Assessing Nutrition, Health, and Wellness Needs Among Adults in St. Mary's County: A Mixed-Methods Community Needs Assessment

Deon Littles, EdD
University of Maryland Extension

Abstract

Adults living in rural-suburban communities often experience barriers to healthy eating that contribute to chronic disease risk and limit participation in nutrition education programs. This mixed-methods community needs assessment examined nutrition, health, and wellness priorities among adults in St. Mary's County, Maryland to inform Cooperative Extension programming. Data were collected through a cross-sectional community survey of adults (n = 88), semi-structured interviews with community stakeholders (n = 12), and analysis of county-level secondary data obtained from public health reports and U.S. Census sources. Quantitative data were analyzed using descriptive statistics, while qualitative data were analyzed using thematic analysis. Survey findings identified food cost, limited time for meal preparation, and access to healthy foods as the most commonly reported barriers to healthy eating. Interview participants emphasized the importance of trusted community locations, community partnerships, transportation, and nutrition education focused on chronic disease prevention and management. Secondary data demonstrated persistent food insecurity (12.5%) and adult obesity (35.2%) within the county. Collectively, the findings highlight the need for accessible, community-informed nutrition education and partnerships that improve equitable access to evidence-based Extension programming.

Introduction

This study was conducted in St. Mary's County, Maryland, a rural-suburban county where adult residents experience significant barriers to healthy eating and participation in nutrition education programs. County-level health and community assessment data indicate that approximately 12.5% of households experience food insecurity, more than 54% of renters are cost-burdened, and 35.2% of adults are living with obesity, increasing their risk for chronic conditions such as diabetes and hypertension (St. Mary's County Maryland Health Department, 2026; Rabbitt et al., 2024). Additional challenges, including limited transportation, the availability of healthy foods, competing work schedules, and caregiving responsibilities, may further reduce residents' ability to access nutritious foods and health promotion services.

Rural communities continue to experience disproportionate rates of chronic disease and barriers to healthy food access compared with urban populations (CDC, 2023; Matthews et al., 2025). Community needs assessments are recognized as an evidence-based approach for identifying local priorities and informing nutrition interventions that are responsive to community needs (Witkin & Altschuld, 2022). Within Cooperative Extension, programs such as the Expanded Food and Nutrition Education Program (EFNEP) and SNAP-Ed demonstrate that community-informed nutrition education can improve dietary behaviors, food resource management, and health outcomes among underserved populations (USDA NIFA, 2025; SNAP-Ed Extension, 2024).

Despite these efforts, limited research has examined local nutrition and wellness priorities using mixed-methods approaches that directly engage rural-suburban residents to guide Extension programming. Addressing this gap is essential for developing interventions that reflect community priorities and improve

equitable access to nutrition education. This study was guided by the Socioecological Model (SEM), which recognizes that nutrition behaviors are influenced by factors operating at the individual, interpersonal, organizational, and community levels (McLeroy et al., 1988), and Community-Based Participatory Research (CBPR), which emphasizes collaboration with community members throughout the research process (Israel et al., 2013). Together, these frameworks support the development of evidence-based, community-responsive Extension programs.

The objectives of this study were to (a) identify priority nutrition and wellness needs among adult residents, (b) examine barriers to healthy eating and participation in nutrition programs, and (c) inform future Extension programming and community partnerships that promote equitable access to nutrition education in St. Mary's County, Maryland.

Objective

The purpose of this study is to assess the nutrition, health, and wellness needs of adults residing in St. Mary's County, Maryland. This will guide the creation of inclusive, community-driven Extension initiatives. The objectives include: (1) Identify priority nutrition and wellness needs and disparities; (2) Examine barriers to healthy eating and program participation (e.g., cost, time, access, trust, and chronic disease concerns; and (3) Generate actionable recommendations for FCS programming, partnerships, and delivery models.

Method

Study Design

This study employed a convergent mixed-methods needs assessment design that integrated three data sources: (a) county-level secondary data, (b) a cross-sectional community survey, and (c) key informant nterviews. Combining quantitative and qualitative data provided a more comprehensive understanding of community nutrition and wellness needs while allowing findings to be triangulated across multiple sources.

Secondary Data

Secondary data were taken from publicly available county and state sources, including the St. Mary's County Health Department Community Health Assessment, U.S. Census Bureau, USDA Economic Research Service, and other publicly available health surveillance reports. These data were used to describe community demographics, food insecurity, chronic disease prevalence, housing burden, and other social determinants of health that informed the needs assessment.

Community Survey

A cross-sectional survey was administered to adults (18 years and older) who lived or worked in St. Mary's County, Maryland. The target sample was 100 participants, with 88 complete surveys included in the analysis. The survey instrument was adapted from existing Cooperative Extension evaluation tools and validated measures used in SNAP-Ed and the Expanded Food and Nutrition Education Program (EFNEP). Extension professionals reviewed the instrument for face validity and clarity, and it was pilot-tested with 3-5 individuals to improve readability before implementation. The survey included Likert-scale questions assessing food access, cooking confidence, nutrition knowledge, perceived barriers to healthy eating, chronic disease concerns, and interest in future nutrition programming.

Demographic variables included age, gender, race/ethnicity, household composition, education level, employment status, and household income. The complete survey instrument is provided in Appendix B.

Key Informant Interviews
Purposeful sampling was used to recruit 12 community stakeholders representing organizations with knowledge of local nutrition and health needs, including the health department, schools, food pantries, faith-based organizations, and community service agencies.

A semi-structured interview guide explored perceived community nutrition concerns, barriers to healthy eating, underserved populations, trusted community resources, and opportunities for future Extension partnerships. The interview guide is included in Appendix C.

Data Collection
Data collection occurred over an 8-10 week period. Surveys were distributed electronically, with reminder invitations sent approximately every two weeks. Interviews lasting approximately 30-45 minutes were conducted in person, by telephone, or virtually. Interviews were audio-recorded with participant consent when permitted; otherwise, detailed field notes were documented.

Data Analysis
Quantitative survey data were analyzed using descriptive statistics, including frequencies, percentages, means, and standard deviations, to summarize participant characteristics and responses. Qualitative interview data were analyzed using thematic analysis that combined deductive and inductive coding approaches. An initial coding framework was developed using the Socioecological Model and interview guide, followed by open coding, theme development, and refinement. Two researchers independently coded approximately 20-30% of the interview data to establish coding consistency, with differences resolved through discussion until consensus was reached. Findings from the secondary data, survey, and interviews were compared through triangulation to strengthen the credibility and completeness of the needs assessment (Witkin & Altschuld, 2022).

Ethical Considerations
This study received Institutional Review Board (IRB) exempt approval from University of Maryland prior to data collection. Participation was voluntary, informed consent was obtained from all participants, and no personally identifiable information was collected or reported. All data were securely stored and analyzed in aggregate to maintain participant confidentiality.

Results and Findings

Secondary Data Findings
Secondary data were used to provide community context for the needs assessment. County-level data indicated that 12.5% of households experienced food insecurity, 54.3% of renter households were cost-burdened, and 35.2% of adults were living with obesity (St. Mary's County Health Department, 2026; Rabbitt et al., 2024). These indicators informed the interpretation of the primary data collected through surveys and interviews. Additional community profile data are provided in Appendix A.

Survey Findings
A total of 88 adults completed the community survey. Cost was the most frequently reported barrier to healthy

eating, followed by limited time for meal planning and preparation. Many respondents also identified access to affordable, healthy foods as a challenge. Participants expressed strong interest in Extension programming focused on:

- *Budget-friendly meal planning*
- *Healthy cooking demonstrations*
- *Chronic disease prevention and management through nutrition*
- *Food budgeting and grocery shopping strategies*

Respondents preferred programs delivered in convenient and familiar community locations, including schools, community centers, churches, and libraries. Figure 1 summarizes the most frequently reported barriers to healthy eating.

Key Informant Interview Findings
Twelve key informants representing public health, education, faith-based organizations, food assistance programs, and Cooperative Extension participated in semi-structured interviews. Three major themes emerged during thematic analysis.

Theme 1: Access and Affordability
Participants consistently identified the cost of healthy foods as a significant barrier to healthy eating. Stakeholders described how rising food prices often required families to purchase less expensive, calorie-dense foods rather than fresh fruits, vegetables, and other nutritious options. *"Many families choose less* expensive foods because fresh foods are just too expensive right now." (Community health representative).

Theme 2: Time and Competing Responsibilities
Interview participants reported that employment schedules, multiple jobs, and caregiving responsibilities limited residents' ability to prepare meals at home or participate in nutrition education programs. *"Parents want to cook more meals at home, but they don't have the time or energy after working all day."* (School representative)

Theme 3: Trusted Community Partnerships
Stakeholders emphasized that participation increased when nutrition education was offered through trusted community organizations such as schools, churches, and local community centers. Interviewees also highlighted the importance of partnerships in expanding program reach. *"People are more likely to attend programs when they're held in places they already trust, like churches or schools."* (Faith-based organization representative).

Integration of Findings
Across all three data sources, consistent findings emerged. Secondary data identified food insecurity, obesity, and housing-related financial burdens as important community concerns. Survey respondents reported that cost, limited time, and access to healthy foods were the primary barriers to healthy eating, while interview participants provided additional context explaining how these barriers influence daily food choices and participation in nutrition programs. Collectively, the findings support the need for accessible, community-based nutrition education that addresses affordability, chronic disease prevention, and practical meal planning.

Discussion

The findings highlight the complex relationship among economic, environmental, and health determinants that influence nutrition behaviors among

adults in St. Mary's County. Heightened food insecurity and housing instability suggest systemic limitations that impede the procurement of nutritious foods. Furthermore, the prevalence of chronic ailments like diabetes and hypertension exacerbates dietary choices, especially when healthier food alternatives are financially or physically inaccessible. This reflects broader national trends demonstrating that food insecurity is closely linked to increased risk of chronic disease and poorer diet quality (Rabbitt et al., 2024).

The elevated rates of obesity and other chronic disease risk factors underscore the necessity of nutrition education programs designed to aid in the prevention and management of chronic diseases, especially within communities facing resource limitations. In St. Mary's County, the adult obesity rate is roughly 35.2%, and persistent public health challenges include chronic ailments like diabetes and hypertension (St. Mary's County Health Department, 2026; Maryland Department of Health, 2025; Centers for Disease Control and Prevention [CDC], 2023). Furthermore, state-level statistics underscore the continued significance of diabetes as a health issue throughout Maryland, thereby highlighting the importance of interventions centered on nutrition (Maryland Department of Health, 2025). These conditions are closely linked to dietary behaviors and limited access to affordable, healthy foods. Findings from this assessment suggest that chronic disease concerns are not separate from nutrition education needs; rather, they are deeply connected to food access, affordability, and day-to-day health decision-making within the community.

Strengths and limitations
Triangulation of data sources, integration of community voice, inclusion of regional context, and attention to chronic disease concerns, were considered to be strength. The study's limitations include the utilization of convenience sampling, the potential for response bias, restricted generalizability beyond the study's county, and reliance on regional/state-level contextual indicators owing to the scarcity of county-level chronic disease data. Future studies should expand sample size, include longitudinal measures, and incorporate objective dietary indicators and stronger county-level health measures where available.

Implications for Extension Practice

The results show that content that focuses on the budget immediately addresses cost barriers; flexible formats including short sessions, pop-ups, and hybrid delivery adapt to time limits; and delivery in trusted venues reduces access and trust hurdles. Collaborating with schools, food banks, faith-based groups, and local health agencies helps to create and reach more people. Adding information about how to avoid and manage chronic diseases to nutrition education programs can also make them more useful and better meet the needs of people who currently have health problems. In areas including community participation, program design, and assessment, these projects put FCS abilities to use. Evaluations are replicable by Extension educators in similar rural contexts.

Replicability and Future Directions
This approach is replicable for Extension professionals using mixed methods, brief validated tools, and partner engagement. Future investigations should analyze

intervention approaches, including budget cooking series at partner sites, assess behavior change outcomes associated with food budgeting and chronic illness self-management, and investigate policy or environmental supports, such as programs for healthy food access. More collaborations between counties in Southern Maryland could also make it easier for the region to deal with common health and nutrition problems. Future research should include longitudinal study designs to evaluate enduring behavior change over time and add objective nutritional indicators, such as fruit and vegetable consumption or food purchasing habits, to improve the rigor, applicability, and depth of findings (USDA NIFA, 2025).

Conclusion

This needs assessment lays the groundwork for responsive and fair Extension programming in St. Mary's County based on facts. Integrating community voice with secondary data supports impactful program design and advances Extension's role in improving health and wellness. By addressing food insecurity, structural barriers, and chronic disease concerns together, Cooperative Extension can better support the well-being of individuals and families through accessible, evidence-based, and community-centered education.

Author Information

Correspondence concerning this article should be addressed to Deon Littles, EdD, Family & Consumer Sciences Agent, University of Maryland Extension, St. Mary's County, MD 20650. dlittles@umd.edu

References

Centers for Disease Control and Prevention. (2023). Adult obesity prevalence maps. https://www.cdc.gov/obesity/data

Charles County Department of Health. (2024). Community health improvement plan FY2025–2027.

Israel, B. A., Eng, E., Schulz, A. J., & Parker, E. A. (Eds.). (2013). Methods for community-based participatory research for health (2nd ed.). Jossey-Bass.

Maryland Department of Health. (2025). Diabetes data brief.

Matthews, K. A., Spears, K. S., & Anderson-Lewis, C. (2025). Rural health disparities: Contemporary solutions for persistent rural public health challenges. Preventing Chronic Disease, 22, E27. https://doi.org/10.5888/pcd22.250202

McLeroy, K. R., Bibeau, D., Steckler, A., & Glanz, K. (1988). An ecological perspective on health promotion programs. Health Education Quarterly, 15(4), 351–377. https://doi.org/10.1177/109019818801500401

O'Mara-Eves A, Brunton G, McDaid D, et al. Community engagement to reduce inequalities in health: a systematic review, meta-analysis and economic analysis. Southampton (UK): NIHR Journals Library; 2013 Nov. (Public Health Research, No. 1.4.)

Rabbitt, M. P., Reed-Jones, M., Hales, L. J., & Burke, M. P. (2024). Household food security in the United States in 2023 (Report No. ERR-337). U.S. Department of Agriculture, Economic Research Service.

Rural Health Information Hub. (2025). Conducting rural health research, needs assessments, and program evaluation. https://www.ruralhealthinfo.org/

SNAP-Ed Extension. (2024). SNAP-Ed Extension. https://snap-ed.extension.org/

St. Mary's County Health Department. (2026). Community health assessment and local health data. https://smchd.org/resources/local-health-data/

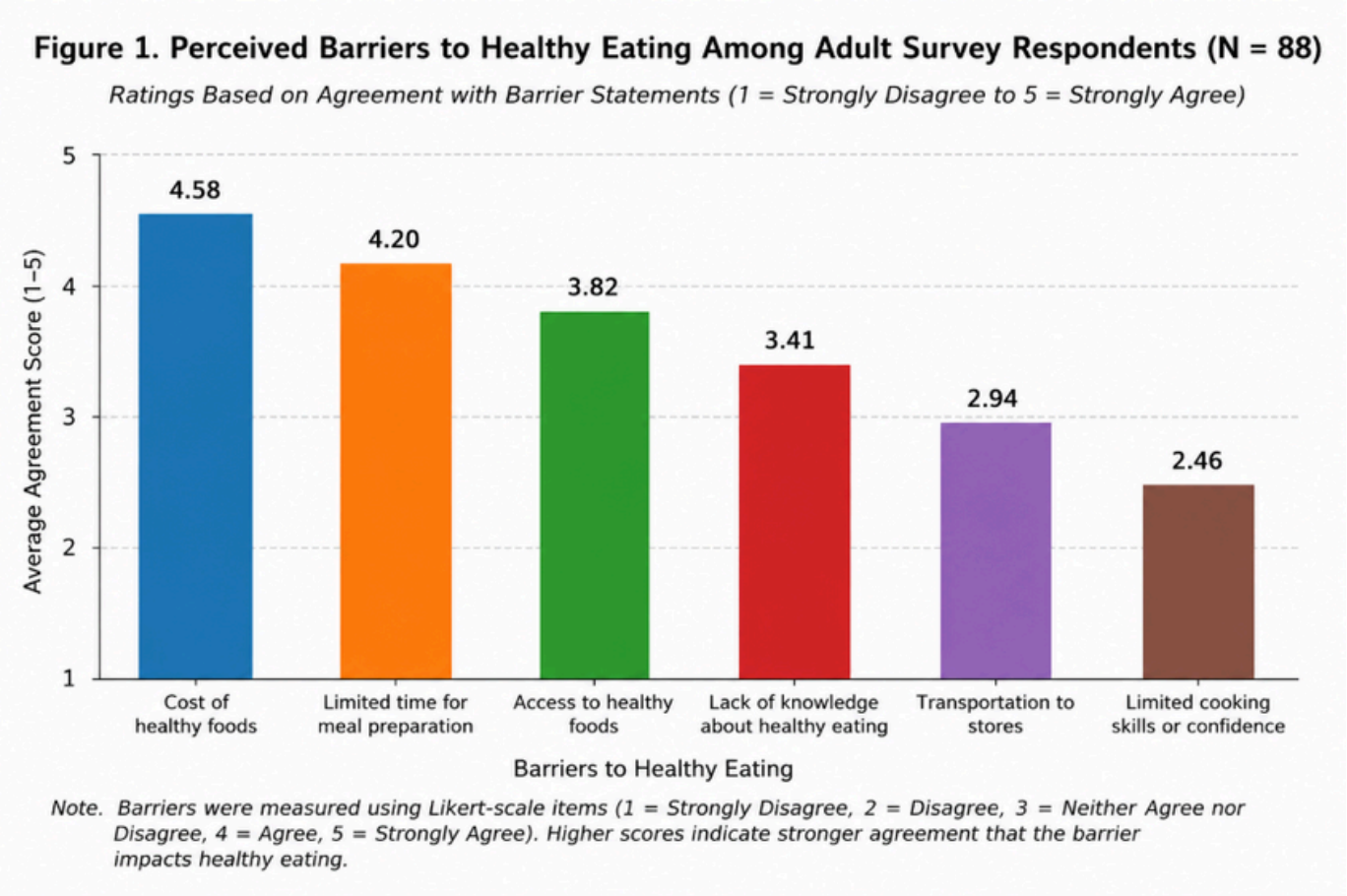
U.S. Census Bureau. (2023). QuickFacts: St. Mary's County, Maryland. https://www.census.gov/quickfacts/

U.S. Department of Agriculture, National Institute of Food and Agriculture. (2025). Expanded Food and Nutrition Education Program (EFNEP). https://www.nifa.usda.gov/program/expanded-food-and-nutrition-education-program-efnep

Witkin, B. R., & Altschuld, J. W. (1995). Planning and conducting needs assessments: A practical guide. Sage

Figures

Figure 1. Top Perceived Barriers to Healthy Eating Among Adults in St. Mary's County Maryland: A Mixed-Methods Community Needs Assessment



Appendix A: Key Community Indicators – St. Mary's County, Maryland

Indicator	Value
Population	113,777
Food Insecurity Rate	12.50%
Child Food Insecurity	13.10%
Cost-Burdened Renters	54.30%
Poverty Rate	~7.1%
Adult Obesity in St. Mary's County MD	35.20%

Appendix B: Community Survey Instrument

Section 1: Demographics
- Age group
- Household size
- Employment status
- Participation in SNAP/WIC (optional)

Section 2: Food Access (Likert Scale 1–5)
- I have easy access to affordable healthy foods.
- Transportation makes it difficult to get groceries.

Section 3: Chronic Disease & Health
- I or someone in my household has been diagnosed with a chronic condition (e.g., diabetes, hypertension, heart disease).
- Managing health conditions affects my food choices.
- I am interested in learning how nutrition can help manage or prevent chronic disease.

Section 4: Nutrition Behaviors
- I cook meals at home regularly.
- I feel confident preparing healthy meals on a budget.

Section 5: Barriers
- Cost
- Time
- Access
- Transportation
- Knowledge
- Cooking Confidence

Section 6: Program Interest
- I am interested in learning about healthy cooking on a budget.
- Preferred format (in-person, virtual, hybrid)

Appendix C: Key Informant Interview Guide

- What is the biggest nutrition-related challenges in the community?
- Who is not being reached by current programs?
- What barriers prevent participation?
- What locations are most trusted for programming?
- What partnerships could improve outreach and impact?

Appendix D: Coding Framework (Qualitative Analysis)

Initial Codes:

- Food access
- Cost barriers
- Time constraints
- Trust/community spaces
- Program relevance

Theme Development Process:

- Open coding of transcripts
- Grouping into categories
- Refinement into major themes
- Cross-checking between coders for consistency

Appendix E: Data Collection Timeline

- Weeks 1–2: Instrument development and partner outreach
- Weeks 3–6: Survey distribution and data collection
- Weeks 4–7: Key informant interviews
- Weeks 7–9: Data analysis
- Week 10: Reporting and dissemination