

# Are proxy responses better than administrative records?

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# 2020 Census research

- Goals: reduce cost & improve data quality
- Designed to support fundamental changes in design, implementation, & management
- Includes exploring uses of commercial & federal administrative records
  - Creation of address list
  - Nonresponse Followup (NRFU) of addresses with no self-response via mail or Internet

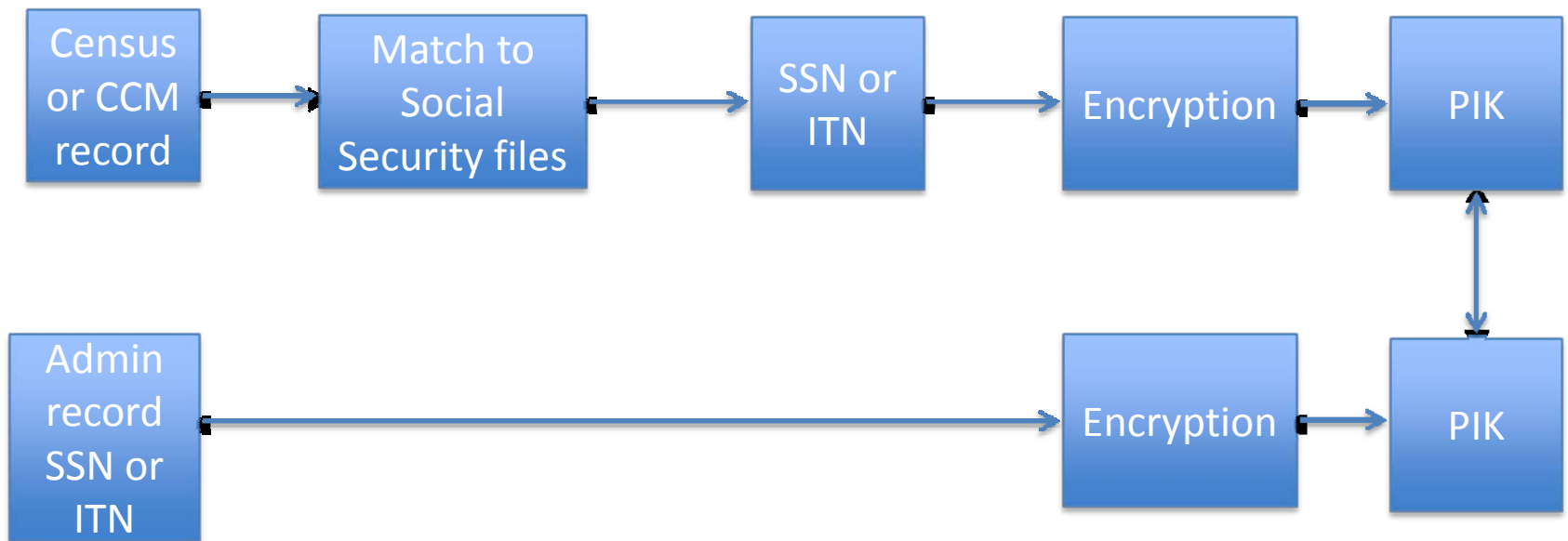
# Our research questions

- Are proxy responses more or less accurate than admin records?
- Does the quality of proxy responses vary by
  - number of prior NRFU contact attempts?
  - quality of admin records available for HU?
  - geographic & socio-demographic characteristics of area?

# Data for our study

- Census proxies: 2010 NRFU data
- Admin records:
  - IRS 1040s filed in all of 2010
  - Medicare records from all of 2010
- To compare, need ‘gold standard’
- Construct ‘gold standard’ using 2010 Census Coverage Measurement Program (CCM) data for sample of block clusters
  - Block clusters are adjacent blocks grouped to have at least 30 HUs

# Assignment of Protected Identification Keys (PIKs) for matching between census & CCM records and admin records



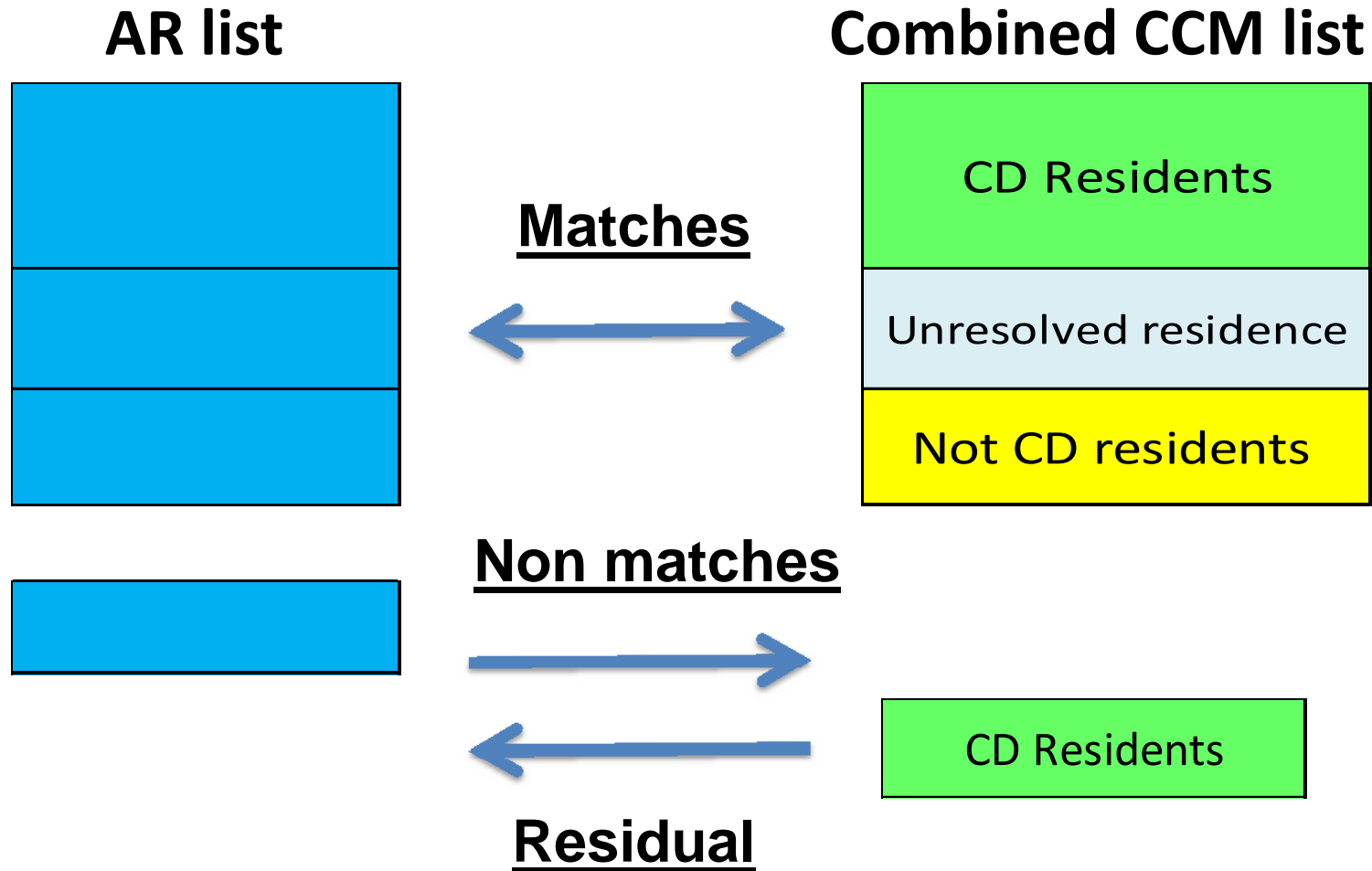
# CCM qualifies for ‘gold standard’

- CCM sample data receives intensive evaluation for use in coverage error estimation
- Overlapping samples of enumerations (E) and independent list (P) in sample of blocks clusters
- Case-by-case electronic & clerical matching
  - Household-based matching, not using PIKs
- Nationwide electronic search of census to find duplicate enumerations
- Field followup to resolve ambiguities

# Merge E & P sample lists to create combined CCM list

- Residents of CCM blocks on Census Day
  - Census enumerations in correct block cluster
  - P sample people not in the census
- Not residents of CCM blocks on Census Day
  - Census enumerations in wrong block cluster
  - P sample people on roster but not residing in sample block on Census Day
- Unresolved residence on Census Day
  - E sample unresolved residence
  - P sample unresolved residence

# Outcomes of AR – CCM matching



Occupied HUs with no census, P sample or AR records

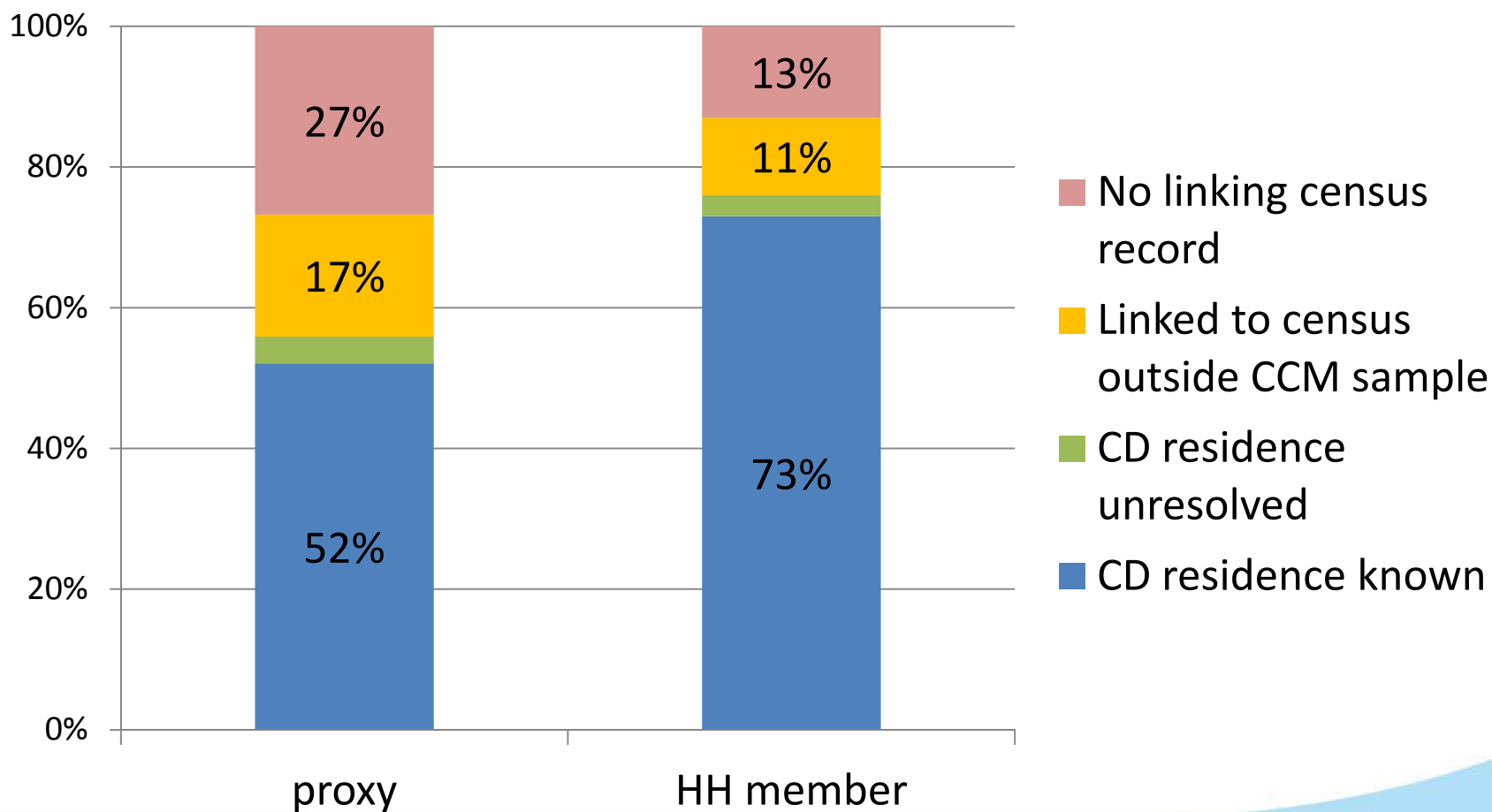


# Number of records in NRFU HUs in CCM sample by type of respondent

(unweighted)

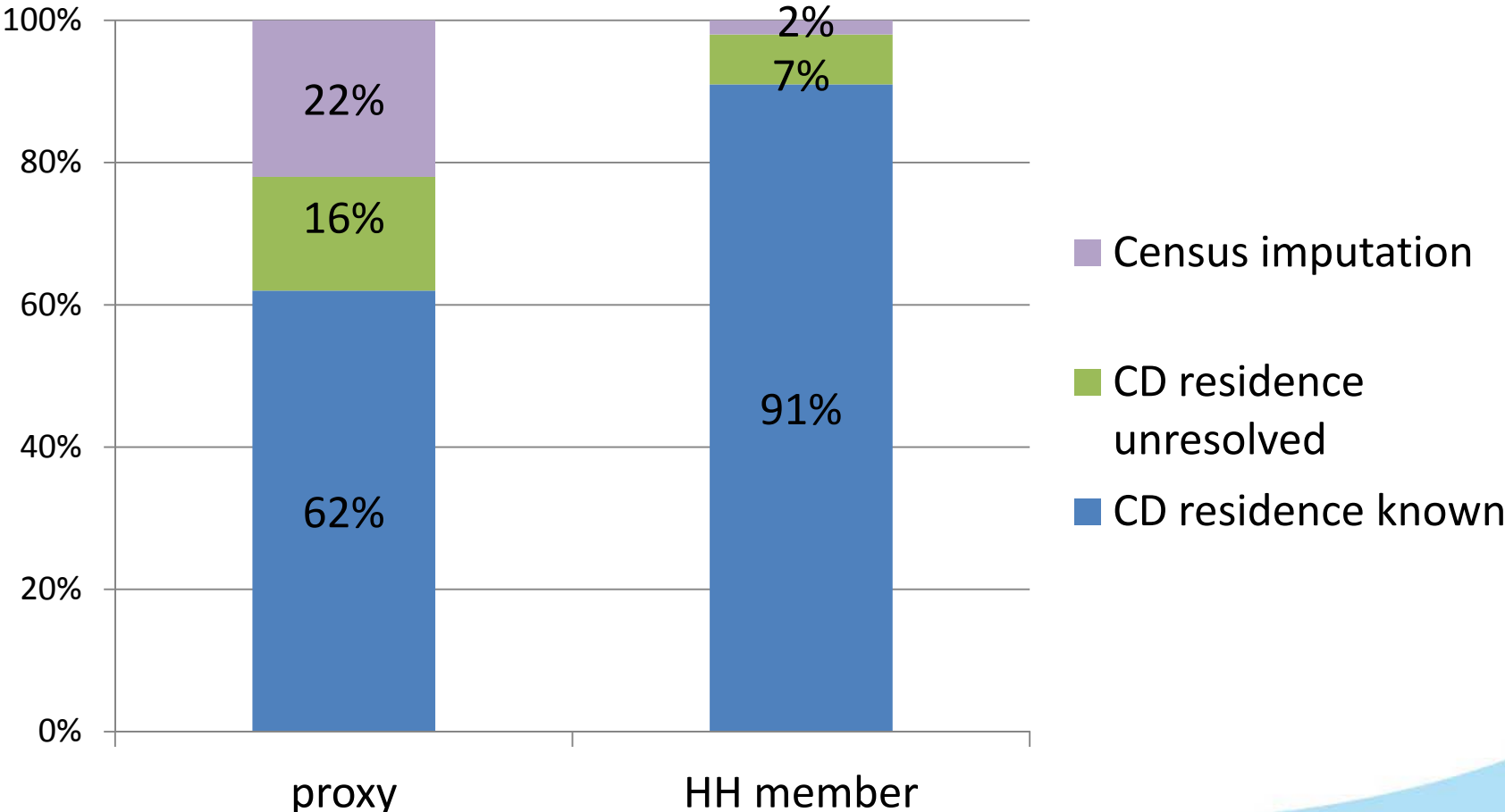
	<u>Admin records</u>	<u>NRFU</u>
proxy	12,880	11,766
<u>HH member</u>	<u>50,876</u>	<u>51,485</u>
total	63,756	63,251

# Distribution of "Gold standard" residence status for Admin records linked to NRFU HUs (unweighted)

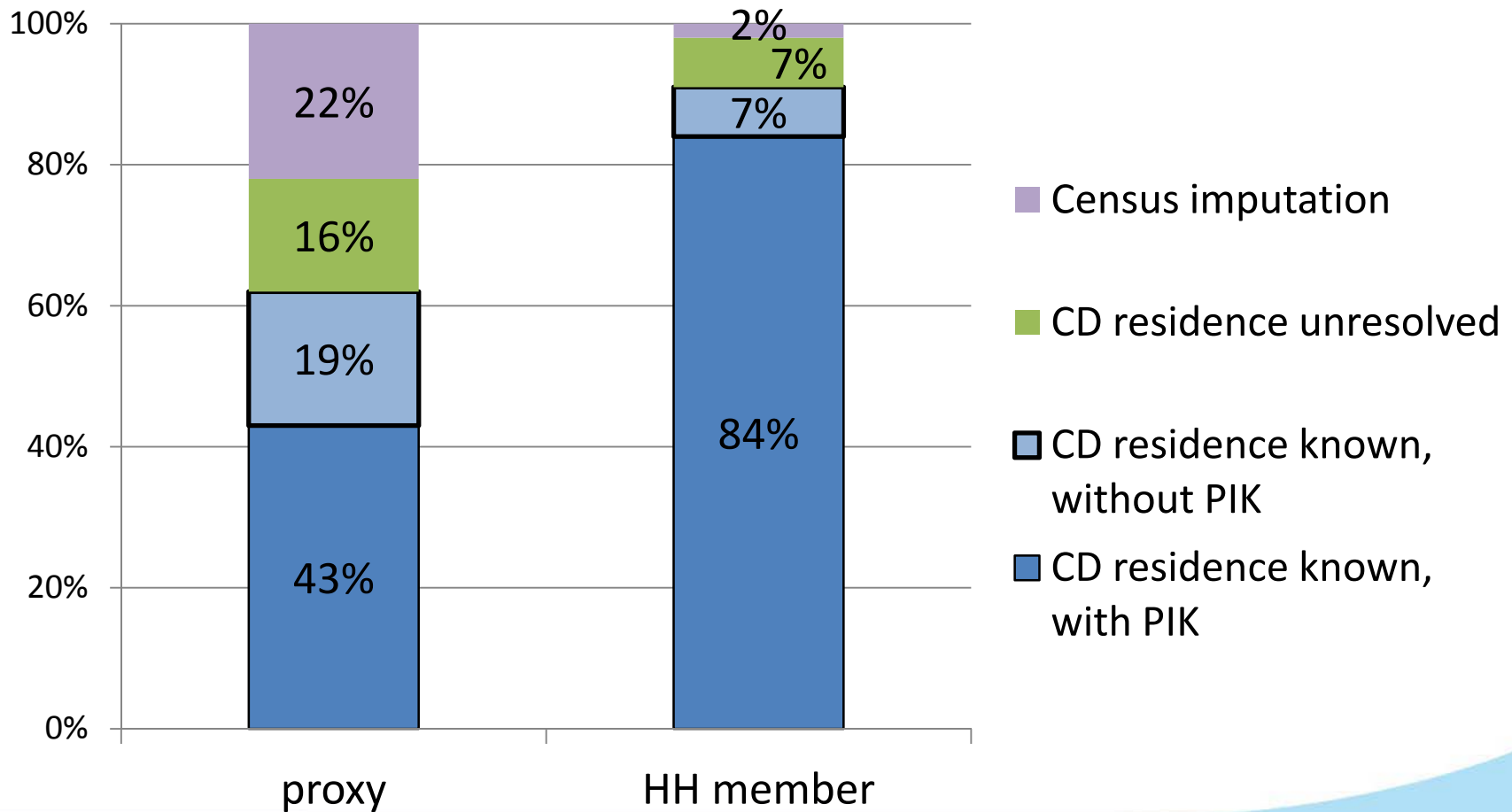


# Distribution of "Gold standard" residence status for Census in NRFU HUs

(unweighted)



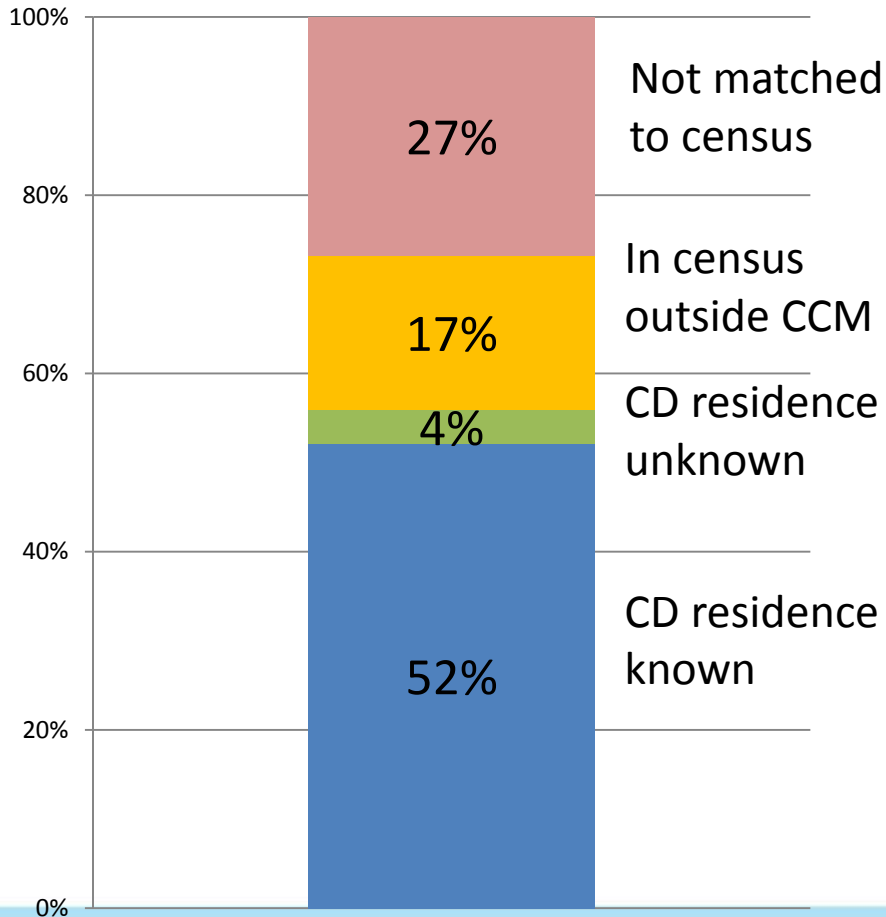
# For some NRFU records, CCM determined CD residence, but they did not get a PIK (unweighted)



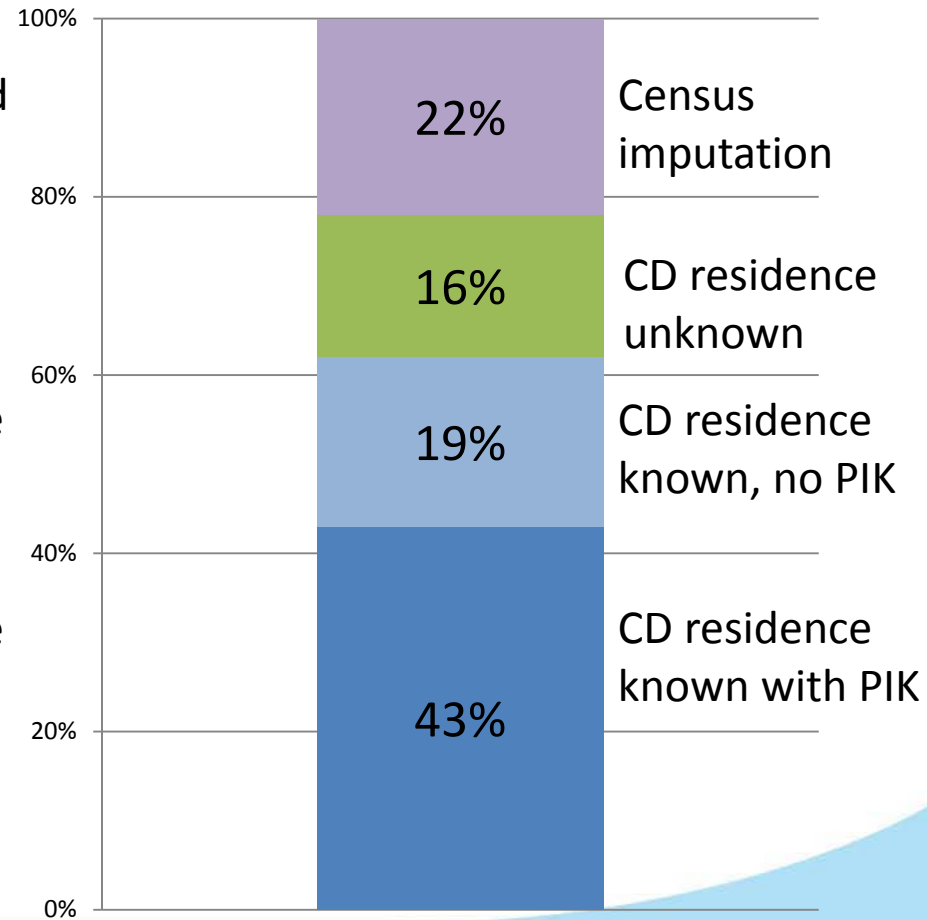
# Records in NRFU proxy HUs

(unweighted)

## Admin records



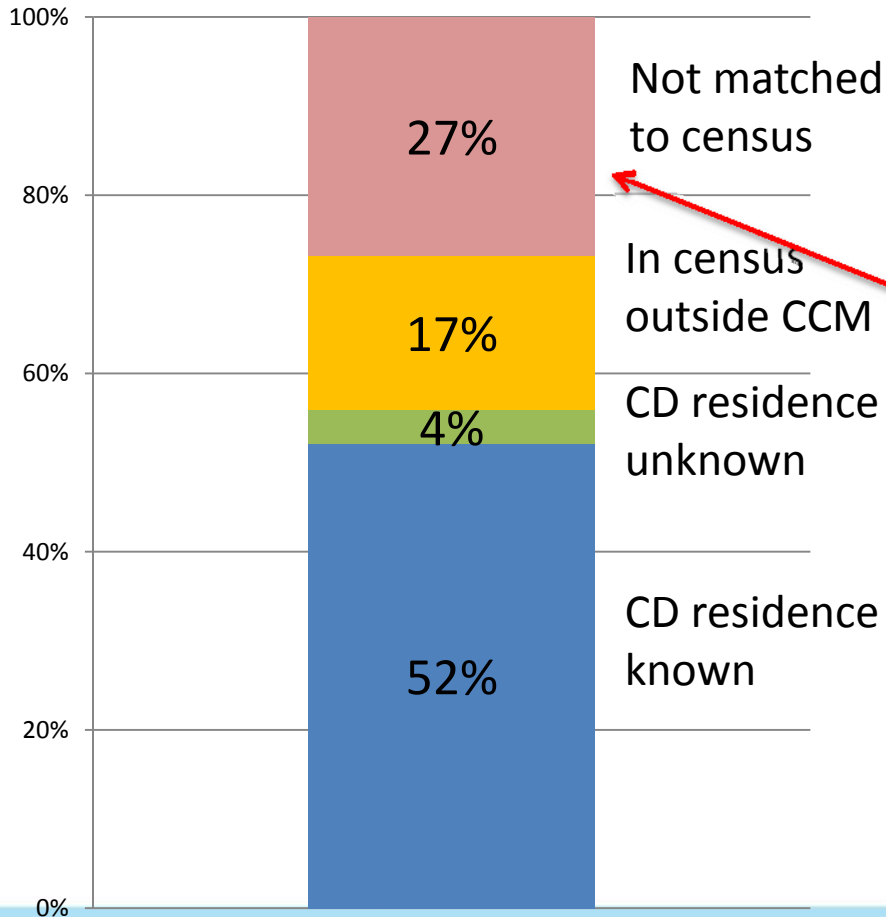
## NRFU



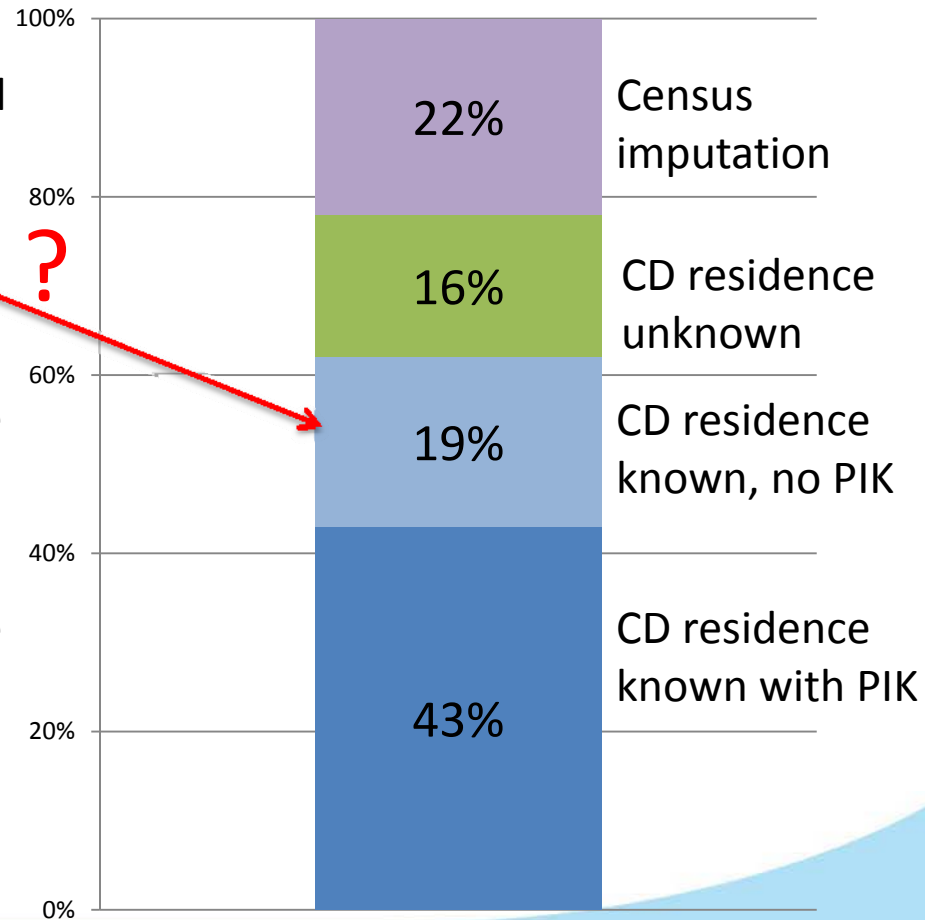
# Records in NRFU proxy HUs

(unweighted)

## Admin records



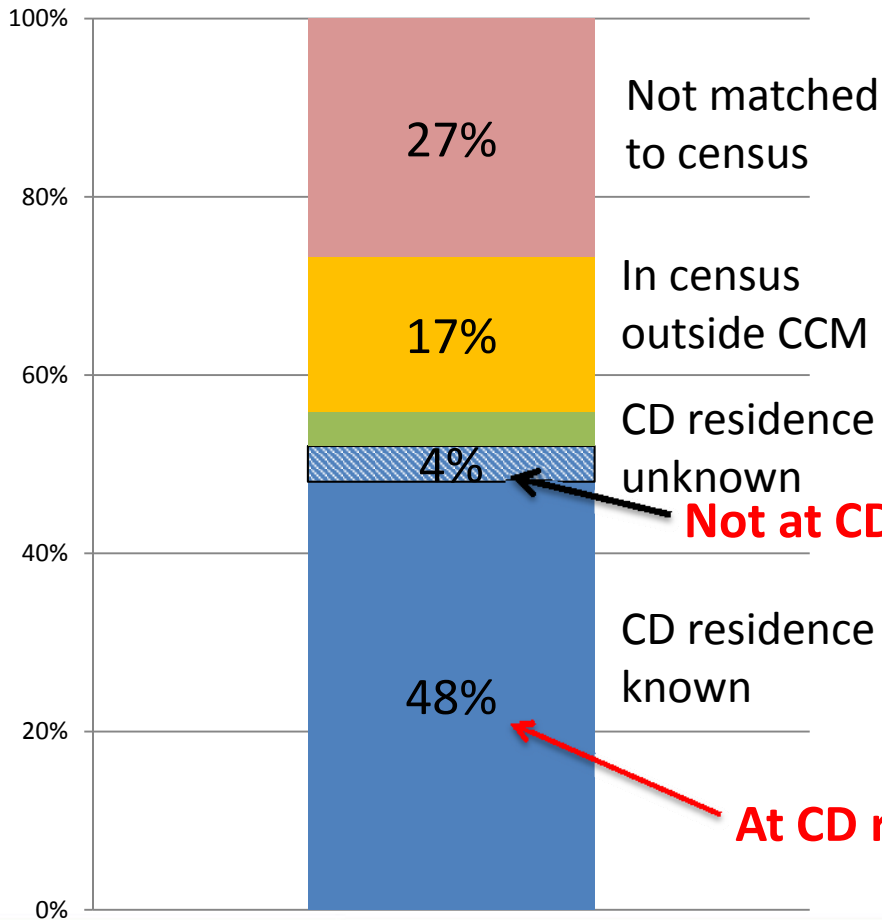
## NRFU



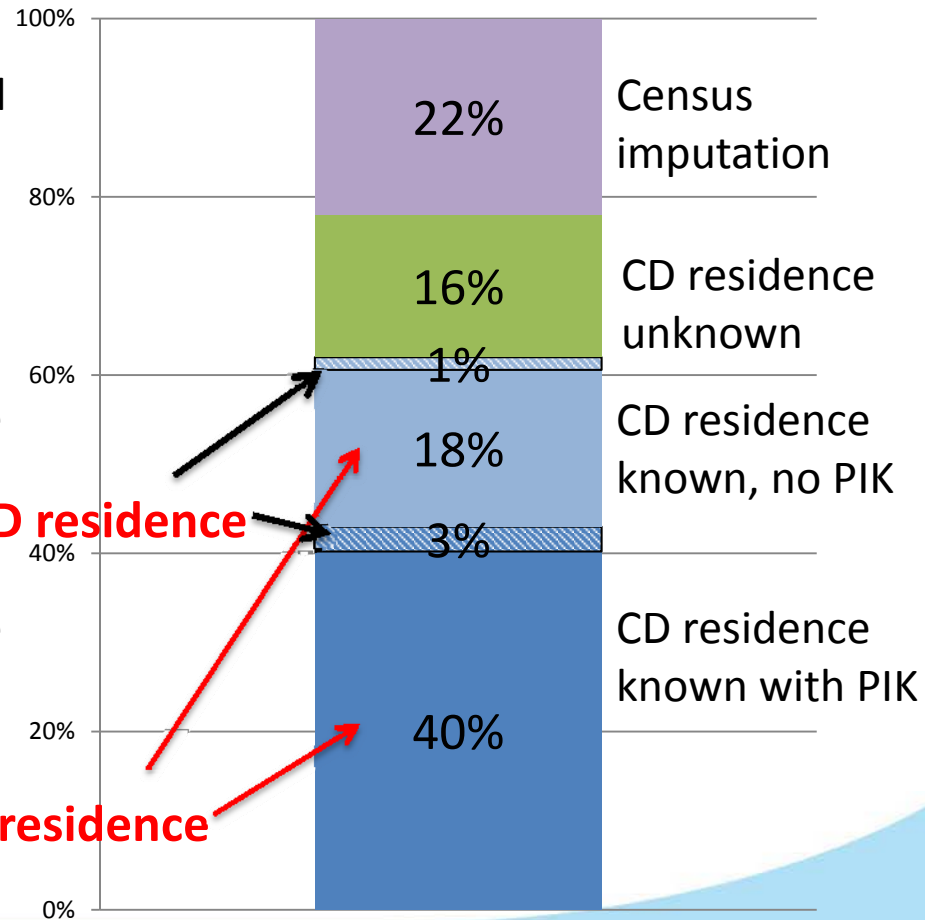
# Records in NRFU proxy HUs

(unweighted)

## Admin records



## NRFU



# Summary

- Are proxy responses more or less accurate than admin records?
  - Answer is not as straightforward as it sounds
  - Evaluation requires admin record PIK to match PIK for resolved record in combined CCM
  - Large % of AR records can not be evaluated
    - 48% of records from proxy responses
    - 27% from HH member responses
  - If CD residence known, both AR and NRFU with PIKs have high % CD residents in CCM blocks
    - Also true for NRFU with no PIK



# Next steps

- Does the quality of proxy responses vary?  
To answer, will examine
  - weighted results in addition to unweighted results
  - characteristics of correct person admin records
  - relationship between number of prior contact attempts and correct proxy responses
- Identify characteristics of NRFU HUs where all admin records are Census Day residents
  - Method: decision trees

# Contact

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