Using population data for aging and life course research

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University of Minnesota
Minneapolis
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DATA-INTENSIVE RESEARCH CONFERENCE

Pre-conference workshop
presented by IPUMS and NDiRA

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>Health</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.ORG
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
Census and HH surveys for aging research
## IPUMS Data: Features and Characteristics

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

### Features
- **Microdata**
- **International**
- **Earliest Year of Data**
- **Geographic Detail**
  - Large sample sizes
  - Population representative
  - Long time spans

<table>
<thead>
<tr>
<th>Data Project</th>
<th>Microdata</th>
<th>International</th>
<th>Earliest Year of Data</th>
<th>Geographic Detail</th>
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<td>1963</td>
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<td>1960s</td>
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Population censuses and surveys for

- **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

- **Household environment**
  - Family interrelationships

- **Stretch methods: estimation**
  - Projections
  - Small area estimation (SAE)
  - Complex calibration

NDiRA

IPUMS.ORG
Disaggregation: general global trends

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)
Disaggregation: general U.S. trends

Disaggregation examples 1

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.
Disaggregation examples 2

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

<table>
<thead>
<tr>
<th>States with highest rates of economic insecurity among Blacks</th>
<th>Black or African American</th>
<th>White, non-Hispanic</th>
<th>Disparity (rate among Blacks – rate among Whites)</th>
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<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>
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<tr>
<td>South Carolina</td>
<td>70%</td>
<td>44%</td>
<td>26%</td>
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</table>

<table>
<thead>
<tr>
<th>States with lowest rates of economic insecurity among Blacks</th>
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<th>White, non-Hispanic</th>
<th>Disparity (rate among Blacks – rate among Whites)</th>
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<tbody>
<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>
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<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>31%</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>

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

PLACE: IPUMS facilitates spatial disaggregation


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

Illustration 6: D.C. Seniors Access to Major Transit

About 52.7 percent of senior residents live within 1 km of a Metrorail station

Seniors without access to Metro Stations

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

https://doi.org/10.1257/pandp.20191089
### IPUMS Data: Features and Characteristics

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**IHGIS**
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
Household structure, living alone

Percentage of persons aged 65 year or over who live alone, by country or area of residence, 2006-2015

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

By Carrie E. Henning-Smith and Tetyana P. Shippee

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>
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<td>Ref</td>
<td>1.7***</td>
<td>2.15***</td>
<td>1.01</td>
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<td>Alone</td>
<td>0.35***</td>
<td>1.88***</td>
<td>1.7***</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>
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<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>
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<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>
<td>1.07</td>
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ABSTRACT Most Americans do not expect to use 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 and socioeconomic characteristics.
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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
EDITOR’S CHOICE
The Uneven Later Work Course: Intersectional Gender, Age, Race, and Class Disparities
Phyllis Moen, PhD, Sarah M Flood, PhD, Janet Wang, BS
# IPUMS Data: Features and Characteristics

## IPUMS Data Projects

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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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