Constructing Measures of Household Characteristics from Administrative Data Sources and ACS: Similarities and Differences in Methods and Findings

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American Community Survey Data Users Group
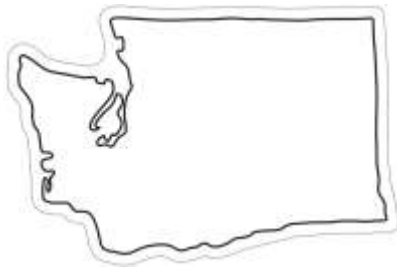
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PART 1
About DSHS' Research and Data Analysis (RDA) Division

Research and Data Analysis (RDA)

WASHINGTON STATE
Office of the Governor
Jay Inslee, Governor

▼

DEPARTMENT OF
Social & Health Services
Bill Moss, Secretary

▼

Services & Enterprise Support Administration
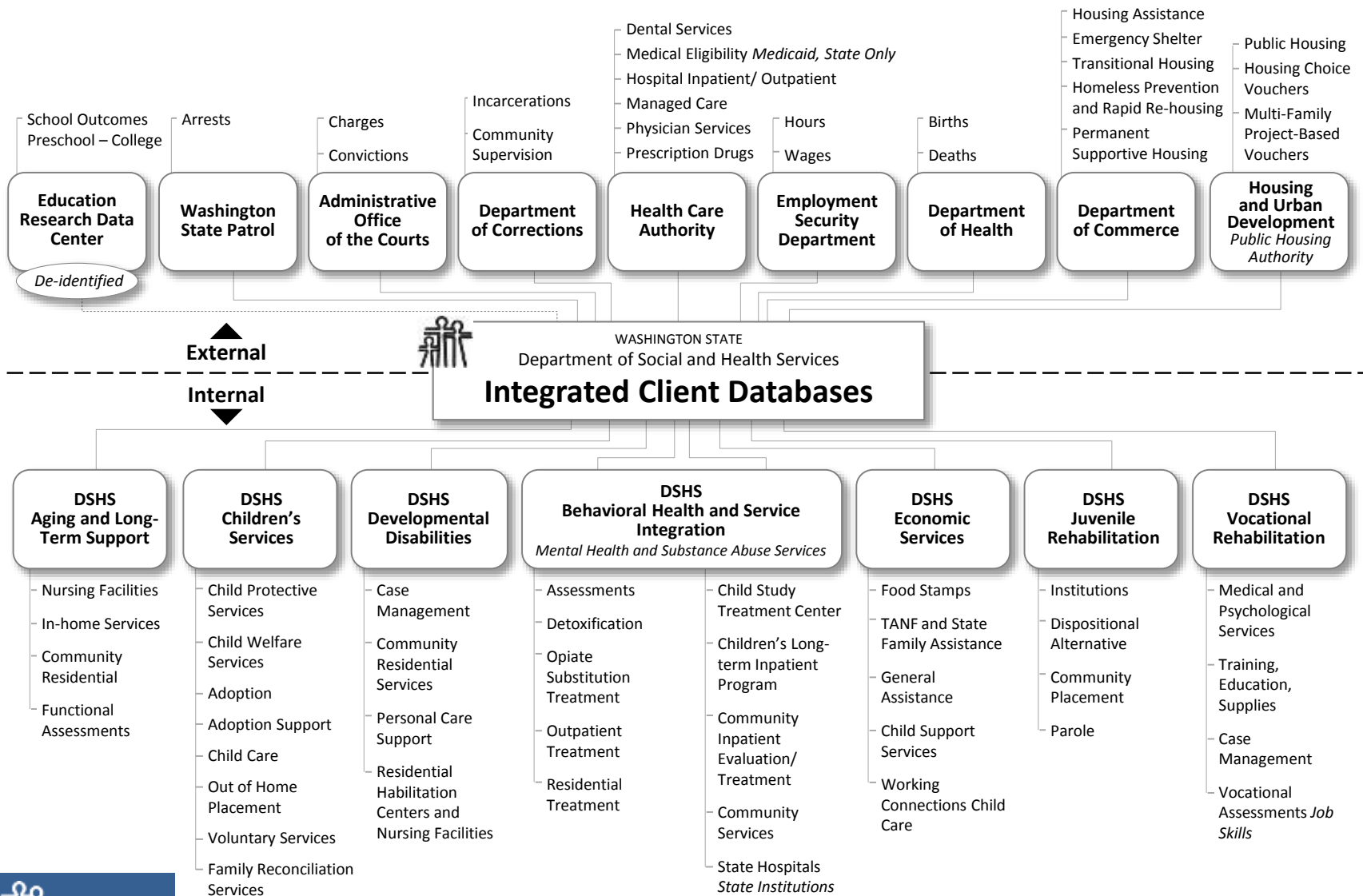
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Research & Data Analysis Division

- Research group within DSHS
- Unique data infrastructure
- Measurement, reporting and analytic abilities
- Program monitoring, research, and evaluation
- Multidisciplinary research teams

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Washington State Social and Health Services Integrated Client Databases

Established and Maintained by the DSHS Research and Data Analysis Division

WASHINGTON STATE Department of Social and Health Services
Integrated Client Databases

External / Internal

External agencies

Education Research Data Center *De-identified*
- School Outcomes Preschool – College

Washington State Patrol
- Arrests

Administrative Office of the Courts
- Charges
- Convictions

Department of Corrections
- Incarcerations
- Community Supervision

Health Care Authority
- Dental Services
- Medical Eligibility *Medicaid, State Only*
- Hospital Inpatient/ Outpatient
- Managed Care
- Physician Services
- Prescription Drugs

Employment Security Department
- Hours
- Wages

Department of Health
- Births
- Deaths

Department of Commerce
- Housing Assistance
- Emergency Shelter
- Transitional Housing
- Homeless Prevention and Rapid Re-housing
- Permanent Supportive Housing

Housing and Urban Development *Public Housing Authority*
- Public Housing
- Housing Choice Vouchers
- Multi-Family Project-Based Vouchers

Internal (DSHS)

DSHS Aging and Long-Term Support
- Nursing Facilities
- In-home Services
- Community Residential
- Functional Assessments

DSHS Children's Services
- Child Protective Services
- Child Welfare Services
- Adoption
- Adoption Support
- Child Care
- Out of Home Placement
- Voluntary Services
- Family Reconciliation Services

DSHS Developmental Disabilities
- Case Management
- Community Residential Services
- Personal Care Support
- Residential Habilitation Centers and Nursing Facilities

DSHS Behavioral Health and Service Integration *Mental Health and Substance Abuse Services*
- Assessments
- Detoxification
- Opiate Substitution Treatment
- Outpatient Treatment
- Residential Treatment
- Child Study Treatment Center
- Children's Long-term Inpatient Program
- Community Inpatient Evaluation/ Treatment
- Community Services
- State Hospitals *State Institutions*

DSHS Economic Services
- Food Stamps
- TANF and State Family Assistance
- General Assistance
- Child Support Services
- Working Connections Child Care

DSHS Juvenile Rehabilitation
- Institutions
- Dispositional Alternative
- Community Placement
- Parole

DSHS Vocational Rehabilitation
- Medical and Psychological Services
- Training, Education, Supplies
- Case Management
- Vocational Assessments *Job Skills*

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PART 2
Household Database

Need for Household Database

The world is emphatically not person based!

- **Household/family relationships are necessary for various projects:**

  – Household level analyses

  – Funding allocation based on family composition and Federal Poverty Level

  – Family situation as risk factor and outcome

  – Measuring program impacts with household comparisons

  – Federal TANF reporting requirements

- **Only in planning stages**

Household Database (HHDB) Schema

BASE TABLES:

- **Housing Unit**
  - Address, structural characteristics
  - Analogous to ACS PUMS housing unit dataset

- **Family**
  - Grouping within Housing Unit, family characteristics like family income
  - Foreign key link to Housing Unit table
  - Analogous to ACS PUMS subfamily

- **Person**
  - Person ID with foreign key link to Family table
  - Current RDA infrastructure has demographics for each PLID
  - Analogous to ACS PUMS person dataset

- **Other metadata tables (not shown)**
  - Quality indicators, data source descriptions, other measures

Household Database Schema

Housing Unit

- Housing Unit Identifier
- Housing Month
- Address
- Structure Type Code
- Housing Data Quality Indicator

Family

- Family Unit Identifier
- Family Month
- Housing Unit Identifier
- Housing Unit Month
- Leaseholder Relation
- Family Income
- Family Quality Indicator

Person

- Person Link Identifier
- Person Month
- Family Identifier
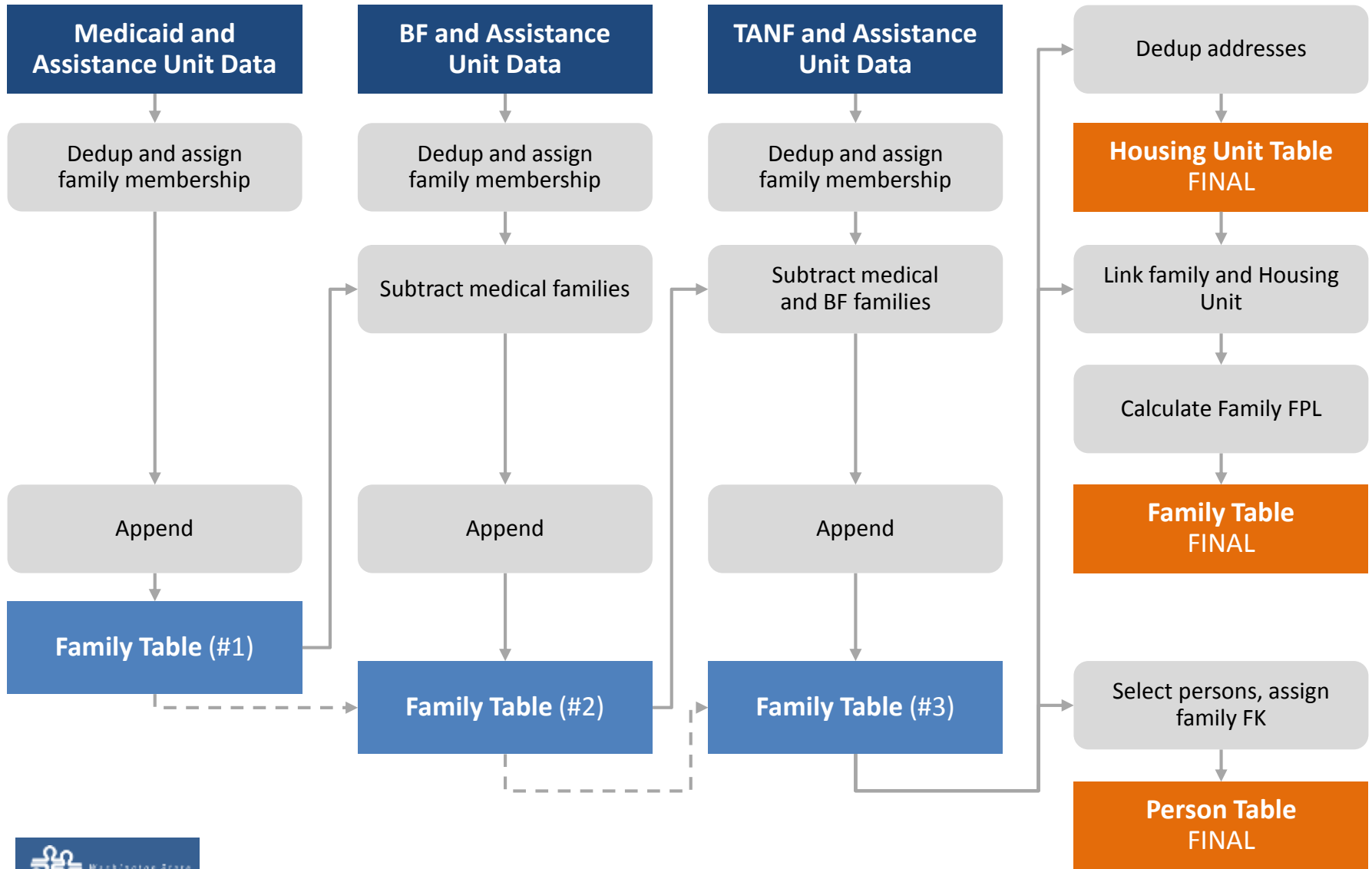- Family Month
- Family Head Relation

Other DSHS Person Data

- Person Link Identifier
- Person Month
- Other Person Linking Quality Indicators

Defining Family with Administrative Data

- **Economic Services "Automatic Client Eligibility System" (ACES)**

  - **ACES used daily by field staff to determine client eligibility for TANF, Basic Food/SNAP, Medicaid, and other services**

  - **ACES groups individuals into "Assistance Units" (AUs) for determining service eligibility**

  - **ACES Assistance Units (AUs) approximate family**

  - **ACES is a primary data sources for the household table** *(see next slide for detail)*

Household Database Algorithm

Medicaid and Assistance Unit Data	BF and Assistance Unit Data	TANF and Assistance Unit Data	Dedup addresses
Dedup and assign family membership	Dedup and assign family membership	Dedup and assign family membership	**Housing Unit Table** FINAL
	Subtract medical families	Subtract medical and BF families	Link family and Housing Unit
			Calculate Family FPL
Append	Append	Append	**Family Table** FINAL
Family Table (#1)	**Family Table** (#2)	**Family Table** (#3)	Select persons, assign family FK
			Person Table FINAL

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PART 3
ACS/PUMS compared to Administrative Data Measures

Comparing ACS to (Future) Household Database

- **American Community Survey (ACS) is the only comparable dataset to use for validation of Household Database**

- **Household Database is not available yet, but have inputs** (Medicaid, Basic Food/SNAP, TANF)

- **Will compare Basic Food/SNAP household data to ACS**

- **Expect to see similar numbers and proportions when restrict to the ACS fields that indicate Basic Food/SNAP recipients**
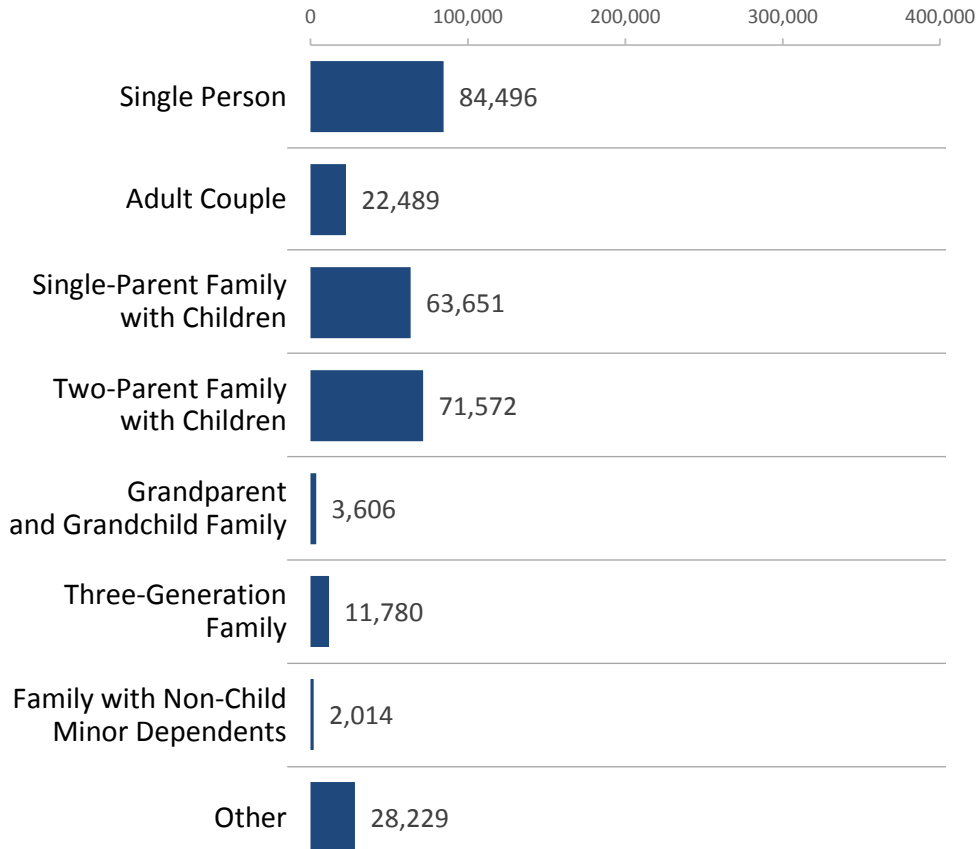
Notes and Methods

- **Assigned a Basic Food/SNAP classification to an ACS household when household BOTH meets Federal Poverty Level criteria (200%) and answers "Yes" to SNAP question**

- **Basic Food/SNAP classification is basic criteria of Administrative data**

- **There are 10% "Other" households in ACS, none in the Administrative data**

- **There are slight discrepancies in the relation of single and couple households to the number of persons in those households**

- **Children classified as under 26 years old because of Affordable Care Act in Washington State (even though Basic Food/SNAP program rules are different)**

- **Administrative data a snapshot in July 2016**

- **Once records classified, used SQL GROUP BY, weighted for ACS data**
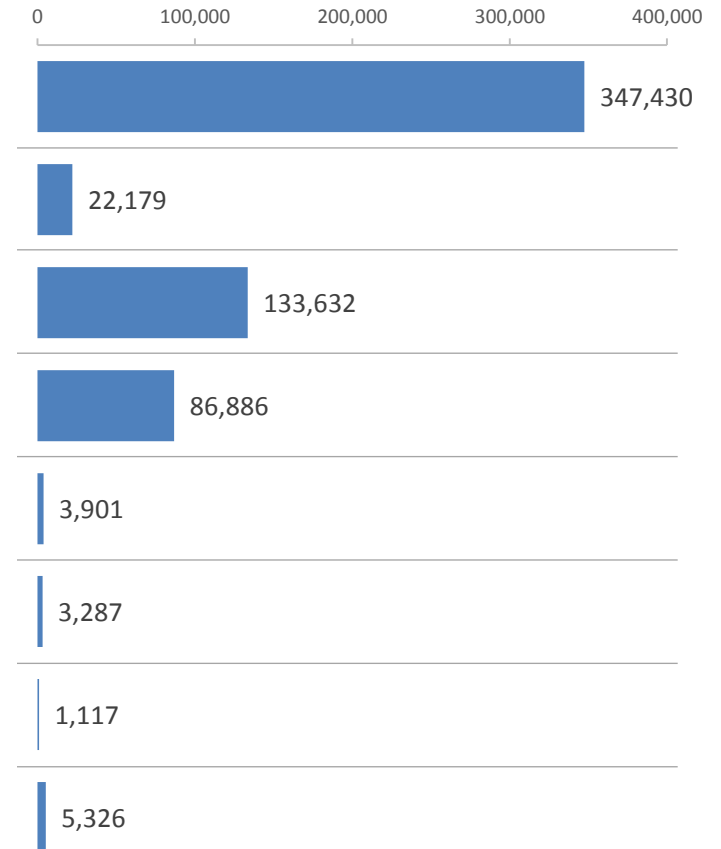
Counts of Households

Household Classification	Count of Households by Type			Percent Households in Each Type		
	ACS, ALL	ACS, BF	Admin BF	ACS, ALL	ACS, BF	Admin BF
Single Person	733,973	84,496	347,430	27.5%	28.9%	57.5%
Adult Couple	722,529	22,489	22,179	27.1%	7.8%	3.7%
Single-Parent Family with Children	201,416	63,651	133,632	7.5%	21.8%	22.1%
Two-Parent Family with Children	676,036	71,572	86,886	25.3%	25.0%	14.4%
Grandparent and Grandchild Family	20,082	3,606	3,901	0.8%	1.3%	0.6%
Three-Generation Family *(Grandparent, Parent, Child)*	48,503	11,780	3,287	1.8%	4.4%	0.5%
Family with Non-Child Minor Dependents *(like nieces)*	8,203	2,014	1,117	0.3%	0.7%	0.2%
Other	258,163	28,229	5,326	9.7%	10.1%	0.9%
TOTAL HOUSEHOLDS	**2,668,905**	**287,837**	**603,758**	**100.0%**	**100.0%**	**100.0%**

Distribution of Households by Household Type

Basic Food/SNAP
American Community Survey

Household Type	Count
Single Person	84,496
Adult Couple	22,489
Single-Parent Family with Children	63,651
Two-Parent Family with Children	71,572
Grandparent and Grandchild Family	3,606
Three-Generation Family	11,780
Family with Non-Child Minor Dependents	2,014
Other	28,229

Basic Food/SNAP
Administrative Data

Household Type	Count
Single Person	347,430
Adult Couple	22,179
Single-Parent Family with Children	133,632
Two-Parent Family with Children	86,886
Grandparent and Grandchild Family	3,901
Three-Generation Family	3,287
Family with Non-Child Minor Dependents	1,117
Other	5,326

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Distribution of Persons by Household Type

Basic Food/SNAP
American Community Survey

Household Type	Value
Single Person	84,537
Adult Couple	45,293
Single-Parent Family with Children	217,476
Two-Parent Family with Children	337,689
Grandparent and Grandchild Family	12,820
Three-Generation Family	66,052
Family with Non-Child Minor Dependents	9,354
Other	85,080

Basic Food/SNAP
Administrative Data

Household Type	Value
Single Person	347,430
Adult Couple	44,358
Single-Parent Family with Children	385,318
Two-Parent Family with Children	391,708
Grandparent and Grandchild Family	10,848
Three-Generation Family	16,696
Family with Non-Child Minor Dependents	3,070
Other	11,730

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Distribution of Households by Household Size

Basic Food/SNAP
American Community Survey

Household Size	Count
One Person	84,496
Two Persons	62,774
Three Persons	46,115
Four Persons	41,079
Five Persons	28,465
Six Persons	15,900
Seven Persons	5,767
Eight Persons	3,241

Basic Food/SNAP
Administrative Data

Household Size	Count
One Person	347,430
Two Persons	90,675
Three Persons	66,141
Four Persons	49,167
Five Persons	28,835
Six Persons	13,327
Seven Persons	4,980
Eight Persons	1,878

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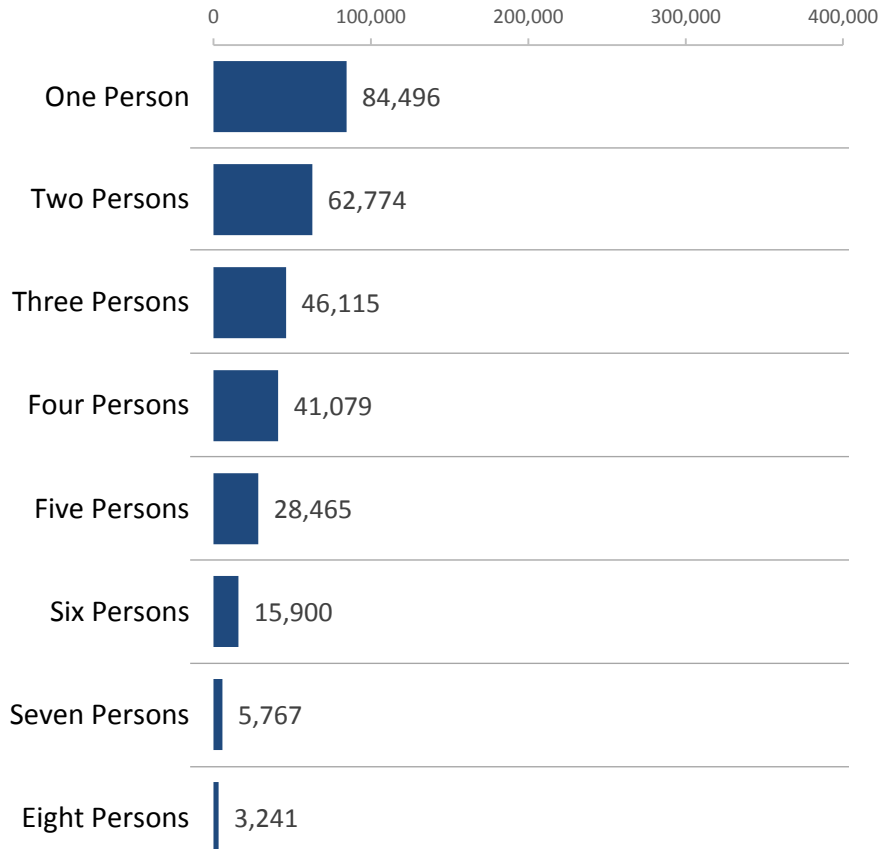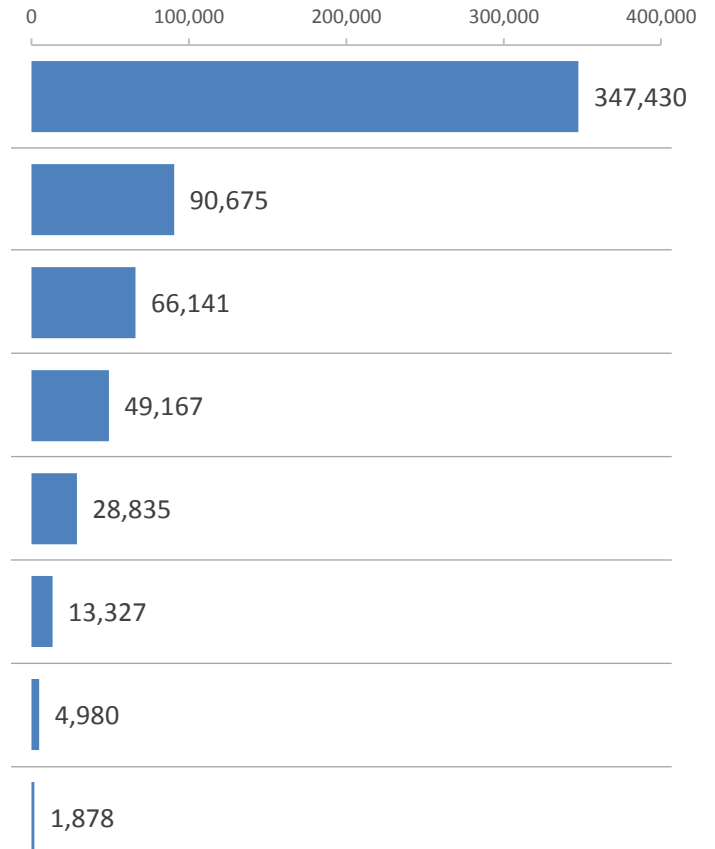
Observations, Implications for Household Database

- **ACS reports overall fewer Basic Food/SNAP recipients**

- **ACS reports FAR fewer single Basic Food/SNAP recipients**

- **ACS three generation household (GP3) higher than administrative data**

- **Basic Food/SNAP data plausible as input stream to Household Database**

- **Would like more information about ACS data quality on FPL and SNAP recipients**

- **Many more comparisons in the future**

Questions?

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