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# The Use of Blended Data to Improve Public Assistance Programs: Results from a Partnership between the U.S. Census Bureau, USDA, and State Program Agencies

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# The Use of Blended Data to Improve Public Assistance Programs: Results from a Partnership between the U.S. Census Bureau, USDA, and State Program Agencies

## **Abstract**

The Census Bureau is partnering with state public assistance agencies to acquire program participation data and estimate new statistics that deepen a state's understanding of program participants and improve outreach efforts to those who are eligible but do not participate. In collaboration with the Economic Research Service and the Food and Nutrition Service within the United States Department of Agriculture, the Census Bureau obtains individual-level program participation administrative records (AR) data for three state programs, the Supplemental Nutrition Assistance Program (SNAP), Temporary Aid for Needy Families (TANF), and the Special Supplemental Nutrition Program for Women, Infants and Children (WIC). The Census Bureau constructs a unique data set for each state program by linking the AR data to survey response data for the same individuals. These linked data enable the Census Bureau to model which survey respondents are eligible for program participation and also to observe which eligible individuals participate in the program. The Census Bureau then estimates eligibility and participation rates by a variety of demographic and economic characteristics and by county. The individual-level data also enable the Census Bureau to construct a statistical profile of eligible individuals and families that do not participate to assist state agencies with their outreach programs. All statistical results provided back to state agencies in table reports and data visualizations are reviewed to insure that individual identities are protected and not disclosed. This paper will present results for several state programs that have partnered the Census Bureau.

## **Comments**

**DOI** <https://doi.org/10.23889/ijpds.v3i5.1078>

# The Use of Blended Data to Improve Public Assistance Programs: Results from a Partnership between the U.S. Census Bureau, the U.S. Department of Agriculture, and State Program Agencies

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*Note: All results have been reviewed to ensure that no confidential information is disclosed. The statistical summaries reported in this document have been cleared by the Census Bureau's Disclosure Review Board.*

# Introduction

- The Census Bureau has infrastructure in place to house and anonymize state-level Supplemental Nutrition Assistance Program (SNAP) and Special Supplemental Nutrition Program for Women, Infants and Children (WIC) administrative records and make these data available to researchers. We are
  - Working with states to receive and process administrative records
  - Linking program participants' information from administrative files to the same individuals' records in survey data
  - Using these linked data to help states gain more information about their programs

# Introduction

- 2020 Decennial Census Research, Testing and Operations
- Joint Statistical Project between Census and the U.S. Department of Agriculture (USDA)
  - Work with Economic Research Service and Food and Nutrition Service
  - Generate research on SNAP, WIC and food insecurity
  - Produce table packages and data visualizations to provide states with more information about their SNAP and WIC programs

# Public Assistance Programs

- Supplemental Nutrition Assistance Program (SNAP)
  - Helps low-income individuals and families buy food
  - Served 20,334,954 households in FY 2017
- Special Supplemental Nutrition Program for Women, Infants and Children (WIC)
  - Helps low-income pregnant and breastfeeding women, and children up to age 5 buy food
  - Served 1,737,991 women, 1,787,331 infants and 3,760,839 children in FY 2017

# Data

- States securely provide SNAP and WIC administrative records to the Census Bureau
- Census personnel with Title 13 and Title 26 confidentiality clearance use personally identifiable information (PII) from the files to assign a unique anonymous identifier for each individual
- PII is removed before approved researchers can access the file

# Data

- American Community Survey (ACS)
  - Annual individual-level data
- 2.3 million US households observed annually
  - Sample in every state and county
  - Variety of demographic, social and economic information for each individual residing in a household
  - Link ACS to administrative records (AR)



# Methods

- “Estimated eligible” – individuals and/or families in the ACS whom we model as meeting eligibility guidelines
  - Based on information on income, assets, program enrollment, and family and/or household relationships
- “Participants” – individuals who appear in the ACS, and who also appear in the linked administrative records

# Methods

- “Modeled eligible non-participants” – individuals whom our models say may be eligible, but who do not appear in the linked administrative records
- Information on modeled eligible and participating individuals by an array of social, demographic and economic variables
  - Race/ethnicity, age, employment status, educational attainment, county, and more
  - Here I’ll focus on English language proficiency

# WIC Results

Table 2: Estimated Special Supplemental Nutrition Assistance Program for Women, Infant and Children (WIC) Eligibility and Participation Rates by Race, Hispanic Ethnicity, and English Language Ability

	Colorado, 2013				Nevada, 2013			
	Eligibility		Participation		Eligibility		Participation	
	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
State Total	51.7	0.9	58.6	1.5	61.2	1.3	66.4	1.4
English Language Skills ( <i>Parents</i> )								
Speaks English Only or Well	49.4	0.9	57.5	1.6	57.5	1.4	64.3	1.8
Does Not Speak English Well <sup>a</sup>	98.0	1.2	70.0	5.0	96.3	1.4	75.5	4.4
Does Not Speak English <sup>a</sup>					95.8	4.1	91.8	5.0

Sources: American Community Survey (ACS) linked to state WIC administrative records

Notes: All estimates are weighted.

<sup>a</sup>For the state of Colorado, the categories of "Does not speak English well" and "Does not speak English" are combined for confidentiality.

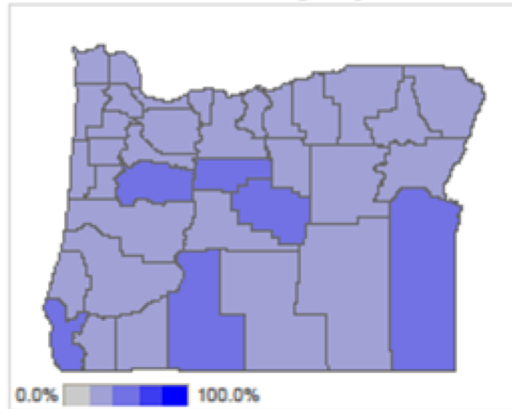
# 2013 Oregon SNAP Profile

on	Data (2 of 11)	Total Population (3 of 11)	Age (4 of 11)	Race (5 of 11)
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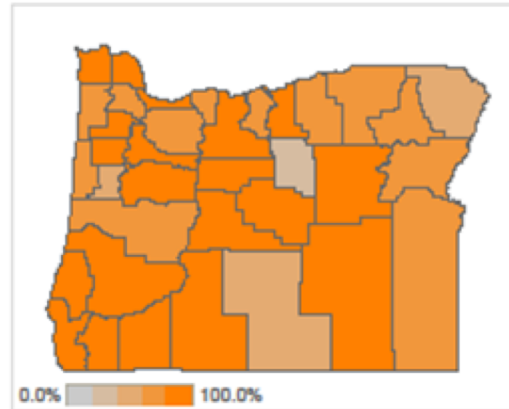
Hover over the apple for instructions:



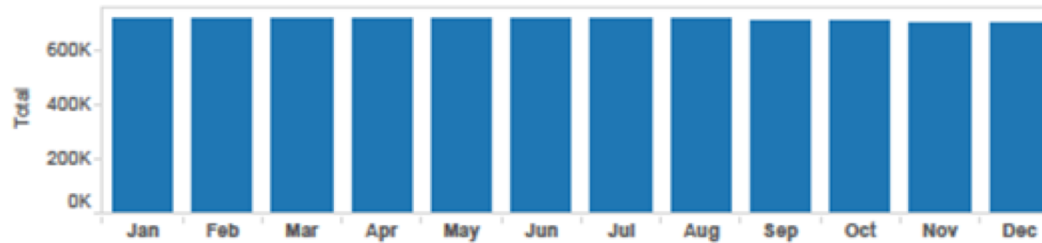
Estimated Eligibility ⓘ



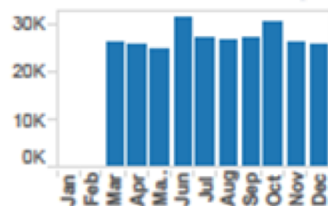
Estimated Access ⓘ



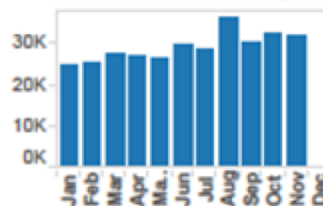
Number of Cases ⓘ



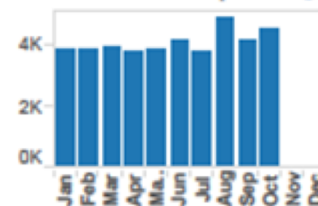
Number of Entries ⓘ



Number of Exits ⓘ



Number of Lapses ⓘ



# Conclusion

- These results demonstrate how linked administrative records and survey data can give more information to SNAP and WIC program administrators
  - Understand participant and non-participant populations
  - Facilitate outreach to non-participants
- Record linkage also offers the potential for new academic research on program participation and reporting
  - **Scherpf, Newman, and Prell (2015):** When surveys show well-off families participating in transfer programs, it is due to income misreporting and reference period disharmonies (*SNAP records linked to ACS*)
  - **Scherpf & Cerf (2016):** SNAP participants are more likely to exit during periods of local employment growth in industries that have high shares of SNAP participants (*SNAP records linked to 2010 Census*)

# Thank you!

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# More information on methods

# SNAP eligibility model (Newman and Scherpf 2013)

1. Model "SNAP Units" by segmenting ACS households and ACS subfamilies into the smallest possible groups of people for whom eligibility might be assessed
2. Calculate the total income during the ACS reference period for each SNAP Unit and convert it into average monthly income
3. Subtract the eligible deductions that can be modeled using the ACS, including a "standard deduction" and a deduction for shelter expenses are then subtracted
4. Compare the resulting net income to the weighted average of poverty thresholds in place during the 12 months preceding the ACS interview date



# SNAP eligibility model (Newman and Scherpf 2013)

- The modeled SNAP Unit is considered eligible if:
  - Total income is less than or equal to 165% of the poverty threshold AND total income minus deductions is less than or equal to 100% of the poverty threshold;
  - OR someone in the SNAP Unit received public assistance;
  - OR someone in the SNAP Unit received SSI benefits;
  - OR total income is less than or equal to 165% of the poverty threshold AND there is an elderly household member.
- Modeled SNAP Units meeting the criteria above are recoded as ineligible if:
  - They have more than two cars;
  - OR they are working age, in college, and do not meet exceptions that allow students to participate in the program;
  - OR the SNAP unit is made up entirely of non-citizens.

# WIC eligibility model

- The population targeted for the WIC program is limited to pregnant or breastfeeding women and infants and children ages 0 to 4 years
- ACS does not have information on pregnancy or breastfeeding so we estimate WIC eligibility only for infants and children
- In practice, only the income of a child's parent or parents typically is used to determine one's eligibility. For simplicity, to measure income, we sum the incomes of related adults within a child's household and exclude income of unrelated adults.

# WIC eligibility model

- An infant or child is considered eligible if:
  - He or she is enrolled in Medicaid
  - OR his or her family received any income from a public assistance program such as SNAP or TANF
  - OR his or her family's income is below 185% of the federal poverty threshold, taking into account family size