

The Distribution of Prevalent Supplemental Nutrition Assistance Program-Authorized Food Store Formats Differ by U.S. Region and Rurality: Implications for Food Access and Obesity Linkages

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Abstract : United States (U.S.) Department of Agriculture Supplemental Nutrition Assistance Program (SNAP) participants are low-income Americans receiving federal dollars for supplemental food and beverage purchases. Participants use a variety of (traditional/non-traditional) SNAP-authorized stores for household dietary purchases - also representing food access points for all Americans. Importantly consumers' food and beverage purchases from non-traditional store formats tend to be higher in saturated fats, added sugars, and sodium when compared to purchases from traditional (e.g., grocery/supermarket) formats. Overconsumption of energy-dense and low-nutrient food and beverage products contribute to high obesity rates and adverse health outcomes that differ in severity among urban/rural U.S. locations and high/low-income populations. Little is known about the SNAP-authorized food store format landscape nationally, regionally, or by urban-rural status, as traditional formats are currently used as the gold standard in food access research. This research utilized publicly available U.S. databases to fill this large literature gap and to provide insight into modes of food access for vulnerable U.S. populations: (1) SNAP Retailer Locator which provides a list of all authorized food stores in the U.S., and; (2) Rural-Urban Continuum Codes (RUCC) that categorize U.S. counties as urban (RUCC 1-3) or rural (RUCC 4-9). Frequencies were determined for the highest occurring food store formats nationally and within two regionally diverse U.S. states - Virginia in the east and California in the west. Store format codes were assigned (e.g., grocery, drug, convenience, mass merchandiser, supercenter, dollar, club, or other). RUCC was applied to investigate state-level differences in urbanity-rurality regarding prevalent food store formats and Chi Square test of independence was used to determine if food store format distributions significantly ($p < 0.05$) differed by region or rurality. The resulting research sample that represented highly prevalent SNAP-authorized food stores nationally included 41.25% of all SNAP stores in the U.S. ($N=257,839$), comprised primarily of convenience formats (31.94%) followed by dollar (25.58%), drug (19.24%), traditional (10.87%), supercenter (6.85%), mass merchandiser (1.62%), non-food store or restaurant (1.81%), and club formats (1.09%). Results also indicated that the distribution of prevalent SNAP-authorized formats significantly differed by state. California had a lower proportion of traditional (9.96%) and a higher proportion of drug (28.92%) formats than Virginia- 11.55% and 19.97%, respectively ($p < 0.001$). Virginia also had a higher proportion of dollar formats (26.11%) when compared to California (10.64%) ($p < 0.001$). Significant differences were also observed for rurality variables ($p < 0.001$). Prominently, rural Virginia had a significantly higher proportion of dollar formats (41.71%) when compared to urban Virginia (21.78%) and rural California (21.21%). Non-traditional SNAP-authorized formats are highly prevalent and significantly differ in distribution by U.S. region and rurality. The largest proportional difference was observed for dollar formats where the least nutritious consumer purchases are documented in the literature. Researchers/practitioners should investigate non-traditional food stores at the local level using these research findings and similar applied methodologies to determine how access to various store formats impact obesity prevalence. For example, dollar stores may be prime targets for interventions to enhance nutritious consumer purchases in rural Virginia while targeting drug formats in California may be more appropriate.

Keywords : food access, food store format, nutrition interventions, SNAP consumers

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