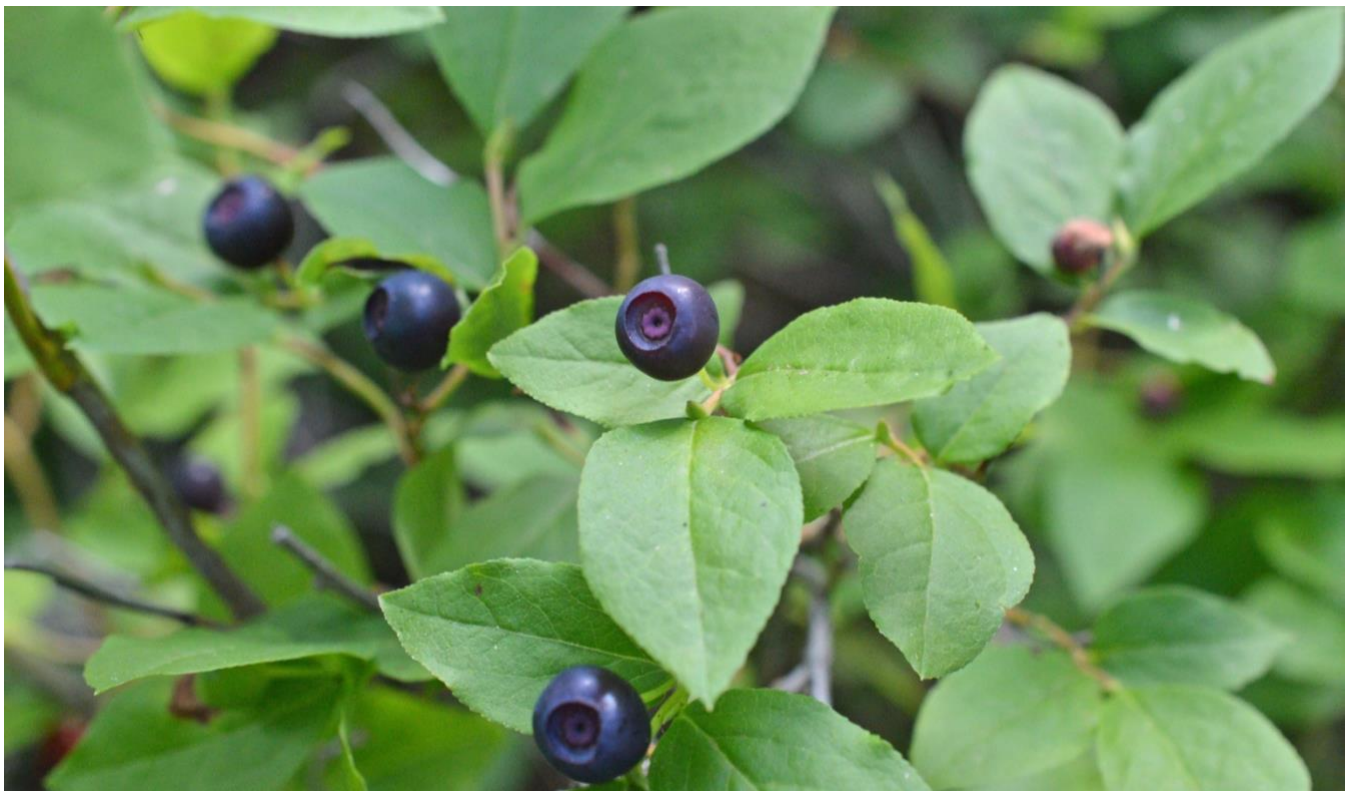




NORTHWEST PORTLAND AREA  
INDIAN HEALTH BOARD



Food Security, Food Access, and Traditional Foods across  
Northwest Tribal Communities in the Wake of COVID-19  
Findings from the NW Tribal Food Sovereignty Survey



# TABLE OF CONTENTS

About the NWTRIBAL Team .....	1
Key Findings.....	2
About the NWTRIBAL Survey.....	3
Abbreviations used in this report.....	3
CHAPTER 1: FOOD SECURITY AND FOOD ASSISTANCE.....	4
CHAPTER 2: EMPLOYMENT AND ECONOMIC SECURITY.....	9
CHAPTER 3: FOOD ACCESS, DIET, AND SELF-SUFFICIENCY .....	14
CHAPTER 4: TRADITIONAL FOODS .....	20
CHAPTER 5: HEALTH AND WELLNESS.....	25
CHAPTER 6: LEADERSHIP, COMMUNITY SUPPORT, AND POSITIVE OUTCOMES.....	28
CHAPTER 7: DEMOGRAPHICS .....	31
CHAPTER 8: CONCLUSIONS AND RECOMMENDATIONS .....	33
APPENDICES.....	37
Technical Notes .....	49

## About the NWTRIBAL Team

The Northwest Tribal Food Sovereignty Survey (NWTRIBAL) was a joint effort between the Northwest Tribal Epidemiology Center (NWTEC), a division of the Northwest Portland Area Indian Health Board (NPAIHB), and the University of Washington (UW) Food Systems, Nutrition, and Health Program (FSNH).

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## Acknowledgements

The NWTRIBAL survey team wishes to thank the NWTEC, NPAIHB, UWSPH, and the UW CSDE. We also wish to thank the numerous individuals and tribal representatives who graciously dedicated their time, expertise, and insight to this work, informing areas of focus and instrument design. We also want to thank all the survey respondents for taking the time to provide their survey responses. This study was funded by a grant from the Indian Health Service, grant number U1B1IHS0004.

## Suggested Citation

Walker, Shoshoni; Warren-Mears, Victoria; Green, Luca; Ayala, Sofia G.; Quinn, Emilee; Ismach, Alan; Otten, Jennifer J. "Food Security, Food Access, and Traditional Foods across Pacific Northwest Tribal Communities in the Wake of COVID-19: Findings from the NW Tribal Food Sovereignty Survey" (June 2024) NW Tribal Food Sovereignty Survey. <https://foodsystems.uw.edu/cphn/project/nwtribal/2024report>



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# Key Findings

## **Food insecurity high**

About 62% of NWTRIBAL households experienced food insecurity in the 12 months prior to taking the survey. Food security was assessed using the United States Department of Agriculture 6-item validated scale.

## **Food assistance use much higher than pre-pandemic rates**

Overall, 78% of NWTRIBAL respondents reported using at least one food assistance program in the 12 months prior to taking the survey. Only 45% of respondents reported using food assistance before COVID-19.

## **Many reported loss of income in the wake of COVID-19**

39% of NWTRIBAL respondents reported at least some loss of income in the 12 months prior to taking the survey. Larger households and households with children were more likely to report income loss, and employment loss due to school and daycare closures was named as a top reason for income loss.

## **Most shop at grocery stores, with other food sources varying**

Nearly all NWTRIBAL respondents reported using grocery stores for at least some of their food needs. Those living on reservation were significantly more likely to report hunting, gathering, fishing, or utilizing community meals than those living off reservation.

## **Rising prices a major concern**

More than 85% of NWTRIBAL respondents reported struggling with rising food and gas prices in the 12 months prior to taking the survey. When asked about their experience earlier in the pandemic, only a quarter of respondents reported struggling with these costs.

## **Majority report engaging with traditional foods**

60% of NWTRIBAL respondents reported at least some engagement with traditional foods, with traditional berries, fish, and wild game among the most used. Traditional food use was higher among those living on reservation (74%) than those off reservation (51%).

## **Traditional foods widely reported as difficult to obtain**

Many NWTRIBAL respondents reported difficulty accessing traditional foods, with traditional berries and roots, fish, wild game, and shellfish being some of the more difficult to obtain foods. Respondents named decreased stocks and supply related to environmental factors, not knowing how to access, and limited opportunity to fish, hunt, or gather because of wildfires and smoke among the top barriers to accessing traditional foods.

## **Overwhelming interest in more knowledge and resources regarding traditional foods**

Most NWTRIBAL respondents reported interest in accessing more knowledge and resources regarding traditional foods. Access to harvest grounds; and access to tools, materials, and information to harvest, preserve and prepare traditional foods were all of interest to about 80% of respondents. Many also expressed interest in having information regarding the history and stories related to traditional foods.

## **Some respondents shared positive food-related outcomes**

NWTRIBAL respondents shared several positive points in the wake of the COVID-19 pandemic, with many naming increased access to food assistance, and having enough food to be able to share with others as positive outcomes of COVID-19.

## About the NWTRIBAL Survey

The Northwest Tribal Food Sovereignty Survey (NWTRIBAL), funded by the Northwest Portland Area Indian Health Board (NPAIHB), aims to study changes in food access pathways, food security, and engagement with traditional foods among American Indian/Alaska Native (AI/AN) communities across Washington, Oregon, and Idaho during and in the wake of the COVID-19 pandemic. NWTRIBAL is an expanded follow up to the Washington Tribal Food Security Survey (WATRIBAL)<sup>†</sup>, which surveyed Washington State tribal communities in March and April of 2021. The NWTRIBAL project employed a mixed methods approach to develop a quantitative survey based on qualitative interviews with 8 tribal representatives from across the region, using the WATRIBAL and WAFOOD<sup>‡</sup> surveys as starting templates. The NWTRIBAL survey ran from August 2022 to May 2023 and received 165 complete responses from Pacific Northwest residents who identified as either a member or descendant of a tribe, representing 34 of the 51 tribes named in the survey.

This report provides a summary of NWTRIBAL survey responses on traditional foods, food security, food assistance, and employment and income. It also examines barriers to accessing federal, state, and tribal programs before and since the pandemic, and growing foods at home and in community.

<sup>†</sup> The WATRIBAL project was a UW Population Health Initiative-funded project undertaken by researchers from UWSPH, NWTEC, and Tacoma Community College from September 2020 - August 2021. The project aimed to better understand the food and economic needs of tribal communities in Washington State during the COVID-19 pandemic. For more information about this project and to view the final report, please visit <https://nutr.uw.edu/watribal/>.

<sup>‡</sup> The WAFOOD project was originally a UWPHI COVID-19 Rapid Response Grant-funded project titled “Examining the impact of the COVID-19 pandemic on food systems, food security, and food access in Washington State,” launched in June 2020. Since then there have been 3 additional WAFOOD survey waves, funded by philanthropy organizations and the Washington State Department of Agriculture, the most recent having closed in January 2023. For more information about this project, please visit <https://nutr.uw.edu/cphn/wafood/>.

## Abbreviations used in this report

AI/AN = American Indian/Alaska Native  
 CACFP = Child and Adult Care Food Program  
 CSDE = Center for Studies in Demography and Ecology  
 DEOHS = Department of Environmental and Occupational Health Sciences  
 FDPPIR = Food Distribution Program on Indian Reservations  
 ID = Idaho State  
 NPAIHB = Northwest Portland Area Indian Health Board  
 NSIP = Nutrition Services Incentive Program  
 NSLP = National School Lunch Program  
 NWTEC = Northwest Tribal Epidemiology Center  
 NWTRIBAL = Northwest Tribal Food Sovereignty Survey  
 OR = Oregon State  
 PNW = Pacific Northwest  
 SNAP = Supplemental Nutrition Assistance Program  
 TEFAP = The Emergency Food Assistance Program  
 USDA = United States Department of Agriculture  
 UW = University of Washington  
 UWSPH = University of Washington School of Public Health  
 WA = Washington State  
 WIC = Special Supplemental Nutrition Program for Women, Infants, and Children



## CHAPTER 1: FOOD SECURITY AND FOOD ASSISTANCE



## High Rates of Food Insecurity

- The United States Department of Agriculture (USDA) defines a food secure household as one in which all members always have access to enough food for an active, healthy life.
- Using the USDA 6-item validated scale, NWTRIBAL households were identified as being food secure (38%), or as having low (29%) or very low (34%) food security (Figure 1).
- Food insecure households are defined as those with either low or very low food security, which equates to about 62% of NWTRIBAL households.
- Food insecurity was higher among those living off reservation as compared to those living on reservation (64% vs. 60% respectively).
- Food insecurity was highest among younger respondents (76% of 18-34 year olds, 67% of 35-54 year olds, and 47% of those 55 or older) (Appendix A, Figure A1).
- 77% of very large households (8 or more members) were food insecure, compared to 60% of medium to large households (4-7 members) and 63% of small households (1-3 members) (Appendix A, Figure A2).
- Households without children showed greater food insecurity (65%) than households with children (61%) (Appendix A, Figure A3).

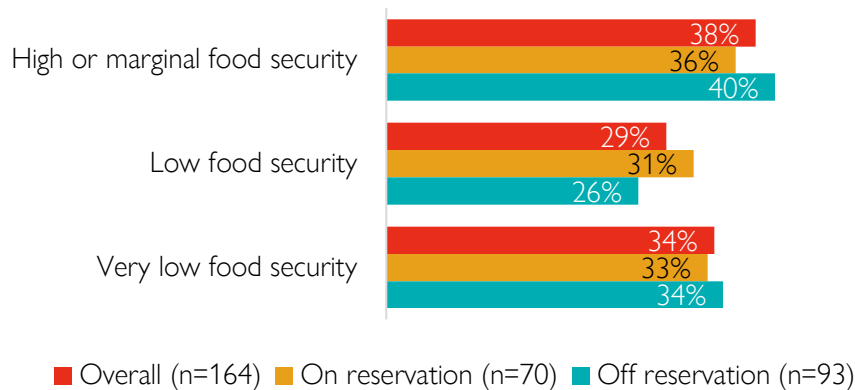


Figure 1: Food Security, on and off reservation<sup>1,2</sup>

Note: percentages may not add up to 100% due to rounding errors.

## High Rates of Food Insufficiency

- Food sufficiency is a measure of whether a household has enough to eat, assessed by a question from the USDA.
- Among NWTRIBAL respondents, a higher proportion of those living off reservation (18%) reported sometimes not having enough to eat compared to those living on reservation (16%) (Figure 2).
- Respondents under 55 years of age experienced much greater rates of food insufficiency than those over 55 (Appendix A, Figure A4).
- Very large households (8 or more members) were twice as likely as other households to report food insufficiency (Appendix A, Figure A5).

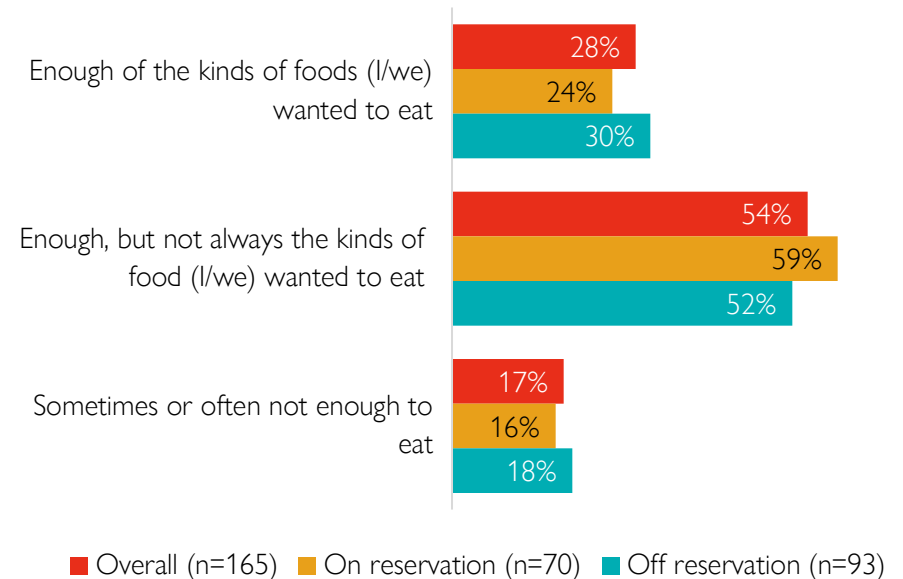


Figure 2: Food sufficiency, on and off reservation

## Food Assistance Use Higher Than Pre-Pandemic Rates

- Food assistance use increased sharply during the COVID-19 pandemic compared to self-reported pre-pandemic rates. Overall, 45% of NWTRIBAL respondents reported using at least one food assistance program before the pandemic, and 78% reported using at least one food assistance program during the last 12 months (Figure 3).
- Food assistance use increased more during the pandemic among those living off reservation (74% increase) than among those living on reservation (68% increase).
- Food insecure respondents were more likely to use food assistance both before (52%) and during (82%) the pandemic (Figure 4).
- Food assistance use rose significantly across all age groups during the pandemic, doubling among those respondents aged 18-34 (from 42% to 85%) (Appendix A, Figure A6).
- Food assistance use was higher in households with children both before (53%) and during (82%) the pandemic. However, food assistance use also more than doubled in households without children during the pandemic (from 35% of households without children before the pandemic to 72% during the pandemic) (Appendix A, Figure A7).

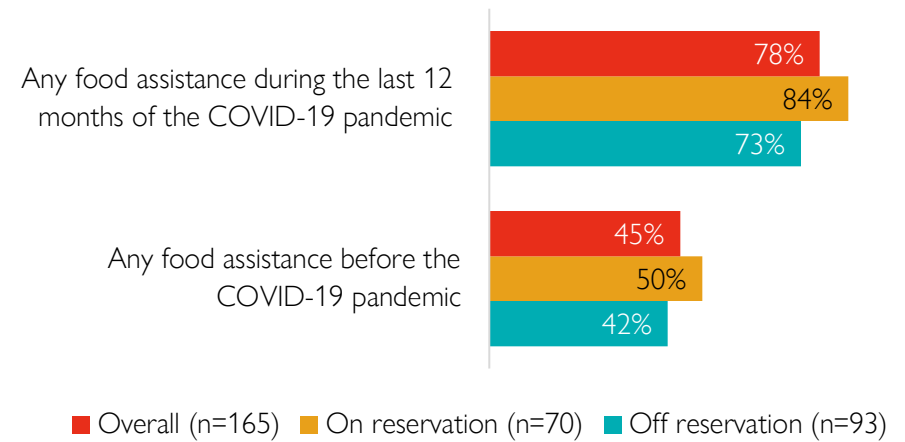


Figure 3: Any food assistance use, on and off reservation

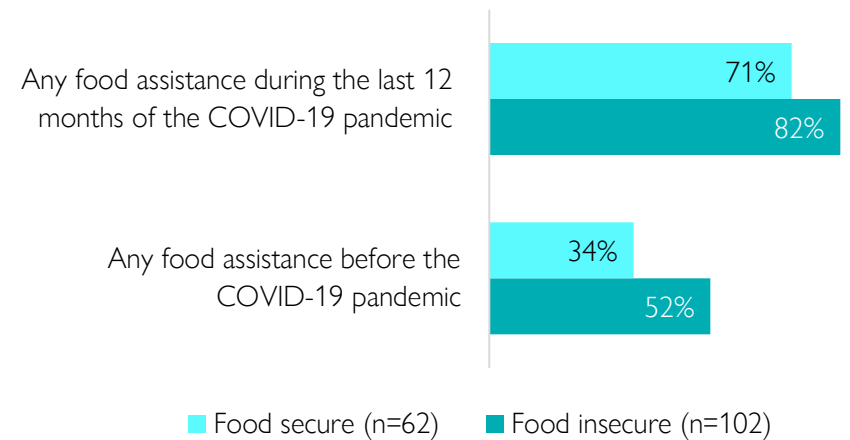


Figure 4: Any food assistance use, by food security status<sup>3</sup>



## Many Reported Using Tribal and Pandemic-Related Food Assistance Programs

- Overall among NWTRIBAL respondents, use of most food assistance programs increased when compared to self-reported pre-pandemic rates (Figure 5a).
- Pick up at food banks, mobile food box delivery, and tribal food programs saw the largest increases in use for those living on and off reservation (Figures 5b-5c).
- The “other tribal food program” category includes tribally-run food banks and pantries, tribe-offered events and feasts, and tribally-run food delivery or distribution, among other programs and events. While use of these programs increased greatly for both those living on and off reservation, use remained significantly higher on reservation. Off reservation use increased from 9% to 32%, and on reservation use from 23% to 56%.
- The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and its subsidiary farmers market program were the only food assistance programs that showed decreased use during the pandemic, both on and off reservation. Overall, WIC use decreased from 13% pre-pandemic to 8% during the pandemic.

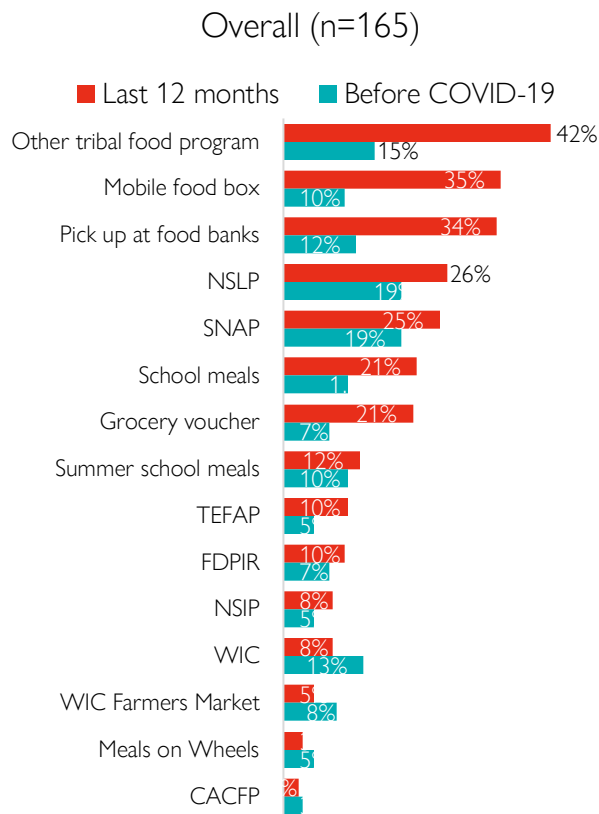


Figure 5a: Food assistance use by program, overall

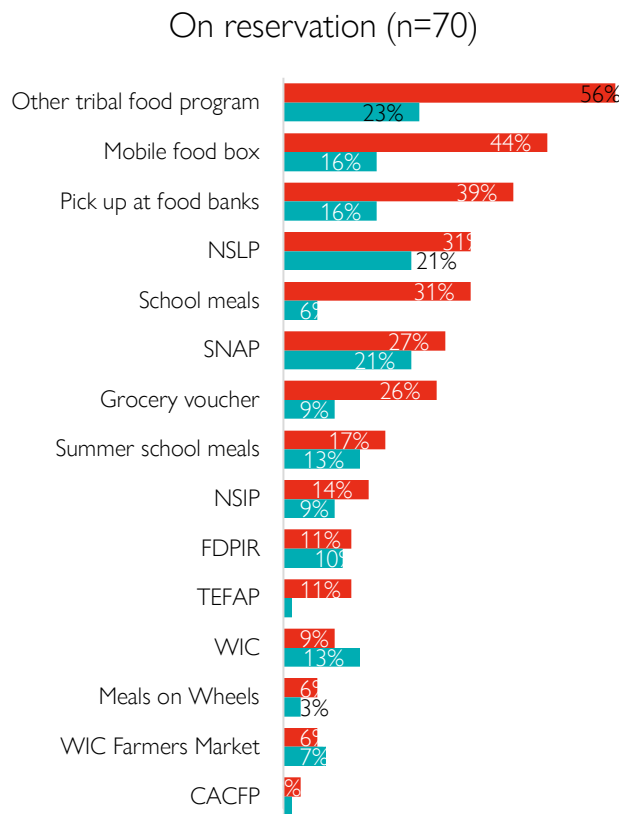


Figure 5b: Food assistance use by program, on reservation

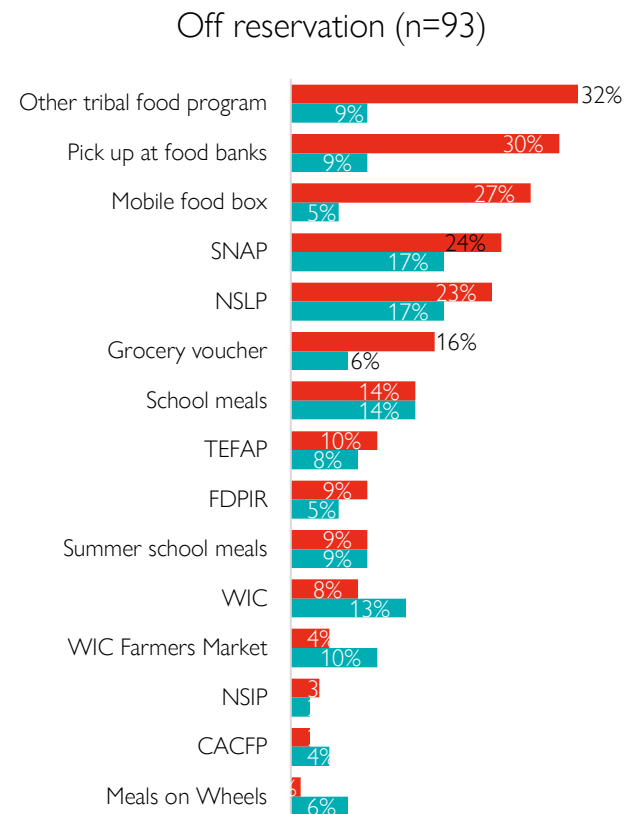


Figure 5c: Food assistance use by program, off reservation

## Barriers to Food Assistance

- Concern over qualifying (49%), as well as concern that others may have greater need (31%), were named as top barriers to food assistance by NWTRIBAL respondents (Figure 6).
- Those living off reservation were 4 times more likely than those living on reservation to report that available foods were not culturally appropriate.
- Though few reported no issues using food assistance, those living on reservation were nearly twice as likely as those living off reservation to report a smooth experience with no issues (13% vs. 7%).

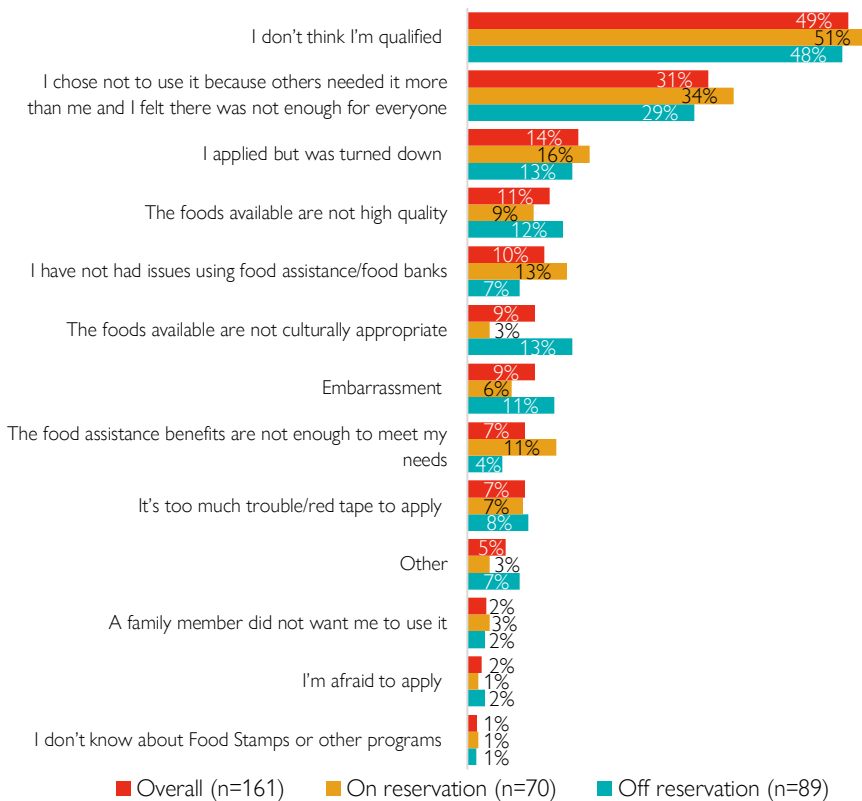


Figure 6: Barriers to food assistance in the past 12 months, on and off reservation<sup>4</sup>



## CHAPTER 2: EMPLOYMENT AND ECONOMIC SECURITY



## Some Lost Jobs, Some While Others Chose to Leave Labor Force During COVID-19

- The majority of NWTRIBAL respondents were employed both before (71%) and during (62%) the pandemic (Table 1).
- Fewer respondents were employed during the pandemic when compared with before the pandemic, driven by decreases in employment off reservation. The percentage of respondents employed increased during the pandemic among those living on reservation (63% to 70%), but decreased for those living off reservation (69% to 55%).
- Overall, unemployed respondents increased from 5% to 9%. The percentage of unemployed increased during the pandemic for those living off reservation from 3% to 13%, but decreased for those living on reservation from 9% to 4%.
- Respondents not in the labor force because they were retired, students, homemakers, or unable to work, among other reasons, increased from 17% to 24%.

	Before COVID-19 Employment			Current Employment		
	Overall	On Reservation	Off Reservation	Overall	On Reservation	Off Reservation
n	165	70	93	165	70	93
<b>Employment Status</b>						
Employed (wages or salary)	71%	63%	69%	62%	70%	55%
Self-employed	6%	7%	5%	5%	4%	5%
Unemployed	5%	9%	3%	9%	4%	13%
Not in labor force (ex. homemaker, student, retired, unable to work)	17%	11%	22%	24%	20%	27%
Note: 1% reported "prefer not to answer" for employment status.						

Table 1: Employment status before and during COVID-19



## Many Reported Loss of Income During COVID-19

- 39% of NWTRIBAL respondents reported at least some loss of employment income in the 12 months prior to taking the survey (Appendix B, Table B1).
- Households with children and larger households were more likely to report income loss than households without children and smaller households (Appendix B, Table B2).
- Among those who reported a loss of employment income in the past 12 months, school and daycare closures were named as the top reason for loss of employment, and thus income. Those living off reservation were much more likely to report this reason than those living on reservation (35% vs. 14%) (Figure 7).
- Other top reported reasons for income loss included layoffs, COVID-19 symptoms, and temporary employer closures.
- Those living on reservation were more than 3 times as likely to report income loss due to temporary employer closure than those living off reservation (28% vs 9%).

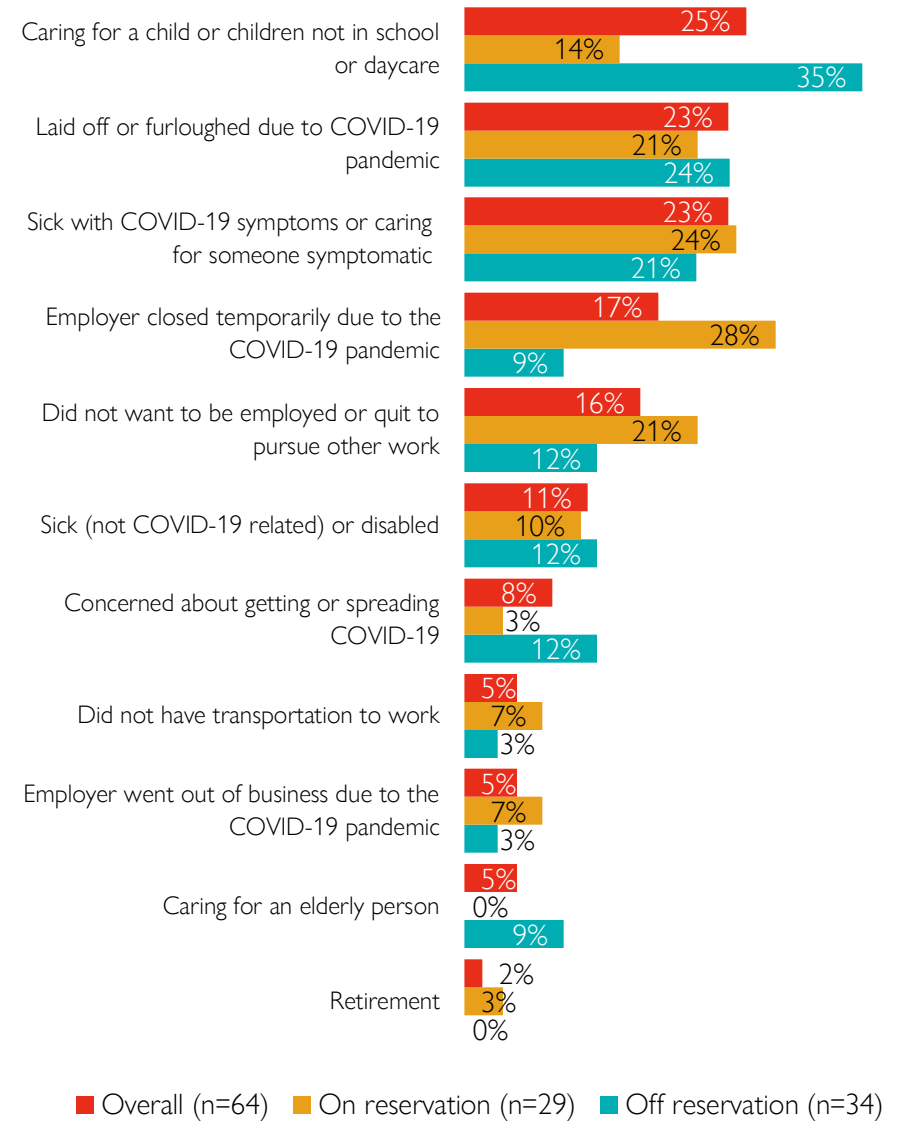


Figure 7: Reasons for loss of employment income during COVID-19, on and off reservation<sup>5</sup>



## Tribal Government and Tribal Services Reported as Top Occupations

- Many NWTRIBAL respondents reported working in one or more tribally-affiliated occupation (Figure 8).
- Those living on reservation were more likely to report working in a tribally-affiliated occupation than those living off reservation, particularly in tribal government or administration (31% vs. 14%).
- Few respondents reported working for tribal casinos or hotels (4%), but all who did lived off reservation.

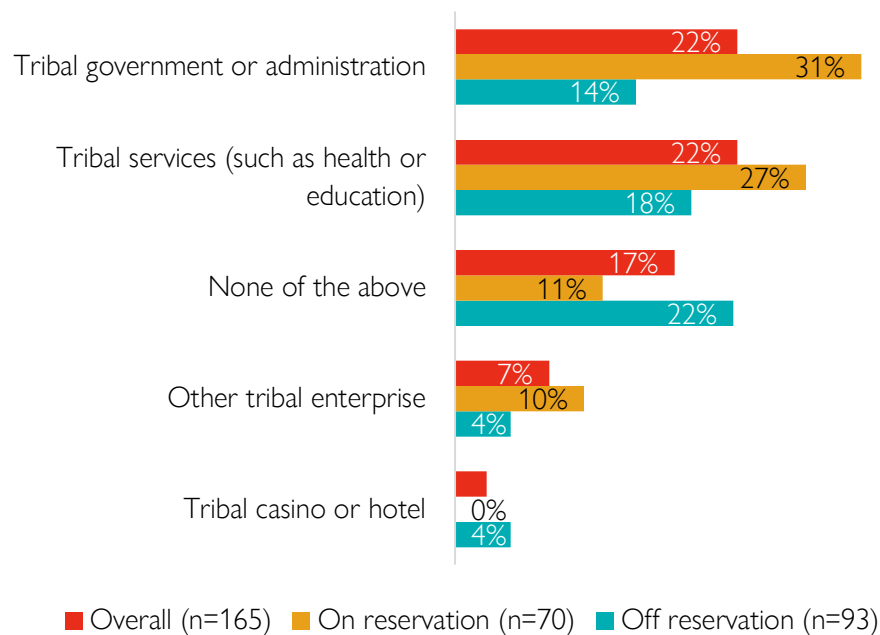


Figure 8: Tribal occupations, on and off reservation

## Many Reported Difficulty Paying for Household Expenses

- More than half of NWTRIBAL respondents reported that paying for usual household expenses (ex. rent, transportation, food, medical bills, etc.) was either somewhat difficult (26%) or very difficult (25%). Those reporting that household expenses were very difficult to pay for were more likely to live on reservation (30%) than off reservation (23%) (Figure 9).
- Relatively few respondents reported having no difficulty paying for household expenses, but it was more common among those living off reservation (22%) than those living on reservation (11%).

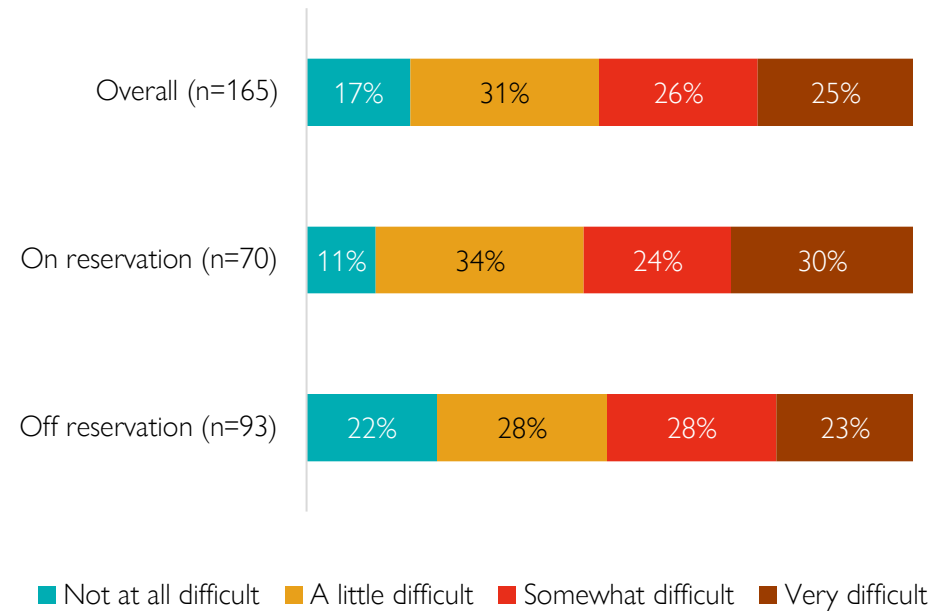


Figure 9: Difficulty paying for usual household expenses, on and off reservation



## Tribal Rent, Transportation, Utilities, and Food Among Top Financial Concerns

- Rent was reported as the top financial concern, being named by 25% of respondents. More of those living off reservation expressed worries about rent than those living on reservation (28% vs. 21%) (Figure 10).
- Other top financial concerns were transportation (reported by 24% of respondents) and utilities (reported by 16% of respondents). Utilities were nearly twice as likely to be reported as a financial concern by those living on reservation as those living off reservation (21% vs 12%).
- Those living on reservation were nearly twice as likely as those living off reservation to report food as a top financial concern (14% vs. 8%).
- Less than 10% of respondents reported no financial concerns.

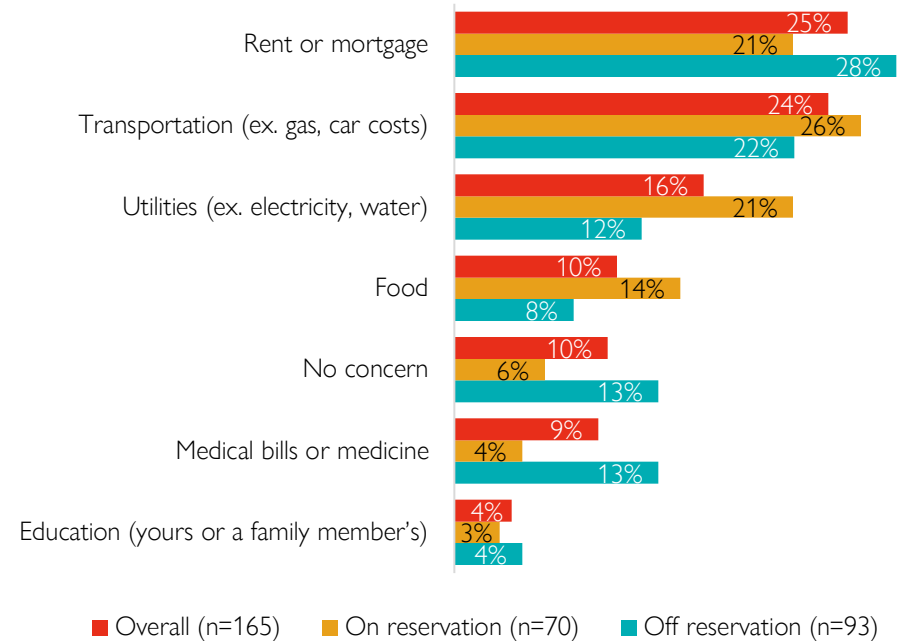


Figure 10: Top financial concerns, on and off reservation

## CHAPTER 3: FOOD ACCESS, DIET, AND SELF-SUFFICIENCY



## Most Shopped at Grocery Stores and Supermarkets, with Other Food Sources More Varied

- Among NWTRIBAL households, nearly all (96%) used supermarkets and grocery stores for at least some of their food needs (Figure 11).
- Several avenues of food procurement were much more common among those living on reservation than those living off reservation, including hunting, fishing, and gathering (53% vs. 27%), non-tribal food banks or pantries (27% vs. 13%), and community meals (13% vs. 4%).
- Overall, half of respondents reported typically travelling more than 10 miles to get food for their households. Those living on reservation tended to travel further for food than those living off reservation, with 33% of on reservation respondents reporting a usual 11-20 miles of travel, and 34% reporting more than 20 miles (Appendix C, Figure C1).

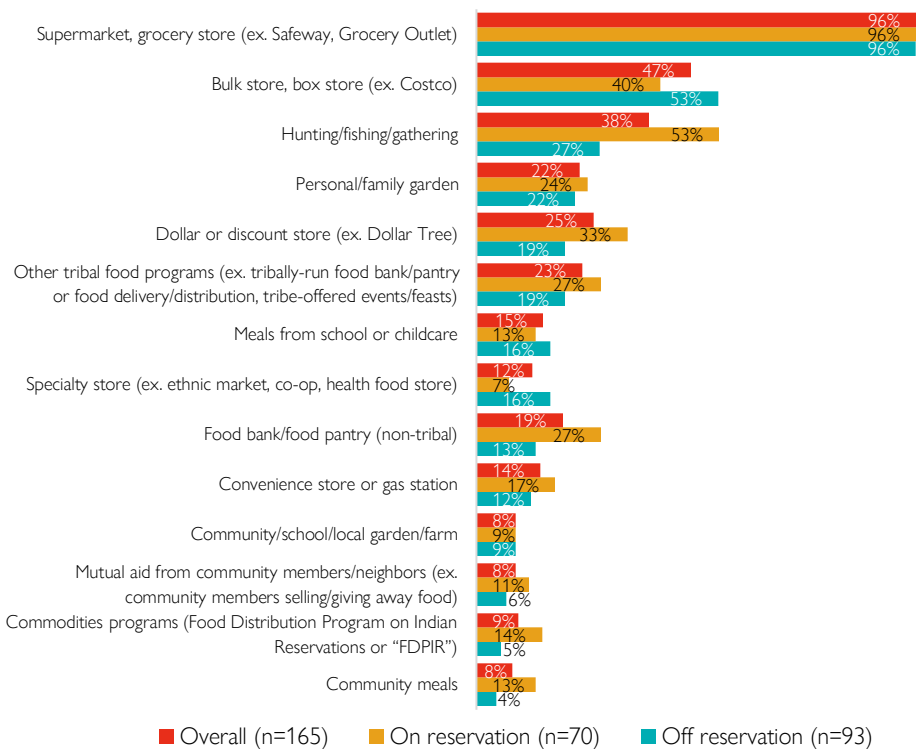


Figure 11: Household food sources, on and off reservation

## Most Food Spending Went Towards Groceries

- NWTRIBAL respondents spent considerably more on groceries than on eating out (restaurants, fast food, delivery, etc.). While 66% reported spending \$25 or more per person per week on groceries, only 16% reported spending \$25 or more per person per week on eating out (Figures 12a-b).
- While spending on eating out was similar between those living on and off reservation, those living off reservation reported spending more on groceries. 36% of respondents living off reservation reported spending \$50 or more per person per week for groceries, compared to 14% of those living on reservation.

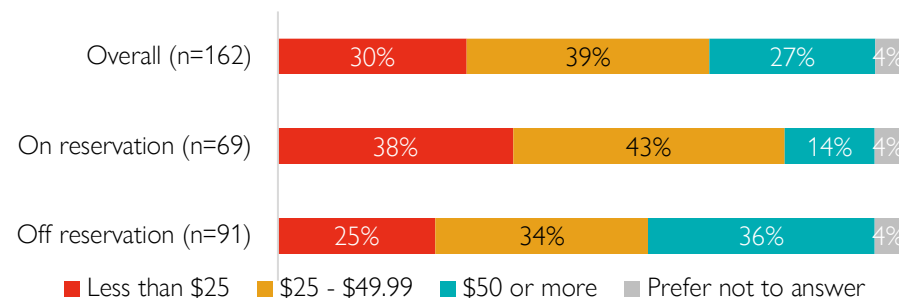


Figure 12a: Weekly household per capita spending on groceries, on and off reservation<sup>6</sup>

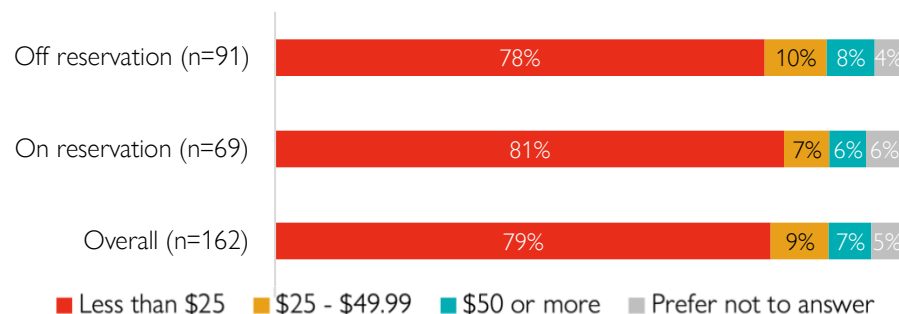


Figure 12b: Weekly household per capita spending on eating out, on and off reservation

## Confidence varied in accessing different food sources over the next few months

- Overall, a majority of NWTRIBAL respondents (65%) felt moderately to very confident that they could access the foods they needed from food stores in the next few months. About 10% of off reservation respondents reported they were “not at all confident” in accessing the foods they needed from food stores (Figure 13).
- Among those who reported using food banks, food pantries, or commodity foods, more than half indicated that they were only somewhat or not at all confident in accessing the kinds of foods they need in the next few months from those sources.
- More than half of respondents reported that they were only somewhat or not at all confident in accessing traditional foods that they need in the next few months.

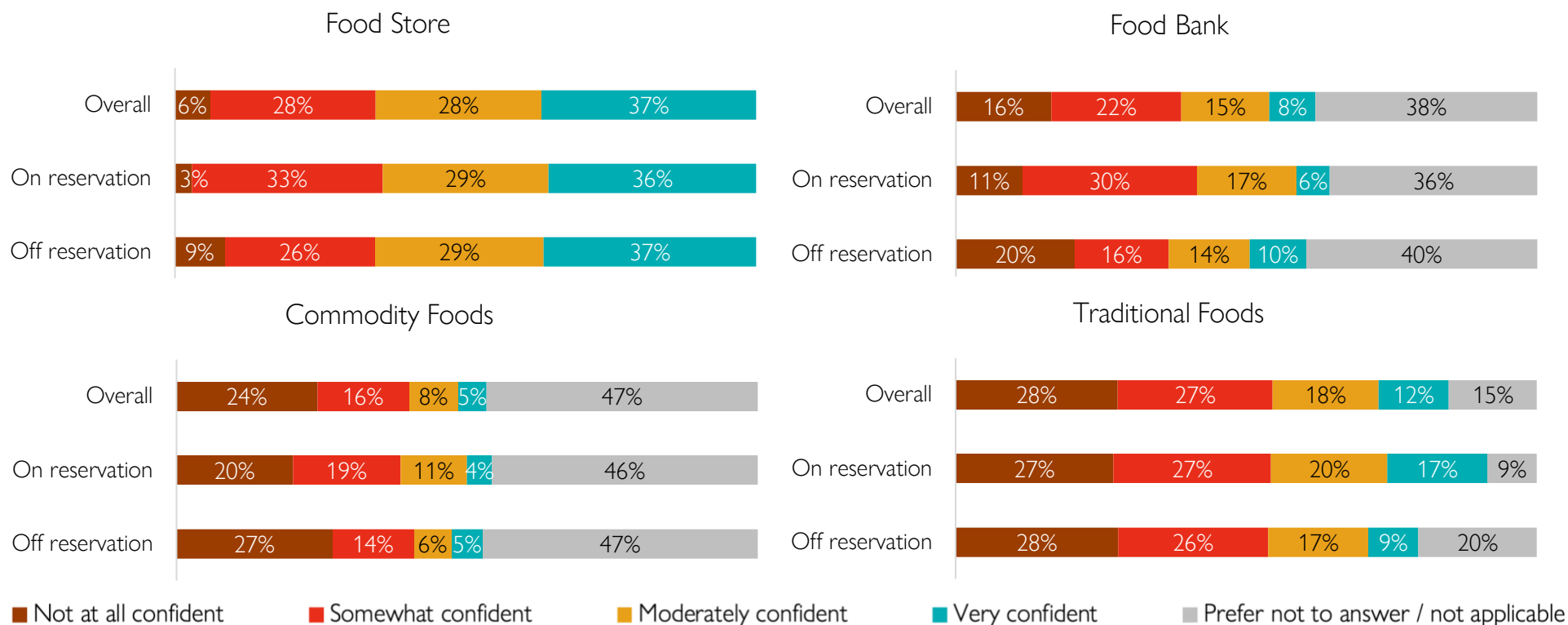


Figure 13: Confidence in accessing food from food sources, on and off reservation

Note: Overall n=165, On reservation n=70, Off reservation=93.



## Traditional Foods Reported as Difficult to Get

- Many NWTRIBAL respondents reported difficulty accessing traditional foods in the 12 months prior to taking the survey, including traditional berries (47%), traditional roots (37%), and other traditional plants (35%) (Figure 14).
- Other food categories that include many traditional foods were also ranked highly, with 39% of respondents reporting difficulty accessing fish, 37% reporting difficulty accessing wild game, and 26% reporting difficulty accessing shellfish in the 12 months prior to taking the survey.

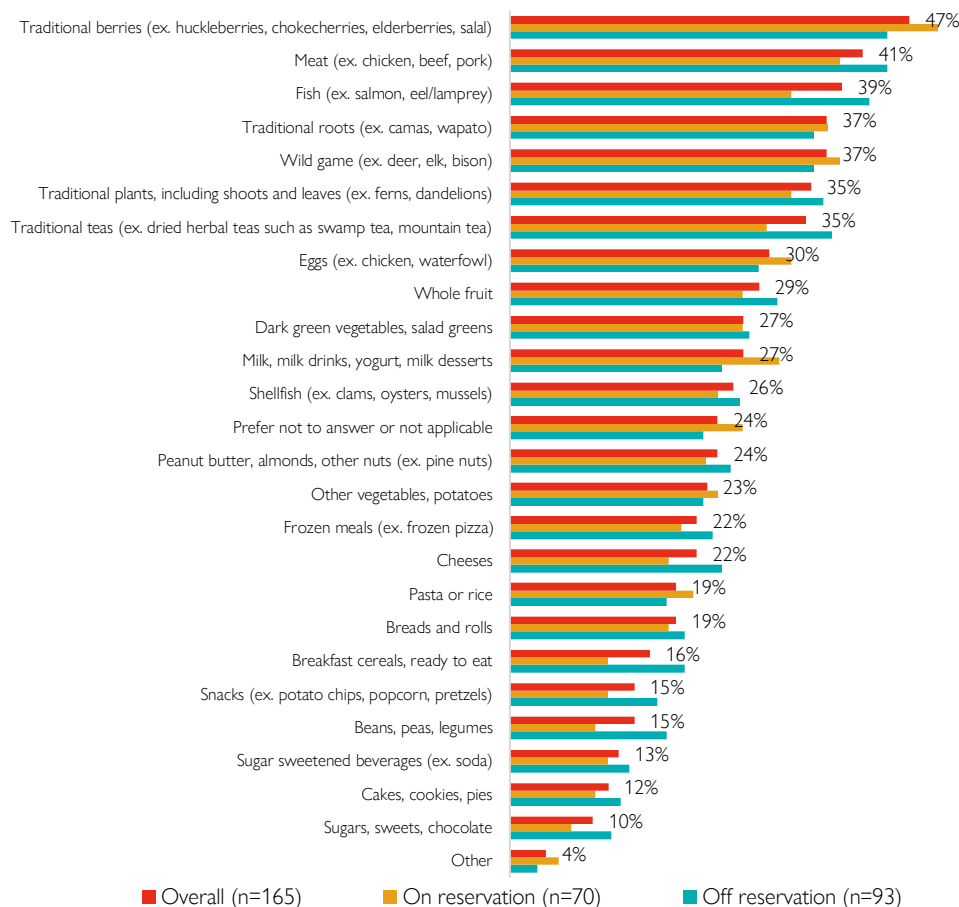


Figure 14: Trouble accessing specific foods in the last 12 months, on and off reservation<sup>7</sup>

## Many Struggled with Affordability and Rising Prices

- More than 85% of NWTRIBAL respondents reported struggling with rising food and gas costs in the 12 months prior to taking the survey (Figure 15).
- 45% of respondents reported that traditional foods had gotten more difficult to access in the 12 months prior to taking the survey.
- 42% of respondents reported not feeling safe in stores, and 30% reported not feeling safe on public transportation.
- Based on self-reported food shopping issues experienced earlier in the pandemic (“prior to the last 12 months”), issues with rising gas and food costs grew substantially later on in the pandemic, from 27% to 85% and 29% to 87%, respectively. Issues with accessing traditional foods also increased from 27% to 45% (Appendix C, Figure C3).
- More than 40% of respondents reported experiencing disruptions to first foods ceremonies, gatherings, or other similar events (Appendix C, Figures C4 and C5).

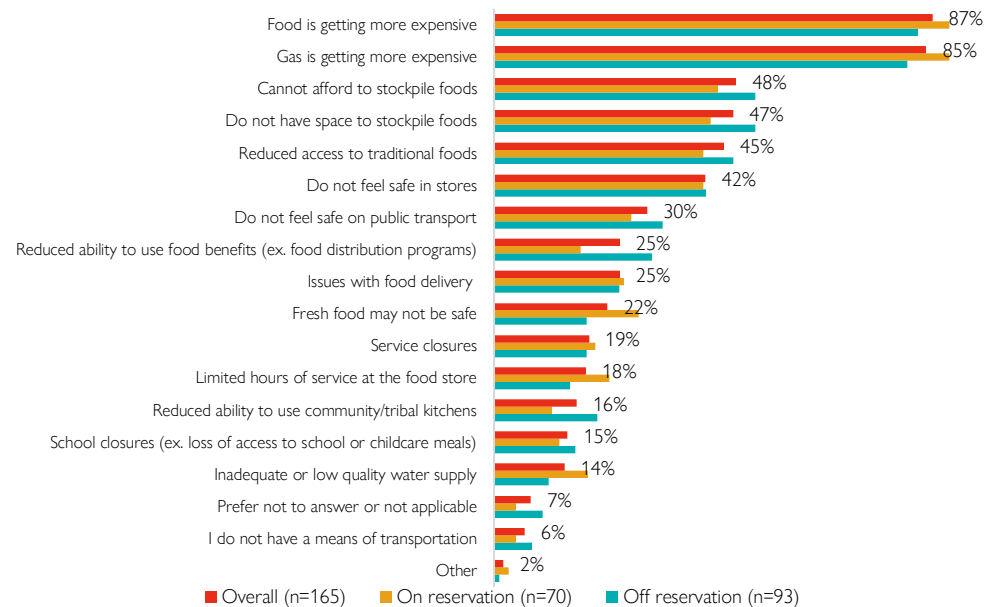


Figure 15: Food shopping issues in the last 12 months, on and off reservation<sup>8</sup>

## Many Reported Poor or Fair Diet Quality and Worsening Diets Since the Beginning of the Pandemic

- Nearly half of NWTRIBAL respondents (45%) reported feeling that their diets were poor or fair. Only 10% reported feeling that their diets were very good or excellent (Figure 16a).
- Self-reported diet quality was slightly better among those living on reservation compared to those living off reservation. 57% of those on reservation reported good, very good, or excellent diet quality, compared to 54% of those off reservation. 6% of those off reservation reported very good or excellent diets, compared to 16% of those on reservation.
- 42% of respondents reported that the quality of their diet worsened since the pandemic began, with diets of those living off reservation (44%) worsening slightly more than those on reservation (41%) (Figure 16b).
- 49% of households with older adults reported poor or fair diet quality, and 61% of households with older adults reported that their diets worsened since the start of the pandemic (Appendix C, Figures C6-7).

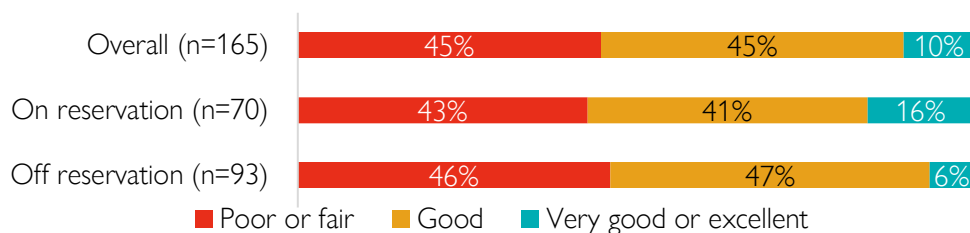


Figure 16a: Self-reported quality of diet, on and off reservation

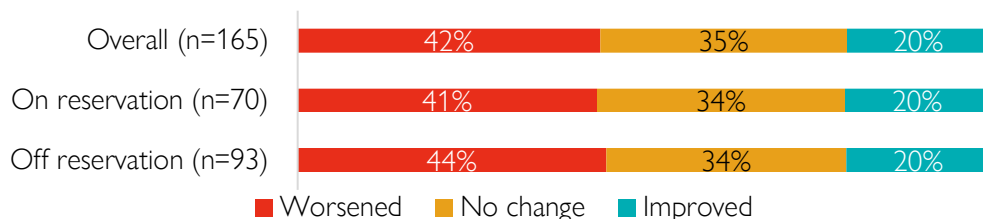


Figure 16b: Self-reported change in quality of diet since COVID-19 pandemic began, on and off reservation

## Engagement with Self-Sufficiency Activities Varied Over the COVID-19 Pandemic

- NWTRIBAL respondents reported on how their engagement with different food self-sufficiency activities changed during the pandemic. 35% created less food waste, 33% cooked more meals from shelf stable or frozen foods, and 28% did more stocking up on food (Figure 17).
- 23% of respondents reported that their engagement with hunting, gathering, and/or fishing lessened during the pandemic.
- 21% of respondents reported more engagement with food preservation, but another 20% reported less engagement. Similarly, 17% reported more gardening, and 17% reported less gardening.
- Those living on reservation were nearly twice as likely to have increased their engagement with food preservation than those living off reservation (29% vs. 15%) (Appendix C, Figures C8-9).

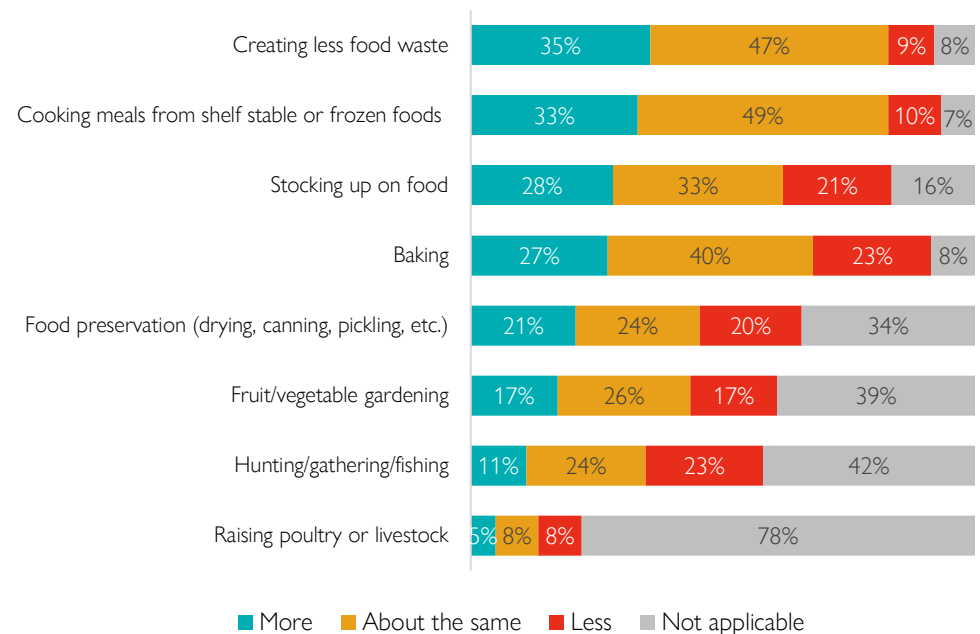


Figure 17: Engagement in self-sufficiency activities during COVID-19, overall sample (n=165)

## Wide Range of Food Storage and Preparation Equipment Used

- Nearly all NWTRIBAL respondents reported using both freezers and refrigerators (Figure 18).
- 35% reported canning food, and 27% reported smoking meat and/or fish.
- Those living on reservation were slightly more likely to report using food preservation supplies (dehydrators, canning supplies, fermentation supplies) than those off reservation.

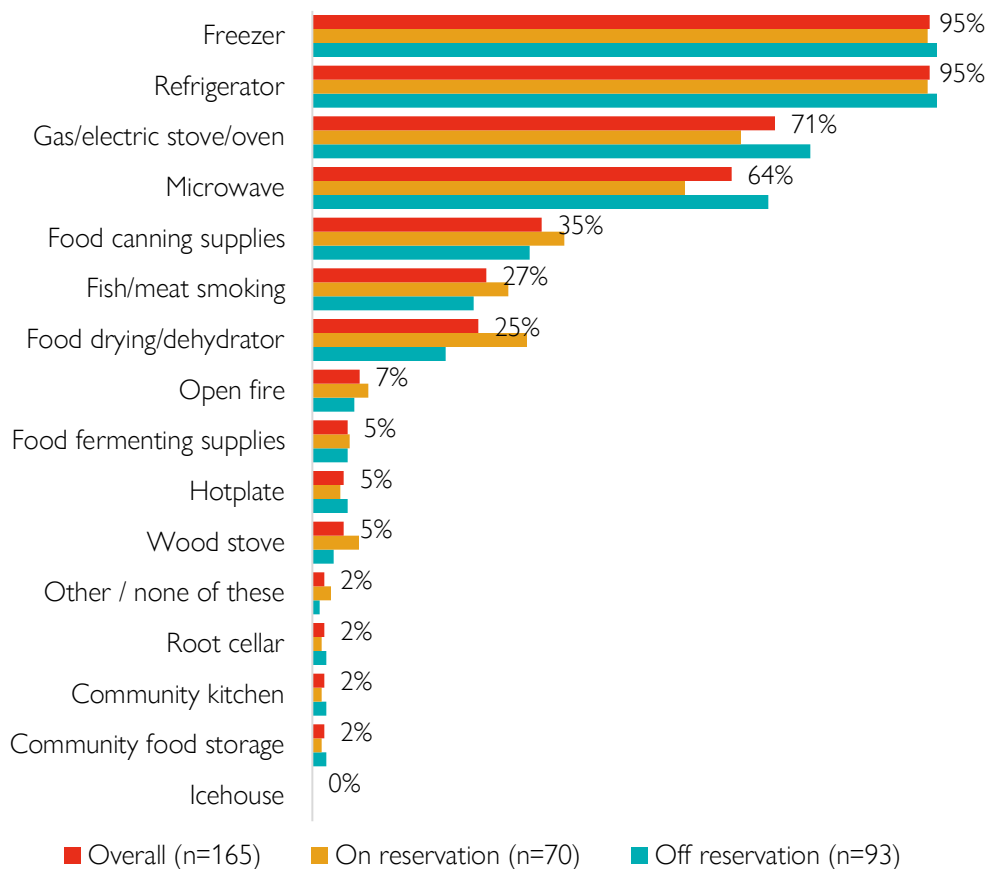


Figure 18: Items used for food storage or preparation, on and off reservation<sup>9</sup>

## Many Identified Useful Avenues to Improve Food Resources

- 54% of NWTRIBAL respondents shared that tips on getting the most for their money at the grocery store is and/or could be useful in improving their food resources (Figure 19).
- The idea of a “one-stop” application process for all food assistance programs, information on nutrition and healthful eating and cooking, gardening information, and information on government programs were each named as potentially useful by about 40% of respondents.
- Relatively few named access to transportation, but those on reservation (17%) were more likely to than those off reservation (11%).
- Those living off reservation were more than twice as likely to name help with understanding or filling out forms and applications as those living on reservation (16% vs. 7%) as potentially useful.

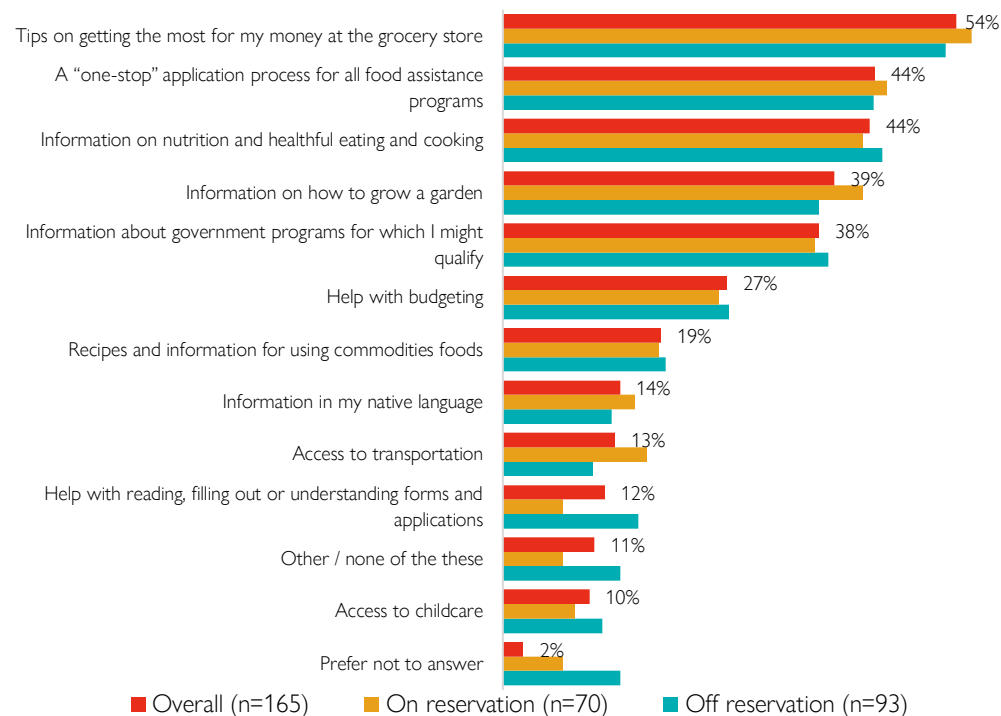


Figure 19: Ways to improve food resources, on and off reservation<sup>10</sup>

## CHAPTER 4: TRADITIONAL FOODS



## Majority Reported Engaging with Traditional Foods

- 60% of NWTRIBAL respondents reported at least some engagement with traditional foods (Figure 20).
- 74% of those living on reservation reported using traditional foods, compared to 51% off reservation.
- Those living off reservation were about three times as likely to report using no traditional foods compared to those living on reservation (37% vs. 13%).
- 13% chose not to answer the questions about their traditional foods use.

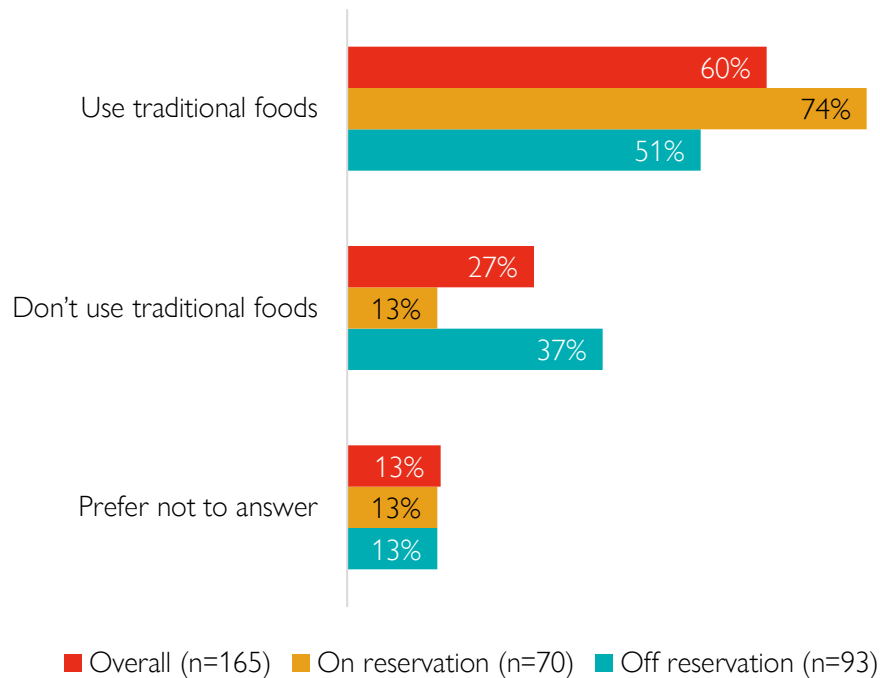


Figure 20: Household traditional foods use, on and off reservation

## Wild Game and Fish Among Most Used Traditional Foods

- In an open-ended question, respondents reported wild game, fish, and berries as among their most used traditional foods (Figure 21).
- Those living on reservation were more likely to name wild game, berries, roots, and teas as the most used, whereas those living off reservation were more likely to name fish and shellfish.

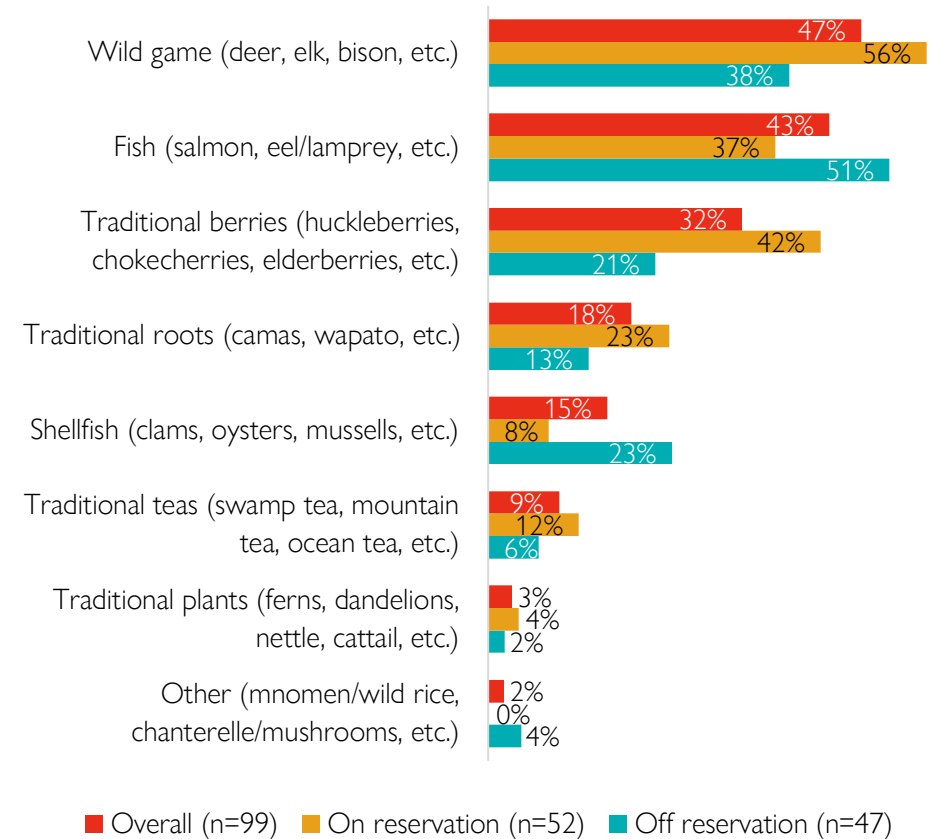


Figure 21: Traditional food use by category, on and off reservation<sup>11</sup>



## Traditional Foods Reported as Most Difficult to Access During COVID-19 Include Fish and Wild Game

- Fish and wild game were each named by about 20% of NWTRIBAL respondents as among the most difficult traditional foods to access during the pandemic (Figure 22).
- Some reported difficulty accessing traditional berries, roots, shellfish, teas, and other traditional plants.
- There were major differences in experienced difficulty accessing traditional foods between those living on and off reservation. Those living off reservation were more than twice as likely to name fish as difficult to access (28% vs. 13%), while those living on reservation were nearly 8 times as likely to report difficulty accessing traditional berries (31% vs. 4%).

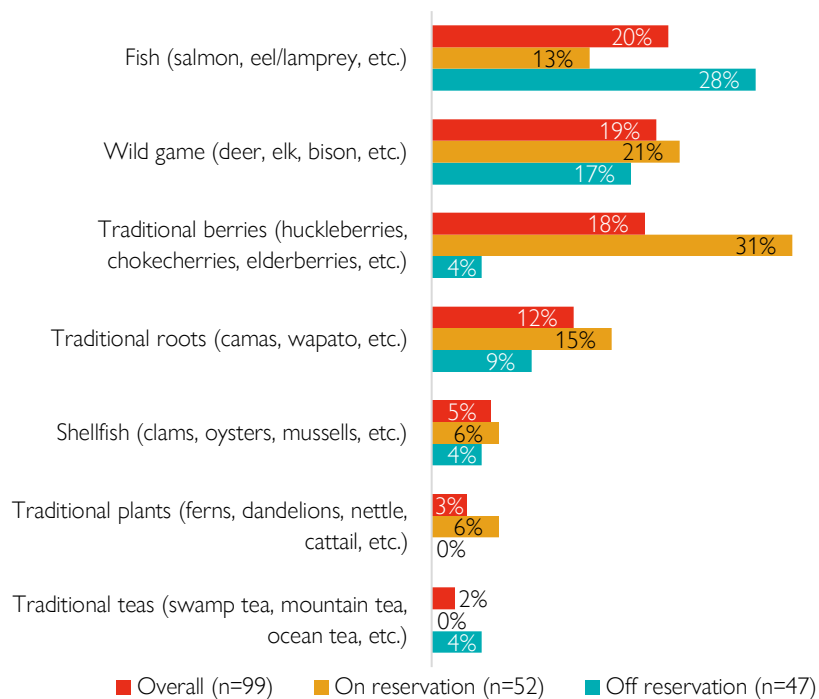


Figure 22: Traditional foods difficult to access, on and off reservation<sup>11</sup>



## Barriers to Accessing Traditional Foods Wide Ranging

- Decreased stocks and supply related to environmental challenges (37%), not knowing how to access (37%), and more limited opportunity to hunt, fish, or harvest because of wildfires and smoke (30%) were among the top named barriers to accessing traditional foods named by NWTRIBAL respondents (Figure 23).
- Not having a traditional foods program in the community (29%) and COVID-19 restrictions (27%) were also commonly reported barriers.
- Affordability was named as a barrier by those living off reservation nearly twice as often as those on reservation (31% vs. 16%).
- Not living with/near other tribal members or on/near tribal land was reported as a barrier to accessing traditional foods by 45% of those living off reservation.
- A lack of necessary knowledge was a common concern, with 37% of respondents saying they did not know how to access traditional foods, 22% saying they did not know how to grow traditional foods, and 19% saying they did not know where or how to learn about them.

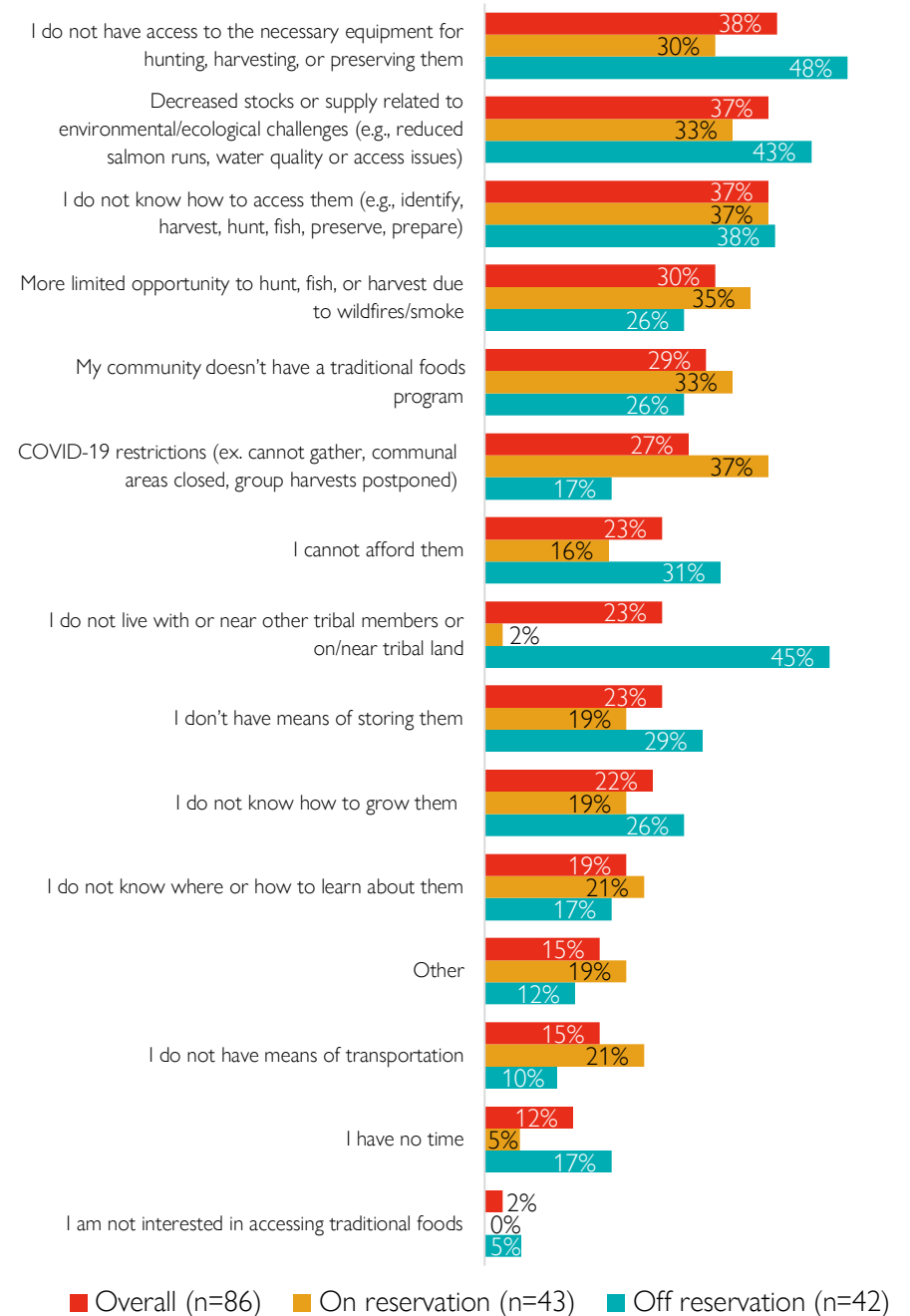
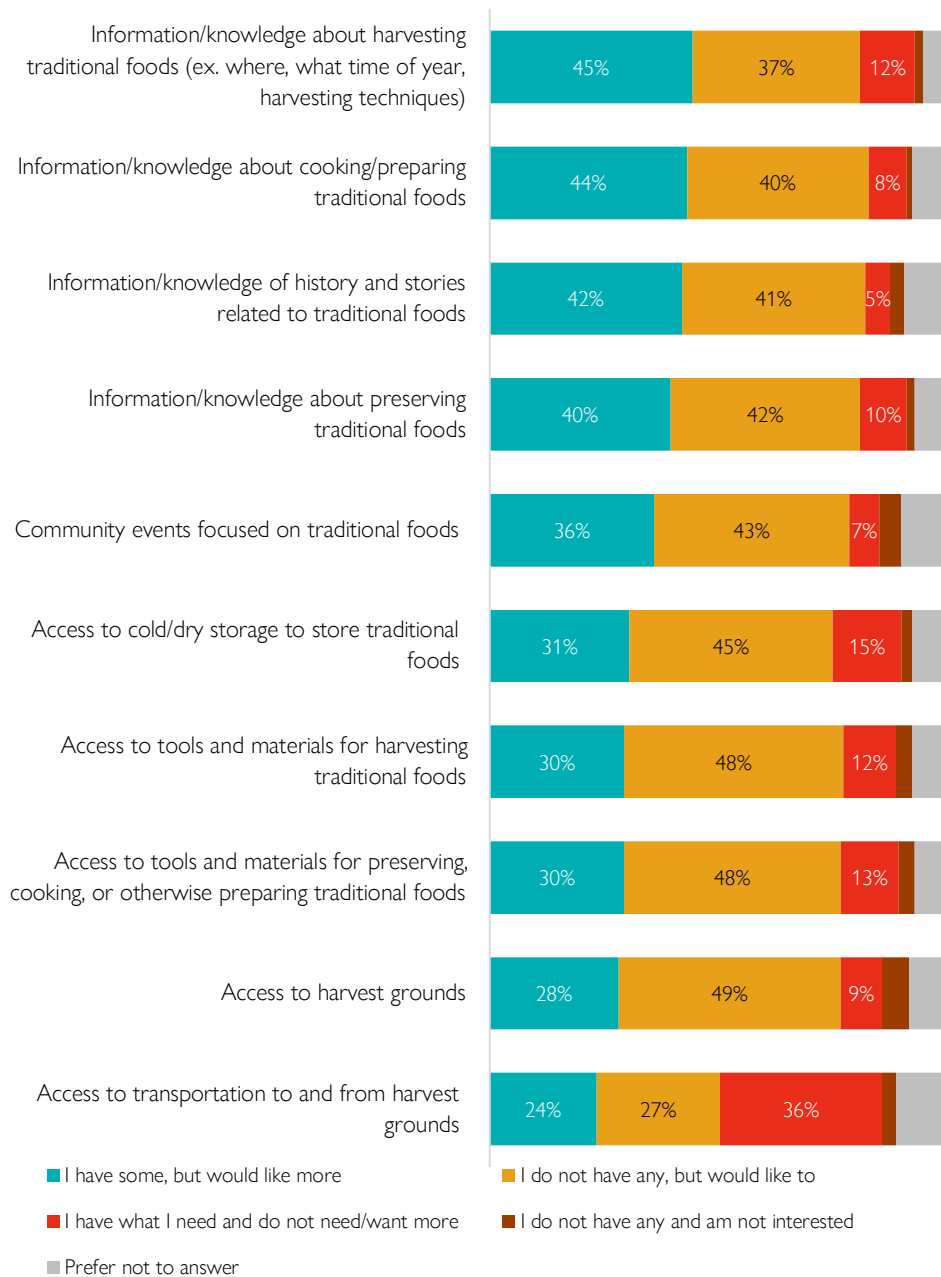


Figure 23: Barriers to accessing traditional foods, on and off reservation<sup>12</sup>



## Overwhelming Interest in More Knowledge and Resources Regarding Traditional Foods

- Overall, about 80% of respondents reported interest in more of almost every category of knowledge and resources related to traditional foods. The only exception was access to transportation to and from harvest grounds, to which 51% expressed interest in having more (Figure 24).
- All 4 categories regarding information and knowledge of traditional foods had lower instances of respondents reporting they had none, but overall showed the highest interest in attaining more.
- Access to harvest grounds (about 78%), access to harvest tools and materials (78%), and access to preserving and preparing tools and materials (78%) were among the top resources that NWTRIBAL respondents expressed an interest in wanting some or more of.
- Most of those living off reservation reported interest in accessing more knowledge and resources relating to traditional foods, and many reported not having access to any such knowledge or resources (Appendix D, Figures D2-3).



Figure 24: Interest in knowledge and resources related to traditional foods  
 Note: Overall n=165



## CHAPTER 5: HEALTH AND WELLNESS



## Many Reported Good Health, but there were Disparities Between Those Living On and Those Living Off Reservations

- Overall, about 57% of NWTRIBAL respondents reported good, very good, or excellent health (Figure 25).
- Those living on reservation were more likely to report good, very good, or excellent health than those living off reservation (64% compared to 49%). Those living off reservation were more likely to report fair or poor health than those living on reservation (51% vs 36%).
- 65% reported receiving care through the Indian Health Service, and 58% reported having insurance through a current or former employer, a union, or a tribal purchase. 30% reported coverage from Medicaid, Medical Assistance, or another government-assistance plan for those with low incomes or disabilities (Appendix E, Figure E1).

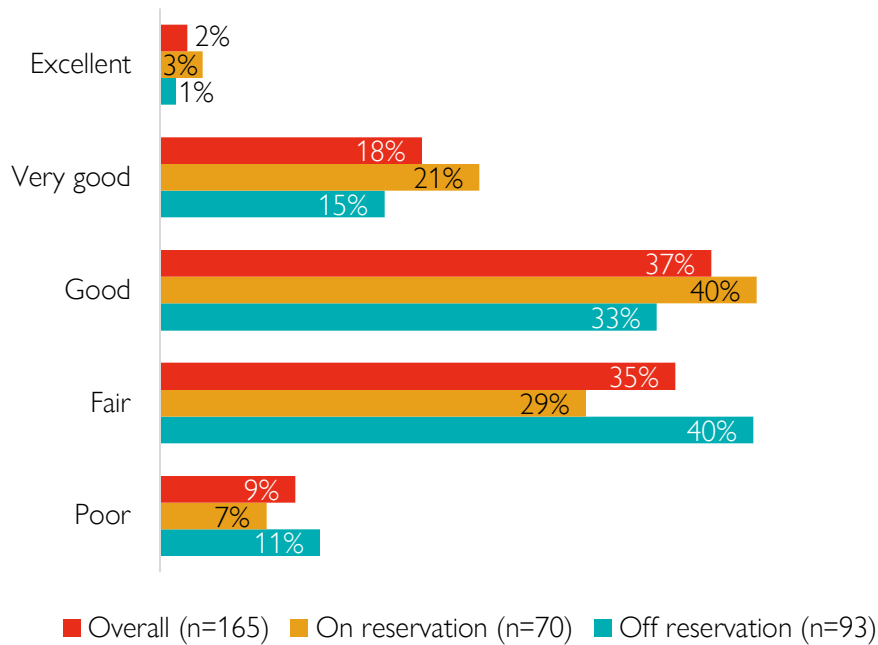


Figure 25: Self-reported health status, on and off reservation

## Health Conditions and COVID-19 Risk Factors Common

- 55% of NWTRIBAL respondents reported being told by a doctor that they had at least one of the named health conditions (Figure 26).
- High blood pressure was the most common, with 27% of on reservation and 41% of off reservation respondents reporting being told by a doctor that they had high blood pressure.
- Asthma and diabetes were also relatively common, being reported by 22% and 19% of respondents, respectively.
- With the exception of ceremonial tobacco use, 83% reported being non-smokers (Appendix E, Figure 2E).

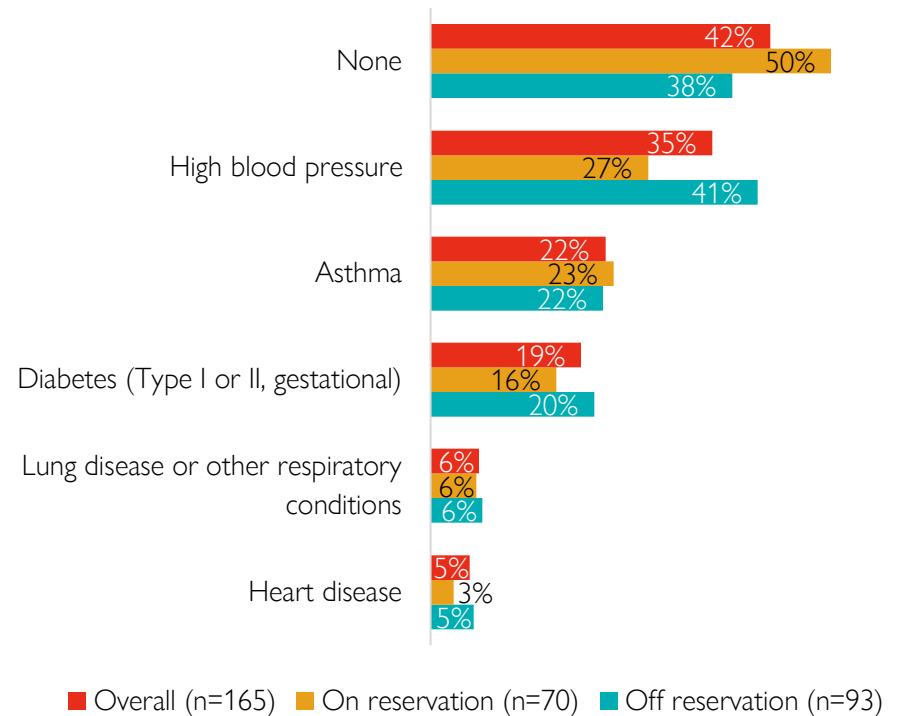


Figure 26: Health conditions, on and off reservation



## Stress Levels High

- 55% of NWTRIBAL respondents reported being stressed most or all of the time (Figure 27).
- High levels of stress (stressed most of the time or all of the time) were more common among those living off reservation than on (58% vs 52%).

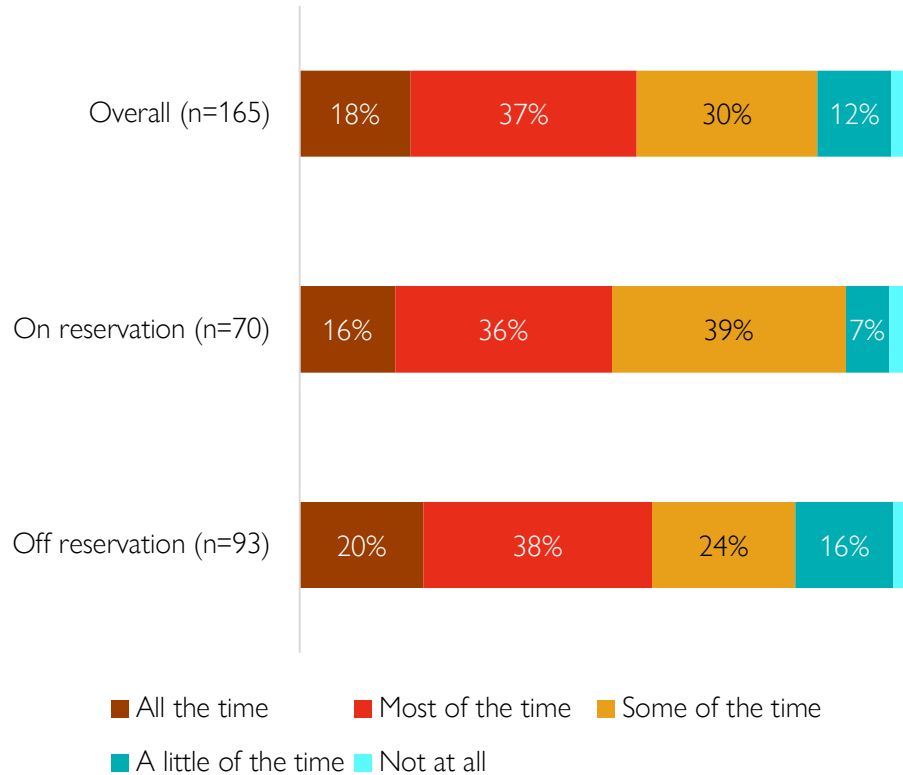


Figure 27: Self-reported stress, on and off reservation<sup>13</sup>

## High rates of anxiety and depression

- More than a third (36%) NWTRIBAL respondents were classified as depressed, and nearly half (49%) as anxious based on their responses to the 4-item Patient Health Questionnaire (Figure 28).
- A larger percentage of respondents living off reservation were classified as depressed (40% vs. 32%) and anxious (51% vs. 46%) relative to those living on reservation.

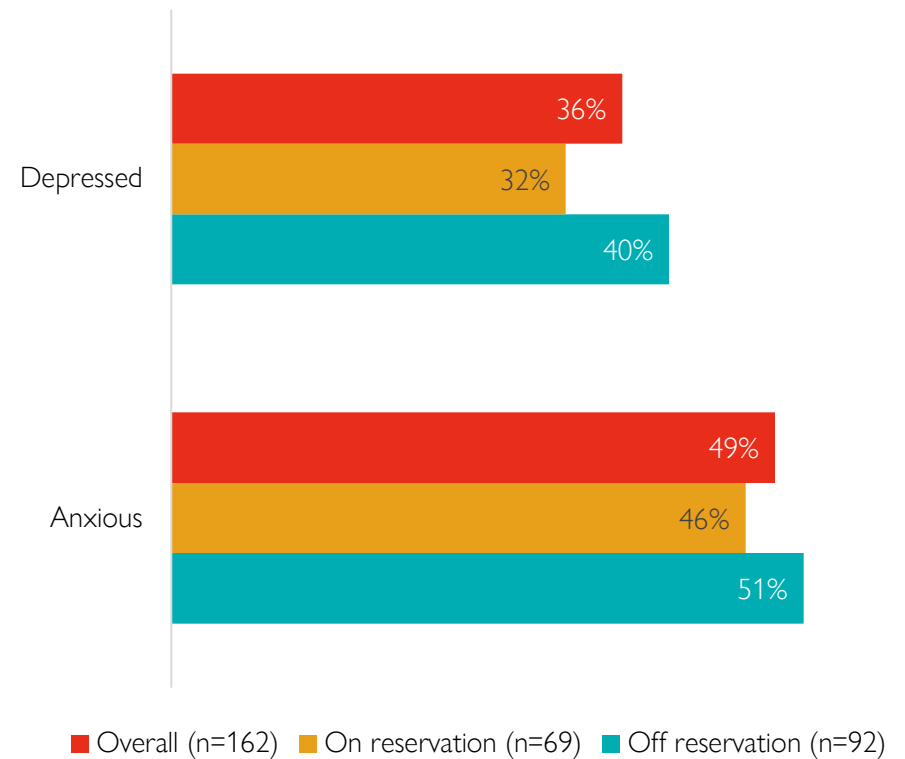


Figure 28: Self-reported anxiety and depression, on and off reservation

## CHAPTER 6: LEADERSHIP, COMMUNITY SUPPORT, AND POSITIVE OUTCOMES



## Tribal Governments, Community and Nonprofit Groups, Seen as Key Leaders Solving Food Issues

- 49% of on reservation and 43% of off reservation NWTRIBAL respondents considered tribal governments leaders in solving food problems in their communities (Figure 29).
- Community or nonprofit groups and volunteers were also seen by many respondents as leaders in solving food problems in their communities (39% named community or nonprofit groups, and 25% named volunteers).
- Those living off reservation named federal or state health agency staff as leaders solving food problems significantly more than those living on reservation (24% vs. 10%).

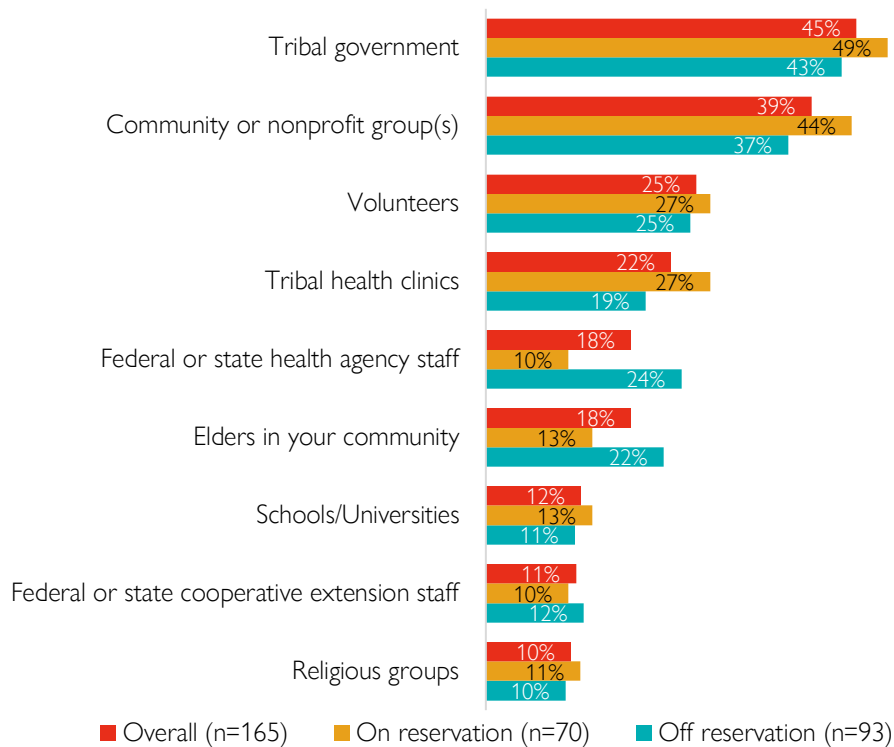


Figure 29: Community leaders solving food problems, on and off reservation

## Many Reported Feeling Less Connected to Their Tribal Communities During Pandemic

- Overall, nearly half of NWTRIBAL respondents (48%) reported feeling less connected with their tribal communities during the pandemic when compared to before the pandemic (Figure 30).
- Those living on reservation were more likely to report feeling less connected compared to those living off reservation (51% vs 45%).
- Some respondents reported feeling more connected to their tribal communities during the pandemic compared to before the pandemic (17% of those living off reservation and 13% of those living on reservation).

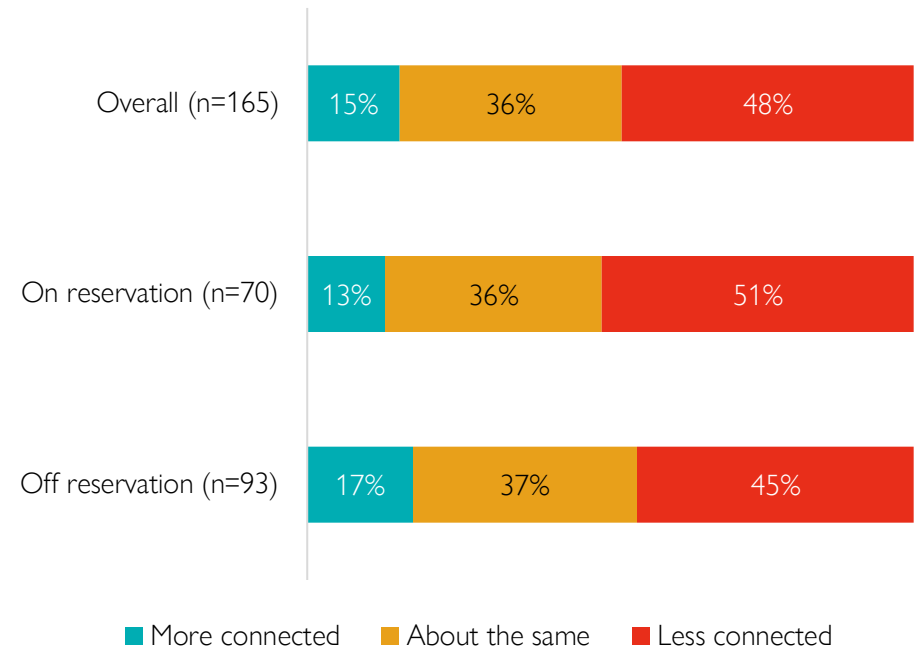


Figure 30: Social connection within tribal communities before and throughout the COVID-19 pandemic, on and off reservation

## Access to Food Assistance and Sharing More with Others Among Positive Outcomes of COVID-19

- Nearly 30% of NWTRIBAL respondents (31% on reservation and 27% off reservation) reported increased access to food assistance services as a positive outcome of COVID-19 (Figure 31).
- Having enough to be able to share food or food assistance with others was also named as a top positive outcome, though it was reported more commonly by those living on reservation (29%) than those living off reservation (19%).
- Respondents living on reservations were almost twice as likely to name people in their communities helping one another grow and access food as a positive outcome as those living off reservation (29% vs 16%).

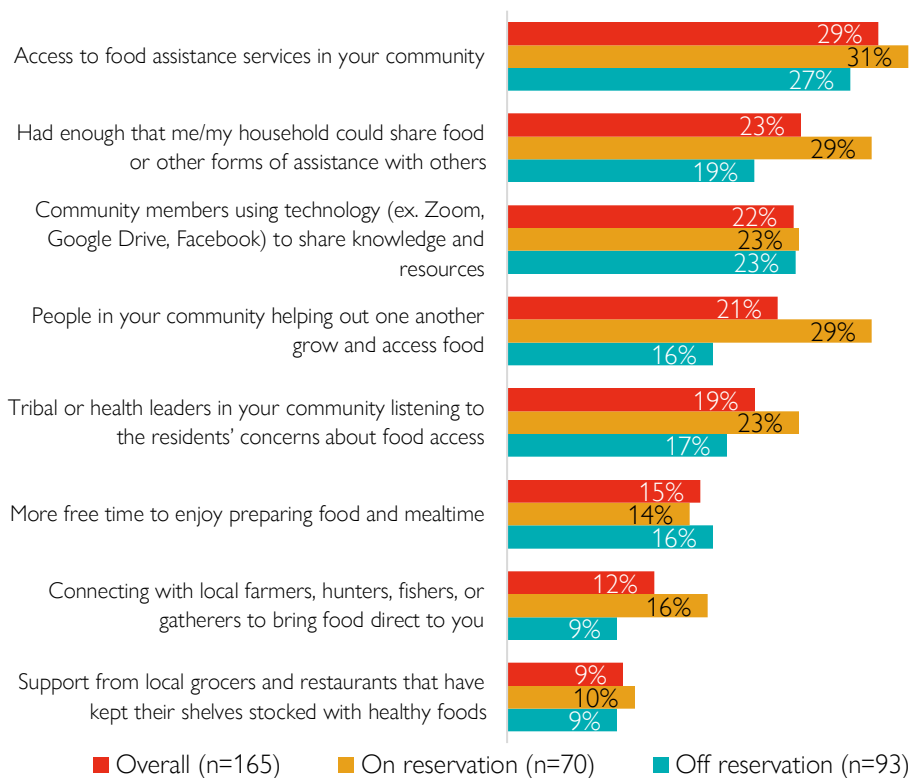


Figure 31: Positive outcomes during COVID-19, on and off reservation





## CHAPTER 7: DEMOGRAPHICS





## NWTRIBAL Demographic Characteristics

- 42% of NWTRIBAL respondents lived on reservation. Those living on reservation tended to have lower household income, and larger household sizes with more children and older adults than those living off reservation (Table 2).
- NWTRIBAL respondents were majority women (86%). They were on average older, with higher educational attainment, lower household income, and larger household sizes than AI/AN population estimates for WA, OR, and ID States (Appendix F, Table F1).

NWTRIBAL			
	Overall	On reservation <sup>a</sup>	Off reservation
n	165	70	93
<b>Data collection timeframe</b>	Aug 2022 - May 2023		
<b>Age</b>			
18-34y	20.0%	20.0%	20.4%
35-54y	47.3%	44.3%	49.5%
55y+	32.7%	35.7%	30.1%
<b>Gender<sup>b</sup></b>			
Female	85.5%	87.1%	85.0%
Male	13.3%	12.9%	14.0%
<b>Education</b>			
Some college or less	63.6%	67.1%	61.3%
College graduate	26.7%	24.3%	28.0%
Graduate degree	9.7%	8.6%	10.8%
<b>Annual household income<sup>c</sup></b>			
<\$35,000	33.9%	35.7%	32.3%
\$35,000 to \$74,999	35.8%	40.0%	33.3%
\$75,000+	23.0%	17.1%	28.0%
<b>Marital Status<sup>d</sup></b>			
Married	47.3%	40.0%	52.7%
Single/Divorced or unmarried couple	48.5%	55.7%	44.1%
<b>Household size<sup>e</sup></b>			
1 to 3	38.2%	32.9%	43.0%
4 to 7	52.1%	54.3%	49.5%
8+	7.9%	11.4%	5.4%
<b>Children (17 and under) living in household<sup>f</sup></b>			
One or more children	55.2%	57.1%	52.7%
<b>Older adults (65+) living in household<sup>g</sup></b>			
One or more older adult	24.9%	27.1%	23.7%

Note: Table reports only non-missing observations in the data as well as those who answer the corresponding question; percentages do not necessarily sum to 100 as those who prefer not to respond to a question are not included in the table. (a) Two respondents preferred not to identify whether they live on reservation. (b) 1% of respondents reported a gender other than male or female (i.e., two-spirit, transgender, prefer to self-describe) or preferred not to report their gender. (c) 7% of respondents preferred not to report income. (d) 4% of respondents preferred not to report marital status. (e) 2% of respondents preferred not to report household size. (f) 2% of respondents preferred not to report whether there are any children (age 17 and under) living in their household. (g) 1% of respondents preferred not to report whether there are any older adults (age 65 and over) living in their household.

Table 2: NWTRIBAL participant demographics

## CHAPTER 8: CONCLUSIONS AND RECOMMENDATIONS



## Conclusion and Recommendations

Results from the NWTRIBAL survey show an array of cascading effects in the wake of the COVID-19 pandemic. Struggles with rising prices were commonplace, food insecurity remained extremely high, and a variety of food access issues, including barriers to accessing traditional foods, were widespread. The pandemic and its aftermath have exacerbated existing economic and food disparities among tribal communities throughout the PNW, and highlighted the need for both long and short term investments into these communities. Though there have been examples of resiliency and positive outcomes such as mutual aid among community members and increased access to food assistance, there is still a great deal of work that is needed.

As trusted community leaders, tribal governments are poised to continue their key role in supporting their communities as the region continues to recover from impacts of COVID-19. In addition, state and federal agencies should continue to allocate resources to aid tribal communities in responding to the ongoing effects of the pandemic on their economic and food systems.

## Recommendations to address barriers to food access and food assistance

- 1) **Expand communication efforts for food assistance programs.** Many survey respondents felt that they might not qualify for food assistance programs, or that their need was not great enough to justify utilizing food assistance. A targeted messaging campaign to raise awareness of available food assistance programs, their qualifying criteria, and potentially their supply situations could help increase access to these services. It is important to consider the various ways to communicate this information. The use of social media, email, text, flyers, website, messaging in schools, tribal colleges, and health centers, and newsletters are ways to ensure outreach to a broad audience through various channels. Tribes and partner organizations may consider assessment of the most effective media channels to reach at-risk households.
- 2) **Streamline the application process and improve coordination between assistance programs.** Streamlining the application process in a way that makes applying for assistance easy, allows community members to apply for multiple services simultaneously, and provides clear guidelines about eligibility would aid in getting individuals and families the services they need. Health literacy and technical literacy should be considered in a streamlined application process. These efforts need to be supported with additional funding to ensure that there are dedicated staff within the tribe to coordinate these resources.
- 3) **Expand distribution location sites and offer home delivery options.** More than half of respondents reported having to travel more than 10 miles to get food. For larger or more spread-out communities, increasing the number of food distribution sites throughout the community, the times and frequency that distribution sites are open, and offering home delivery options (particularly for those with limitations such as mobility and transportation) could help reduce barriers to food access. Struggles with rising transportation costs is also a factor that could be mitigated by additional or rotating sites, additional delivery options, and even rideshare opportunities.
- 4) **Include culturally relevant foods into food distribution programs.** By including first foods/traditional foods (when available) within the food pantries/banks, food boxes, and other food distribution programs, tribes and partners can increase access to these culturally relevant and nutritionally valuable foods and provide an additional opportunity for nutritional and cultural education about these foods. Offering more traditional and otherwise culturally relevant food could be particularly impactful if implemented by food assistance programs that operate off of reservations. NWTRIBAL respondents living off reservation reported a lack of culturally appropriate food as a barrier to food assistance nearly 5 times as often as those living on reservation. This suggestion also supports disaster prevention by increasing local sourcing, which could be helpful during global supply-chain interruptions such as those experienced during COVID-19.

## Recommendations to address barriers to food access and food assistance (continued)

- 5) **Expand a diversity of resources related to traditional foods and self-sufficiency activities.** NWTRIBAL results showed a wide range of engagement with self-sufficiency activities and traditional foods. Engagement varied by whether individuals lived on or off reservation, and engagement in specific activities or with specific foods changed both positively and negatively in relation to the COVID-19 pandemic. That said, it is clear there is great interest in increasing activities and engagement in these areas. People have many different situations and considerations when it comes to traditional foods and self-sufficiency, and programming to increase engagement must be crafted to meet the diversity of interests and needs. Programming should aim to meet people where they are. Increasing access to and engagement with traditional foods and self-sufficiency activities also serves as a community investment towards disaster mitigation regarding food access issues that surfaced during the pandemic.
- 6) **Establish or expand traditional foods programs.** The results of the NWTRIBAL survey shine a light on the importance of traditional foods to PNW tribal populations. They also demonstrate that households commonly rely on their tribal communities to provide these foods, and when these channels are disrupted, use of traditional foods drops dramatically. Tribes with existing traditional foods programs should consider alternate distribution channels and flexible programming to strengthen programs' resilience to emergency disruptions. For tribes that do not currently have a traditional foods program, demand is high; among NWTRIBAL respondents who shared that their tribe did not already have an established traditional foods program, 94% said that they would want one. Among all respondents, interest was high in all manner of traditional food resources. Starting such programs could be a key component of addressing food insecurity for tribal communities.
- 7) **Create tribal advisory committees to work with state departments of agriculture on tribal recommendations for programming.** There is currently no tribal advisory committee affiliated with the Washington, Oregon, or Idaho State Department of Agriculture. Further investment and resources are needed within PNW tribal communities to strengthen tribal food system infrastructure and programs. Tribal Advisory Committees would allow tribes to directly advocate for the food needs of their communities.
- 8) **Build flexibility into federal resource expenditure policies.** By supporting additional flexibility in federal resource expenditure, in keeping with tribal self-determination and self-governance, tribes will improve their capacity for local purchasing, procurement, and inclusion of traditional first foods in the FDPIR and all USDA programs. This will result in more resilient and culturally relevant tribal food assistance programs, increased tribal food sovereignty, and stronger tribal food and economic systems.
- 9) **Increase state and federal resources to support tribal food system infrastructure.** The results of the NWTRIBAL survey point to a clear need within PNW tribal communities, as evidenced by the stark disparities in food security in this population. They also demonstrate the critical role food assistance and traditional foods programs play in addressing that need. Increasing tribal food sovereignty and strengthening tribal food systems is an essential component of any tribal public health and emergency preparedness response. State and federal agencies can support this by investing in intertribal food systems to build sustainable and resilient food systems and security for tribal communities. Additional funds are also needed for food assistance programs and other assistance services to respond to growing need. This approach considers both short and long term needs by addressing the current requirement for assistance and the imperative for improving local environmental conditions, infrastructure, and community capacity to prevent food system collapse or crisis in the future.

## APPENDICES





## APPENDIX A

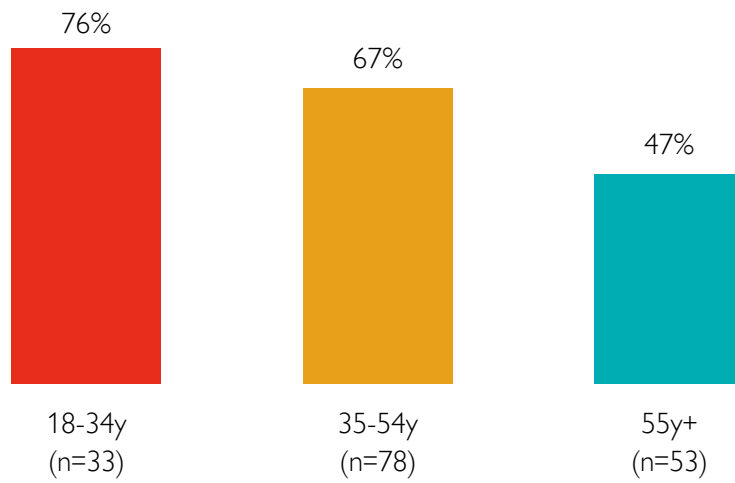


Figure A1: Food insecurity by age group

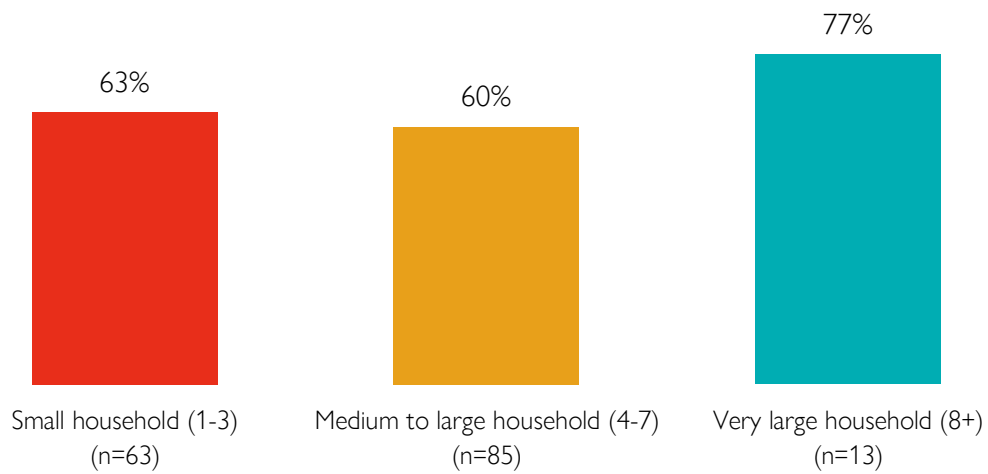
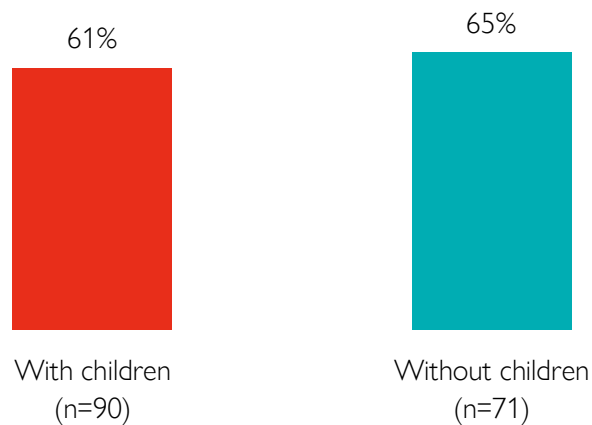
Figure A2: Food insecurity by household size<sup>14</sup>

Figure A3: Food insecurity by presence of children in household

APPENDIX A (CONTINUED)



Figure A4: Food insufficiency by age group

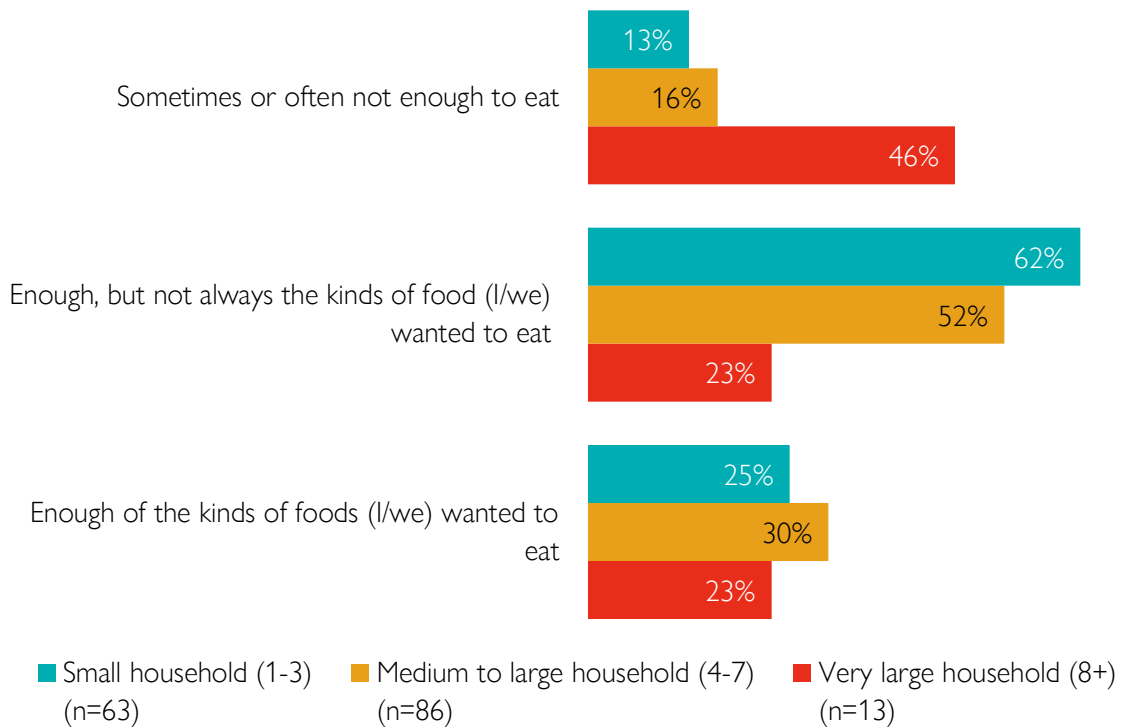


Figure A5: Food insufficiency by household size<sup>15</sup>

APPENDIX A (CONTINUED)

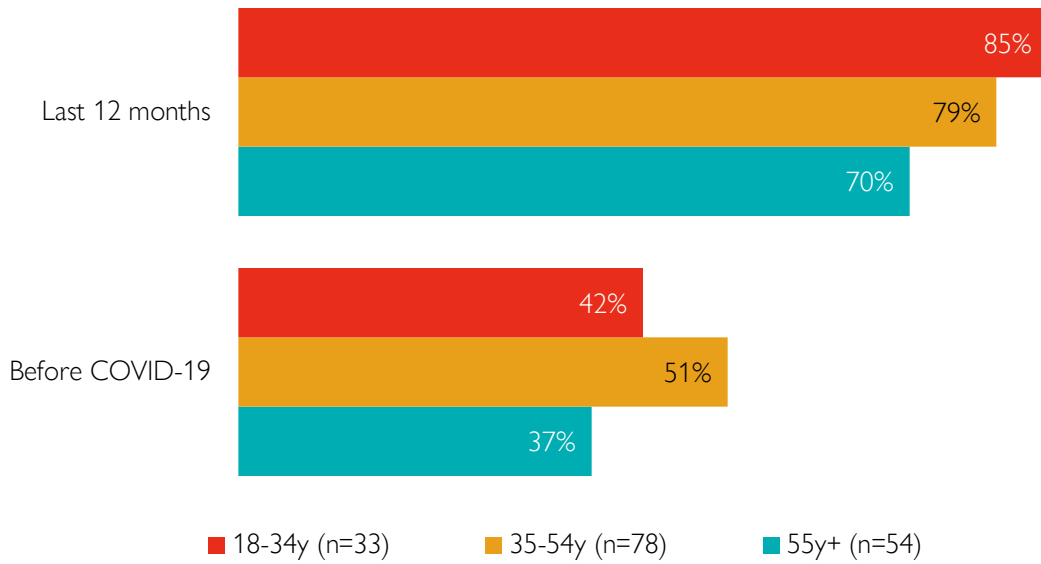


Figure A6: Food assistance use by age group

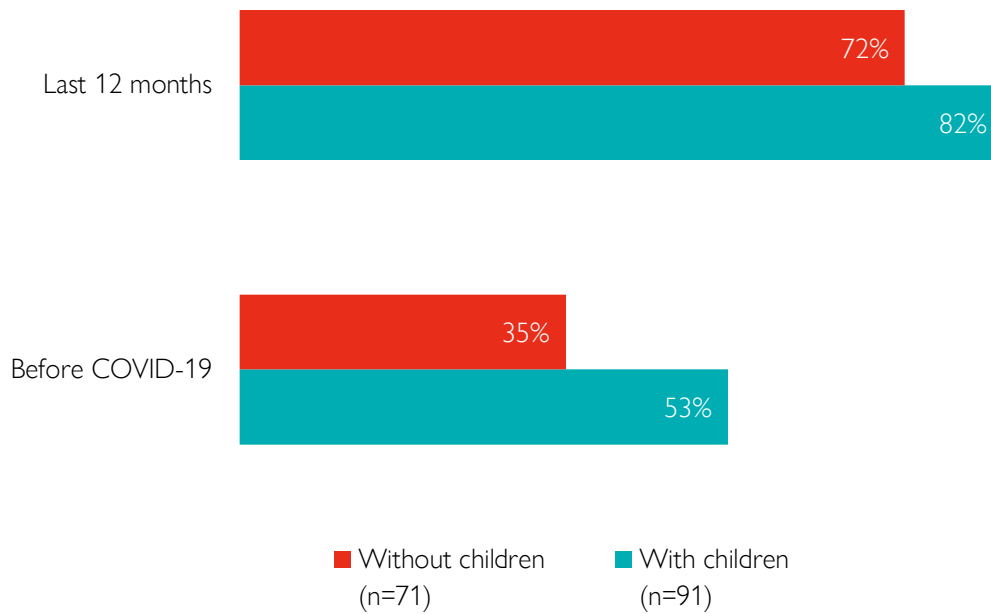


Figure A7: Food assistance use by presence of children in household<sup>16</sup>

## APPENDIX B

	Overall	On Reservation	Off Reservation
n	165	70	93
Loss of employment income in the past 12 months			
Yes	39%	41%	37%
No	56%	54%	58%
Prefer not to answer	5%	4%	5%

Table B1: Loss of income in the last 12 months, on and off reservation

	With Children	Without Children	Small Household (1-3)	Medium to Large Household (4-7)	Very Large Household (8+)
n	91	71	63	86	13
Loss of employment income in the past 12 months					
Yes	45%	30%	30%	43%	46%
No	52%	63%	63%	52%	54%
Prefer not to answer	3%	7%	6%	5%	0%

Table B2: Loss of income in the last 12 months, by presence of children in household and household size<sup>17</sup>

APPENDIX C

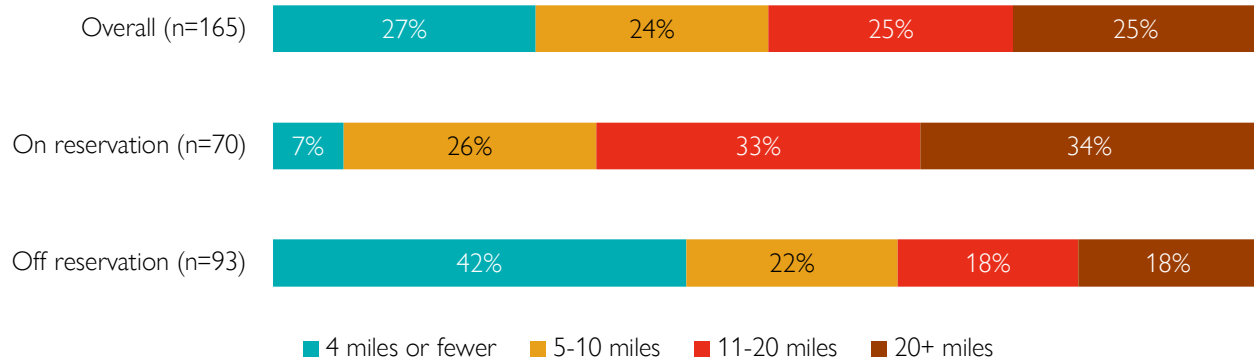


Figure C1: Usual distance to food sources, on and off reservation

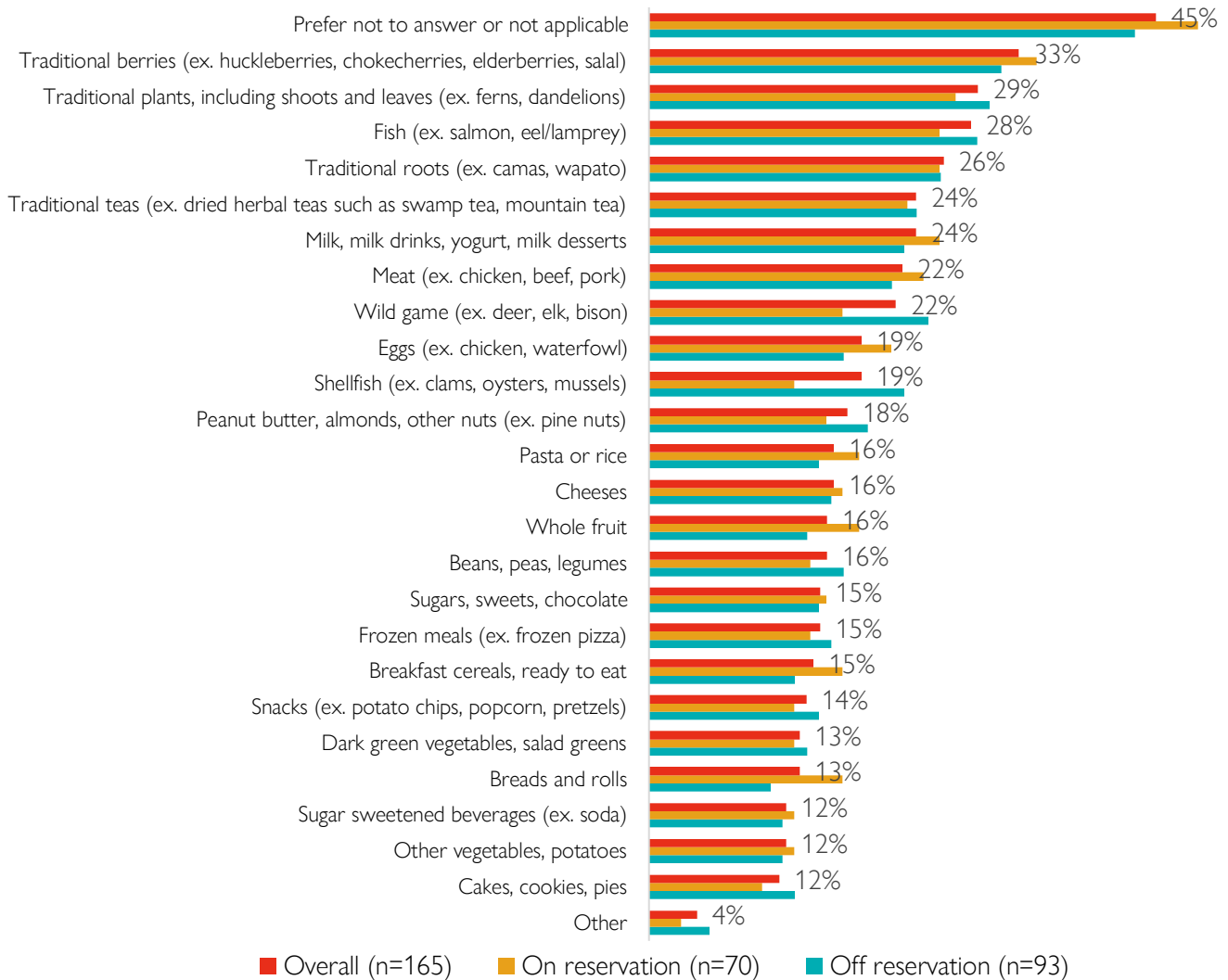


Figure C2: Trouble accessing specific foods earlier in the pandemic, on and off reservation



APPENDIX C (CONTINUED)

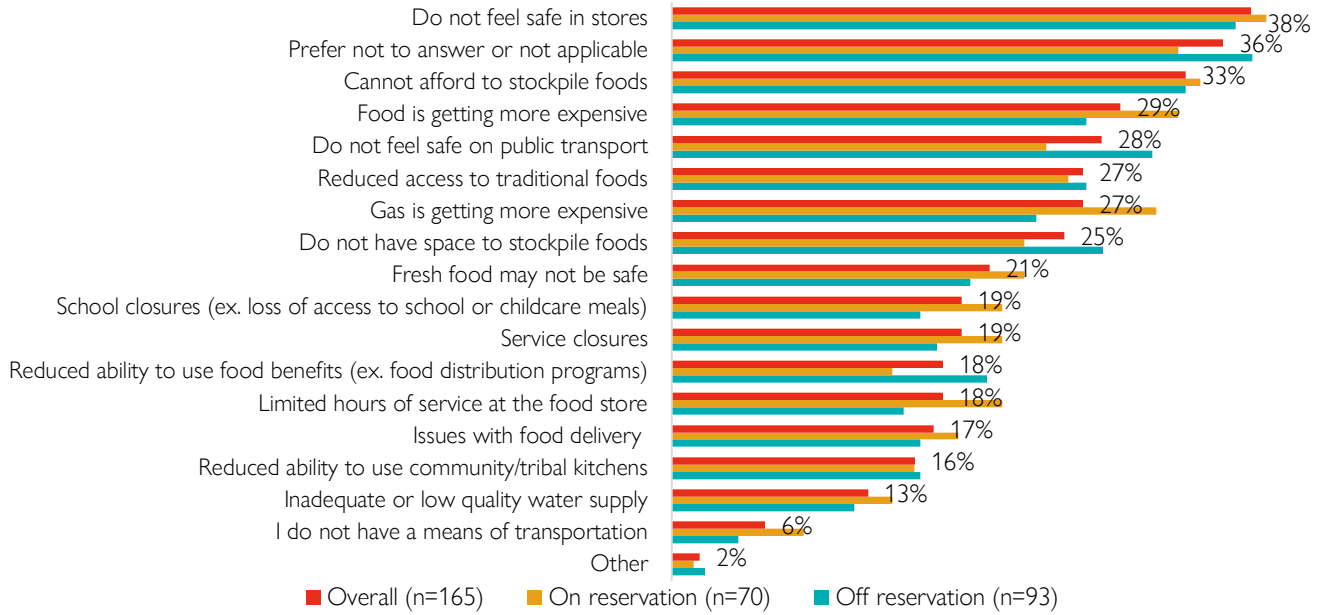


Figure C3: Food shopping issues earlier in the pandemic, on and off reservation

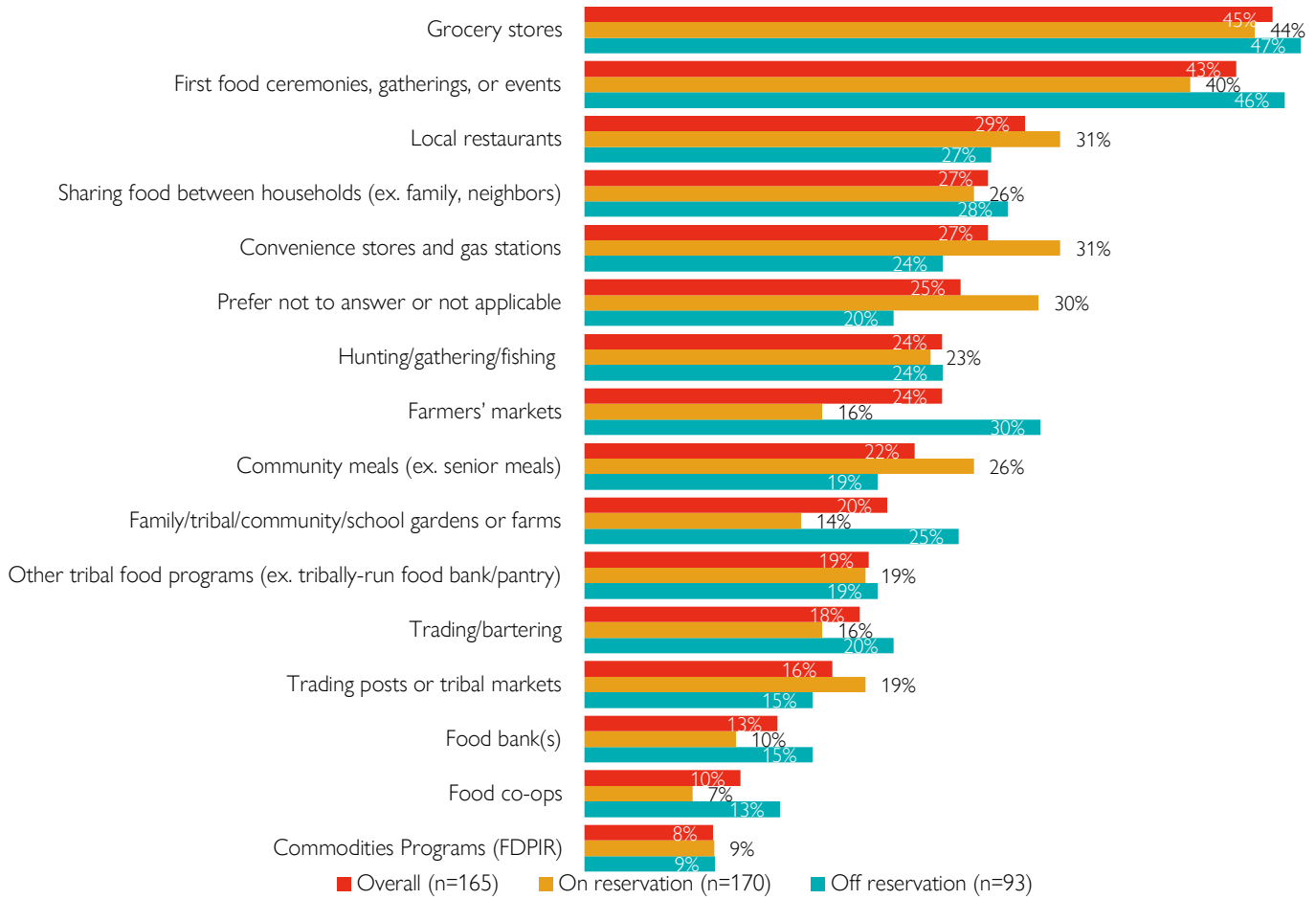


Figure C4: Disruptions to food access in the last 12 months, on and off reservation

APPENDIX C (CONTINUED)

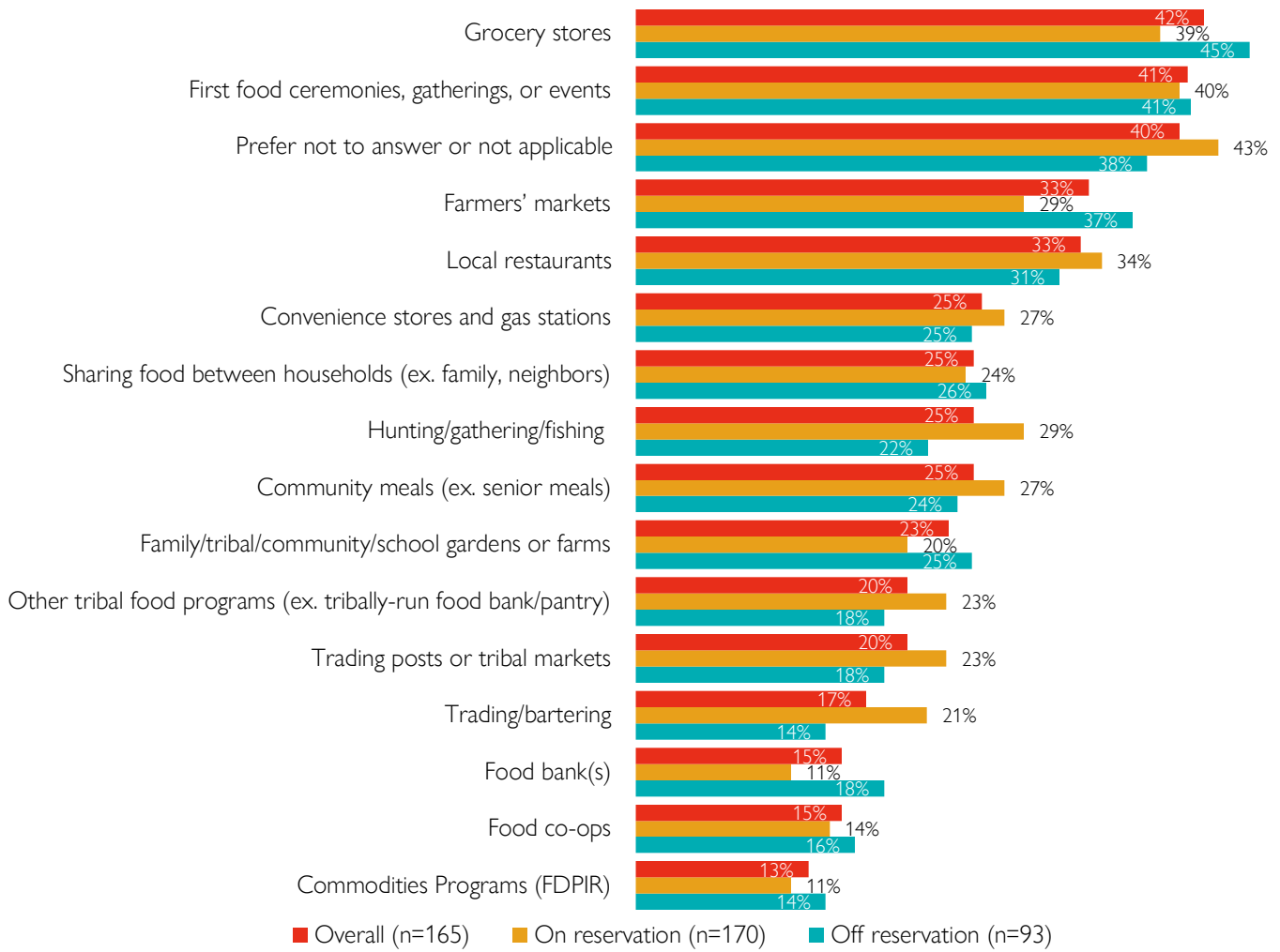


Figure C5: Disruptions to food access earlier in the pandemic, on and off reservation

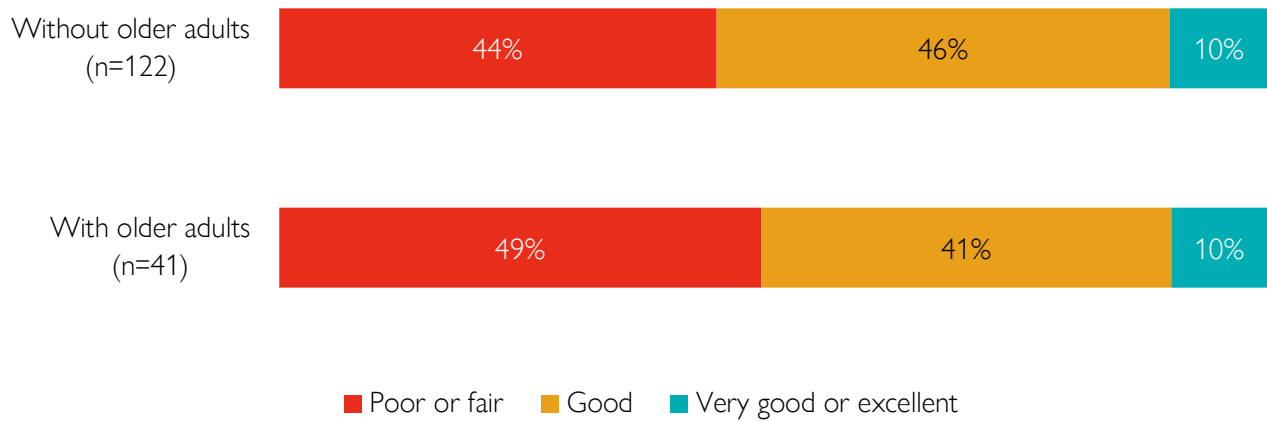


Figure C6: Self-reported quality of diet by households with and without older adults<sup>18</sup>

APPENDIX C (CONTINUED)

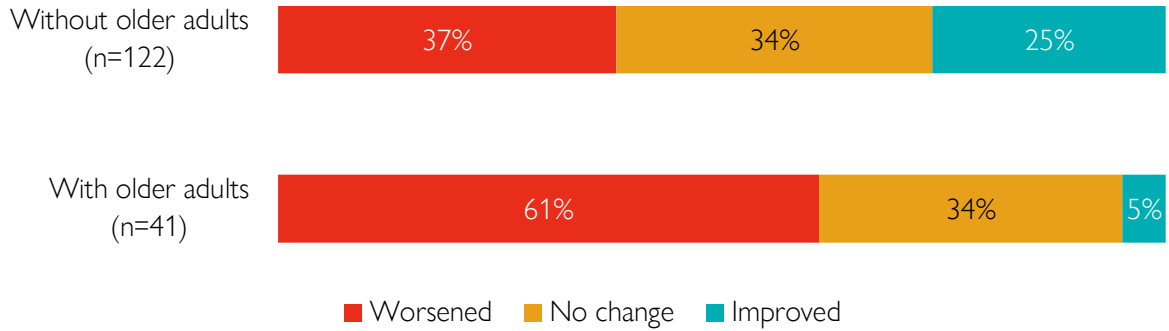


Figure C7: Self-reported change in diet quality since COVID-19 began by households with and without older adults

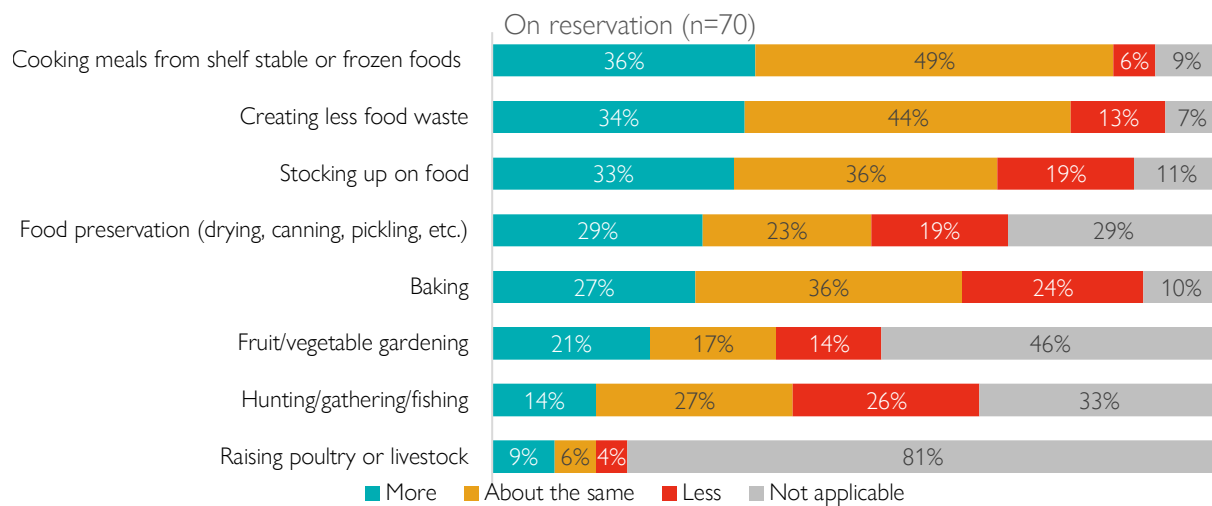


Figure C8: Engagement in self-sufficiency activities, on reservation (n=70)

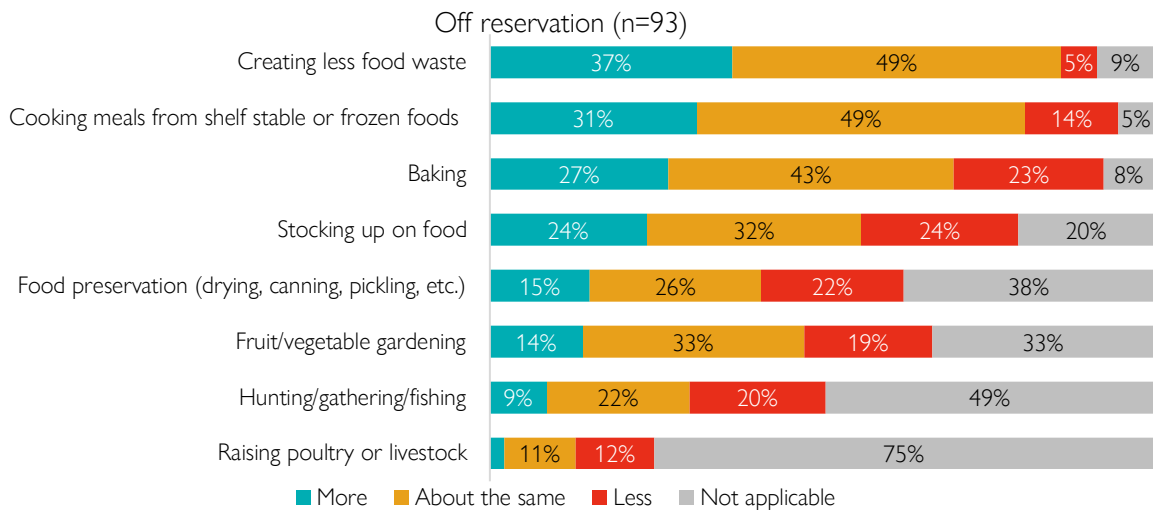


Figure C9: Engagement in self-sufficiency activities, off reservation

APPENDIX D

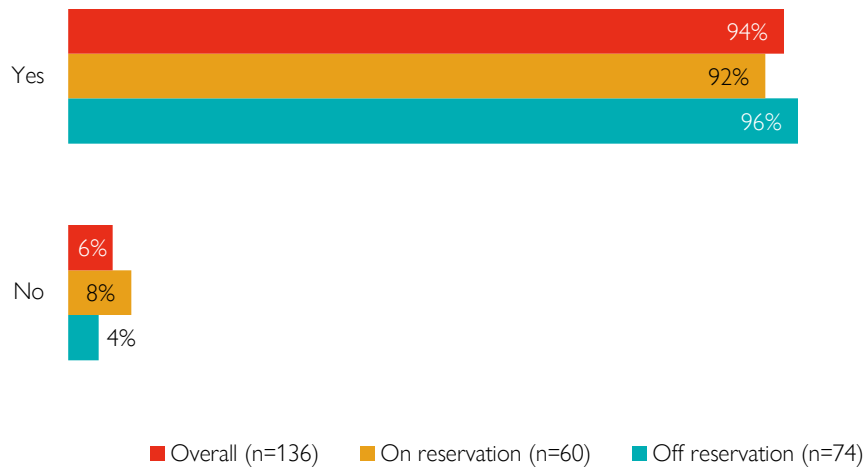


Figure D1: Desire for a traditional foods program among those who do not already have one, on and off reservation<sup>19</sup>

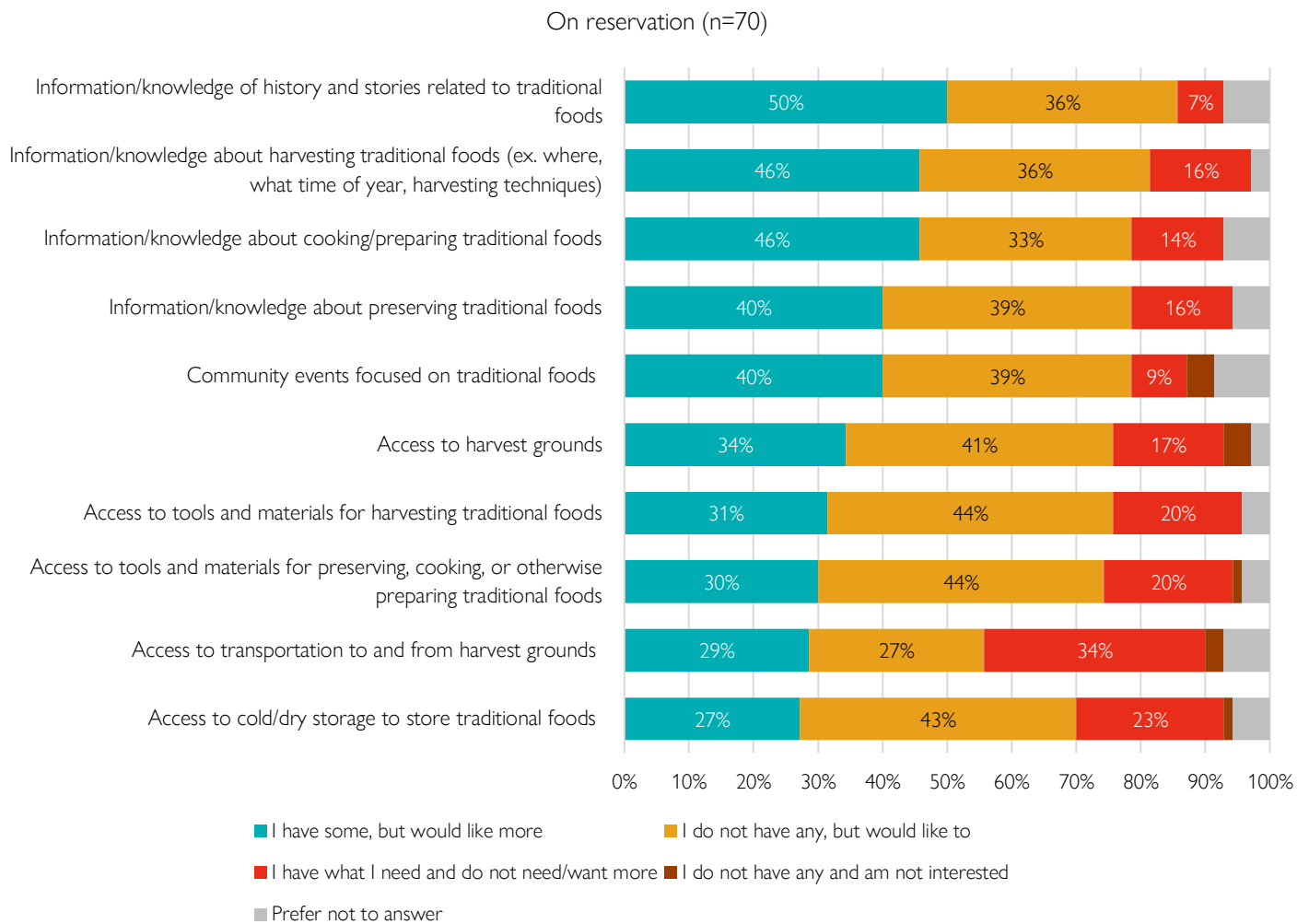


Figure D2: Interest in knowledge and resources related to traditional foods, on reservation

APPENDIX D (CONTINUED)

Off reservation (n=93)

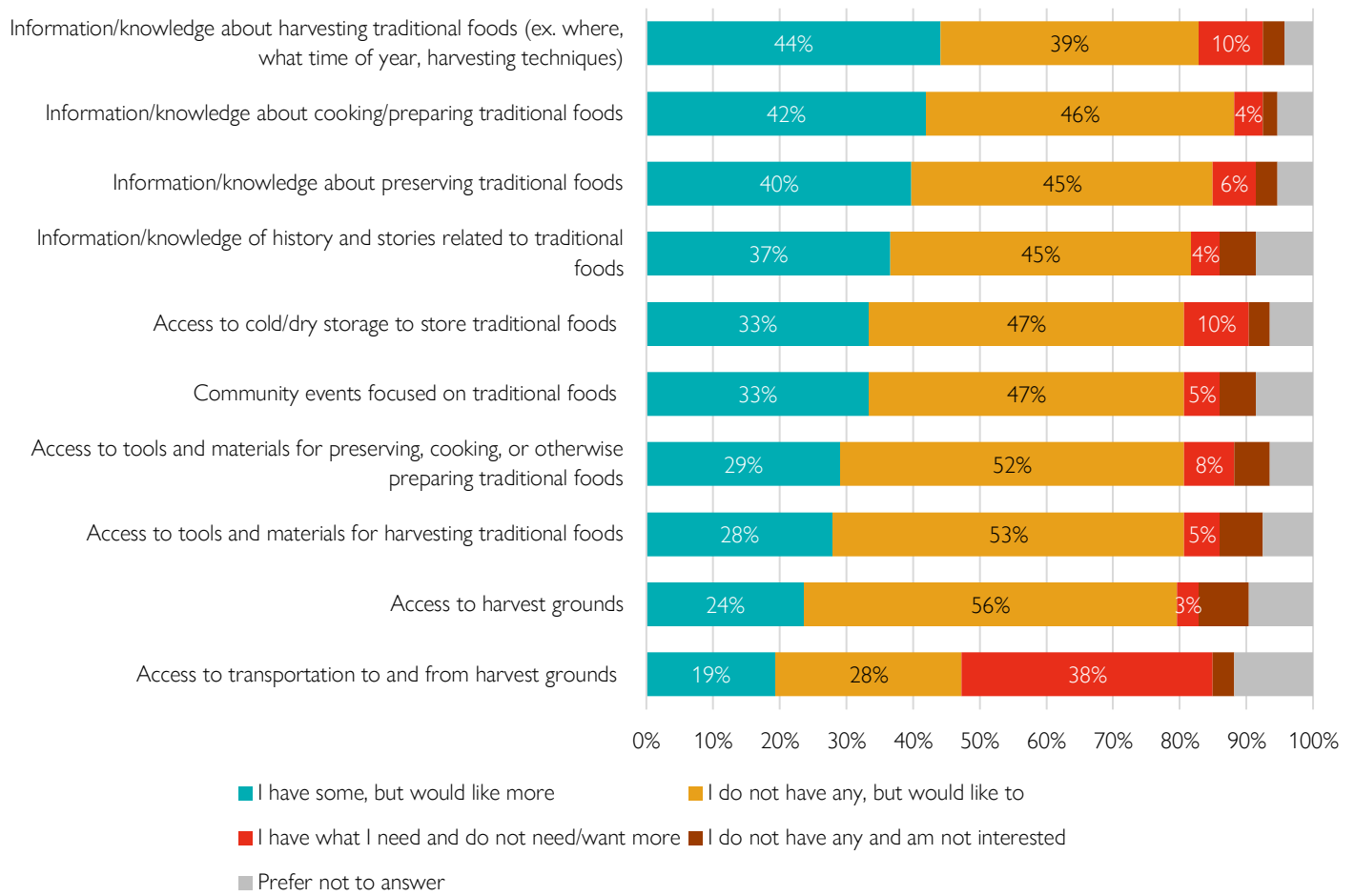


Figure D3: Interest in knowledge and resources related to traditional foods, off reservation



APPENDIX E

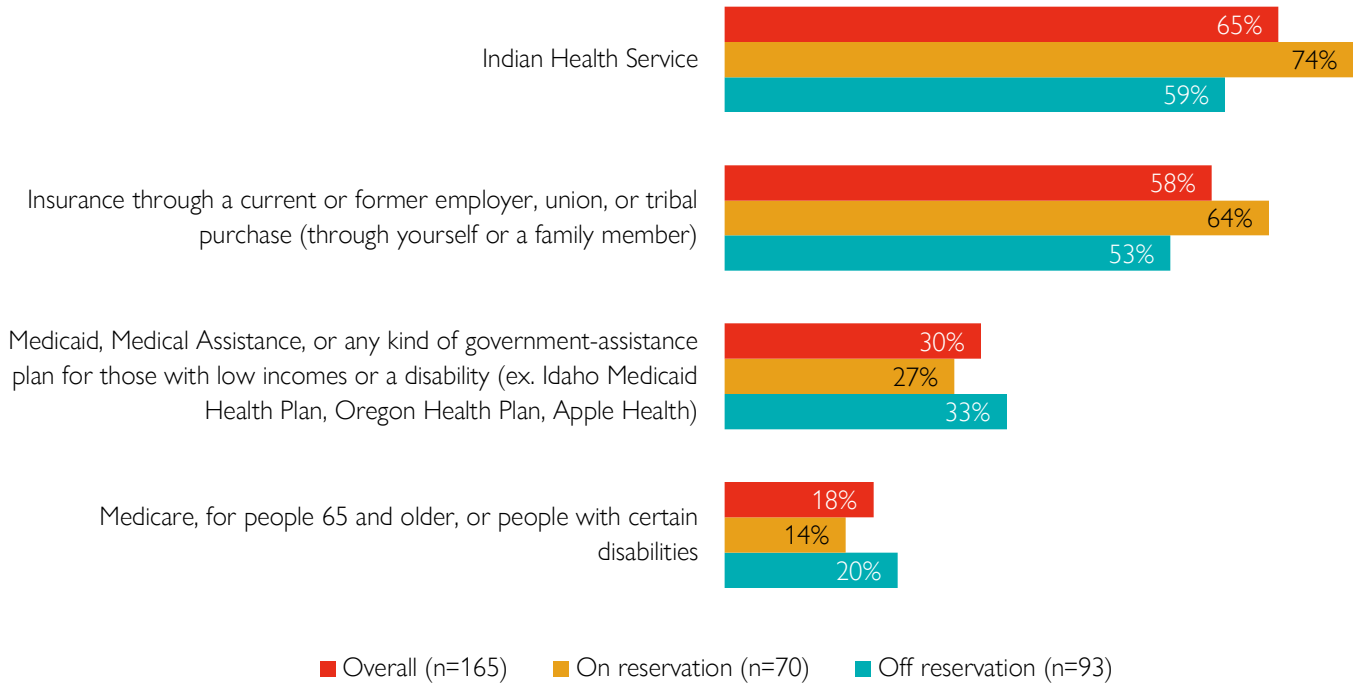


Figure E1: Health insurance or health coverage plans, on and off reservation

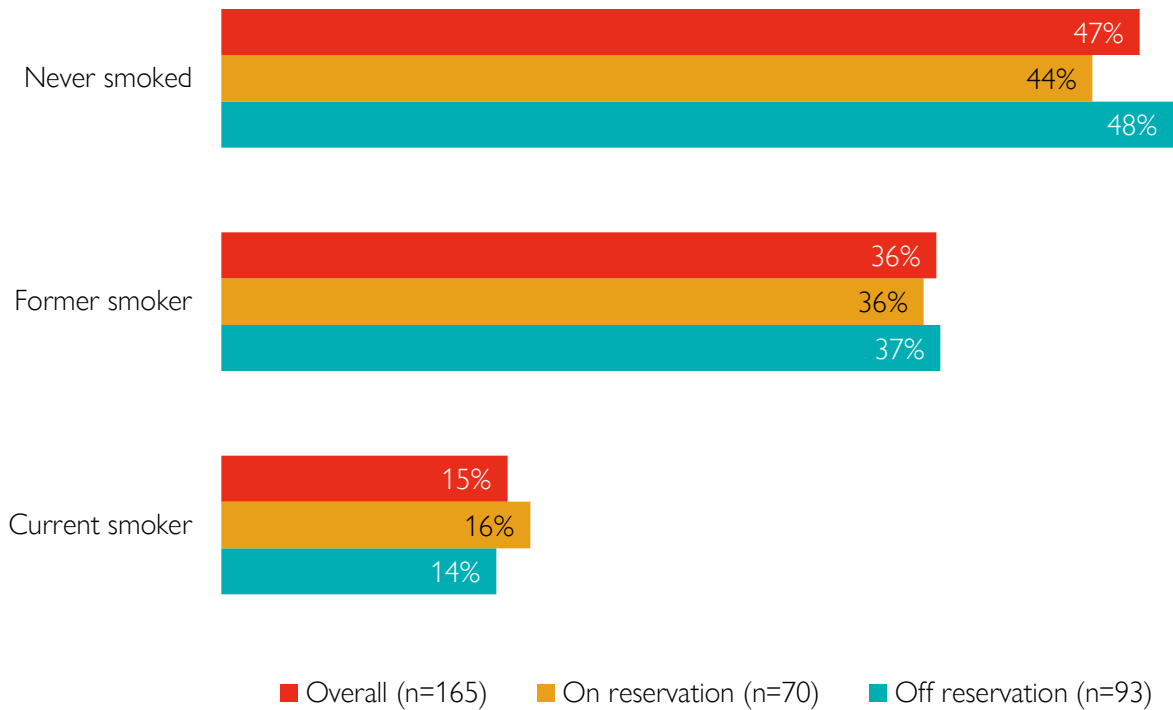


Figure E2: Self-reported smoking of tobacco products, on and off reservation

## APPENDIX F

	NWTRIBAL			AI/AN population estimates for WA, OR, and ID States <sup>b</sup>
	Overall	On reservation <sup>a</sup>	Off reservation	
n	165	70	93	370,856
Data collection timeframe	Aug 2022 - May 2023			2021
<b>Age</b>				
18-34y	20.0%	20.0%	20.4%	35.7%
35-54y	47.3%	44.3%	49.5%	34.3%
55y+	32.7%	35.7%	30.1%	30.0%
<b>Gender<sup>c</sup></b>				
Female	85.5%	87.1%	85.0%	51.2%
Male	13.3%	12.9%	14.0%	48.8%
<b>Education<sup>d</sup></b>				
Some college or less	63.6%	67.1%	61.3%	78.3%
College graduate	26.7%	24.3%	28.0%	14.2%
Graduate degree	9.7%	8.6%	10.8%	7.5%
<b>Annual household income<sup>e,f</sup></b>				
<\$35,000	33.9%	35.7%	32.3%	21.1%
\$35,000 to \$74,999	35.8%	40.0%	33.3%	25.1%
\$75,000+	23.0%	17.1%	28.0%	53.8%
<b>Marital Status<sup>g</sup></b>				
Married	47.3%	40.0%	52.7%	42.3%
Single/Divorced or unmarried couple	48.5%	55.7%	44.1%	57.7%
<b>Household size<sup>f,h</sup></b>				
1 to 3	38.2%	32.9%	43.0%	89.0%
4 to 7	52.1%	54.3%	49.5%	10.7%
8+	7.9%	11.4%	5.4%	0.3%
<b>Children (aged 17 and under) living in household<sup>f,i</sup></b>				
One or more children	55.2%	57.1%	52.7%	25.9%
<b>Older adults (65+) living in household<sup>f,j</sup></b>				
One or more older adult	24.9%	27.1%	23.7%	18.8%

Note: Table reports only non-missing observations in the data as well as those who answer the corresponding question; percentages do not necessarily sum to 100 as those who prefer not to respond to a question are not included in the table. (a) Two respondents preferred not to identify whether they live on reservation. (b) ID, OR, and WA population estimates come from the 1-year estimates of the 2021 American Community Survey (ACS) data from IPUMS USA at the University of Minnesota ([www.ipums.org](http://www.ipums.org)) for individuals 18 years or older who reported American Indian and Alaska Native race alone or in combination with one or more other races. (c) 1% of respondents reported a gender other than male or female (i.e., two-spirit, transgender, prefer to self-describe) or preferred not to report their gender. (d) ID, OR, and WA population estimates for education include only individuals 25 years or older (n=313,683). (e) 7% of respondents preferred not to report income. Annual household income from ACS data was adjusted for inflation with base year 2022 using "Table 1.1.4. Price Indexes for Gross Domestic Product" produced by the Bureau of Economic Analysis. (f) ID, OR, and WA population estimates for household size, any children living in household, any older adult living in household, and income were derived from household-level data (n=295,483). The number of households with reported annual income is 279,135 out of 295,483. (g) 4% of respondents preferred not to report marital status. (h) 2% of respondents preferred not to report household size. (i) 2% of respondents preferred not to report whether there are any children (age 17 and under) living in their household. (j) 1% of respondents preferred not to report whether there are any older adults (age 65 and over) living in their household.

Table F1: NWTRIBAL participant demographics, with AI/AN population estimates for WA, OR, and ID

## Technical Notes

1. All Figures. Overall, two of the 165 survey respondents in the study preferred not to report whether they live on or off reservation.
2. Figure 1. Level of food security could not be determined for one of the 165 survey respondents in the report.
3. Figure 4. Food insecurity status could not be determined for one of the 165 survey respondents in the report.
4. Figure 6. Four survey respondents in the study reported no need of food assistance. Overall, 7% of respondents preferred not to answer the question about barriers to food assistance use. Examples of “other” barriers to food assistance use as reported by respondents include: distance to access tribal food benefits, age and mobility limitations, work hours, and lack of transportation.
5. Figure 7. Includes only respondents who reported loss of income.
6. Figures 12a-b. Per capita household spending on groceries and eating out could not be calculated for three survey respondents in the study for whom household size could be not determined.
7. Figure 14. Examples of “other” foods difficult to access as reported by respondents include: infant formula and water bottles.
8. Figure 15. Examples of “other” food shopping issues as reported by respondents include: unavailability of toilet paper, infant formula, and water bottles.
9. Figure 18. Examples of “other” items used for food storage or preparation as reported by respondents include: air fryer and outside shed.
10. Figure 19. Examples of “other” ways to improve food resources as reported by respondents include: more classes and teachings, building a teaching community garden, and information on regional traditional food use for families with children.
11. Figures 21 and 22. Only 99 of the 165 survey respondents in the study named their most used and most difficult to access traditional foods.
12. Figure 23. Only 86 of the 165 survey respondents in the study reported having experienced difficulty accessing traditional foods in the past. Examples of “other” barriers to accessing traditional foods as reported by respondents include: the price of gasoline as well as age and physical/mobility limitations.
13. Figure 27. Three of the 165 survey respondents in the study preferred not to report any depression and anxiety.
14. Figure A2. Household size could not be determined for three of the 165 survey respondents in the study.
15. Figure A5. Household size could not be determined for three of the 165 survey respondents in the study.
16. Figure A7. Three of the 165 survey respondents in the study preferred not to report whether children live in their household.
17. Table B2. Three of the 165 survey respondents in the study preferred not to report whether children live in their household.
18. Figures C6-7. Two of the 165 survey respondents in the study preferred not to report whether older adults live in their household.
19. Figure D1. 14 of the 165 survey respondents in the study preferred not to answer the question about desire for a traditional foods program among those who do not already have one. 15 survey respondents said their tribe already has a Traditional Foods Program.

