

# Welfare Program Participation Among US Farmworkers

## Evidence from Four National Surveys

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# 1 Introduction

In this paper, we compare agricultural worker participation in social safety net programs across several nationally representative datasets. Our benchmark is the National Agricultural Workers Survey (NAWS) — the only nationally representative survey of U.S. farmworkers that is the leading source for information on the employment, demographics, and health of the U.S. agricultural labor force. However, national surveys that emphasize poverty measurement and social program participation also interview agricultural workers, even if this is not their primary focus.

We compare available information on program participation in the NAWS with that available in the American Community Survey (ACS), the Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS), and the Survey of Income and Program Participation (SIPP). We provide an overview of these datasets to show important differences in sampling techniques and questions asked. We then compare estimates of program participation rates and benefit amounts across the surveys.

Information on social program participation in the NAWS is fairly limited. The NAWS questions capture household-level participation in twelve different public assistance programs over the last two years. To the best of our knowledge, this is the first study to compare the program participation estimates in the NAWS with those in other national surveys. In this paper we compare the welfare program information available in the NAWS with that available in the ACS, CPS-ASEC, and SIPP, we discuss the relative advantages to using each survey for analyzing program participation among agricultural workers, and we offer suggestions for expanding and improving the NAWS with regard to welfare programs.

Much use has been made of the limited social program participation collected in the NAWS. A unique feature of the NAWS is that it explicitly collects information on legal status — most social programs are restricted to U.S. citizens and legal permanent residents. As a result, the NAWS has been widely used to study questions related to legal status and the social safety net. Medel-Herrero & Leigh (2018) documented the emerging trends in SNAP participation among U.S. agricultural workers. The authors show that the 2008 financial crisis nearly doubled SNAP participation rates among farmworkers, and that green card holders and undocumented workers have significantly lower participation rates than citizens. In a similar vein, Chung & Leigh (2015) and Leigh & Medel-Herrero (2015) examine the differences in documented and undocumented farmworker participation in Medicaid and the Supplemental Nutrition Assistance Program for Women, Infants, and Children (WIC), respectively. Chung & Leigh (2015) find similar differences in Medicaid participation as

Medel-Herrero & Leigh (2018) find in SNAP, namely that green card holders and undocumented workers have lower participation rates. For WIC, however, Leigh & Medel-Herrero (2015) find evidence that undocumented workers have higher participation rates than citizens or green card holders. The authors attribute this difference in participation between WIC and other welfare programs to differences in program eligibility restrictions. More specifically, WIC is the only national program without eligibility restrictions based on citizenship status. Moretti & Perloff (2000) examine the use of public and private aid, more generally, by farmworkers of different legal statuses. Consistent with other work, the authors show that the families of unauthorized immigrants are less likely to use public transfer programs than authorized immigrants and natives.

There is also small body of work that uses the NAWS to examine links between program participation and other outcomes. Pena (2014) uses the NAWS to test the notion of welfare magnets, i.e. that low-income immigrant families migrate to areas with more generous welfare policies. She shows that there is no significant evidence of welfare migration among undocumented farmworkers. Fan et al. (2014) use the NAWS to examine the use of child labor in U.S. agriculture, and sheds light on the links between child labor and welfare program participation. The authors find little significant difference in program participation rates between households with and without child workers. Importantly, this paper provides the only evidence on the links between U.S. welfare programs and child labor, and the analysis is made possible through the unique data in the NAWS.

The paper proceeds as follows. We begin by describing the NAWS, ACS, CPS-ASEC, and SIPP. We summarize the number of agricultural workers and the program participation questions contained in each dataset. We then provide summary statistics on program participation over time. We begin with nutrition program, which include the Supplemental Nutrition Assistance Program (SNAP), the nutrition assistance program for Women, Infants, and Children (WIC), and the National School Lunch and Breakfast program (NSLB). We then examine Medicaid and Income Insurance programs. For each program we highlight differences in summary statistics as well as differences in the way in which the information is collected across surveys.

## 2 Data Overview

### NAWS

The National Agricultural Workers Survey (NAWS) is an employment-based repeated cross-sectional survey of U.S. crop workers administered annually by the U.S. Department of Labor. The survey began in 1989 and public data are currently available through the 2014 survey round. The survey is randomized and provides a nationally representative sample of workers employed in U.S. crop production. Workers in the NAWS are interviewed at their workplace rather than at home. The surveyors do not interview workers with a visa for temporary agricultural work (the H2A visa). The survey includes questions on household and worker demographics, welfare program participation, health conditions, income, legal status, wages, hours worked, weeks worked, and various characteristics of a worker's current job. The NAWS public access files are available for download on the U.S. Department of Labor website.<sup>1</sup>

The NAWS public access files make analysis possible at the region-fiscal year level. The NAWS divides the U.S. into six sampling regions: the East, Southeast, Midwest, Southwest, Northwest, and California. The East includes North Carolina, Virginia, Kentucky, Tennessee, West Virginia, Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont, Delaware, Maryland, New Jersey, and Pennsylvania. The Southeast includes Arkansas, Louisiana, Mississippi, Alabama, Georgia, South Carolina, and Florida. The Midwest includes Illinois, Indiana, Ohio, Iowa, Missouri, Kansas, Nebraska, North Dakota, South Dakota, Michigan, Minnesota, and Wisconsin. The Southwest includes Arizona, New Mexico, Oklahoma, and Texas. The Northwest includes Idaho, Montana, Wyoming, Colorado, Nevada, Utah, Oregon, and Washington. California is the only state with state-level information available in the public use files. The public access files report the fiscal year (October through September) during which the interview was conducted, but not the month.<sup>2</sup>

Table 1 shows the number of observations (worker interviews) within each NAWS cycle and region. The NAWS sampling procedure results in a randomized, nationally representa-

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Navigate to the public data files section on the NAWS webpage: <https://www.doleta.gov/naws/>.

<sup>2</sup>The restricted access NAWS is available, with some restrictions, upon request. The restricted access version includes more detailed information on the location and timing of the interview, as well as additional information on the worker's employment and household. More information on the differences in the public access and restricted versions is available at: [https://www.doleta.gov/naws/pages/public\\_data/privacy\\_safeguards\\_that\\_limit\\_data\\_availability.cfm](https://www.doleta.gov/naws/pages/public_data/privacy_safeguards_that_limit_data_availability.cfm). Note that the analysis in this paper uses the public access files.

tive sample within NAWS cycles, i.e. every two years. Due to the NAWS statistical methods, summary statistics should be estimated using two consecutive fiscal years of data.<sup>3</sup> Table 1 shows that the number of interviews conducted each NAWS cycle ranges from 3,000 to over 7,000. There is information from a total of 61,211 interviews in the 1989-2014 public access files.

Table 1: Number of ag workers in NAWS by region and interview cycle

NAWS Cycle (FY)	NAWS Region						Total
	East	Southeast	Midwest	Southwest	Northwest	California	
1989-1990	460	1075	380	569	554	1606	4644
1991-1992	296	1283	175	556	480	1706	4496
1993-1994	901	671	896	469	555	1275	4767
1995-1996	611	677	717	479	631	1299	4414
1997-1998	657	825	519	478	526	1194	4199
1999-2000	952	1090	986	462	1017	2691	7198
2001-2002	859	1133	871	401	848	2360	6472
2003-2004	877	1135	954	437	884	2344	6631
2005-2006	490	637	570	234	510	1305	3746
2007-2008	513	701	387	242	458	1392	3693
2009-2010	478	691	357	271	529	1365	3691
2011-2012	386	320	393	219	524	1183	3025
2013-2014	525	578	538	280	675	1639	4235
Total	8005	10 816	7743	5097	8191	21 359	61 211

*Notes:* Number of workers in NAWS cycle region groups in the public use data. The East includes North Carolina, Virginia, Kentucky, Tennessee, West Virginia, Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont, Delaware, Maryland, New Jersey, and Pennsylvania. The Southeast includes Arkansas, Louisiana, Mississippi, Alabama, Georgia, South Carolina, and Florida. The Midwest includes Illinois, Indiana, Ohio, Iowa, Missouri, Kansas, Nebraska, North Dakota, South Dakota, Michigan, Minnesota, and Wisconsin. The Southwest includes Arizona, New Mexico, Oklahoma, and Texas. The Northwest includes Idaho, Montana, Wyoming, Colorado, Nevada, Utah, Oregon, and Washington. California is the only state with state level information available in the public use files.

California has more observations each cycle than any other region, making up around one third of total interviews. This reflects the relatively large number of hired crop workers in California compared with the other regions. In the most recent survey round (FY 2013-

<sup>3</sup>For details on the sampling methodology see the *Statistical Methods of the National Agricultural Workers Survey*, available at: [https://www.doleta.gov/naaws/pages/public\\_data/docs/NAWS\\_Statistical\\_Methods\\_AKA\\_Supporting\\_Statement\\_Part\\_B.pdf](https://www.doleta.gov/naaws/pages/public_data/docs/NAWS_Statistical_Methods_AKA_Supporting_Statement_Part_B.pdf). For additional information on best practices for analyzing the NAWS data see *An Introduction to Analyzing the NAWS Public Access Data*, available at [https://www.doleta.gov/naaws/pages/public\\_data/docs/Intro\\_Analyzing\\_NAWSPAD.pdf](https://www.doleta.gov/naaws/pages/public_data/docs/Intro_Analyzing_NAWSPAD.pdf).

2014), the NAWS contains information from 1,639 interviews with crop workers in California. This is almost 40 percent of all interviews during that NAWS cycle. The number of workers sampled in the Southwest region has been decreasing over years of the survey. The NAWS included interviews with 569 workers in the Southwest in the first cycle and 280 in the most recent. The number of interviews in the remaining four regions are similar in the recent survey rounds, with 500-700 interviews in each in the 2013-2014 round, and 300-550 in the 2011-2012 round.

## SIPP

The Survey of Income and Program Participation (SIPP) is a longitudinal household survey conducted by the U.S. census Bureau. SIPP is administered in panels and conducted in waves. Within a SIPP panel, the entire sample is interviewed over a 2 to 5 year period during groups of interviews called waves.<sup>4</sup> Within each panel, the SIPP provides information on the income, program participation, and demographics of a nationally representative sample of U.S. households. The SIPP has been administered since 1984 and is currently available through the 2014 panel (which spans 2014 through 2017). For comparison with the NAWS, here we present information from the 1990 through 2008 SIPP panels. Relevant to this study, the SIPP contains questions on individual and household level program participation and benefit amounts for SNAP, WIC, NSLB, Medicaid, TANF, and Unemployment Insurance.

Unlike the NAWS, SIPP is not restricted to agricultural workers. We categorize SIPP respondents as agricultural workers if they ever report a job in crop production (industry code 10 in the 1989-2001 panels and code 170 in the 2004 and 2008 panels) or in agricultural support services (industry code 30 in the 1989-2001 panels and 290 in 2004 and 2008 panels) with an occupation of either farm worker (occupation code 479 in the 1989-2001 panels) or miscellaneous agricultural workers (occupation code 6050 in the 2004 and 2008 panels).<sup>5</sup> Table 2 shows the number of agricultural workers in each SIPP panel by the NAWS region. The SIPP includes information on 3,678 unique agricultural workers from 1989 through 2013, roughly six percent of the number of agricultural workers in the NAWS over the same period. The number of agricultural workers captured in the SIPP has generally been increasing over the survey years. In the 1989 panel, SIPP included information on 87 people who had a job

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<sup>4</sup>The SIPP has changed over time in terms of the duration of each panel and the number of waves. For a history of the duration of SIPP panels and the number of waves see Table 1 2 in the 2014 SIPP Panel Users Guide, available at: [https://www.census.gov/programs\\_surveys/sipp/guidance/users\\_guide.html](https://www.census.gov/programs_surveys/sipp/guidance/users_guide.html)

<sup>5</sup>We repeat this exercise for the CPS ASEC and ACS.

in agriculture and in the 2008 panel it included 580 agricultural workers.

The geographical distribution of agricultural workers in the SIPP is substantially different from the NAWS. The Midwest has the largest number of agricultural workers, followed by California, the East, Southwest, Northwest, and Southeast. The most notable difference between geographic distribution of workers in the SIPP and NAWS is in the Southeast region. In the NAWS, by construction this region contains the second largest number of workers reflecting the relatively high levels of agricultural employment in the area. In the SIPP, however, the Southeast contains the fewest number of agricultural workers, likely reflecting the geographical dispersion of the general population rather than the agricultural workforce.

Table 2: Number of agricultural workers in SIPP by region and panel

SIPP Panel	Region						Total
	East	Southeast	Midwest	Southwest	Northwest	California	
1989-1990	6		31	16	5	29	87
1990-1992	41	55	68	54	21	88	317
1991-1993	25	20	58	30	8	58	199
1992-1995	37	42	81	43	22	76	301
1993-1996	32	20	66	44	18	66	246
1996-2000	109	64	182	111	78	190	734
2001-2004	75	68	129	60	55	123	510
2004-2008	91	42	174	50	134	103	594
2008-2013	124	54	188	50	107	157	580
Total	540	365	977	458	448	890	3,678

*Notes:* Regions are defined using the state groups in the NAWS data. I do not include workers in Alaska, Hawaii, or Washington D.C. as they are not included in the NAWS. A worker is classified as an agricultural worker if they report working in either crop production (industry code 10 in 1989 2001 panels and code 170 in the 2004 and 2008 panels) or agricultural support services (industry code 30 in 1990 2001 panels and 290 in 2004/2008 panels) with an occupation of either “farm workers” (occupation code 479 in 1990 2001 panels) or “miscellaneous agricultural workers” (occupation code 6050 in 2004/2008 panels). This table shows the number of unique people in the SIPP who are classified as agricultural workers (i.e. those who report working at least one job meeting the industry and occupation criteria).

The SIPP can also be analyzed in units of agricultural households, i.e. households containing at least one agricultural worker, rather than agricultural workers. While the NAWS does not formally interview other household members, many of the interview questions pertain to the entire household. Relevant for this paper, the NAWS questions on welfare program participation are at the household, rather than worker level. Table 3 shows the counts of households in the SIPP in which we categorize at least one household member as an agri-

cultural worker based on their industry and occupation. The 1989 to 2008 SIPP panels include information on 2,887 households that include at least one agricultural worker. The geographical dispersion of agricultural households in the SIPP is similar to the dispersion of individuals. Notably, the number of households in California (563) is much lower (about two thirds the size) than the number of workers (890). Comparatively, the number of households in the Midwest (856) is roughly 88 percent the number of individual workers (977). This suggests that in California, more so than in other regions, agricultural workers tend to reside in the same household.

Table 3: Number of households with agricultural workers in SIPP by region and panel

SIPP Panel	Region						Total
	East	Southeast	Midwest	Southwest	Northwest	California	
1989-1990	6		29	12	5	16	68
1990-1992	40	42	59	36	18	61	256
1991-1993	23	20	48	19	7	35	152
1992-1995	34	31	67	27	18	42	219
1993-1996	31	16	63	26	13	45	194
1996-2000	98	57	157	89	65	113	579
2001-2004	68	56	111	47	44	83	409
2004-2008	83	38	158	36	102	73	490
2008-2013	110	47	164	40	82	95	538
Total	493	307	856	332	336	563	2,887

*Notes:* Regions are defined using the state groups in the NAWS data. We do not include workers in Alaska, Hawaii, or Washington D.C. as they are not included in the NAWS. This table shows the number of unique households in which at least one member worked as an agricultural worker at any point in the SIPP.

## CPS-ASEC

The Current Population Survey (CPS) Annual Social Economic Supplement (ASEC) is an annual survey used to provide national estimates of many poverty related statistics. Over 75,000 households are interviewed annually with the bulk of the interviews occurring in March. As the foundation for many official poverty statistics it contains relatively detailed estimates of participation in social safety net programs including nutrition programs such as SNAP, WIC, Welfare, and School Meals as well as participation in the UI and Workers compensation. The CPS-ASEC contains information on both participation in programs, but also, for many programs the value of benefits provided.



Table 4: Number of ag households in CPS-ASEC by region and interview cycle

Year	Region						Total
	East	Southeast	Midwest	Southwest	Northwest	California	
1989-1990	106	129	118	110	108	151	722
1991-1992	104	111	118	88	93	183	697
1993-1994	87	178	114	75	75	158	687
1995-1996	62	92	107	77	83	177	598
1997-1998	51	59	65	101	103	174	553
1999-2000	52	73	69	89	104	214	601
2001-2002	70	97	100	81	152	219	719
2003-2004	64	55	144	64	87	144	558
2005-2006	100	59	129	27	79	204	598
2007-2008	84	68	119	55	107	232	665
2009-2010	119	51	131	27	111	231	670
2011-2012	104	37	149	27	89	240	646
2013-2014	87	63	151	30	113	251	695
Total	1090	1072	1514	851	1304	2578	8409

*Notes:* Regions are defined using the state groups in the NAWS data. We do not include workers in Alaska, Hawaii, or Washington D.C. as they are not included in the NAWS. This table shows the number of unique agricultural workers in the CPS ASEC in which at least one member is categorized as an agricultural worker.

Coverage of agricultural workers is fairly limited—sample sizes are typically smaller than the NAWS. In what follows we identify a worker as an agricultural worker if they worked in the industry “Agricultural production, crops” and were classified as having “Agricultural workers” as their occupation. Table 4 shows the number of agricultural workers in the CPS-ASEC by region and year. The sample size is smaller than the NAWS (8,409 vs 61,211), but larger than the SIPP (3,678). Geographical representation of workers is somewhat similar to the NAWS—California has the largest total number of agricultural workers (about 30% for the full sample period), followed by the midwest (18%), northwest (16%), east (13%), southeast (13%), and southwest (10%). Similar to the SIPP, a notable difference in the geographical representation of workers in the ASEC and NAWS is the representation of workers in the midwest. In the NAWS, the midwest is the second smallest region and in the ASEC it is the second largest.

One advantage of the CPS-ASEC is that it covers the entire period covered by the NAWS. This allows for comparisons not only of levels but also of trends over time. The number of agricultural workers in the CPS-ASEC is fairly stable over survey years, and ranges from

553 (in 1997/98) to 722 (in 1989/90). The geographical distribution over time is also fairly stable. California typically has the most farmworkers, and the southwest has the fewest.

## ACS

The American Community Survey (ACS) replaced the long form census in 2000. The key advantage of the ACS is large sample sizes – over 3.5 million respondents are interviewed every year. Relevant for the current exercise, the ACS collects information on demographics, employment, and some limited information on social program participation, including SNAP participation. Here we use the 1-year ACS samples and collapse them to match the NAWS interview cycles for comparison.

Coverage of agricultural workers is somewhat limited but the very large sample size ensures that many agricultural workers are surveyed every year.<sup>6</sup> Table 5 shows the number of agricultural workers in the ACS by region and year. This table shows that since 2005, the ACS has interviewed more agricultural workers each year than NAWS – though it collects far less information per worker. Though the ACS only began in 2000, the total number of agricultural workers in the sample is larger than in the NAWS (85,823 vs 61,211).

Table 5: Number of ag workers in ACS by region and year

Year	Region						Total
	East	Southeast	Midwest	Southwest	Northwest	California	
1999-2000	123	82	253	86	107	194	845
2001-2002	701	559	1553	365	589	913	4680
2003-2004	725	563	1624	334	636	913	4795
2005-2006	1858	1772	3490	1337	1647	3489	13 593
2007-2008	1921	1558	3679	1199	1618	3954	13 929
2009-2010	1967	1699	3799	1316	1833	4484	15 098
2011-2012	2305	2021	3959	1404	2013	5023	16 725
2013-2014	2188	1867	3874	1388	1962	4879	16 158
Total	11 788	10 121	22 231	7429	10 405	23 849	85 823

*Notes:* Regions are defined using the state groups in the NAWS data. We do not include workers in Alaska, Hawaii, or Washington D.C. as they are not included in the NAWS. This table shows the number of unique households in which at least one member is categorized as an agricultural worker.

<sup>6</sup>Note that as with the CPS ASEC, we classify a worker as being an agricultural worker if they worked in the industry “Agricultural production, crops” and were classified as having “Agricultural workers” as their occupation.

The geographical dispersion of workers is again somewhat different from the NAWS. California contains the most agricultural workers (28%), but a much lower proportion than is represented in the NAWS (35%). Further, as in the CPS-ASEC and SIPP, the midwest contains a much larger proportion of ag workers than the NAWS (25% in the ASC, 30% in the CPS-ASEC, 27% in the SIPP and 13% in the NAWS). As in the NAWS and CPS-ASEC, the southwest has the fewest agricultural workers. The rising number of agricultural workers across time in the ACS reflects the growing size of the ACS, rather than a growing proportion of agricultural workers. The geographic distribution of agricultural workers has remained relatively stable over the course of the ACS.

### 3 Questions on Program Participation

#### NAWS

Despite seemingly large academic interest in program participation among agricultural workers, there are few questions on program participation in the NAWS. The NAWS includes information on the use of 12 different public assistance programs: TANF (temporary assistance for needy families), SNAP (the supplemental nutrition assistance program)<sup>7</sup>, disability insurance, veteran's pay, general assistance/welfare, low income housing, public health clinics, medicaid, WIC (the supplemental nutritional assistance program for women, infants, and children), unemployment insurance (UI), disaster relief, legal services, and 'other'. For each of these programs, workers in the NAWS are asked:

*Within the last two years has anyone in your household received benefits from or used the services of any of the following social programs?*

Table 6 shows the percent of workers who report participating in each of the programs across all years of the NAWS. According to the NAWS, the programs with the highest participation rates among agricultural workers are Medicaid, UI, WIC, and SNAP. Overall, program participation rates are low. Roughly 25 percent of workers live in households that have participated in Medicaid in the last two years, 19 percent have received unemployment insurance, 15 percent have participated in WIC, and 10 percent have received SNAP. These participation rates are particularly low given the average income of households in the sample.

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<sup>7</sup>The Food Stamp program was renamed SNAP in 2008, but the NAWS questionnaire still refers to Food Stamps. In this paper we will refer to both as SNAP.

Nearly half the sample (44 percent) lives in households below the federal poverty line, average household size is 3.1 and median household income is \$12,500 - \$14,999.<sup>8</sup>

Table 6: Program participation in the NAWS

	Percent	Std. Error
Medicaid	25.3	(0.0049)
Unemployment Insurance	18.9	(0.0039)
WIC	14.5	(0.0038)
SNAP	10.0	(0.0038)
Public Health Clinic	3.8	(0.0023)
Social Security	1.9	(0.0012)
Other	1.9	(0.0011)
Disability Insurance	1.5	(0.0015)
Low Income Housing	0.8	(0.0012)
General Assistance/Welfare	0.5	(0.0008)
TANF	0.4	(0.0008)
Veteran's Pay	0.2	(0.0007)
Disaster Relief	0.1	(0.0002)
Legal Services	0.1	(0.0004)

*Notes:* Percent of workers who report participating in the program across all available years. Programs are added at different points in the survey: questions on food stamps, unemployment insurance, social security, disability insurance, general assistance/welfare, veteran's pay, low income housing, and other are available for the entire survey (1989 2014); questions on Medicaid, WIC, public health clinic, disaster relief, and legal services are available from 1993 2014; and TANF is available from 1999 2014. Proportions are estimated using NAWS sample weights.

In the remainder of this paper, we focus on a few of these public welfare programs that are comparable across surveys. From the programs included in the NAWS, we focus on: Medicaid, UI, WIC, SNAP, general welfare, and TANF. We additionally examine use of the National School Lunch and Breakfast program (NSLB), the Earned Income Tax Credit (EITC), and Worker's Compensation where they are available.

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<sup>8</sup>We give median household income in nominal dollar values because the NAWS records household income categorically, complicating a conversion to real earnings. The median household income in the most recent survey round (2013 2014) was \$20,000 - \$24,999. This is just above the 2014 federal poverty threshold for a household of three (\$19,790).

## SIPP

The SIPP is designed to provide information on income and program participation. Not surprisingly, the SIPP has an extensive list of questions on program participation. Here, we examine program participation across several panels of the SIPP. The precise wording of SIPP questions have changed somewhat over time, but remain fairly similar. For each program covered in the SIPP, each member of the household is asked whether or not they received benefits from the program during the reference period (the past four months) and are asked for the monthly amount they received from the program in the most recent month. The SIPP also asks for total household benefits received for some programs. In the 2008 SIPP panel, these questions are phrased as:

*Did [name] receive any income from [program] during the reference period?*

*Amount [name] received from [program] in this month.*

*Total household [program] benefits received for this month.*

In the following sections, we summarize the responses to these questions for agricultural workers and households in the SIPP. We present evidence on the use of Medicaid, UI, WIC, SNAP, TANF, and NSLB and summarize the average benefits received from UI, WIC, SNAP, and TANF.

## CPS-ASEC

The CPS-ASEC asks participants a set of detailed questions for several social benefit programs. The precise wording of the questions varies based on the type of program. Questions on participation in food assistance and cash transfer programs have different wording when asking for both participation status and benefit amounts. For example, when asking about SNAP participation, the 2016 CPS-ASEC (most recent available) asked:

*Did (you/ anyone in this household) get food stamps or use a food stamp benefit card at any time during 2016?*

When asking about unemployment compensation from government UI programs, the 2016 CPS-ASEC asked:

*At any time during 2016 did (you/anyone in the household) receive any State or Federal unemployment compensation?*

The CPS-ASEC includes several follow-up questions relevant to this study. For each program that provides monthly benefits to participants, the CPS-ASEC asks something similar to:

*What is the (monthly) value of the food assistance received in [year]?<sup>9</sup>*

In the following sections, we summarize the responses to these questions for agricultural households in the CPS-ASEC. We present evidence on the use of Medicaid, UI, Worker's Compensation, WIC, SNAP, NSLB, and EITC and summarize the average benefits received from UI, Worker's Comp, WIC, SNAP, and EITC.

## ACS

The ACS asks few questions on program participation. Relevant to this paper, the ACS gathers information on participation in Medicaid, SNAP, and UI and program benefits for SNAP. Examples of these questions as asked in the ACS are:

*Is this person CURRENTLY covered by any of the following types of health insurance or health coverage plans? (Mark "yes" or "no"):*

*Medicaid, Medical Assistance, or any kind of government-assistance plan for those with low incomes or a disability*

*IN THE PAST 12 MONTHS, did you or any member of this household receive benefits from the Food Stamp Program or SNAP (the Supplemental Nutrition Assistance Program)? (Do NOT include WIC, the School Lunch Program, or assistance from food banks.)<sup>10</sup>*

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<sup>9</sup>This is the specific question used when asking about SNAP benefits. The CPS ASEC then asks several additional questions to validate this response, including: "Could you tell me if the value of food assistance received in [year] was: less than \$1,000; between \$1,000 and \$3,000; or over \$3,000"; "How many months was food assistance received in [year]?" and "According to my calculations (total) was received altogether from food assistance in [year]. Does that sound about right?" Additional details on these questions can be found in the ASEC technical documentation: [https://www2.census.gov/programs\\_surveys/cps/techdocs/cpsmar17.pdf](https://www2.census.gov/programs_surveys/cps/techdocs/cpsmar17.pdf)

<sup>10</sup>Additional questions in the ACS can be found on the Census website under the Questionnaire Archives: [https://www.census.gov/programs\\_surveys/acs/methodology.html](https://www.census.gov/programs_surveys/acs/methodology.html)

## 4 Nutrition Programs

In this section, we present summary statistics on participation in U.S. nutrition assistance programs across the four surveys. Here we examine the Supplemental Nutrition Assistance Program (SNAP, also known as food stamps), the nutrition assistance program for Women, Infants, and Children (WIC), and the National School Lunch Program (NSLP). All of these programs are means-tested, i.e. applicants must fall below a certain income threshold to be eligible for benefits.

Table 7: Participation in Nutrition Assistance Programs

Survey	Year												
	1989 (1990)	1999 (2002)	1993 (1994)	1995 (1996)	1997 (1998)	1999 (2000)	2003 (2004)	2005 (2006)	2007 (2008)	2009 (2010)	2011 (2012)	2013 (2014)	
<b>SNAP</b>													
NAWS	6.76 (0.024)	6.0 (0.089)	7.20 (0.707)	2.44 (0.586)	0.28 (0.652)	9.9 (0.822)	8.03 (0.787)	7.86 (0.728)	6.07 (0.879)	5.49 (0.804)	2.5 (0.59)	5.32 (0.644)	5.62 (0.008)
SIPP- d	8.82 (0.344)	24.23 (0.333)	27.5 (0.459)	5.2 (0.83)	34 (0.39)	6.048 (0.0474)	0.78 (0.49)	8.65 (0.0728)	8.679 (0.06)	7.232 (0.066)	3.98 (0.97)	6.30 (0.256)	
SIPP-	7.30 (0.330)	26.68 (0.49)	30.42 (0.585)	2.58 (0.322)	2.06 (0.368)	4.66 (0.84)	23.3 (0.493)	8.33 (0.249)	9.96 (0.378)	6.57 (0.233)	30.67 (0.640)	32.37 (0.73)	
ASEC	4.48 (0.87)	20.08 (0.302)	20.95 (0.324)	20.94 (0.343)	7.07 (0.268)	6.2 (0.240)	6 (0.37)	0.00 (0.24)	9.569 (0.2)	49 (0.39)	5.20 (0.209)	2.69 (0.347)	23.90 (0.384)
ACS						0.59 (0.2)	6 (0.0509)	0.4 (0.0455)	3.79 (0.0406)	2.99 (0.0369)	9.75 (0.0638)	22.49 (0.0724)	2.56 (0.0696)
<b>WIC</b>													
NAWS			7 (0.449)	0.23 (0.532)	9.9 (0.580)	3.80 (0.064)	0.94 (0.666)	3.68 (0.94)	3.23 (0.930)	2.47 (0.92)	7.98 (0.588)	5.89 (0.36)	8.20 (0.60)
SIPP- d	0.29 (0.0005)	7.45 (0.0073)	9.55 (0.00)	4.586 (0.032)	5.522 (0.0487)	4.22 (0.0278)	5.788 (0.0604)	4.666 (0.0320)	5.283 (0.053)	4.863 (0.0369)	6.44 (0.0637)	5.072 (0.0474)	
SIPP-	8.65 (0.23)	4.03 (0.73)	5.38 (0.232)	4.6 (0.87)	8.3 (0.299)	6.69 (0.22)	22.56 (0.472)	6 (0.208)	9.73 (0.372)	7.00 (0.24)	22.29 (0.420)	8.85 (0.347)	
ASEC					2.50 (0.39)	22.62 (0.032)	3.9 (0.468)	20.65 (0.872)	5.9 (0.620)	20.9 (0.795)	3.33 (0.370)		
<b>NSLP</b>													
SIPP-	30.53 (0.709)	34.77 (0.589)	38.46 (0.782)	46.45 (0.840)	53.66 (0.45)	44.25 (0.78)	48.2 (0.204)	48.46 (0.849)	5.79 (0.225)	43.43 (0.84)	5.33 (0.60)	48.56 (0.43)	
ASEC	57.53 (0.644)	68.44 (0.778)	68.60 (0.860)	67.27 (0.893)	75.32 (2.37)	75.87 (0.829)	70.34 (0.708)	66.43 (0.875)	58.24 (0.738)	64.24 (0.732)	57.80 (0.700)	64.08 (0.749)	65.40 (0.98)

Notes: Proportions are estimated using individual or household year level weights provided by each survey. Results from the NAWS reflect household level program participation within the last two years. SIPP-ind reflects the participation rate among individual agricultural workers in the SIPP within the four month reference period. SIPP-hh reflects the participation rate among agricultural households in the SIPP for the same reference period. Results from the ASEC represent household level program participation within the last year. Results from the ACS represent person level program participation within the last year. Standard errors are given in parentheses. - indicates missing data.

Table 7 shows participation rates in each of these programs as presented in the NAWS, SIPP, ASEC, and CPS. The top panel compares SNAP participation rates. Trends are similar across all surveys. SNAP participation increases until 1993/94, then falls until 2007/08, and rises again following the great recession. SNAP participation rates in the NAWS tend to fall below the rates in any other survey. This is somewhat surprising, given that the NAWS asks workers whether anyone in their household participated in SNAP within the last two years. This is a longer time horizon than any other survey. Results from 2011/12 suggest that agricultural households have a 15 (NAWS) to 32 (SIPP-hh) percent participation rate

in SNAP.

The second panel of Table 7 shows participation rates in WIC. Generally, these suggest that WIC participation is increasing. WIC participation rates in the NAWS are generally below SIPP and ASEC estimates of household-level participation and above SIPP estimates of individual-level participation, which is (not surprisingly) low due to the high proportion of men in the agricultural workforce. Ignoring the ASEC individual-level estimates, results from 2009/2010 suggest that agricultural households have a 13 (ASEC) to 22 (SIPP) percent participation rate in WIC.

Finally, the bottom panel of Table 7 shows participation rates in NSLP. The NSLP is not currently covered by the NAWS, but these results suggest that the program is among the most heavily utilized by farmworkers. Recent estimates suggest that NSLP participation among all agricultural households (including households without children) falls between 49 and 64 percent. This suggests that the NSLP is very important for agricultural households, particularly those with children currently in school.

Table 8: Benefit Value from Nutrition Assistance Programs

Survey	Year												
	989 990	99 992	993 994	995 996	997 998	999 2000	200 2002	2003 2004	2005 2006	2007 2008	2009 2010	2011 2012	2013 2014
SNAP													
SIPP hh	72 ( 8 05)	83 ( 9 4 )	60 ( 0 68)	58 ( 67 )	38 ( 42 )	76 ( 3 78)	57 ( 3 24)	66 ( 6 7 )	4 ( 5 58)	80 ( 2 66)	6 ( 27 03)	72 ( 25 62)	
ASEC		75 09 ( 5 83)	63 45 ( 7 878)	55 32 ( 7 93 )	53 58 ( 9 826)	47 57 ( 0 53)	38 06 ( 6 067)	2 25 ( 6 420)	46 82 ( 0 )	60 83 ( 9 953)	50 5 ( 25 62)	229 ( 29 05)	26 2 ( 42 42)
ACS									99 05 ( 4 767)	08 2 ( 8 064)			
WIC													
SIPP hh				43 ( 2 5)	5 ( 2 2 )	46 ( 2 02)	57 ( 2 65)	58 ( 2 84)	69 ( 3 )	79 ( 3 56)	92 ( 4 22)	06 ( 5 67)	

Notes: Reported monthly benefits for each household. Values are in 1999 dollars. Standard errors in parentheses.

Table 8 shows the reported monthly value of benefits for households receiving benefits. Benefit amounts are adjusted to 1999 real dollars using the CPI. Average SNAP benefit amounts are higher in the ASEC than in the SIPP in recent years for agricultural workers. Results from 2011/12 suggest that the average agricultural household that participated in SNAP received \$172 to \$229 in monthly benefits those years. The results for WIC suggest that the average WIC-participating household received around \$100 in monthly benefits from in 2011/12.



## 5 Health and Income Programs

In this section we present summary statistics on participation in U.S. health and cash assistance programs across the four surveys. Here we examine Medicaid, Unemployment Insurance (UI), Temporary Assistance for Needy Families (TANF, previously known as AFDC or “welfare”), Worker’s Compensation, and the Earned Income Tax Credit (EITC). Among these programs, the NAWS only contains information on Medicaid, UI, and TANF.

Table 10 shows participation rates in each of these programs as presented in the four surveys. The top panel compares Medicaid participation rates. Generally, Medicaid participation rates are increasing in all surveys. Participation rates according to the NAWS and SIPP have increased far more than those in the ASEC and ACS. According to the NAWS, Medicaid participation among agricultural households has increased by 27 percentage points over the last 20 years. According to the SIPP, participation rates among agricultural households has increase by roughly 20 percentage points over the same period. According to the ASEC, participation has only increased by six percentage points. Generally, Medicaid participation rates according to the NAWS are below the SIPP household-level estimates and above the ASEC, ACS, and SIPP worker-level estimates. Results from 2011/12 suggest that agricultural households have a 14 (ASEC/ACS) to 50 (SIPP-hh) percent participation rate in Medicaid.

The second panel of Table 10 shows unemployment insurance participation rates across the four surveys. Here, there is no clear trend in participation over time. UI participation fluctuates, but is fairly close in value at the end of the time period to the beginning. UI participation rates in NAWS are typically higher than in the other surveys (until 2009 when SIPP estimates of the participation rate increase). Results from 2011/12 suggest that agricultural households have a 13 (ASEC) to 30 (SIPP-hh) percent participation rate in UI.

The third panel of Table 10 shows participation rates in TANF. This rate is low across all surveys, ranging from 0.09 to 10.99 percent, and is the lowest in the NAWS. Results from 2011/12 suggest that agricultural households have a 0.3 (NAWS) to 7 percent participation rate in TANF. The last two panels show participation rates in Worker’s Compensation and EITC, both of which are only available in the ASEC. According to the ASEC, few agricultural households receive worker’s compensation 0.5 to 1.5 percent of households over the sample period. However, many households receive the EITC this ranges from 10 to 23 percent of households. Given the seemingly large participation in EITC, the NAWS may benefit from adding a question on EITC participation to the questionnaire.

Table 10 shows the reported monthly value of benefits for households receiving benefits

Table 9: Participation in Public Health and Income Programs

Survey	Year												
	1989 1990	1991 1992	1993 1994	1995 1996	1997 1998	1999 2000	2001 2002	2003 2004	2005 2006	2007 2008	2009 2010	2011 2012	2013 2014
<b>Medicaid</b>													
NAWS			10 75 0 541)	15 38 0 661)	12 89 0 659)	16 61 1 078)	15 20 0 862)	20 78 1 102)	22 82 1 171)	22 51 1 340)	34 80 2 038)	34 23 1 591)	37 26 1 436)
S PP ind	8 972 0 120)	16 94 0 204)	19 41 0 287)	17 79 0 227)	20 60 0 322)	11 77 0 125)	22 16 0 411)	17 29 0 213)	17 36 0 286)	18 20 0 248)	28 12 0 513)	24 64 0 452)	
S PP hh	23 16 0 493)	34 39 0 581)	38 46 0 782)	32 24 0 547)	38 28 0 796)	30 47 0 499)	47 62 1 191)	38 13 0 650)	38 79 0 895)	37 14 0 678)	52 35 1 182)	50 11 1 180)	
ASEC	6 631 0 0607)	9 691 0 107)	8 960 0 0973)	10 23 0 125)	10 45 0 133)	10 21 0 124)	8 772 0 0912)	11 19 0 145)	12 60 0 167)	12 79 0 162)	13 74 0 181)	14 16 0 192)	14 08 0 185)
ACS										13 35 0 0547)	13 50 0 0374)	14 29 0 0386)	16 13 0 0465)
<b>U</b>													
NAWS	23 28 1 092)	21 75 1 070)	20 01 0 699)	16 81 0 641)	20 20 0 730)	19 07 0 884)	20 13 0 804)	23 79 1 076)	20 19 1 237)	16 77 1 162)	19 09 1 351)	15 85 1 480)	16 04 1 016)
S PP ind	17 94 0 322)	21 97 0 291)	21 51 0 330)	13 76 0 159)	15 37 0 214)	8 855 0 0827)	14 77 0 234)	11 35 0 117)	13 58 0 202)	9 352 0 0961)	16 45 0 247)	16 49 0 260)	
S PP hh	24 17 0 522)	32 49 0 541)	30 42 0 585)	18 68 0 264)	23 08 0 416)	13 40 0 162)	25 31 0 551)	17 22 0 228)	18 83 0 349)	14 43 0 192)	29 24 0 602)	30 38 0 658)	
ASEC	10 15 0 113)	13 34 0 170)	17 34 0 250)	19 48 0 311)	17 42 0 276)	16 86 0 254)	16 19 0 219)	16 78 0 258)	10 85 0 135)	9 339 0 103)	13 89 0 184)	13 25 0 174)	10 95 0 129)
<b>TANF</b>													
NAWS						0 70 0 505)	0 29 0 126)	0 13 0 046)	0 09 0 040)	0 33 0 152)	0 34 0 142)	0 31 0 159)	0 52 0 134)
S PP ind	4 595 0 0450)	8 111 0 0710)	9 777 0 109)	5 145 0 0380)	3 881 0 0290)	0 972 0 00313)	2 994 0 0228)	0 954 0 00302)	1 321 0 00655)	1 122 0 00417)	3 125 0 0221)	2 536 0 0170)	
S PP hh	8 142 0 112)	13 15 0 158)	14 69 0 217)	10 26 0 113)	10 99 0 147)	5 563 0 0453)	12 28 0 202)	5 781 0 0473)	5 830 0 0647)	3 857 0 0281)	8 589 0 109)	7 317 0 0897)	3 382 0 0245)
<b>Worker s Comp</b>													
ASEC	1 488 0 00663)	1 404 0 00619)	1 156 0 00470)	1 461 0 00706)	0 871 0 00338)	0 648 0 00209)	0 675 0 00203)	0 508 0 00149)	1 116 0 00468)	0 575 0 00165)	0 146 0 000214)	0 904 0 00332)	0 569 0 00161)
<b>E C</b>													
ASEC		9 972 0 112)	20 38 0 312)	31 17 0 582)	31 01 0 599)	31 77 0 595)	25 78 0 414)	24 41 0 432)	24 08 0 411)	26 29 0 439)	25 29 0 420)	28 77 0 505)	23 47 0 375)

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from the income transfer programs. Average monthly benefits from UI, TANF, and EITC are fairly high. In 2011/12 average household benefits from UI were \$290 to \$300 each month, benefits from TANF were \$170 each month, and benefits from the EITC were \$220 per year.

Table 10: Participation in Public Health and Income Programs

Su vey	Yea												
	989 990	99 992	993 994	995 996	997 998	999 2000	200 2002	2003 2004	2005 2006	2007 2008	2009 20 0	20 20 2	20 3 20 4
UI													
SIPP hh	78 (29 35)	9 (40 0 )	87 (38 46)	95 (3 93)	44 (38 54)	270 (26 4)	203 (47 42)	268 (4 83)	273 (52 3 )	420 (82 40)	420 (53 75)	30 (77 76)	
ASEC	7 7 (30 47)	53 2 (8 672)	35 7 (22 88)	9 2 (22 29)	86 87 ( 4 67)	37 9 (32 06)	20 6 ( 5 23)	229 7 (36 02)	4 7 (24 4 )	49 8 (39 70)	4 3 6 (67 0)	290 6 (5 63)	40 9 ( 97 8)
TANF													
SIPP hh	328 ( 4 44)	243 ( 6 66)	222 ( 7 73)	276 ( 3 94)	56 ( 7 6 )	306 ( 0 2 )	2 ( 2 9 )	99 (8 48)	42 (9 69)	225 (8 49)	86 ( 4 42)	72 ( 4 67)	
EITC													
ASEC		27 54 (6 3 )	35 34 (3 68 )	8 00 (9 3 )	99 63 ( 0 36)	99 3 ( 9 58)	93 73 ( 2 48)	34 ( 2 8)	7 0 ( 5 02)	45 8 ( 3 64)	56 3 ( 5 04)	22 0 (28 73)	76 4 (26 47)

S a d a d e o s p a e e s e s

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