Using population data for aging and life course research

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Minneapolis
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DATA-INTENSIVE RESEARCH CONFERENCE

Pre-conference workshop presented by IPUMS and NDI\textsuperscript{RA}

USA
U.S. Census and American Community Survey microdata from 1850 to the present.

CPS
Current Population Survey microdata including basic monthly surveys and supplements from 1962 to the present.

INTERNATIONAL
World’s largest collection of census microdata with over 100 countries, contemporary and historical.

TIME USE
U.S. and international time use data for 1965 to the present.

HEALTH SURVEYS
Health survey data from the National Health Interview Survey and the Medical Expenditure Panel Survey.
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<th>ATUS</th>
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IPUMS data for aging

Explore Caregiving
- Assistive Devices
- Co-resident Family
- Cultural Competency
- Disability
- Social Isolation
- Technology
- Well-being

Study Relationships
- Adult Children
- Cohabitation
- Divorce
- Grandchildren
- Household Composition
- Marriage
- Multigenerational Households
- Sexuality
IPUMS data for aging

**Research Health**
- Cancer
- Cognitive Difficulties
- Depression/Anxiety
- Diabetes
- Hearing
- Injuries
- Mortality
- Nutrition
- Physical Activity
- Stress
- Vaccination
- Vision

**Analyze Policy**
- Barriers to Care
- Disparities
- Employment
- Health Insurance
- Income
- Medicare
- Military Service
- Service Access & Eligibility
- Transportation

[IPUMS.ORG]
Census and HH surveys for aging research
### IPUMS Data: Features and Characteristics

<table>
<thead>
<tr>
<th>IPUMS Data Projects</th>
<th>USA</th>
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</tbody>
</table>

- Large sample sizes
- Population representative
- Long time spans
Large & representative samples across time and space

- **Disaggregation**
  - Multiple characteristics
  - Subnational geographic units
  - GIS shapefiles available

- **Place comparisons**
  - Policy conditions
  - Social conditions
  - Environmental factors
  - Space + time = treatment effects

- **Interoperability**
  - Surveys <-> censuses
  - Environmental & climate information

- **Stretch methods: estimation**
  - Projections
  - Small area estimation (SAE)
  - Complex calibration
General trends in aging: global

Growth of Population Aged 60 and Older by World Region: 2020 and Projected 2050 (In percent)


Africa Aging: 2020 (USCB, 2020)

Asia Aging (USCB, 2022)
General trends in aging: US

The Current “Diversity Gap” Between the 60+ Population and Younger Generations Will Widen by 2030.

Census for disaggregation

Figure 10. Proportion of older persons living alone by place of residence, based on countries with available data, 2000–2017

Figure 16: Prevalence of disability by type and age, Boston seniors

Source: American Community Survey IPUMS data, 3 year file, 2009-2011. Note: Excludes individuals living in an institutional setting.
More disaggregation

College-Educated Americans Are More Likely to Be in the Labor Force After Age 65.

Labor Force Participation Rates of Older Adults Ages 65-74, by Education and Sex, 2014

Table 2. Percentage with Income Below the Elder Index, Singles Ages 65 and Older, 2019

States with highest rates of economic insecurity among Blacks

<table>
<thead>
<tr>
<th>State</th>
<th>Black or African American</th>
<th>White, non-Hispanic</th>
<th>Disparity (rate among Blacks – rate among Whites)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhode Island</td>
<td>80%</td>
<td>51%</td>
<td>29%</td>
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<tr>
<td>Massachusetts</td>
<td>76%</td>
<td>58%</td>
<td>18%</td>
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<tr>
<td>Mississippi</td>
<td>74%</td>
<td>48%</td>
<td>26%</td>
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<tr>
<td>Louisiana</td>
<td>71%</td>
<td>48%</td>
<td>23%</td>
</tr>
<tr>
<td>South Carolina</td>
<td>70%</td>
<td>44%</td>
<td>26%</td>
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</table>

States with lowest rates of economic insecurity among Blacks

<table>
<thead>
<tr>
<th>State</th>
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<tr>
<td>Oregon</td>
<td>53%</td>
<td>48%</td>
<td>5%</td>
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<tr>
<td>Arizona</td>
<td>53%</td>
<td>41%</td>
<td>12%</td>
</tr>
<tr>
<td>Washington</td>
<td>49%</td>
<td>47%</td>
<td>2%</td>
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<tr>
<td>Nevada</td>
<td>47%</td>
<td>38%</td>
<td>9%</td>
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<tr>
<td>West Virginia</td>
<td>46%</td>
<td>51%</td>
<td>5%</td>
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</table>

U.S. Average 64% 47% 17%

Source: Authors’ calculation based on data from the Elder Index (2019) and American Community Survey (2014-2018, retrieved from Ruggles et al., 2020).

*Includes those with some college but no degree and those with associate’s degrees.


POPULATION BULLETIN 70.2 2015
Spatial disaggregation


ILLUSTRATION 12: TOP AND BOTTOM 25% IN INCOME MAPS, BY WARD, IN D.C.
Combining data: place-based interoperability

About 52.7 percent of senior residents live within 1 km of a Metrorail station.
Combining data: pop-based estimation

Panel A. Estimated prevalence of health conditions

POLICY AND VULNERABLE POPULATIONS

The Burgeoning Health Care Needs of Aging Prisoners

By Hessam Bavafa and Anita Mukherjee

Percent of prisoners with health condition
## IPUMS Data: Features and Characteristics

### Data Projects
- USA
- CPS
- INTERNATIONAL
- TIME USE
- NHGIS
- PMA
- DHS
- HIGHER ED
- MEPS
- NHIS
- IHGIS

### Features
- Microdata
- International

<table>
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<tr>
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</table>
Household structure & family relationships

- **Household size...**
  - Living alone
  - 2 person households
  - Large households

- **... & composition**
  - Couples
  - Living with adult children
  - Multi-generational households
  - Group quarters

- **Family member characteristics**
  - Educational characteristics
  - Employment status
  - Type of work
  - Economic status and earnings
  - Health and disability
  - Migration status

**Implications for**
- Ability to care for ...
- Social interaction (or isolation)
- Economic stability
Women living alone by children ever born

Figure 13. Percentage of older women who live alone, by whether they have ever had children, in countries with available data, 2000–2017 (and other selected samples)

Household structure and older persons. Forthcoming, 2022. UNFPA.
## Household Structure and Family Care Expectations

### Respondents' Expectations About Using Various Sources of Long-Term Service and Support, 2012

<table>
<thead>
<tr>
<th>Living arrangement</th>
<th>Family</th>
<th>Hiring someone</th>
<th>Home health agency</th>
<th>Nursing home or assisted living facility</th>
<th>Other</th>
<th>Multiple sources</th>
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</thead>
<tbody>
<tr>
<td>With spouse only</td>
<td>Ref</td>
<td>0.35***</td>
<td>1.72***</td>
<td>1.78***</td>
<td>2.15***</td>
<td>1.01</td>
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<tr>
<td>Alone</td>
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<td>1.88***</td>
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<td>1.78***</td>
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<td>With spouse and minor children only</td>
<td>1.51***</td>
<td>0.56***</td>
<td>0.91</td>
<td>0.92</td>
<td>0.54***</td>
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<tr>
<td>With minor children only</td>
<td>0.62***</td>
<td>0.71</td>
<td>1.37</td>
<td>1.84**</td>
<td>1.17</td>
<td>0.72</td>
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<tr>
<td>With extended family members or unrelated others</td>
<td>1.25***</td>
<td>0.69***</td>
<td>0.97</td>
<td>1.13</td>
<td>1.01</td>
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### Abstract

Most Americans believe that they will need long-term services and supports and underestimate their likely future needs for such assistance. Using data from the 2012 National Health Interview Survey, we examined expectations about future use of long-term services and supports among adults ages 40–65 and how these expectations varied by demographic characteristics.
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<td>Households &amp; Families</td>
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Age detail

• Precise age information
  – Single year of age
  – Birth year
    (some incl. birth month/day)

• Large Ns in census samples
  – Disaggregation
  – Study small groups
    (e.g. oldest adults)

• Multiple years =
  Follow birth cohorts
  – Study change over life course
  – Generational effects
    early shocks/experiences
    on later life outcomes
  – Location info (BPL/MIG)
    isolate treatment effects
to those who stay
Census for disaggregation: age & sex
# IPUMS Data: Features and Characteristics

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- **USA**: United States
- **CPS**: Current Population Survey
- **INTERNATIONAL**: International Projects
- **TIME USE**: Time Use Survey
- **NHGIS**: National Historical Geographic Information System
- **PMA**: PMA Data
- **DHS**: Demographic and Health Survey
- **HIGHER ED**: Higher Education Data
- **MEPS**: Medical Expenditure Panel Survey
- **NHIS**: National Health Interview Survey
- **IHGIS**: Integrated Housing and Health Information System
Longitudinal, panel, & linked data

• Linking unlocks huge research potential
  – Change over the life course
  – Early life on later outcomes

• Panel data:
  – Sequencing
    (events, decision making, etc.)

  Historical US censuses
  Historical North Atlantic censuses
  CPS/ATUS short term linked
  IHIS/MEPS short term linked

US FSRDC – merge IPUMS with restricted versions
Questions / Comments

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