



United States Department of Agriculture

# *Using SNAP and WIC Administrative Data: Challenges—Bottlenecks—Solutions*

Mark Prell  
Economic Research Service, USDA

Presentation for AAEA Workshop  
on Evidence-Based Policy for Agricultural and Applied Economists  
October 8, 2021

The findings and conclusions in this presentation are those of the author and should not be construed to represent any official USDA or U.S. Government determination or policy.



# A Compelling Issue

“How effectively does SNAP and WIC reach the people it was designed to serve?”

*--more specifically--*

“Who does SNAP and WIC reach—and not reach—people within a State?”



# SNAP Basics

- The Supplemental Nutrition Assistance Program (SNAP, formerly the Food Stamp Program) is the country's largest food assistance program for lower income Americans.
  - Participants: 39.9 million people/month (FY 2020)
  - Annual expenditures: \$78.9 billion (FY 2020)

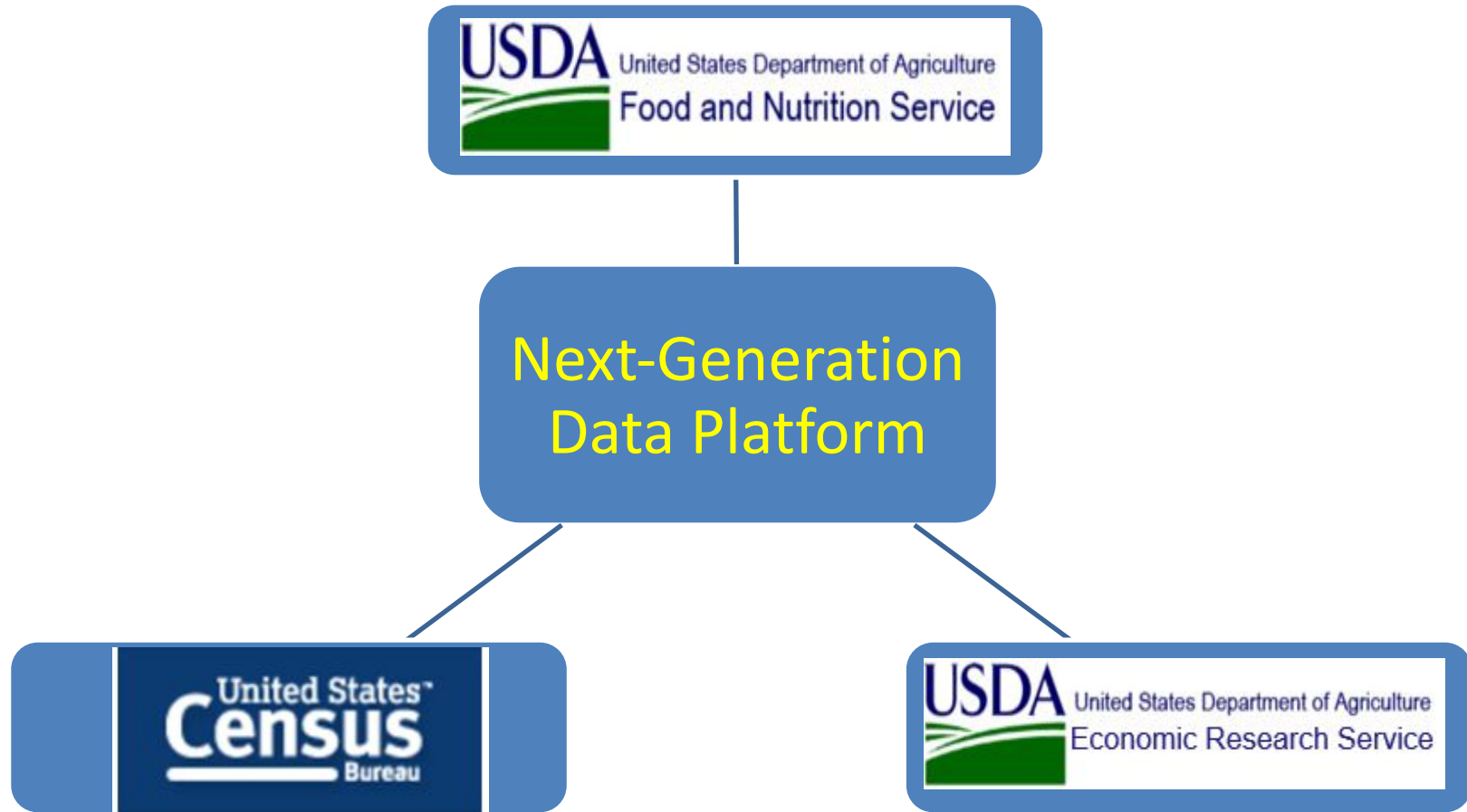


# WIC Basics

- The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides food packages, nutrition education, and medical referrals for lower income women, infants, and children.
  - Participants: 6.2 million people/month (FY 2020)
  - Annual expenditures: \$4.9 billion (FY 2020)



# Census-FNS-ERS Joint Project: A strategic partnership



# Joint Project: Vision

Research that helps inform the U.S. Department of Agriculture (USDA), Congress, and the American public on:

- who participates in USDA nutrition assistance programs
- how program participation affects the lives of those individuals
- who does not participate and why.

Research that informs decisions of:

- how to improve U.S. Census Bureau surveys
- the Decennial Census
- data-linkage processes.

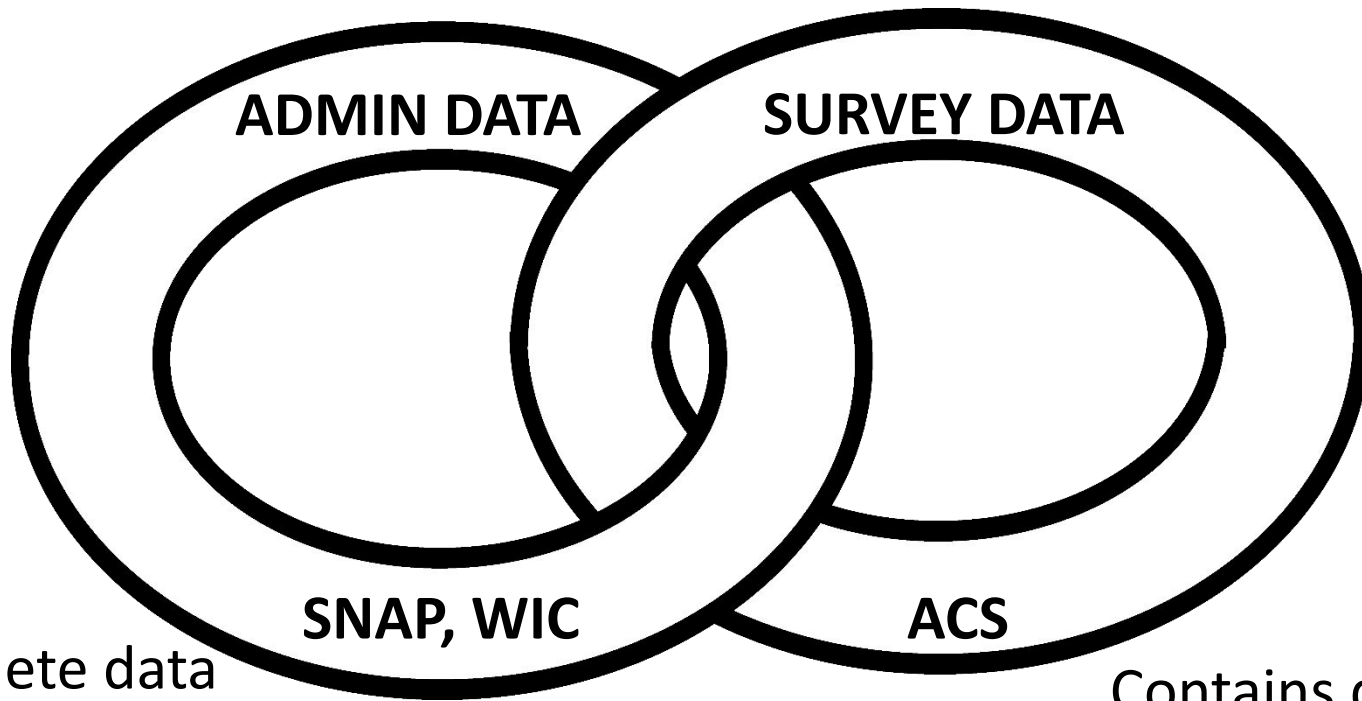


# Joint Project: Strategic Goals

- Acquire State-level administrative data of SNAP and WIC programs;
- Leverage those data through linkage to other administrative files and to national survey data;
- Collaborate on understanding the data quality of administrative and survey records;
- Conduct research on issues that inform administration of SNAP and WIC and decisions on Decennial Census and survey-improvement activities.



# Data Linkage



Complete data  
on each participant's  
benefits

Contains data on  
non-participants;  
useful variables;  
sample weights





# 2021: SNAP Eligibility and Access

(Data Viz on Census Bureau Website)

**SNAP Eligibility and Access: Maryland**  
Estimates From Linked American Community Survey  
and Administrative Records


Select a state  
Maryland  
Arizona  
Connecticut  
Florida  
Hawaii  
Idaho  
Indiana  
Iowa  
Maryland  
Massachusetts  
Michigan  
Mississippi  
Nevada  
New Jersey  
New York  
North Dakota  
Oregon  
South Carolina  
South Dakota  
Tennessee  
Utah  
Wyoming

Select a year range  
2017 to 2019

Select a subgroup  
All individuals

GO

Access Rate (Among Eligible)



# Eligibility Rate

(Maryland, 2017-2019)

Baltimore City: 45% of pop.  
estimated to be eligible  
(vs. 21% statewide)



- Eligibility Rate =  
$$\frac{(\# \text{ est. Eligibles})}{(\# \text{ Population})}$$
- Usefulness: “Where are the stakeholders (rel. to the pop.)?”

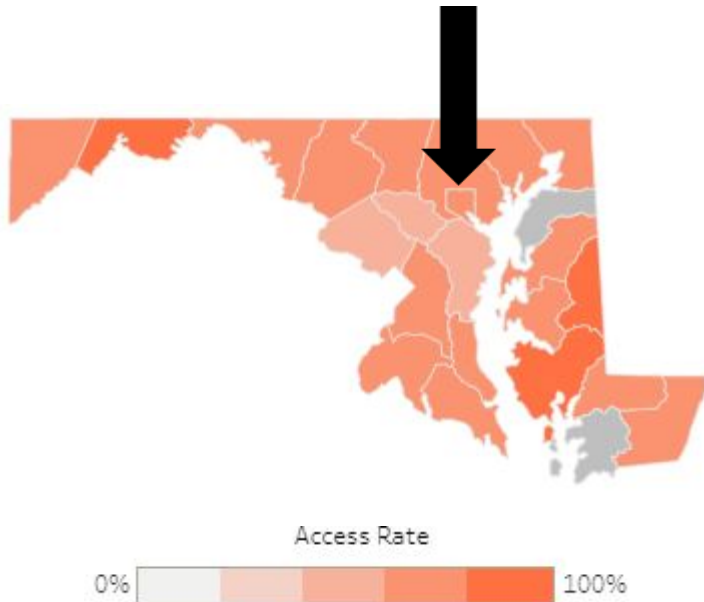
Note: (# est. Eligibles) =  
model-based estimate



# Access Rate

(Maryland, 2017-2019)

Baltimore City: 77% of est.  
Eligibles participated  
(vs. 66% statewide)



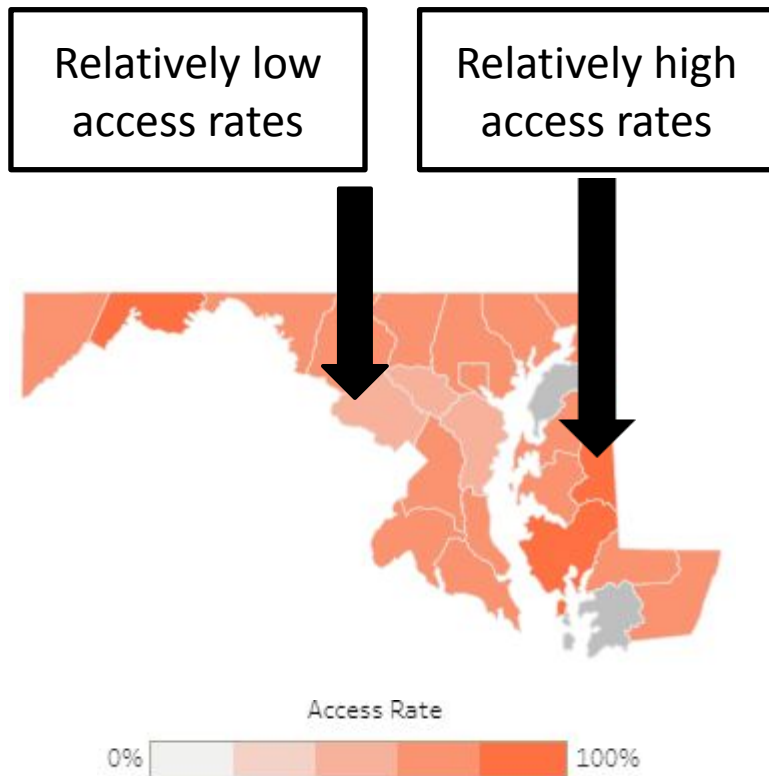
- Access Rate = 
$$\frac{(\# \text{ Participants})}{(\# \text{ est. Eligibles})}$$
- Usefulness: “Where are the stakeholders accessing most fully?”

Note: (# est. Eligibles) = model-based estimate



# Access Rate

(Maryland, 2017-2019)



- Access Rate = 
$$\frac{(\# \text{ Participants})}{(\# \text{ est. Eligibles})}$$
- Usefulness: “Where are the stakeholders accessing most fully?”

Note: (# est. Eligibles) = model-based estimate



# Detailed Demographics

Show me the characteristics of eligible  in .

Age 



Race/Ethnicity 




Presence/Age of Children 



Health Insurance 



Veteran Status 





# Different products for different stakeholders and purposes

1. Web-based data visualization;
2. State-level reports on eligibility and access;
3. ERS research reports



# We need *YOU!*

- Researchers outside of federal government can contribute to understanding of SNAP and WIC and to evidence-based policymaking



# Planning the Project

- **Challenge:** How can you learn about the Census-FNS-ERS Joint Project?
  - **Solution:** Search (web browser) on the “Census-FNS-ERS Joint Project” and reach the ERS webpage
- **Challenge:** How can you learn about applying for access to administrative data from the Census Bureau and FSRDCs?
  - **Solution:** Search on “Census Bureau apply for access” and reach the Census webpage





# Planning the Project

- **Challenge**: How can you find what SNAP and WIC data are available (for approved projects by approved researchers)?
- **Solution** (harder one): Contact your State SNAP or WIC agency, negotiate an MOU, establish a direct relationship
- **Solution** (easier one): Search on “Census Administrative Data Inventory” and reach the Census webpage



# SNAP, SNAP/TANF, and WIC data

## (August 2021)

State	Special Supplemental Nutrition Assistance Program for Women, Infants and Children	Special Supplemental Nutrition Assistance Program for Women, Infants and Children (WIC)	AL; AZ; CO; CT; ID; IL; IN; KS; ME; MI; MT; NV; OK; OR; PA; SD; UT; WA; WI	AL 2014 - 2020; AZ 2014 - 2020; CO 2011 - 2020; CT 2016 - 2020; ID 2012 - 2020; IL 2017 - 2019; IN 2017 - 2019; KS 2013 - 2020; ME 2009 - 2020; MI 2010 - 2019; MT 2012 - 2020; NV 2006-2014; OK 2016 - 2019; OR 2008 - 2020; PA 2004 - 2020; SD 2015 - 2020; UT 2014 - 2019; WA 2004 - 2015; WI 2015 - 2020
State	Supplemental Nutrition Assistance Program	Supplemental Nutrition Assistance Program (SNAP)	AZ; CO; FL; HI; IL; IN; MA; MD; MI; MN; MT; NY; OR; TX; VA; WY	AZ 2009 - 2020; CO 2012 - 2013; FL 2009 - 2019; HI 2013 - 2019; IL 2008 - 2017; IN 2004 - 2020; MA 2014 - 2019; MD 2009 - 2019; MI 2010 - 2016; MN 2014; MT 2012 - 2020; NY 2007 - 2012; OR 2009 - 2019; TX 2008 - 2009; VA 2009-2013; WY 2004 - 2020
State	Supplemental Nutrition Assistance Program and Temporary Assistance for Needy Families	Supplemental Nutrition Assistance Program and Temporary Assistance for Needy Families (SNAP/TANF)	CT; IA; ID; KY; MS; NC; ND; NE; NJ; NV; NY; SC; SD; TN; UT	CT 2004 - 2018; IA 2011 - 2020/03; ID 2010 - 2020; KY 2014 - 2020b; MS 2010 - 2020/06; NC 2014 - 2020; ND 2004 - 2020a; NE 2018 - 2020; NJ 2006 - 2020; NV 2009 - 2020; NY 2013 - 2020; SC 2004 - 2020; SD 2015 - 2020; TN 2004 - 2020; UT 2012 - 2020



# Planning the Project

- **Challenge:** Project must be informative for SNAP or WIC program administration
  - **Solution:** Use your expertise—what are important economic and nutrition issues?
- **Challenge:** Project must provide a benefit for Census
  - **Solution:** Search on “Census Bureau apply for access” and read pdf on *Writing Benefits Statements for Projects Accessing Confidential Data*; also contact your FSRDC



# Planning the Project

- **Challenge:** A researcher at FSRDC must have “Census Bureau Special Sworn Status”
- **Solution:** Contact your FSRDC on necessary steps (background investigation; takes about 3 to 4 months after project approval)



# Accessing the Data

- **Challenge:** How do you access and download such a massive dataset of millions of individual-level records?
- **Solution:** *Trick question! No download is required (or permitted)!* You access the data only within the Census Bureau's secure data environment ("behind the firewall") and do all analysis there.



# Processing the data

- **Challenge:** State data arrive at Census in different file structures and formats; uncertainty on what the data contain until checked
  - **Solution:** No easy solution; but at least the Census staff do some data cleaning and data quality checks at ingestion. Census can (occasionally) contact State experts with questions.
- **Challenge:** How can individual-level records in SNAP or WIC data be linked to other data?
  - **Solution:** The Census provides *Protected Identification Keys* (PIKs) that enable the data to be linked to other Census survey data (and some other administrative data files)



# Protecting the data

- **Challenge:** Micro-level SNAP and WIC confidential data are confidential and must be protected from disclosure.
- **Solution:** The Census secure data environment protects the data for you.
- **Solution:** A “disclosure review” of the results ensures that you have not created unacceptable risk of re-identification of individuals (e.g., cell sizes that are too small)



# Be of good cheer

- Admin data and linked data are powerful tools
- Admin data can be accessed through FSRDCs, which can be much easier than obtaining directly from SNAP or WIC State agencies (MOUs are already in place)
- FSRDCs can be a good partner; contact an FSRDC early in the process







United States Department of Agriculture

# Thank you!

[mark.prell@usda.gov](mailto:mark.prell@usda.gov)

SNAP data viz at Census:

<https://www.census.gov/library/visualizations/interactive/snap-eligibility-access.html>

WIC data viz at Census:

<https://www.census.gov/library/visualizations/interactive/wic-eligibility-participation.html>





United States Department of Agriculture

# Thank you!

[mark.prell@usda.gov](mailto:mark.prell@usda.gov)

ERS webpage on Census-FNS-ERS Joint Project:

<https://www.ers.usda.gov/topics/food-nutrition-assistance/food-assistance-data-collaborative-research-programs/census-fns-ers-joint-project/#:~:text=The%20Census%2DFNS%2DERS%20Joint%20Project%20is%20a%20strategic%20partnership,food%20and%20nutrition%20assistance%20programs.>

Census webpage on Apply for Access:

<https://www.census.gov/programs-surveys/ces/data/restricted-use-data/apply-for-access.html>

Census webpage on Administrative Data Inventory:

<https://www2.census.gov/about/linkage/data-file-inventory.pdf>

