

Urban-Rural Differences in a Chain Supermarket's Sales to SNAP Shoppers before and since COVID-19

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Urban and rural settings have different economic and social factors that impact food access, with implications for food sales to SNAP participants. This study examines food sales to SNAP participants from rural vs urban stores to provide insights into geographical disparities. We used de-identified transaction data from a large grocery chain with 496 stores in North Carolina from Oct 2019-Dec 2020 (n=32,182 store-weeks), classifying stores as urban or rural based on USDA definitions (main exposure). We identified SNAP sales from payment mode and defined SNAP participation as having used a SNAP EBT card within the last 3 months. Products are classified into: fruits, vegetables, nuts, and legumes (FVNL), sugar sweetened beverages (SSB), junk food (JF) and processed meats (PM), linked to nutrition data. We used multivariate random effects models with robust standard errors to examine the association of rural/urban stores with the share of calories of food categories purchased (main outcomes). We controlled for annual county level factors (socio-demographic composition, food environment) and weekly store level factors (composition of sales among SNAP vs non-SNAP).

There were 127 rural stores and 369 urban stores. Adjusting for covariates, rural stores sold an average of 13.12% of total calories sold from FVNL, compared to 13.27% among urban stores. Rural stores' sales to SNAP participants had small but significantly higher share of total calories sold from SSBs (10.34% vs 9.36%), JF (30.68% vs 30.36%) and PM (5.7% vs 5.64%) compared to urban stores' sales to SNAP participants.

Rural store sales to SNAP participants appear to be marginally different from urban store sales to SNAP participants which support concerns around the need to improve healthy food access and limit unhealthy food access in rural settings.