

2020 Census: Researching the Use of Administrative Records During Nonresponse Followup

Thomas Mule
U.S. Census Bureau

July 31, 2014
International Conference on Census Methods



U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

Outline

- Census 2020 Planning
- Background on Decennial Nonresponse Followup (NRFU) Operation
- Researching Application of Administrative Records Usage for NRFU
- 2013 Census Testing Results
- Ongoing Research



U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

2020 Census Planning

Researching and testing toward a design that has potential to

- Significantly reduce costs while
- Maintaining commitment to quality.

2020 Census Planning

Researching options to meet this challenge

- Reengineering Address Canvassing
- Optimizing Self-Response
- Reengineering Field Operations
- Utilizing Administrative Records

2020 Census Research and Planning Phase

- Census 2020 Research and Planning Phase
 - Focus on research on utilizing Administrative Records to reduce NRFU contacts
 - Other research is examining usages of administrative records for adaptive interviewing, address canvassing, race and Hispanic origin reporting and others.
- Researching and identifying possible designs during this phase
 - In future, Census 2020 approach will be determined
 - Census 2020 approach will require necessary approvals



U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

Census Nonresponse Followup Background

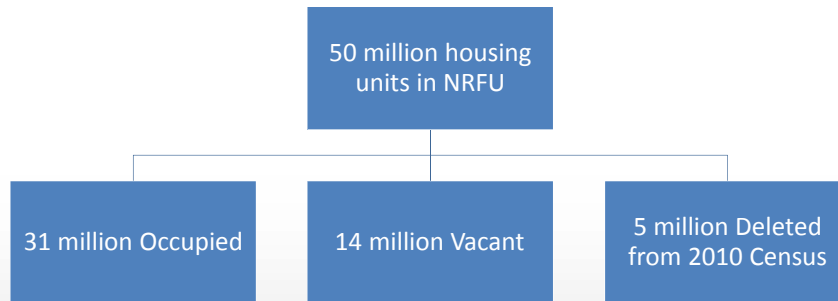
2010 Census

- Questionnaires delivered to housing units
- People asked to respond by mailing back questionnaire
- Nonresponding housing units required follow up.
- Largest and most expensive Census 2010 operation
- \$2 billion in interviewer costs (salary, training, benefits, mileage)
- Does not include overhead like infrastructure



U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

2010 Census NRFU Background Magnitude and Statuses



United States
Census
Bureau

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

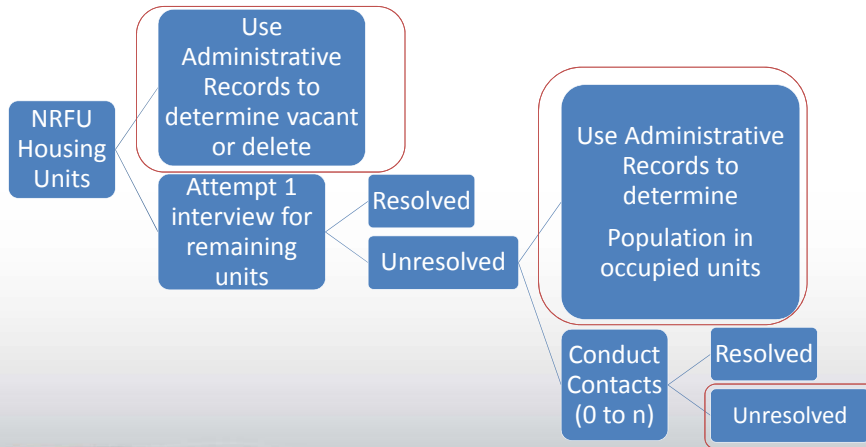
Administrative Records Decentralized Statistical System

- Federal sources
 - Internal Revenue Service, Social Security Administration,
 - United States Postal Service
- State sources
 - Supplemental Nutrition and Assistance Programs (SNAP)

United States
Census
Bureau

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

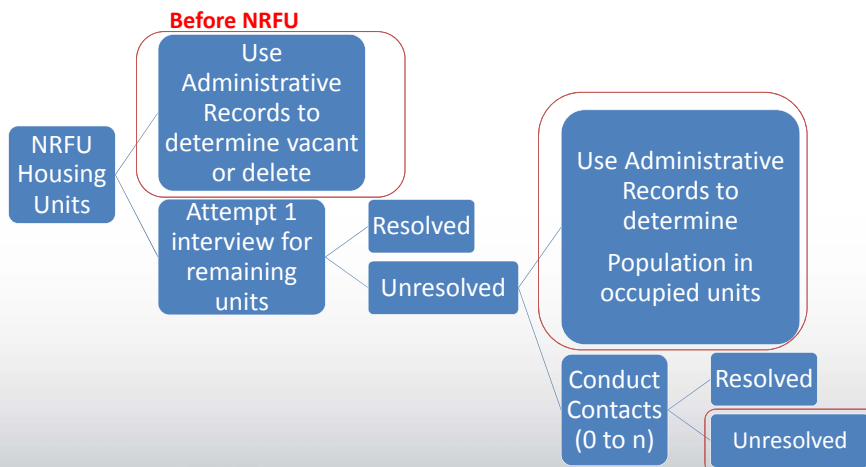
2020 Census Research Application Possible Approach



United States
Census
Bureau

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

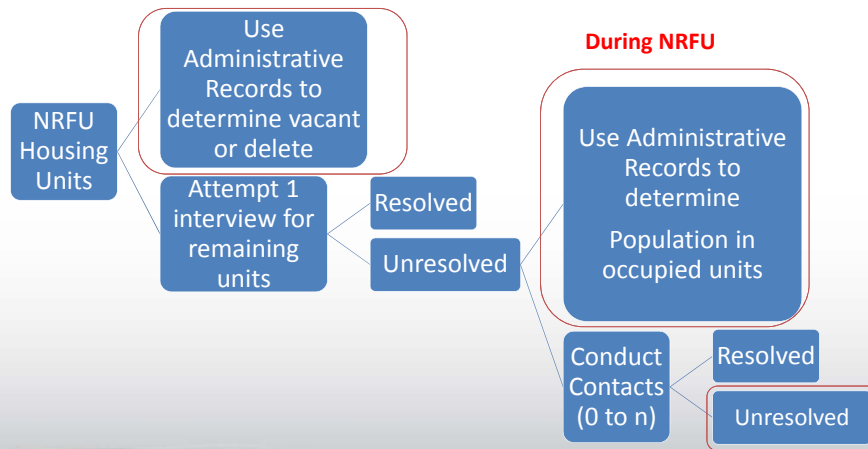
2020 Census Research Application Possible Approach



United States
Census
Bureau

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

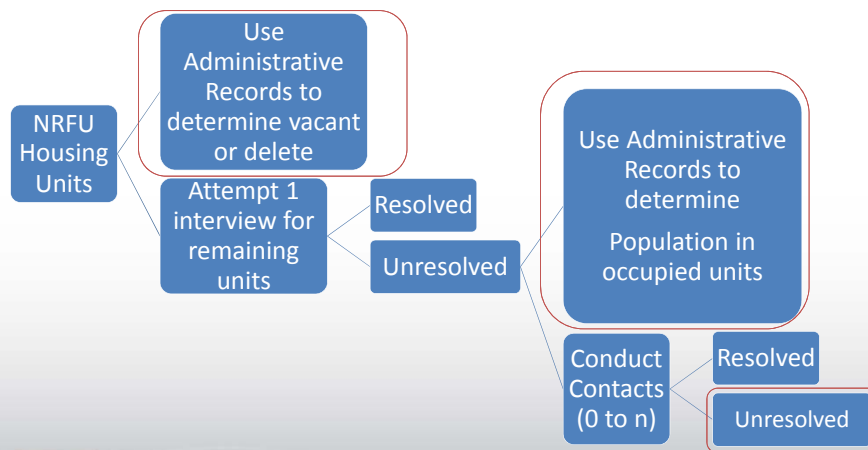
2020 Census Research Application Possible Approach



United States
Census
Bureau

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

2020 Census Research Application Possible Approach



United States
Census
Bureau

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

2013 Census Test

- A sample of about 2,000 Nonresponding Housing Units from the last Census.
- Philadelphia, Pennsylvania
- No self-response. Just only enumerator visit
- October to December, 2013

Flagging Occupied Units

- Three administrative record (AR) sources from 2011 and 2012
 - IRS Individual Taxpayer Returns (IRS 1040)
 - Medicare Enrollment Database (MEDB)
 - Targus Federal Consumer (TFC)
- Two Rules Applied Separately for each AR source
 - People must be the same across two years
 - All persons must be validated by Bureau processing
- Units satisfying these two rules for a given AR source are flagged as occupied.
- Some units are flagged by a single AR source, some units are flagged by multiple AR sources.

Flagging Vacant Units

- Postcard mailed to sample addresses
- United States Postal Service collects reasons for undeliverable as addressed (UAA)
- Units with a) UAA-Vacant reason code flagged as vacant and b) no occupied records

Note: Records with conflicting occupied administrative records and UAA-Vacant were sent to field.

2013 Census Test Comparing Administrative Record Processing to Fieldwork

Treatment Description	Overall Total	Administrative Occupied Flag	Administrative Vacant Flag
2 – Fixed contact strategy, no Adrec Removal	510	150	31
4 – Adaptive Design, no Adrec removal	528	152	71
Total Units	1,038	302	102

Using Administrative Record Information to Identify Occupied Housing Units

- 302 units with occupied flag set:
 - 86% were occupied when a field interview occurred
- Among units with occupied flag set and were occupied during the field interview (the 86%):
 - AR count only composed of persons from identifying AR source(s)
 - 66% had an AR count within one person of the field count
 - 24% had an AR count at least two persons less than the field count

Using Administrative Record Information to Identify Vacant Housing Units

- 102 units with vacant flag set:
 - 76% were vacant when a field interview occurred
 - 96% were unoccupied (vacant or delete) when a field interview occurred
- Future Research Question:
 - Are there additional covariates we can incorporate to better distinguish between vacant and deletes when a vacant reason code exists?

Census Tests

- 2014 Census Test
 - Parts of District of Columbia and Montgomery County, MD
 - Census Day: July 1, 2014
- 2015 Census Test
 - Being planned
 - Census Day: April 1, 2015

Some Ongoing Research

Using and assessing administrative records in place of NRFU visits

- 2010 Census
- 2010 Census Coverage Measurement Results
- American Community Survey

Administrative Records Fitness For Use Research

- Assignment of characteristics
- Hard-to-count population analysis

Imputation research

- Improve imputation using administrative record information

Thank you

Vincent.t.mule.jr@census.gov

United States
Census
Bureau

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

21