

Improving Estimation of Nutritional Assistance Programs in the Supplemental Poverty Measure

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- All errors are my own
- Preliminary work, please do not cite

Supplemental Poverty Measure (SPM)

The Supplemental Poverty Measure: 2016
Current Population Reports

By Liana Fox
 Issued September 2017
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INTRODUCTION

Since the publication of the first official U.S. poverty estimates, researchers and policymakers have continued to discuss the best approach to measure income and poverty in the United States. Beginning in 2011, the U.S. Census Bureau began publishing the Supplemental Poverty Measure (SPM), which extends the official poverty measure by taking account of many of the government programs designed to assist low-income families and individuals that are not included in the official poverty measure. This is the seventh report describing the SPM released by the Census Bureau, with support from the Bureau of Labor Statistics (BLS). This report presents updated estimates of the prevalence of poverty in the United States using the official measure and the SPM based on information collected in 2017 and earlier Current Population Survey Annual Social and Economic Supplements (CPS ASEC).

HIGHLIGHTS

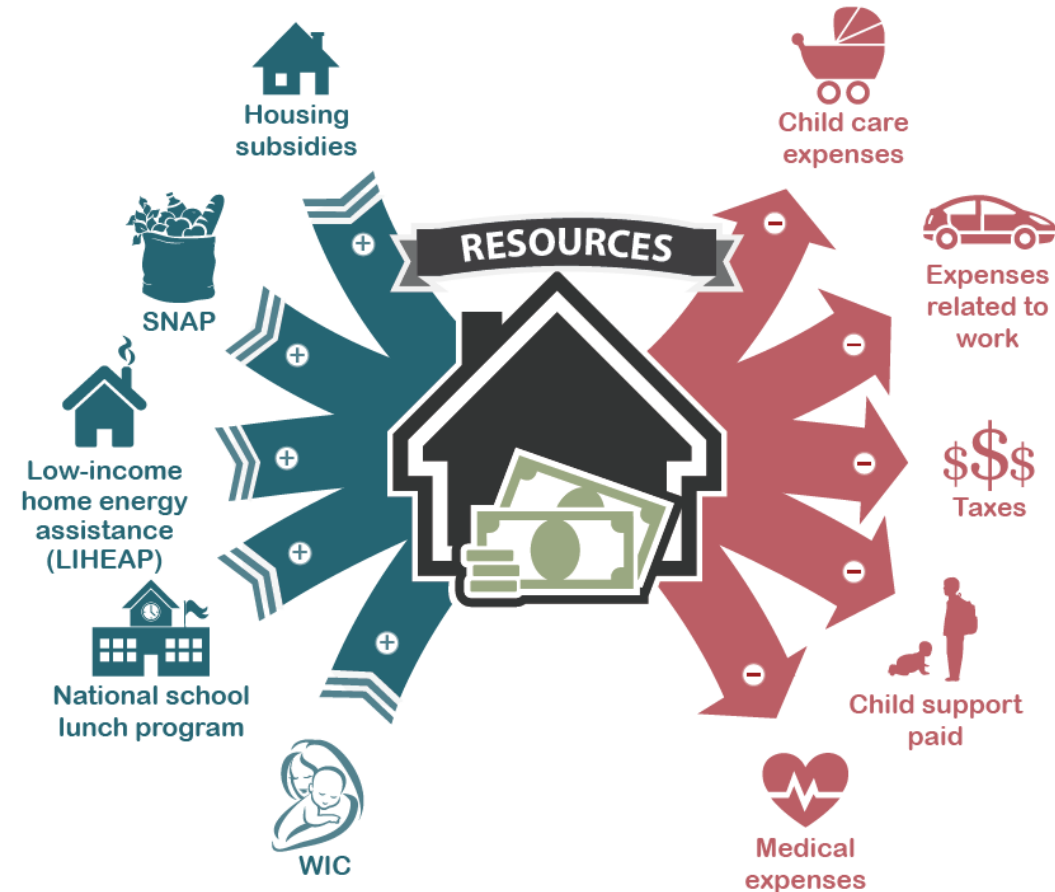
- In 2016, the overall SPM rate was 13.9 percent. This was 0.6 percentage points lower than the 2015 SPM rate of 14.5 (Figure 1 and Figure 2).
- SPM rates were down for children under age 18 and adults aged 18 to 64. SPM rates for individuals aged 65 and older were up, from 13.7 percent in 2015 to 14.5 percent in 2016 (Figure 1 and Figure 2).
- The SPM rate for 2016 was 1.2 percentage points higher than the official poverty rate of 12.7 percent (Figure 3).
- There were 13 states plus the District of Columbia for which SPM rates were higher than official poverty rates, 20 states with lower rates, and 17 states for

Figure 1. SPM Poverty Rates for Total Population and by Age Group: 2015 and 2016
 (In percent)

Age Group	2015 (%)	2016 (%)
All people	14.5	13.9
Under 18 years	16.2	15.1
18 to 64 years	14.1	13.3
65 years and over	13.7	14.5

Note: For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www2.census.gov/programs-surveys/cps/techdocs/cpsr17.pdf. Source: U.S. Census Bureau, Current Population Survey, 2016-2017 Annual Social and Economic Supplements.

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Source: U.S. Census Bureau, Current Population Survey, 2017 Annual Social and Economic Supplement. www2.census.gov/library/publications/2017/demo/p60-261.html.

Nutritional Assistance Programs in SPM

- Special Supplemental Nutrition Program for Woman, Infants and Children (WIC)
 - Allow assigned value to vary by state instead of using national average WIC benefit value for all
- National School Lunch Program
 - We consider imputing incidence of school breakfast as well, which isn't included in CPS ASEC
- Supplemental Nutrition Assistance Program (SNAP)
 - Ongoing research using administrative records to correct for underreporting

Special Supplemental Nutrition Program for Woman, Infants and Children (WIC)

WIC Program Overview

- Provides aid to low income pregnant and postpartum women, and children age 5 and younger.
- Eligibility requirements
 - Nutritionally at risk
 - Gross income test: 130% of FPG
 - Net income test: 100% of FPG
- Average of 7.6 million recipients each month in 2016 (USDA 2019)
- Approximately \$6.6 billion was awarded in 2016 to fund WIC programs.

Proposed Changes

- Currently, the value of WIC in the SPM is estimated using the average national benefit amount. The proposed change would allow the benefit amount to vary by state.

- Current:

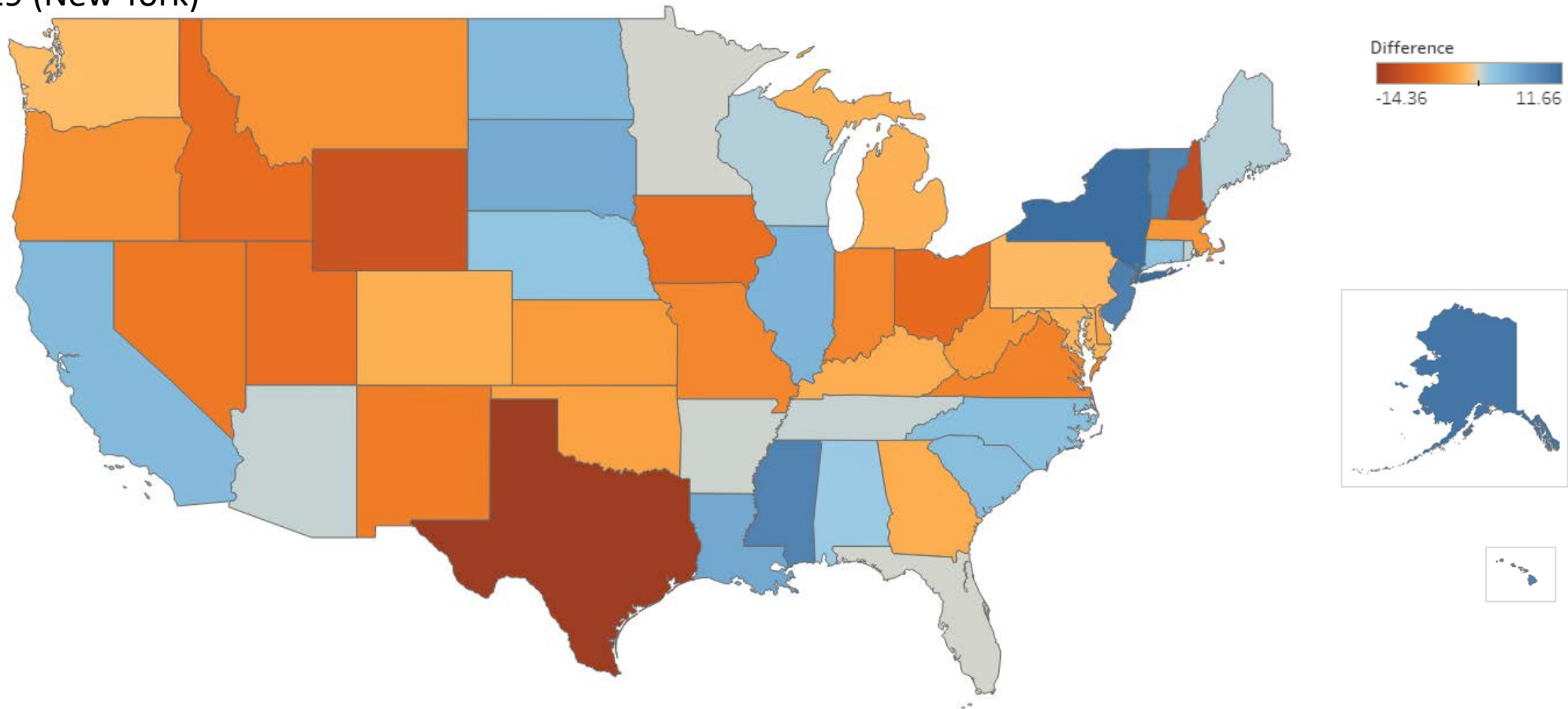
WIC Value=National monthly WIC benefit * 12 * # recipients

- Proposed:

WIC Value=State monthly WIC benefit * 12 * # recipients

Variation by State

- For 2014, National Ave. Monthly WIC benefit value was \$43.64, while states ranged from \$29.27 (Texas) to \$55.29 (New York)

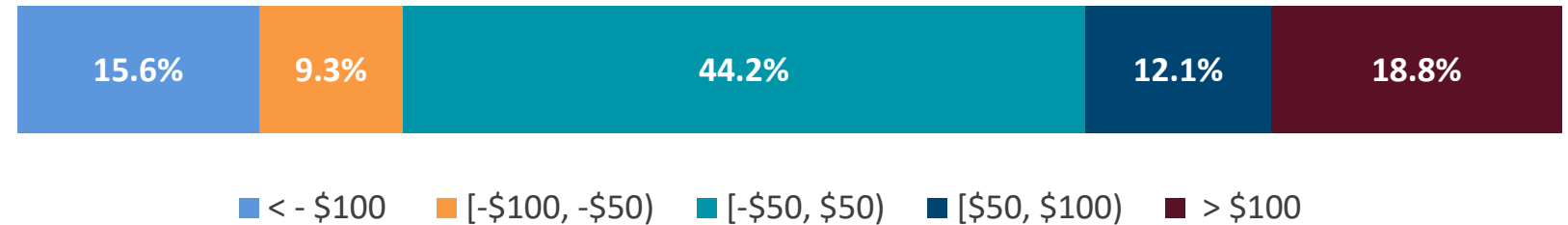


Impact of Adopting State-Varying Values

Summary of Difference in Estimated WIC Contribution to SPM

Average difference	-\$11
Std. Dev	\$149
Minimum	-\$676
Maximum	\$671

Difference in Estimated Annual WIC Contribution to SPM



Note: Sample for above results only includes observations that received WIC.

Impact of Moving to State-Varying WIC Values

Characteristic	Using National WIC Average		Using State WIC Average		Difference
	Estimate	m.o.e	Estimate	m.o.e	Estimate
All People	15.57	0.16	15.58	0.16	Z
WIC Recipients	31.10	1.69	31.18	1.72	0.08
Sex					
Male	14.84	0.22	14.84	0.22	Z
Female	16.28	0.22	16.29	0.22	0.01
Age					
Under 18 years	17.09	0.32	17.10	0.32	0.02
18 to 64 years	15.28	0.20	15.28	0.20	Z
65 years and older	14.41	0.41	14.41	0.41	Z
Region					
Northeast	14.88	0.39	14.88	0.39	Z
Midwest	12.15	0.32	12.15	0.32	Z
South	15.97	0.26	15.99	0.26	0.02
West	18.54	0.33	18.53	0.33	-0.01

National School Lunch/Breakfast Program

School Lunch/Breakfast Program Overview

- Federally assisted meal program in public and nonprofit schools providing free and low-cost lunch and breakfast to low income students PK – grade 12

Eligibility for Free and Low-Cost School Meals

Free meals

- | | |
|--------------------------|---|
| -Categorical eligibility | Participation in SNAP, TANF, Head Start, and other programs |
| - Gross income test | Below 130% of FPG |

Low-cost meals

- | | |
|---------------------|------------------------------|
| - Gross income test | Between 130% and 185% of FPG |
|---------------------|------------------------------|
-

School Lunch/Breakfast Program Overview

- Benefit amount
 - Ave. Free/Reduced price breakfast: \$275/child per year
 - Ave. Free/Reduced price lunch: \$500/child per year
- Number of students participating in FY 2018
 - Breakfast 14.69 million children daily
 - Lunch 29.7 million children daily
- Cost
 - Breakfast \$4.4 billion
 - Lunch \$13.8 billion

Proposed Changes

- Currently CPS ASEC only asks questions about school lunch participation.
- SIPP asks about participation in both school lunch and breakfast.
- Use Wave 2 of 2014 SIPP Panel to impute school breakfast from SIPP into 2015 CPS ASEC.
 - Among those who receive free or reduced price school breakfast, 93% also receive free or reduced price school lunch.
 - Limit analysis to households that have school age children and received free or reduced price school lunch

Characteristics of Households with School-Age Kids

	School Lunch		School Breakfast	
	SIPP	CPS	SIPP	CPS
Share receiving	42%	34%	33%	21%
Demographics of HH's Receiving Specific Program				
Head with LTHS ed	23%	16%	25%	18%
Married	49%	47%	46%	44%
Homeowner	45%	38%	44%	33%
Black	23%	23%	26%	26%
Hispanic	35%	36%	37%	41%
HH Inc-to-Pov Ratio <150%	49%	58%	52%	66%
HH Inc-to-Pov Ratio 150-199%	17%	15%	15%	14%

Characteristics of Households with School-Age Kids

	School Lunch		School Breakfast	
	SIPP	CPS	SIPP	CPS
Demographics of HH's Receiving Specific Program (cont)				
WIC Recipient	21%	15%	21%	17%
SNAP Recipient	49%	45%	52%	53%
TANF Recipient	7%	7%	7%	8%
Medicaid Recipient	75%	71%	75%	75%
LIHEAP Recipient	11%	10%	11%	11%

Impact of Including School Breakfast on SPM Rates, 2014

	SPM	Including School Breakfast	Difference
Overall	15.57	15.41	0.17*
Age			
Under 18 years	17.09	16.62	0.47*
18 to 64 years	15.28	15.19	0.09*
65 years and older	14.41	14.40	0.01

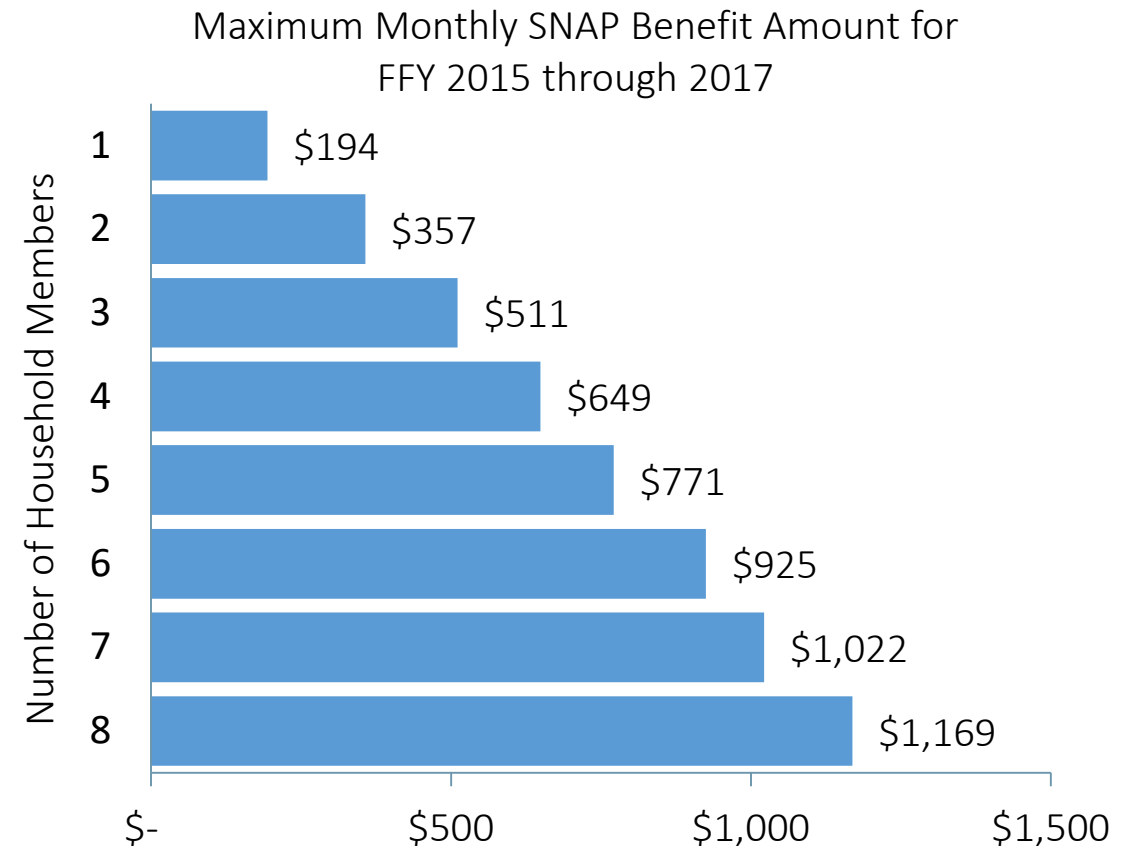
* An asterisk following an estimate indicates difference is statistically different from zero at the 90 percent confidence level.

Source: U.S. Census Bureau, Current Population Survey, 2015 Annual Social and Economic Supplement.

Supplemental Nutrition Assistance Program (SNAP)

SNAP Program Overview

- In-kind benefits
- Eligibility requirements
 - Gross income test: 130% of FPG
 - Net income test: 100% of FPG
 - Asset limits
 - Work requirements
- Benefit amount calculation
- Average of 42.0 million recipients each month in 2017 (USDA 2018)



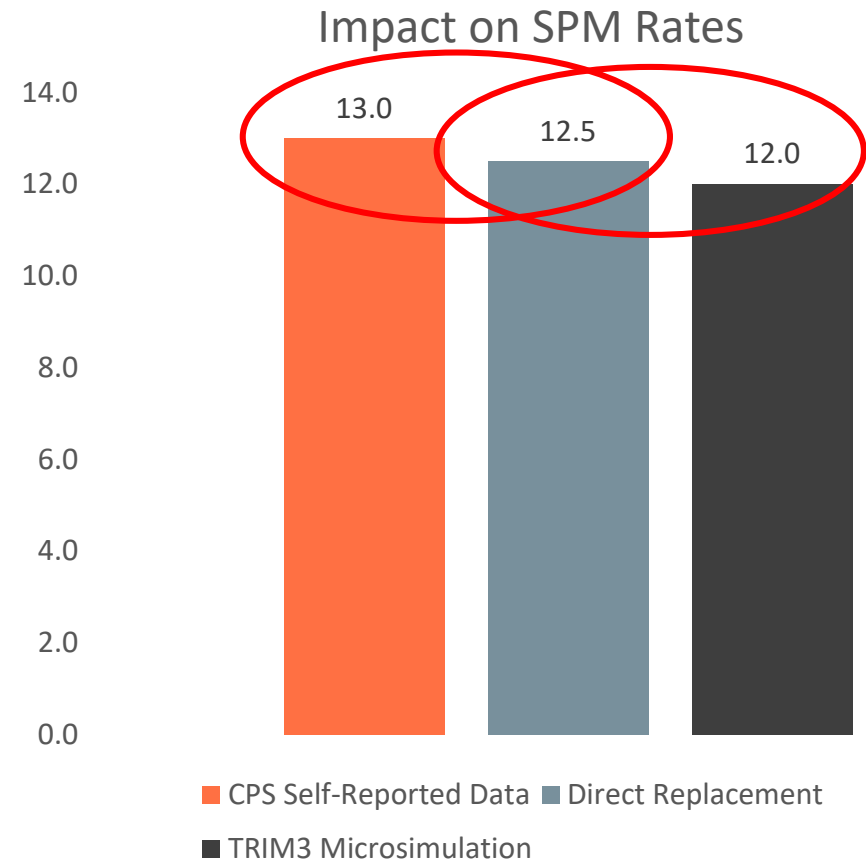
Source: United States Department of Agriculture Food and Nutrition Services. 2017. "Supplemental Nutrition Assistance Program (SNAP) Cost of Living Adjustment (COLA) Information." Retrieved September 19, 2017 (<https://www.fns.usda.gov/snap/cost-living-adjustment-cola-information>).

Overview—Why Underreporting Matters

- Survey responses to SNAP participation undercount participation rates and benefit amounts
 - About 40% of SNAP recipients in NY did not report receipt in the CPS (Meyer and Mittag 2015)
 - About 46% of SNAP recipients in AZ, ID, IL, MD, OR, TN, and VA do not report receipt in the CPS ASEC (Stevens et al. 2018)
 - About 16% of SNAP recipients in IL, MD, and VA did not report receipt in the Survey of Income and Program Participation (SIPP) (Colby et al. 2017)

Solutions to Underreporting

- Direct Replacement
 - Most accurate
 - Limited data availability
- Microsimulation Models
 - Allows for estimation of all 50 states
 - Potential for mis-allocation based on reported characteristics
- Model-Based Imputation
 - Ideally, best of both worlds



Source: Shantz and Fox, 2018

Summary/Recommendations

- WIC modification adds complication without changing our understanding poverty rates or distributions, but could be useful for assessing future state changes
- Would like feedback on school breakfast imputation
- Additional research is needed on correcting for SNAP underreporting across states and years

Contact

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Extra Slides

ITWG Guidance

- According to the ITWG recommendations, SPM should be seen as a research measure, improving due to changes in data, methodology or research.
- Priority should be placed on “consistency between threshold and resource definitions, data availability, simplicity in estimation, stability of the measure over time, and ease in explaining methodology (ITWG, 2010).”

WIC Program Overview

- Aid is received by 54.5% of all eligible participants (USDA 2019)
 - 85.9 % of eligible infants
 - 63.3 % of eligible women
 - 44.1% of eligible children
- Approximately \$6.6 billion was awarded in 2016 to fund WIC programs
 - Total grant distributed across states

2016 WIC Coverage Rates by State, All Categories

NATIONAL TOTAL

ELIGIBLES	PARTICIPANTS	COVERAGE RATE
13,933,800	7,594,000	54.5%

