

Applications of the Demographic Frame in the 2030 Census

AAPOR | 5/16/24

Roxana West
Person Frame Branch
Decennial Census Management Division
U.S. Census Bureau

Any views expressed are those of the authors and not those of the U.S. Census Bureau.

The Census Bureau's Disclosure Review Board and Disclosure Avoidance Officers have reviewed this information product for unauthorized disclosure of confidential information and have approved the disclosure avoidance practices applied to this release. (Data Management System (DMS) number: P-7528420, Disclosure Review Board (DRB) Approval Number:

Agenda



Demographic Frame in the 2030 Census

Potential Administrative Data Uses in the 2030 Census

Testing and Evaluating the Demographic Frame for 2030 Census Uses

2030 Plans for the Demographic Frame

- The Demographic Frame is a comprehensive, person-level frame consisting of demographic, social, and economic characteristics for use in censuses and surveys, as well as development of other data products.
 - The 2030 Census Program plans to use the Demographic Frame, enhanced with decennial-specific data and/or data elements that are not needed by the entire Census Bureau.
 - The 2030 Census research teams are actively collaborating with the Demographic Frame team to identify potential gaps or enhancements, and ways to address them.

Research into Administrative Data for 2030 Census

- The 2030 Census will continue to build upon the 2020 Census innovations around administrative data to streamline data collection and minimize respondent burden.
 - The Census Bureau is actively working to expand its administrative data repository by identifying and acquiring new administrative data sources, such as driver's license data and utility data.
 - Many of the research areas for the 2030 Census are working on ways to expand the application of administrative data and improve administrative data methodologies.

Examples of Research into Administrative Data Uses for 2030 Census

Tailored Contact Strategies

- Using administrative data to research targeted messaging and methods for populations
- Researching the relationship between administrative data quality and a likelihood of responding score

In-Office Enumeration

- Using administrative data to recommend enumerating housing units that do not self-respond, improving the efficiency of in-field enumeration by reducing workloads, and helping to inform mail strategy

Near Real-Time Processing

- Whether administrative data can resolve discrepancies in household size on a response
- Using administrative data to aid in resolving person duplication

Examples of Research into Administrative Data Uses for 2030 Census

Improving Proxy Responses

- Comparing the quality and completeness of data collected from proxy respondents to administrative data

Characteristic Imputation

- Determining if the Census Bureau can potentially use better statistical approaches and administrative data to compensate for missing data

Improving Within Household Coverage

- Using administrative data to identify and correct potential coverage issues including reducing the undercount of young children

Examples of Research into Administrative Data Uses for 2030 Census

Post-Enumeration Survey (PES)

- Determining to what extent fieldwork for a post-enumeration survey can be replaced with other data sources (such as administrative data)

Determining Occupancy Status

- Identifying whether new sources of administrative data, such as utility data and real estate website data, can be used to determine whether a housing unit has a high likelihood of being vacant

Examples of Research into Administrative Data Uses for 2030 Census

Response Data Quality

- Determining how administrative data modeling can be incorporated into Targeted Quality Improvement (TQI)
- Identifying how administrative data can be used to select cases that are potentially falsified or are of poor quality

Puerto Rico and Island Areas

- Determining whether administrative data can be used in Puerto Rico and the Island Areas

Frame Testing and Evaluation for 2030 Census

Assessing the current inventory of administrative data to identify areas of improvement.

Identifying and acquiring new, trusted administrative data sources to meet these areas of improvement, such as state-level data sources (e.g., vital records).

Current frame testing/evaluation research includes:

Identifying reliable data sources for operations that did not use administrative data in the 2020 Census.

Assessing the potential gaps in Demographic Frame for 2030 Census purposes.

Initial Results: Comparing 2020 Census to the Demographic Frame

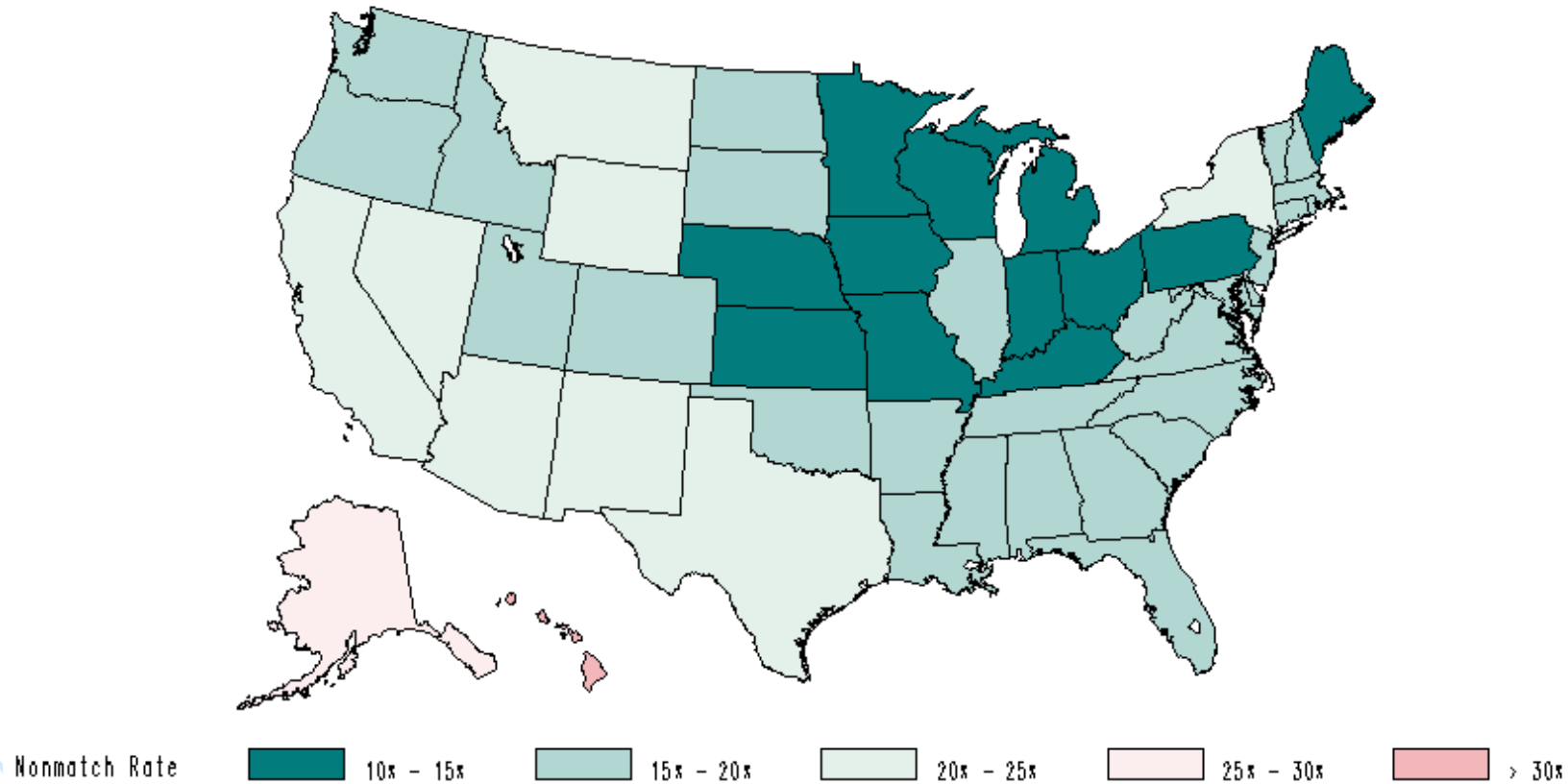
- When compared to the 2020 Census universe, we found a reasonably high Protected Identification Key (PIK) coverage.
- We also observed data-defined persons in the 2020 Census universe without a valid PIK.
 - These persons showed higher rates of item nonresponse for age, and higher rates of Nonresponse Followup responders
 - Nonresponse Followup responders had higher rates of proxy responders who were neighbors, followed by landlords or property managers.

Initial Results: Comparing 2020 Census to the Demographic Frame

- We also observed data-defined persons from the 2020 Census universe that had a valid PIK but did not link to the Demographic Frame.
 - Of these persons, they showed higher rates of persons of ages 55+, higher rates of self-response, and higher rates of item nonresponse for race.
- Areas have been identified, across the United States, where we could improve PIK coverage by either incorporating additional administrative records or improving the PIKing process.

Initial Results: Comparing 2020 Census to the Demographic Frame

State-Level: Nonmatch Rates



Sources: 2020 Census Unedited File; Demographic Frame
Disclosure Review Board (DRB) approval number: CBDRB-FY23-0430

Next Steps

- Continue evaluation of the Demographic Frame for 2030 Census uses.
- Begin non-PIK'ed 2020 Census responses evaluation to determine:
 - Whether non-PIK'ed responses are already in the PIK'ed universe;
 - If we can create a stable identifier for Non-PIK'ed responses using a different record linkage process; and
 - If we can incorporate the tools in this analysis in our standard record linkage pipeline.
- Evaluate additional data sources to increase coverage and work with staff who are apply the data for various uses.
- Use the information learned to inform the 2030 Census Design.

QUESTIONS?

For more information, please
contact Roxana West at
roxana.west@census.gov

