

Washington State Food Security Surveys: Longitudinal findings across survey waves 1-4, 2020-2023

Research Brief 15

About the WAFOOD Surveys

The Washington State (WA) Food Security Surveys (WAFOOD) first launched as an effort to track impacts of the COVID-19 pandemic on the health, economic well-being, and food needs of Washingtonians. To date, four survey waves have been conducted:

- Wave 1: June - July 2020
- Wave 2: Dec 2020 - Jan 2021
- Wave 3: July - Aug 2021
- Wave 4: Dec 2022 - Jan 2023

The WAFOOD surveys intentionally oversample households with lower incomes and those using food assistance, to provide deeper insights on food insecurity throughout the state. This research brief presents **longitudinal** findings from WAFOOD Waves 1-4, focusing on a subset of 223 respondents who participated in all four waves (see Table 1 for respondent characteristics). For more information on how to interpret these findings, see page 4 of this brief.

Among Respondents Who Provided Longitudinal Data in WAFOOD Waves 1-4, Food Insecurity Remained High During the COVID-19 Pandemic

- Of the 223 respondents who participated in WAFOOD Waves 1-4, nearly half (44%) experienced food insecurity during at least one survey wave.^{a,b}
- In this longitudinal cohort, the percentage of households experiencing food insecurity during any given survey wave remained relatively steady, ranging from 27% (Wave 3) to 34% (Wave 4) (Figure 1).

Key Findings

1. In a longitudinal cohort of 223 respondents who participated in WAFOOD Waves 1, 2, 3, and 4, nearly half of the respondents' households experienced food insecurity during at least one survey wave.
2. In all survey waves, reported use of food assistance was much higher among food insecure households than among food secure households.
3. From Wave 1 to Wave 4, whereas expenditures on food away from home dipped and then rebounded to pre-pandemic levels, average grocery spending rose by 49% for food secure households and 71% for food insecure households in the span of 2.5 years.
4. In all WAFOOD survey waves, those experiencing food insecurity were much more likely to report feeling depressed, anxious, or stressed.

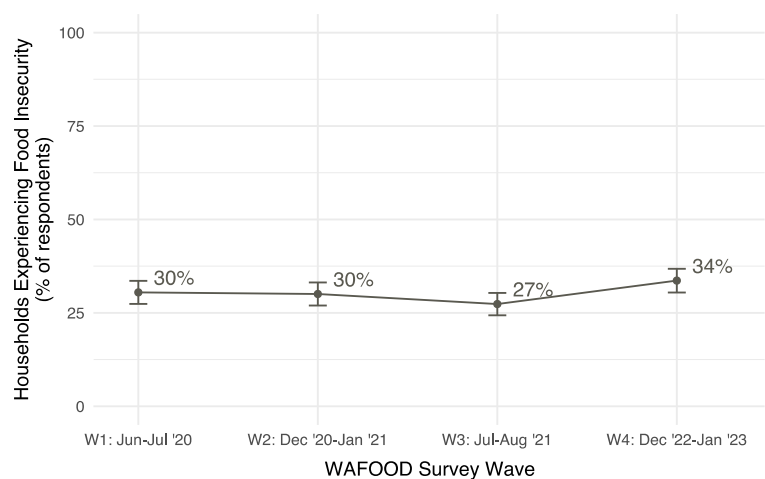


Figure 1. Percentage of households classified as food insecure each survey wave among a group of 223 respondents who participated in WAFOOD Waves 1-4^a

Food Assistance Use Was Three Times Higher for Food Insecure Versus Food Secure Households

- In this cohort, reports of using at least one food assistance program remained relatively steady across survey waves, ranging from 36-42% overall (Figure 2).
- Food assistance use varied by food security status, with 59-70% of food insecure households and 17-23% of food secure households reporting use of at least one food assistance program during any given survey wave.

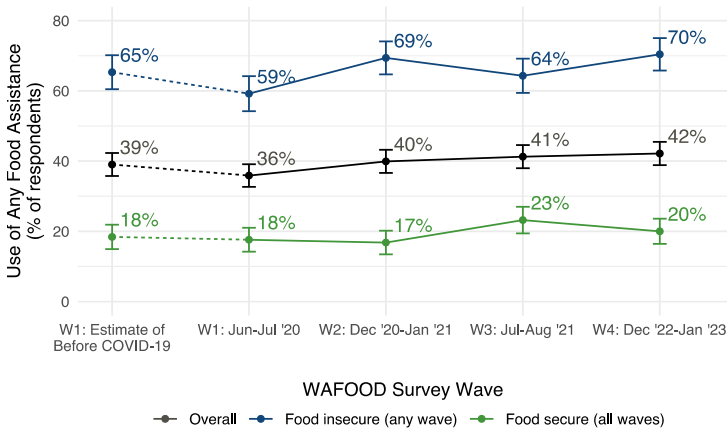


Figure 2. Percentage of respondents reporting use of at least one food assistance program in the past month, among a group of 223 respondents who participated in WAFOOD Waves 1-4, overall and by food security status^c

SNAP and Food Banks Remained the Most Commonly Reported Food Assistance Programs Used Across Survey Waves 1-4

- SNAP was the most commonly used food assistance program during most survey waves. Reported use of food banks exceeded use of SNAP only in Wave 2 (winter 2020-2021) (Figure 3).
- Between WAFOOD Waves 2 through 4, reported use of SNAP, mobile food boxes, and grocery vouchers generally increased, while reported use of food banks decreased slightly (20% to 17%).
- Reported use of the WIC program remained steady at 4% of the cohort across all survey waves.
- Comparing the two survey waves conducted during the school year (Waves 2 and 4), reported use of school meal programs decreased slightly (13% to 9% from Wave 2 to Wave 4). Comparing the two survey waves conducted during the summer (Waves 1 and 3), reported use of school meals programs remained steady.

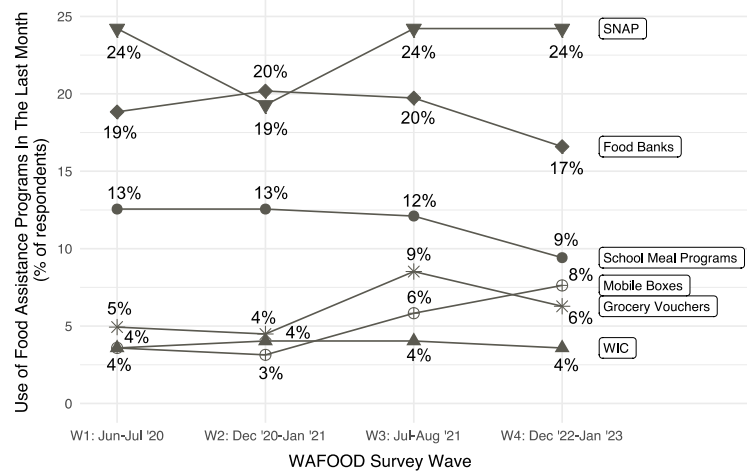


Figure 3. Percentage of respondents using specific food assistance programs in the past month, among a group of 223 respondents who participated in WAFOOD Waves 1-4

Grocery Spending Rose Substantially for All Households, With Notable Increases in Winter 2022-2023

- Among all respondents, average grocery expenditures increased over time, from \$179 per person per month in Wave 1 to \$281 in Wave 4, an increase of 57% in 2.5 years (Figure 4).
- In the early months of the COVID-19 pandemic, respondents in food secure households *increased* their average grocery spending from \$198 (pre-pandemic) to \$205 (Wave 1) per person per month, while respondents in households experiencing food insecurity *decreased* their average grocery spending from \$164 to \$147.
- Compared to Wave 1 (summer 2020), by Wave 4 (winter 2022-2023) average monthly per-person grocery expenditures had risen 49% for food secure households (from \$205 to \$305) and 71% for food insecure households (from \$147 to \$251).

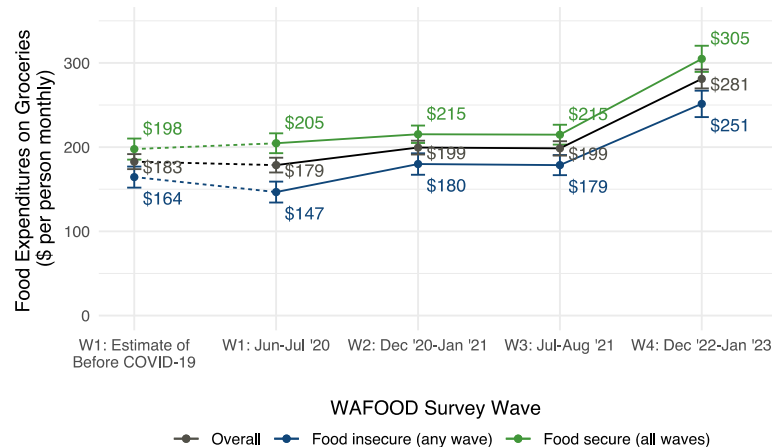


Figure 4. Per-person monthly expenditures on groceries in the past month, among a group of 223 respondents who participated in WAFOOD Waves 1-4, overall and by food security status^c

Spending on Eating Out Dropped in 2020, but Gradually Returned to Pre-Pandemic Levels as of Winter 2022-2023

- In the overall cohort, expenditures on “food away from home” (eating out) fell sharply in the early months of the pandemic to \$28 per person per month, compared to respondents’ pre-pandemic estimates of \$78 (Figure 5).
- Expenditures on food away from home gradually increased between Waves 1 and 4, returning to pre-pandemic levels for both food secure and insecure households as of winter 2022-2023.

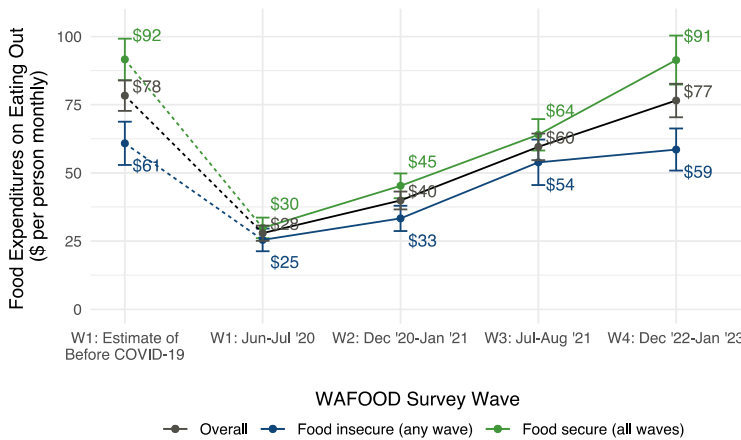


Figure 5. Per-person monthly expenditures on eating out in the past month, among a group of 223 respondents who participated in WAFOOD Waves 1-4, overall and by food security status^c

Households Experiencing Food Insecurity More Commonly Reported Depression, Anxiety, and Stress

- Compared to respondents in food secure households, respondents in households experiencing food insecurity were typically 2-3 times more likely to report feeling depressed, anxious, or stressed in any given survey wave (Figures 6a-c).
- Reports of depression, anxiety, and stress were all lowest in Wave 3 (summer 2021), regardless of food security status.

- Between Wave 3 (summer 2021) and Wave 4 (winter 2022-2023), although food secure respondents experienced no increases or minor increases in reports of depression, anxiety, and stress (increase of 0-3%), respondents in households experiencing food insecurity experienced increases in these reports (increase of 8-12%).

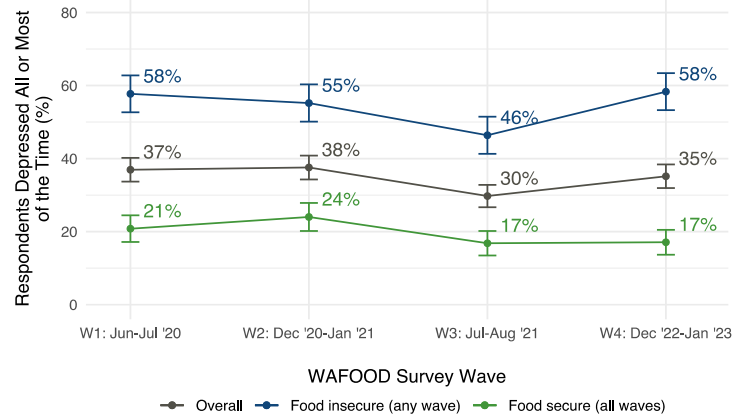


Figure 6a

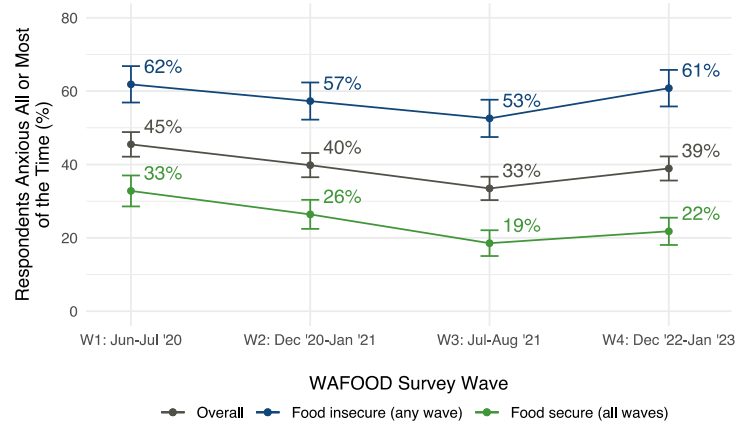


Figure 6b

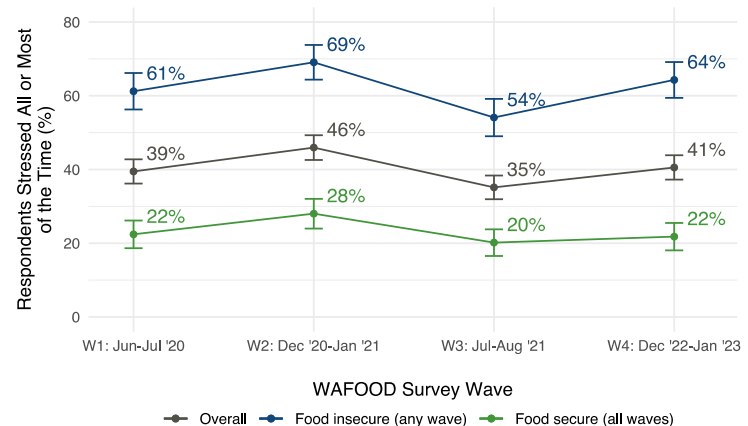


Figure 6c

Figures 6a-c. Percentage of respondents experiencing depression (6a), anxiety (6b), or stress (6c) all or most of the time in the past month, among a group of 223 respondents who participated in WAFOOD Waves 1-4, overall and by food security status^d

Table 1: Characteristics of longitudinal cohort compared to overall demographics of Washington State[†]

	WAFOOD1-4 Respondents Jun 2020 - Jan 2023	Washington State Jun - Jul 2020
Dates data were collected:		
Total number of individuals:	223	7,614,893
Age (years)		
18 to 34	18%	31%
35 to 54	39%	33%
55 and older	43%	36%
Gender identity		
Woman	83%	50%
Man	12%	50%
Transgender, nonbinary, or self-described	5%	--
Race and/or ethnicity		
Non-Hispanic White	81%	67%
Non-Hispanic Black	3%	4%
Hispanic or Latinx	5%	13%
Non-Hispanic Asian	4%	9%
AI/AN, NH/OPI, or self-described [‡]	6%	11%
Bachelor's degree or higher		
Some college or less	42%	63%
Bachelor's degree or higher	58%	37%
Annual household income		
<\$35,000	40%	20%
\$35,000 to \$74,999	25%	27%
\$75,000+	33%	52%
Married	47%	50%
Children in household		
One or more children	35%	30%
No children	66%	70%

[†]US Census Bureau 2019 American Community Survey 1-year estimates.

[‡]AI/AN=American Indian or Alaskan Native, NH/OPI=Native Hawai'ian or Other Pacific Islander.

How to Interpret These Findings

The WAFOOD surveys intentionally oversampled households with lower incomes and those using food assistance, in order to provide deeper insights on food insecurity throughout the state. All survey waves used a mix of convenience and recontact sampling. For the convenience sample, the research team, together with a diverse network of partner organizations across WA, recruited new respondents via social media, email, and text. For the recontact sample, the research team asked individuals who completed prior surveys and agreed to be recontacted to participate in newer waves directly via email. All four WAFOOD surveys were conducted online.

The limitations of convenience sampling and an online format mean that some groups of Washingtonians could have been overrepresented, underrepresented, or in some cases—such as those without access to computers, tablets, smart phones, or the internet—missed entirely. In interpreting these findings, it is important to remember that WAFOOD data reflect those who responded to the surveys, but do not necessarily represent WA's population as a whole; Table 1 shows how respondent demographics compared to the state overall. Nevertheless, WAFOOD data enable an important examination of economic and food needs among WA residents.

This research brief presents **longitudinal data** from the cohort of 223 respondents who participated in WAFOOD Waves 1, 2, 3, and 4. Table 1 shows the characteristics of these 223 respondents alongside the demographic characteristics of WA overall. In figures where data are disaggregated by food security status, the groupings of food secure and food insecure respondents are consistent across survey waves: respondents classified as “food secure” were in households that experienced food security in *all four survey waves*, and respondents classified as “food insecure” were in households that experienced food insecurity during *one or more survey waves*.

Recommendations for Future Research

The four waves of the Washington State Food Security Survey (WAFOOD) conducted between June 2020 and January 2023 have been instrumental in identifying trends in the health, economic well-being, and food needs of Washington households during the COVID-19 pandemic. Though the federal public health emergency declaration ended in May 2023, COVID-19 continues to have global impacts, and the financial repercussions of the pandemic are unlikely to be short-lived.

Existing national food security monitoring does not provide the resolution or breadth of data needed to identify trends, disparities, and actionable strategies for state and local stakeholders, particularly as pandemic funding related to food security ends. **To support the needs of Washington households we recommend continued and expanded WAFOOD efforts to advance the following goals:**

1. By continuing to monitor food security, economic needs, and well-being among Washingtonians, we can **track evolving food and assistance needs**, especially following the end of federal pandemic boosts to food assistance in March 2023.
2. By collecting additional WAFOOD data that oversample lower-income households, we can **pick up on important trends among households that are disproportionately vulnerable to continued economic impacts** and identify strategies for assistance and support.
3. By gathering additional WAFOOD data from a demographically representative sample, we can **provide estimates of the prevalence of food insecurity** that better reflect the state's whole population. The addition of alternative survey formats (such as telephone) would help reach more of the state's population.
4. By obtaining additional qualitative data, we can **contextualize survey data with people's stories and experiences**. What critical information is easily missed by survey questions but essential to our understanding of how to better support Washington families?
5. By conducting deeper analyses of existing WAFOOD data—for example, to assess geographic trends or factors linked with transitioning out of food insecurity—we can **better understand the nuances of food insecurity within Washington**.
6. By implementing analyses that link WAFOOD data to external data sources, such as food bank inventory or food assistance enrollment, we can **better understand how food insecurity is linked to other indicators**.

Technical Notes

- a. In this brief, food security is always presented in aggregate and refers to *high food security* and *marginal food security*. Food insecurity, where presented in aggregate, is the sum of *low food security* and *very low food security*. The USDA food security scale categories, based on the USDA 18-item food security scale, are:
- High food security: no reported indications of food-access problems or limitations.
 - Marginal food security: one or two reported indications—typically of anxiety over food sufficiency or shortage of food in the house. Little or no indication of changes in diets or food intake.
 - Low food security: reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake.
 - Very low food security: reports of multiple indications of disrupted eating patterns and reduced food intake.
- b. In figures that disaggregate data by food security status, the 44% of respondents who experienced food insecurity during one or more survey waves (n=98) were classified as food insecure.
- c. In Wave 1, participants were asked to report both their current and their pre-pandemic experiences ("Before COVID-19"), where pre-pandemic was defined as any time before March 15, 2020.
- d. Depression and anxiety were measured using the Patient Health Questionnaire-4 (PHQ-4) subscales.

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Abbreviations

SNAP = Supplemental Nutrition Assistance Program
 USDA = United States Department of Agriculture
 WA = Washington State
 WAFOOD = Washington State Food Security Survey
 WIC = Special Supplemental Nutrition Program for Women, Infants, and Children

Further Information

For more information and prior WAFOOD briefs:

- The WAFOOD project page <https://nutr.uw.edu/cphn/wafood/>
- The Washington State Food System Assessment https://nutr.uw.edu/cphn_project/washington-state-food-systems-assessment/

About the WAFOOD Team

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