK ONLY IF Q19=1:3]** Which of the following do you use your app to do? **[RANDOMIZE – MULTIPLE SELECT]**

1. Look at coupons or special offers available in the dollar store
2. Look at the inventory in the dollar store
3. Order delivery from the dollar store
4. Other **[ANCHOR]**

21. **[ASK ONLY IF ANY Q11A-E=1:5 'DOLLAR STORE FOOD SHOPPER']** Do you buy the following items from your local dollar store? **[MAXRIX QUESTION – RANDOMIZE A-H]**

A. Fresh fruits or vegetables
B. Frozen fruits or vegetables
C. Fresh meat or seafood
D. Canned fruits or vegetables
E. Pantry staples – like rice, beans, or flour,
F. Whole gains – like whole wheat bread or oatmeal
G. Pre-made meals
H. Dairy – milk or cheese

1. Yes
2. No – This is available, but I don't purchase it.
3. No - This is not available at my local dollar store

22. **[ASK ONLY IF RESPONDENT RECEIVES ANY OF THE BELOW RESPONSE OPTIONS]** Would you buy the following items from your local dollar store if they were available? **[MAXRIX QUESTION – RANDOMIZE A-H]**

A. **[ASK ONLY IF 21A=3]** Fresh fruits or vegetables
B. **[ASK ONLY IF 21B=3]** Frozen fruits or vegetables
C. **[ASK ONLY IF 21C=3]** Fresh meat or seafood
D. **[ASK ONLY IF 21D=3]** Canned fruits or vegetables
E. **[ASK ONLY IF 21E=3]** Pantry staples – like rice, beans, flour, etc.
F. **[ASK ONLY IF 21F=3]** Whole gains – like whole wheat bread or oatmeal
G. **[ASK ONLY IF 21G=3]** Pre-made meals
H. **[ASK ONLY IF 21H=3]** Dairy – milk or cheese

1. Definitely
2. Probably
3. Probably not
4. Definitely not

23. Do you agree or disagree with the following statements? **[MATRIX QUESTION – RANDOMIZE A-G]**

A. Dollar stores have a good selection of healthy food options.
B. Dollar stores have too many unhealthy food options.
C. Dollar stores should do more to market and identify healthier options.
D. Dollar stores should stock more healthy options.
E. Dollar stores should stock fewer unhealthy food options
F. **[ASK ONLY IF ANY Q5A-E=1:4 'DOLLAR STORE SHOPPER']** I like purchasing snacks and sodas at the dollar store.
G. Dollar stores have a responsibility to improve the health of the communities to which they belong.

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree
5. Don't know

24. Would you be more or less likely to shop at a dollar store which…. **[MATRIX QUESTION – RANDOMIZE A-H]**

A. Removed some unhealthy food options
B. Added more healthy food options
C. Removed unhealthy snacks from the checkout line
D. Had a "healthier choices" food section
E. Stocked unhealthy food options in only a single location in the store
F. Added healthy snacks
G. Provided discounts on fruits and vegetables purchased with SNAP benefits
H. Provided signage to highlight healthier choices available in the store

1. Much more likely
2. A little more likely
3. It would not make a difference
4. A little less likely
5. Much less likely

25. Do you agree or disagree with the following statements? **[MATRIX QUESTION – RANDOMIZE A-F]**

A. I would trust a dollar store to suggest items that might improve my diet.

B. **[ASK ONLY IF "PARENT WHO SHOPS WITH KIDS" 17=1,2,3, or 4]** It's hard to shop with my kids at the dollar store because there's so much junk food.

C. Everyone deserves access to nutritious food. We should encourage ALL stores which sell food, including dollar stores, to stock healthier choices.

D. Dollar stores should market unhealthy food options less

E. **[ASK ONLY IF ANY Q5A-E=1:5 'DOLLAR STORE SHOPPER']** I shop at the dollar store as a way to stretch my budget at the end of the month.

F. **[ASK ONLY IF S6=1]** I shop at the dollar store at times when my SNAP benefits are running low

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree
5. Don't know

26. **[ASK ONLY IF ANY Q5A-E=1:5 'DOLLAR STORE SHOPPER']** which statement do you agree with most? **[RANDOMIZE]**

1. I might be willing to swap out some of the unhealthy items I choose at the dollar store with healthier items if they were offered.

2. I go to the dollar store specifically because they have the snacks and candy I want. I'm not interested in switching them out.

27. **[ASK ONLY IF ANY Q5A-E=1:5 'DOLLAR STORE SHOPPER']** If the following healthy items were stocked at your local dollar store would you purchase that item? **[MATRIX QUESTION – RANDOMIZE A-K]**

A. Fresh fruits or vegetables
B. Fresh meat or seafood
C. Frozen meat or seafood
D. Frozen fruits or vegetables
E. Frozen meals
F. Snacks
G. Drinks
H. Whole grains – like whole wheat bread or oatmeal
I. Pantry staples – like rice, beans, or flour
J. Canned fruits or vegetables
K. Pre-made meals

1. Yes
2. No
3. I am unsure

28. **[ASK ONLY IF ALL Q5A-E=6 'DOLLAR STORE NON-SHOPPER']** If the following healthy items were stocked at your local dollar store would you shop at that dollar store? **[MATRIX QUESTION – RANDOMIZE A-K]**

A. Fresh fruits or vegetables
B. Fresh meat or seafood
C. Frozen meat or seafood
D. Frozen fruits or vegetables
E. Frozen meals
F. Snacks
G. Drinks
H. Whole grains – like whole wheat bread or oatmeal
I. Pantry staples – like rice, beans, or flour
J. Canned fruits or vegetables
K. Pre-made meals

1. Yes
2. No
3. I am unsure

DEMOGRAPHIC QUESTIONS

Almost done! The last couple of questions are for statistical purposes only.

[TEXT ON SCREEN]

The next two questions are about the food eaten in your household in the past 12 months, and whether you were able to afford the food you need.

D1 "Within the past 12 months, we worried whether our food would run out before we got money to buy more." Was that often, sometimes, or never true for you and your household?

1. Often true
2. Sometimes true
3. Never true
4. Don't know/Prefer not to answer

D2 "Within the past 12 months, the food we bought just didn't last and we didn't have money to get more." Was that often, sometimes, or never true for your household?

1. Often true
2. Sometimes true
3. Never true
4. Don't know/Prefer not to answer

D3 What is your gender?

1. Male
2. Female
3. Neither of these

D4 What is your employment status?

1. Full time
2. Part time
3. No employment outside the home
4. Self-employed
5. Retired

D5 Which of the following best describes your ethnic or racial background? **[MULTIPLE SELECT - RANDOMIZE RESPONSES]**

1. White
2. Black/African American
3. Hispanic/Latinx
4. Asian
5. Native American or Pacific Islander
6. Decline to answer **[ANCHOR – DO NOT RANDOMIZE]**

D6 What is the highest level of education you have completed?

1. Some high school education
2. High school graduate
3. Vocational, two-year, or community college graduate
4. Some four-year college
5. Four-year college graduate
6. Masters, Ph.D., professional or other advanced degree

D7 Which best describes the community in which you live? **[RANDOMIZE RESPONSES]**

1. Urban
2. Suburban
3. Rural

D8 Do you consider yourself to be a/an… **[FLIP]**

1. Strong Republican
2. Moderate Republican
3. Independent who leans Republican
4. Independent
5. Independent who leans Democrat
6. Moderate Democrat
7. Strong Democrat
8. Apolitical/Other [ANCHOR]

D9 Which candidate did you vote for in the 2020 presidential election? **[RANDOMIZE RESPONSES]**

1. Joe Biden
2. Donald Trump
3. Other **[ANCHOR – DO NOT RANDOMIZE]**
4. I did not vote **[ANCHOR – DO NOT RANDOMIZE]**

D10 What is your current marital status?

1. Married
2. Unmarried
3. Divorced
4. Widowed
5. Other

THANK YOU

[SHOW IF TERMINATED] We are sorry, but you do not qualify for this survey. Thank you for your interest.

[SHOW IF COMPLETE SURVEY] We deeply appreciate you sharing your thoughts with us today. Your responses have been recorded. Thank you.

Appendix B – Supplemental Tables and Figures

Supplemental Table 1. Expanded CSPI survey respondent sociodemographic characteristics (N=750)

Characteristic	%
Age, years	
18-24	3.5%
25-34	12.3%
35-44	17.4%
45-54	13.4%
55-64	19.6%
65-74	25.5%
75+	8.3%
Race/ethnicity[i]	
Asian or Pacific Islander	1.9%
Black	18.7%
Indigenous	2.7%
Latine	15.3%
White	73.6%
Decline to answer	0.4%
Gender (female)	63.9%
Household size	
1	33.5%
2	32.6%
3	15.3%
4	9.3%
5	6.6%
6	2.1%
7+	0.5%
Annual household income	
$0-$25,800	61.3%
$25,801-$34,900	18.5%
$34,901-$44,000	5.9%
$44,001-$53,000	5.2%
$53,001-$62,100	4.3%
$62,101-$71,200	1.5%
$71,201-$80,300	2.0%
$80,301-$89,400	1.3%
Education	
Some high school	6.4%
High school graduate	36.6%
Vocational/two-year/community college	25.3%
Some four-year college	11.7%
Four year-college graduate	15.1%
Masters, PhD, professional or other degree	4.9%

Employment status	
Full time	15.0%
Part time	6.2%
Unemployed	28.6%
Self-employed	7.9%
Retired	42.3%
Marital Status	
Married	26.1%
Single, never married	37.4%
Divorced	21.6%
Widowed	10.1%
Other	4.8%
SNAP participation in the last year	62.2%
Geographic location	
Urban	49.8%
Suburban	4.5%
Rural	45.6%
Unsure	0.1%
At risk for food insecurity[ii]	58.8%
Adequate transportation for food shopping	86.6%

[i]For this question, respondents could select all that applied, and therefore the percentages to not add to 100%.
[ii]Defined as an affirmative response to one or both questions on the 2-item Hunger Vital Sign screener.90

Supplemental Table 2. Primary retail source of food by store type, overall and by SNAP participation (N=750)

Store type	Overall	SNAP participation	
		SNAP (N=385)	Non-SNAP (N=365)
Supermarket	51.1%	50.6%	51.9%
Big box	33.7%	33.1%	34.8%
Dollar stores	8.3%	10.0%	5.4%
Wholesale club	3.0%	2.8%	3.4%
Other	1.9%	1.5%	2.4%
Convenience	1.0%	1.3%	0.6%
Small food store	0.5%	0.3%	0.8%
Pharmacy	0.5%	0.4%	0.6%

Supplemental Table 3. Chain dollar store shopping habits, overall and by SNAP participation (N= 625)

Dollar store food shopping habits	Overall	SNAP participation	
		SNAP (N=331)	Non-SNAP (N=294)
Specific items purchased at dollar store	50.2%	49.5%	51.4%
Shop at other stores first then supplement with dollar stores	31.1%	29.7%	33.4%
Shop at dollar stores first then supplement with other stores	12.7%	15.4%	8.2%
Unsure	6.0%	5.4%	7.0%

[1]Respondents that shopped at dollar store chains (Dollar General, Dollar Tree, Family Dollar) at least once per month

Supplemental Figure 1. Desire for unavailable food categories at dollar stores among dollar store shoppers