MICHIGAN BRFSS SURVEILLANCE BRIEF

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Food Insecurity among Michigan Adults

Using data from the 2021 and 2022 Michigan Behavioral Risk Factor Survey (MiBRFS), this surveillance brief examines the prevalence of food insecurity by demographic characteristics among Michigan adults.

Background

Food insecurity is defined as the limited or uncertain availability of nutritionally adequate and safe foods or the limited or uncertain ability to acquire acceptable foods in socially acceptable ways.[1] According to the United States Department of Agriculture (USDA), food insecurity affected 12.8% of U.S. households in 2022. This translated to an estimated 17 million households that did not have adequate food because of insufficient money and other resources for food within the past year.[2]

Research shows that food insecurity increases the risk for negative health outcomes including coronary heart disease, hypertension and cancer.[3] Adults who are food insecure may also be at increased risk for obesity.[4] To improve overall health and well-being, The U.S. Department of Health and Human Services sets data-driven national objectives to improve health and well-being over the next decade in Healthy People 2030. It included objectives to reduce household food insecurity and hunger. Federal programs such as the Supplemental Nutrition Assistance Program (SNAP) aim to reduce food insecurity and improve diet quality. Studies suggest SNAP participation reduces food insecurity by up to 30% and improves health outcomes for people who receive benefits as compared to their counterparts.[5,6]

Starting in 2021, the Michigan Behavioral Risk Factor Surveillance System (MiBRFSS) used the six-item short form of the USDA Economic Research Service (ERS) household food security module for Michigan adult surveillance. Asking these questions on the MiBRFS affords the opportunity to collect food insecurity estimates on a variety of characteristics, indicators and health outcomes. The information provided can assist public health professionals, community organizations, funders, and decision-makers in policy, planning, implementation and grant writing related to food insecurity.

What is the Michigan Behavioral Risk Factor Surveillance System (MiBRFSS)?

The MiBRFSS comprises annual, statewide telephone surveys of Michigan adults aged 18 years and older and is part of the national BRFSS coordinated by the Centers for Disease Control and Prevention (CDC).

The MiBRFSS follows the CDC BRFSS protocol and uses the standardized English core questionnaire that focuses on various health behaviors, medical conditions and preventive health care practices related to the leading causes of mortality, morbidity, and disability. Landline and cell phone interviews are conducted throughout each calendar year.

Data are weighted to adjust for the probabilities of selection and a raking weighting factor is used to adjust for the distribution of the Michigan adult population based on eight demographic variables.

All analyses are performed using SAS-callable SUDAAN® to account for the complex sampling design.

Methods

In 2021 and 2022, the USDA ERS food security module was included in the MiBRFS. Food insecurity was based on six questions and a scoring system.* The estimated food insecurity prevalence among Michigan adults was assessed by age, gender, race and ethnicity, education, household income, health insurance status, sexual orientation and gender identity, home status, and disability status. People who reported 'yes' to the sexual orientation and gender identity as lesbian, gay, bisexual and/or transgender were defined as LGBT+. All analyses accounted for the complex sample design.

Results

- One in 8 Michigan adults (12.5%) experienced food insecurity in 2021 or 2022 (Table 1). Statistically significant differences in estimated prevalences were observed among all characteristics: gender, LGBT+, age groups, racial and ethnic groups, education, household income, insurance status, homeowner status and disability.
- The estimated food insecurity prevalence was higher among adult females compared to males (13.9% and 10.9%, respectively).
- Food insecurity disproportionately affected adults who identified as LGBT+ compared to people who did not identify as LGBT+. The estimated prevalence among those who identified as LGBT+ (22.0%) was double (1.9 times) the prevalence among people who did not identify as LGBT+ (11.5%).
- Adults aged 65 years and older had the lowest prevalence of food insecurity compared to younger age groups (5.5% and 15.0%, respectively). The estimated food insecurity prevalence among people aged 18-24 years (22.4%) was four times the prevalence among adults aged 65 years and older.
- The estimated food insecurity prevalence among non-Hispanic Black (23.1%) and Hispanic/Latinx adults (22.0%) was higher compared to the prevalence among non-Hispanic white adults (10.1%). It was two times higher for non-Hispanic Black adults and 1.8 times higher for Hispanic/Latinx adults.

Table 1. Estimated food insecurity prevalence by select characteristics, adults (18 years and older), Michigan, MiBRFSS 2021 and 2022 combined.

Demographic Characteristics	Food Insecurity (Yes)	
	Estimated Prevalence (%)	95% C.I.
Total	12.5	(11.4-13.6)
Gender		
Male	10.9	(9.4-12.6)
Female	13.9	(12.5-15.5)
LGBT+		
Non-LGBT+	11.5	(10.4-12.7)
LGBT+	22.0	(18.0-26.8)
Race and Ethnicity		
White, non-Hispanic	10.1	(9.0-11.3)
Black, non-Hispanic	23.1	(19.1-27.5)
Other or Multiracial, Non-Hispanic	14.0	(9.8-19.6)
Hispanic	22.0	(15.0-31.3)
Age Group		
18-24	22.4	(17.6-28.1)
25-34	15.6	(12.7-19.1)
35-44	13.8	(11.2-16.9)
45-54	13.8	(11.5-16.5)
55-64	11.0	(8.9-13.6)
65+	5.5	(4.4-6.8)
Education		
Less than high school	29.6	(22.9-37.3)
High school or GED	17.2	(15.0-19.7)
Some post-high school	11.9	(10.4-13.7)
College graduate	3.7	(3.0-4.5)
Household Income		
Less than $20,000	35.6	(30.5-41.2)
$20,000 - $34,999	24.6	(21.3-28.2)
$35,000 - $49,999	14.1	(11.2-17.8)
$50,000 - $74,999	8.0	(5.9-10.8)
$75,000+	1.9	(1.2-2.9)
Health Insurance		
Has insurance	11.9	(10.8-13.1)
No insurance	26.2	(19.6-34.0)
Homeowner Status		
Own	8.8	(7.7-10.0)
Rent	26.4	(23.4-29.6)
Other arrangement	17.4	(12.7-23.3)
Disability Status		
No disability	7.6	(6.6-8.7)
Adults with disability	24.0	(21.5-26.6)

*95% C.I. - 95% Confidence Interval.

- Food insecurity among adults decreased with higher education. The estimated food insecurity prevalence was highest among adults who had less than a high school (HS) education compared to people with a high school diploma or GED, some post-high school, or college degree (29.6% and 11%, respectively).
- Adults with a higher household income were more food secure compared to people with a lower income. The estimated food insecurity prevalence among adults with a household income of less than $20,000 was 3.6 times compared to people with an income of $20,000 or more (35.6% and 10.8%, respectively).
- The estimated food insecurity prevalence among adults with no health insurance was 2.2 times that of adults with health insurance (26.2% and 11.9%, respectively).
- Food insecurity among adults who reported renting their home was three times that of adults who reported being homeowners (26.4% and 8.8%, respectively).
- The estimated food insecurity prevalence among adults with a disability was 3.2 times that of adults who reported not having a disability (24.6% and 7.6%, respectively).

Table 2. Food insecurity disparity by select characteristics, adults (18 years and older), Michigan BRFSS 2021 and 2022 combined.

Characteristic	Food Insecurity Disparity
Female versus male.	1.3 times
LGBT+ versus non-LGBT+.	1.9 times
Non-Hispanic Black versus non-Hispanic white.	2.0 times
Hispanic/Latinx versus non-Hispanic white.	1.8 times
Aged 18-24 versus aged 65+.	4.0 times
Less than a high school degree versus a high school degree or GED or higher.	2.7 times
Income below $20k versus $20k and above.	3.6 times
Person with a disability versus person without a disability.	3.2 times

Discussion

In Michigan, 12.5% of adults may have experienced food insecurity in 2021 or 2022. Data analysis showed that many populations across Michigan are experiencing food insecurity.

The Michigan Department of Health and Human Services Strategic Priorities FY 2023-2027 includes strategies to deliver on MDHHS's mission to provide services and administer programs to improve the health, safety, and prosperity of the residents of the state of Michigan. Key strategies to address food insecurity include investment in public health and chronic disease prevention through improving access to healthy food and increasing enrollment in food assistance programs.

Having consistent access to nutritious, culturally-relevant food is a social determinant of health. Food security is connected to improved health outcomes across chronic diseases, including diabetes and heart disease. SNAP is an effective program that not only reduces food insecurity, but also improves health outcomes and reduces health care costs.[6] There are multiple programs in Michigan to support people experiencing food insecurity, including federal programs such as SNAP, Women, Infants, and Children (WIC), and the Senior Farmers Market Nutrition Program. In addition, Michigan funds programs such as Double Up Food Bucks and universal school meals.

Across the country, states have taken action to implement policies and programs that address social determinants of health, such as Medicaid 1115 waivers that allow Medicaid to pay for Food is Medicine, Produce Prescription Programs and other nutrition programs. Michigan is currently exploring Medicaid coverage for these programs through In Lieu of Services (ILOS). Programs such as these can tailor resources to better meet the needs of people most impacted by food insecurity.

It is important that policy, systems and environmental change initiatives that address food insecurity are developed to address populations that are disproportionately impacted by food insecurity. Data from the food insecurity module will

continue to be collected statewide and at the county-level data. The data produced by this survey module can be used in public health intervention programs and to inform policy decisions on the factors that enable or prevent healthy living among all Michigan adults.

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***For more information about the methods used in this surveillance brief, please contact MIBRFSS@michigan.gov**

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