

Using Administrative Records and the 2010 Census to Assess the Characteristics of Undercounted Young Children

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Background

- In many countries, children under age five are undercounted in surveys and censuses.
- In the US, the net undercount of children under age five was 4.6 percent in the 2010 Census.
- The persistent undercount of young children impacts federal funding for child-related programs, such as healthcare and childcare programs.

Previous Research

- Multiple factors implicated:
 - Type of housing unit, household composition, child characteristics.
- Children under five more likely than older children to be in living arrangements, households and communities that are hard-to-count.
 - Households with young children may be missed
 - Young children may not be reported
- Strategies for improving coverage in 2020 include better understanding of reasons young children may be undercounted.

Frequently Used Acronyms

- **AR** – Administrative records are collected by federal and state governments in the course of providing services to program participants
 - May supplement Census data collection efforts
 - Children are not covered as well as adults
- **PIK** – Unique **Protected Identification Key** assigned to each individual based on personal identifiers using probability record linkage techniques
 - PIKs not assigned to individuals with insufficient information
- **MAFID** – **Master Address File Identification** number is an address identifier assigned to each housing unit. A housing unit may contain unrelated individuals or more than one family.
 - Some AR files do not contain MAFID
- Matching children across datasets at the individual (PIK) and housing unit (MAFID) levels are two dimensions that provide different information about a child's characteristics and socioeconomic context.

Research Questions

What information can AR provide about the characteristics of children not covered in censuses?

- Are undercounted young children missed within housing units that are covered in Census or is the whole housing unit missed?
- What can we learn from AR about the characteristics of unreported young children and of housing units with unreported young children?

Administrative Records Composite

- Two different files from Internal Revenue Services (IRS)
- Three files from Housing and Urban Development (HUD)
- Medicare (MEDB) and Medicaid (MSIS)
- Indian Health Service (IHS)
- National Change of Address (NCOA)
- Temporary Assistance for Needy Families (TANF)
- Numerical Identification System (Numident)
- Previous Census Records
- Third party data from four vendors
- 2011 Master Address File (MAF) extract

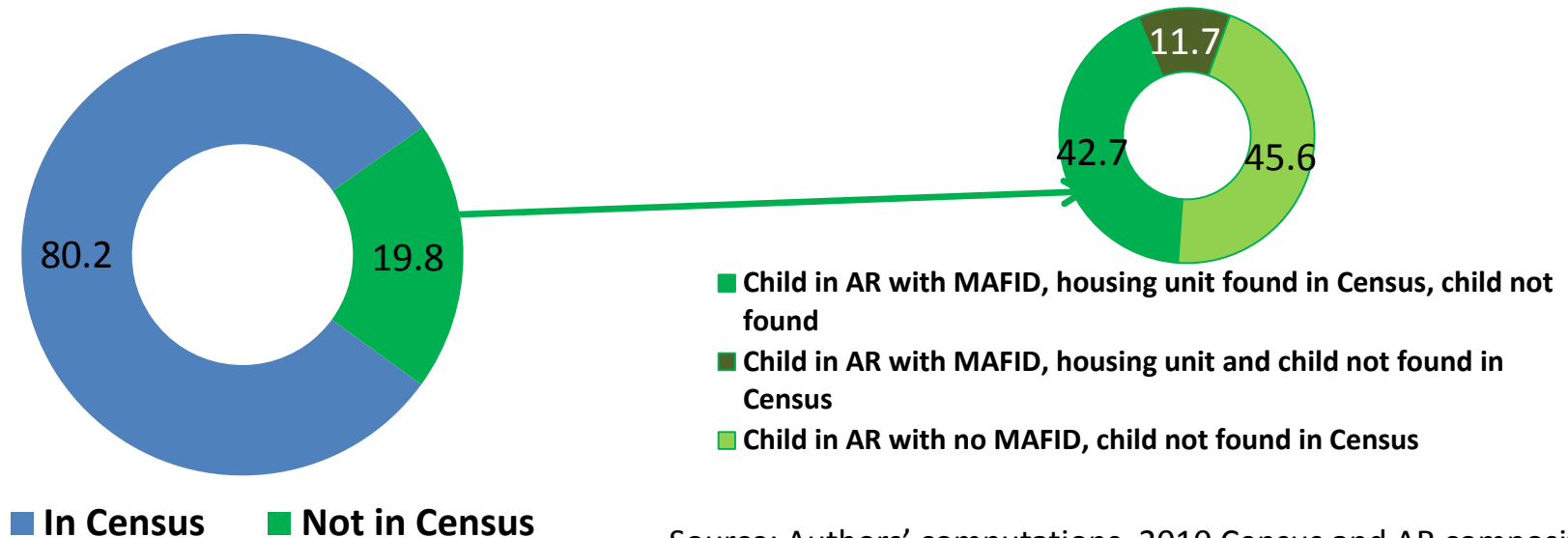
Methodology

- Children in AR under age five as of April 1, 2010, linked to
 - the 2010 Census by PIK and by MAFID
 - the 5-year American Community Survey (ACS) 2006-2010 by PIK
- In AR, all children have a PIK; 77.5 percent have a MAFID
- In Census, all children have a MAFID; 90 percent have PIK
- UnPIKed children in Census more likely to be racial minorities and Hispanic than those with a PIK

Are undercounted children under five missed within housing units or is the whole housing unit missed?

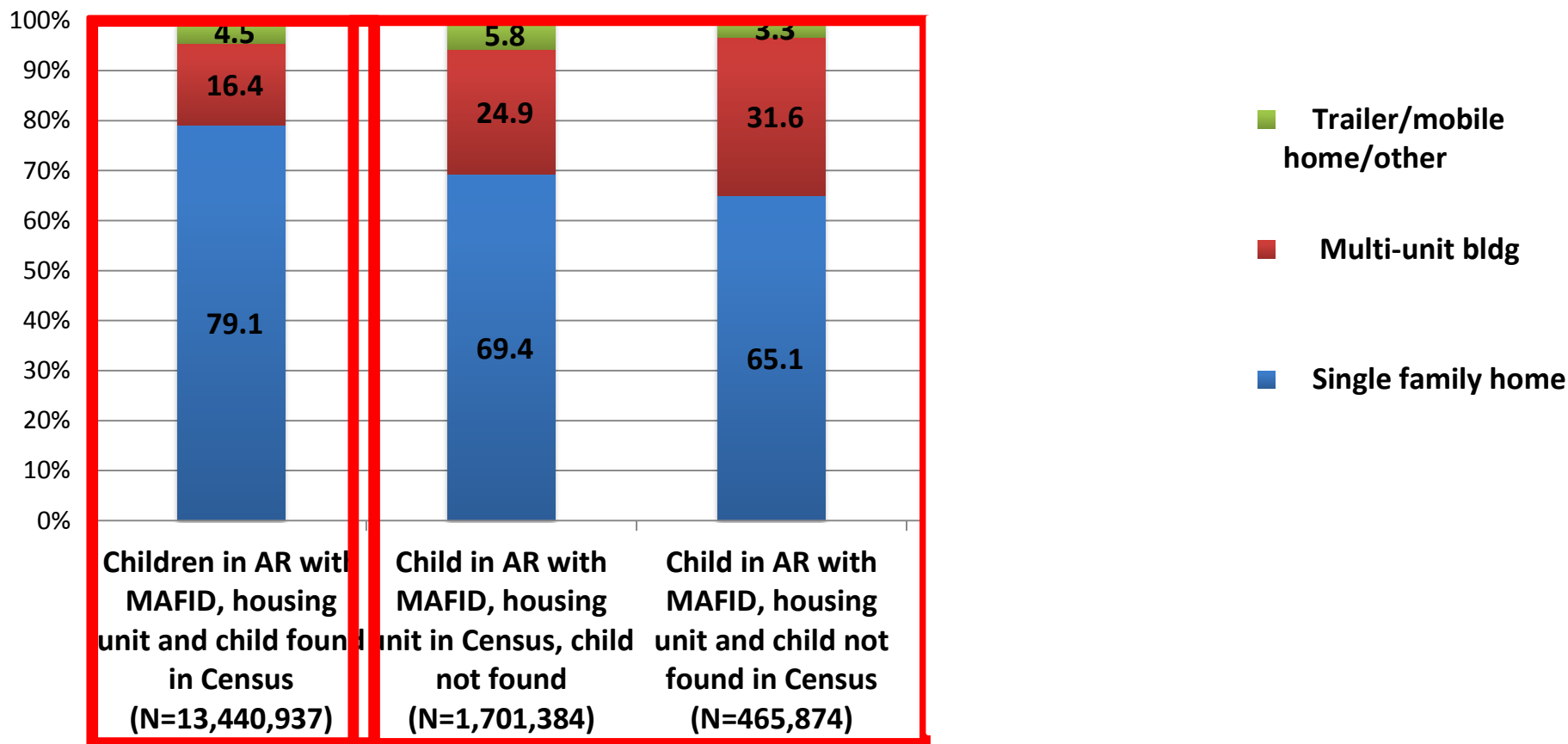
AR Children Ages 0-4 in the 2010 Census

- Out of a total of 20,136,637 children in AR, 80 percent were found in 2010 Census and 20 percent were not (about 4 million children).
- Of the children in AR who were not found in Census, some missed with the whole housing unit, some missed in a housing unit found in Census.
- Some may be true omissions, but some might match to the unPIKed children in Census if they had a PIK or may be in another MAFID.



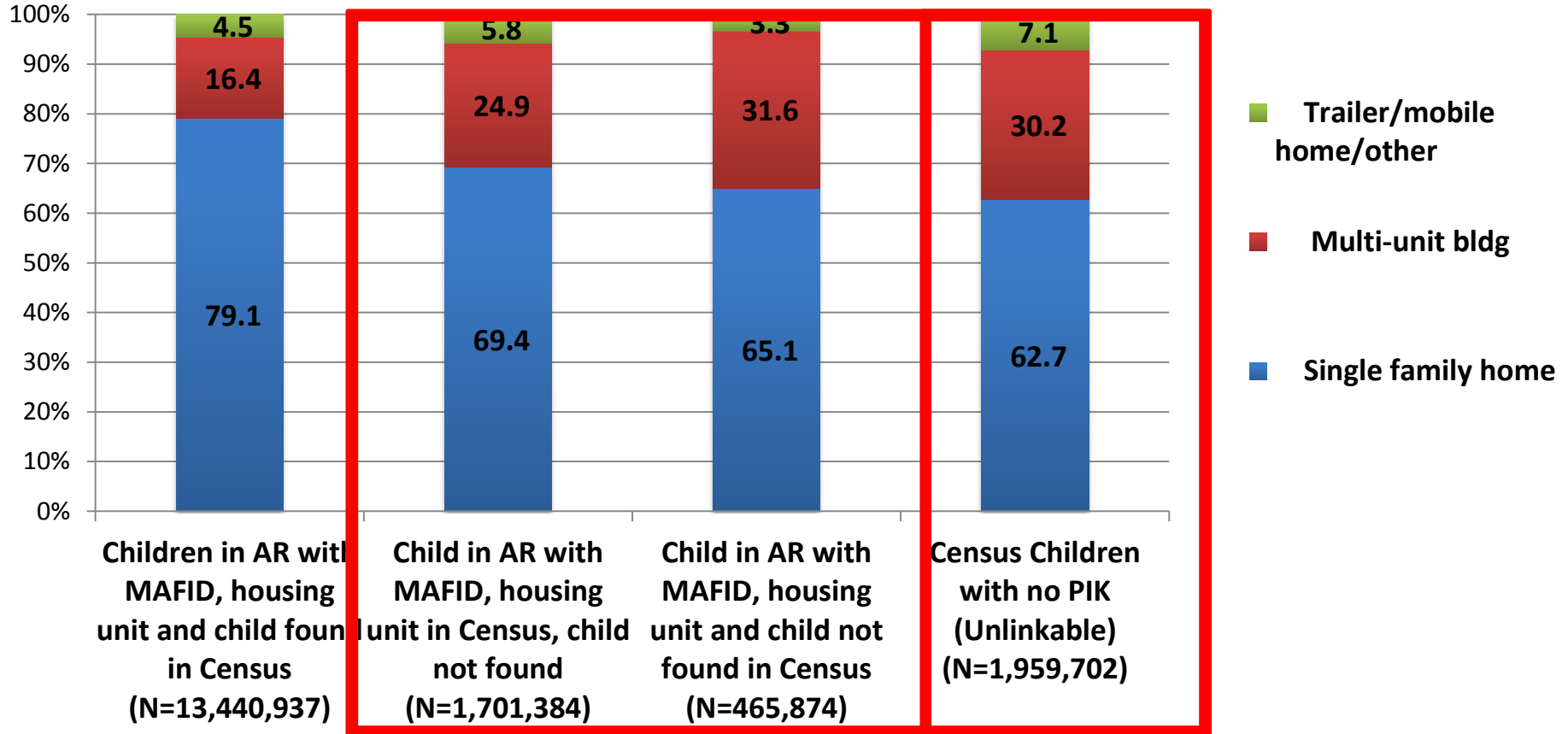
Source: Authors' computations, 2010 Census and AR composite.

Type of Housing Unit for Children in AR with MAFID, by Whether They Were Found in 2010 Census



- Children in AR with MAFID that are not found in Census were less likely to live in single-family homes and more likely to live in multi-unit buildings than children in AR with MAFID found in Census.

Type of Housing Unit for Children in AR with MAFID, by Whether They Were Found in 2010 Census - **and Census Children without PIK**

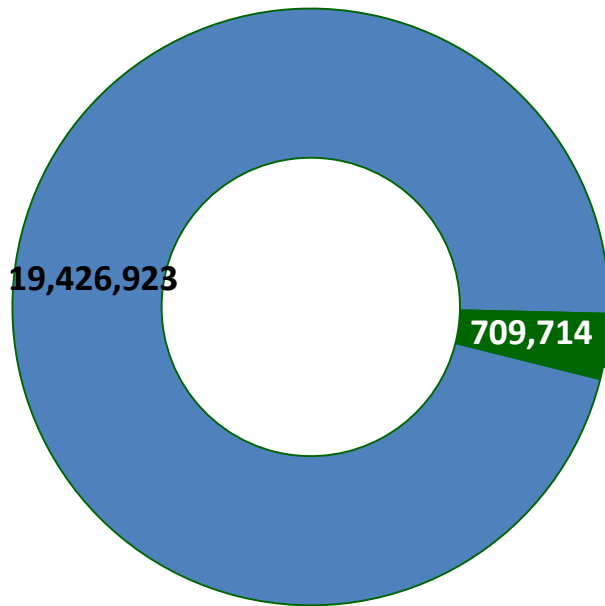


- Unlinkable (no PIK) children in Census have a similar housing unit distribution as those who are in AR but not found in Census.
- If all the unlinkable children in Census had a PIK that matched to AR, the percent of AR children found in Census would increase from 80 to 90 percent.

What can AR data linked to ACS tell us about the characteristics of unmatched children?

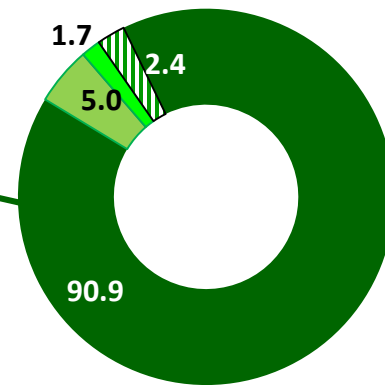
AR Children Ages 0-4 in the 2006-2010 ACS

- Out of the 20,136,637 children in AR, about 3.5 percent (N=709,714) match to the ACS



- Child in AR, not in ACS
- Child in AR and ACS

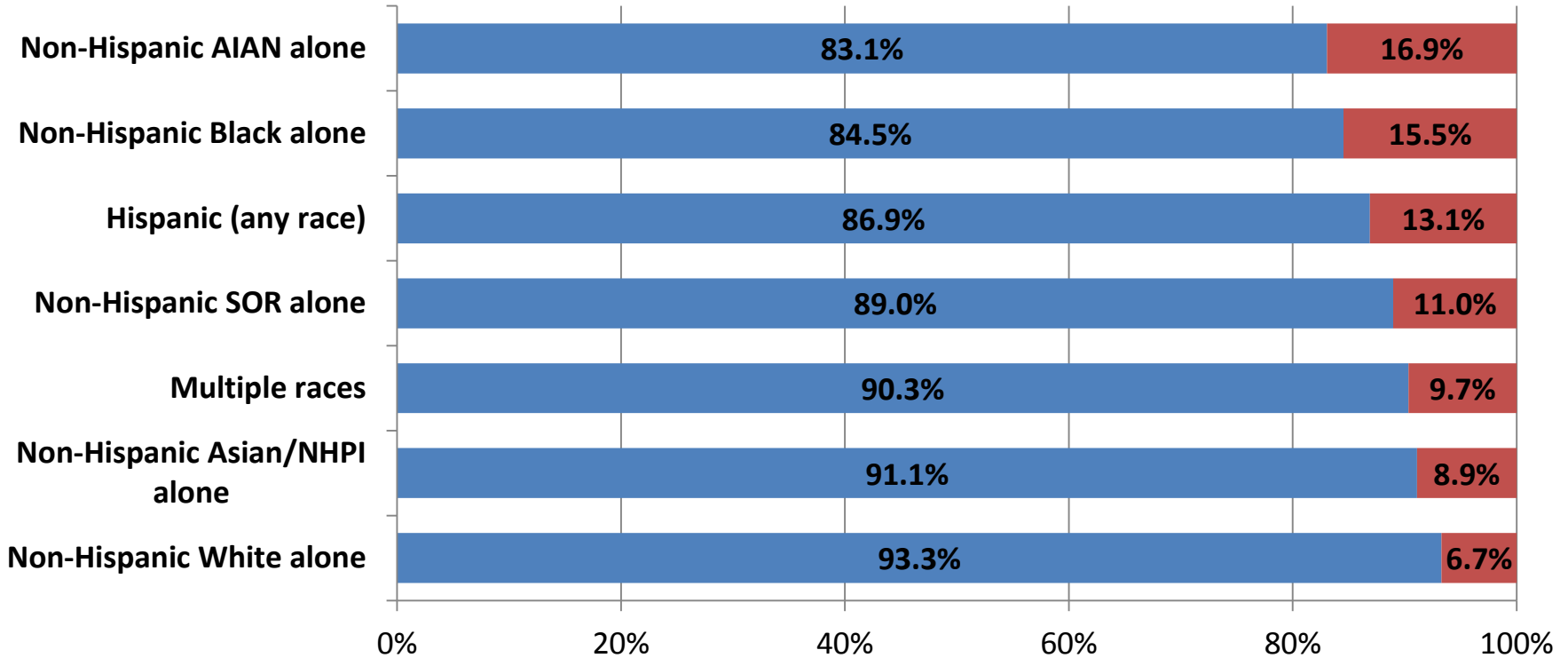
Percent distribution of AR children matched to ACS



- Child in AR & ACS, child found in Census (N=645,188)
- Child in AR & ACS with MAFID, housing unit found in Census, child not found (N=35,312)
- Child in AR & ACS with MAFID, housing unit and child not found in Census (N=11,889)
- Child in AR & ACS with no MAFID, child not found in Census (N=17,325)

Children in AR and ACS reported as AIAN, black or Hispanic less likely to be found in Census than non-Hispanic white children

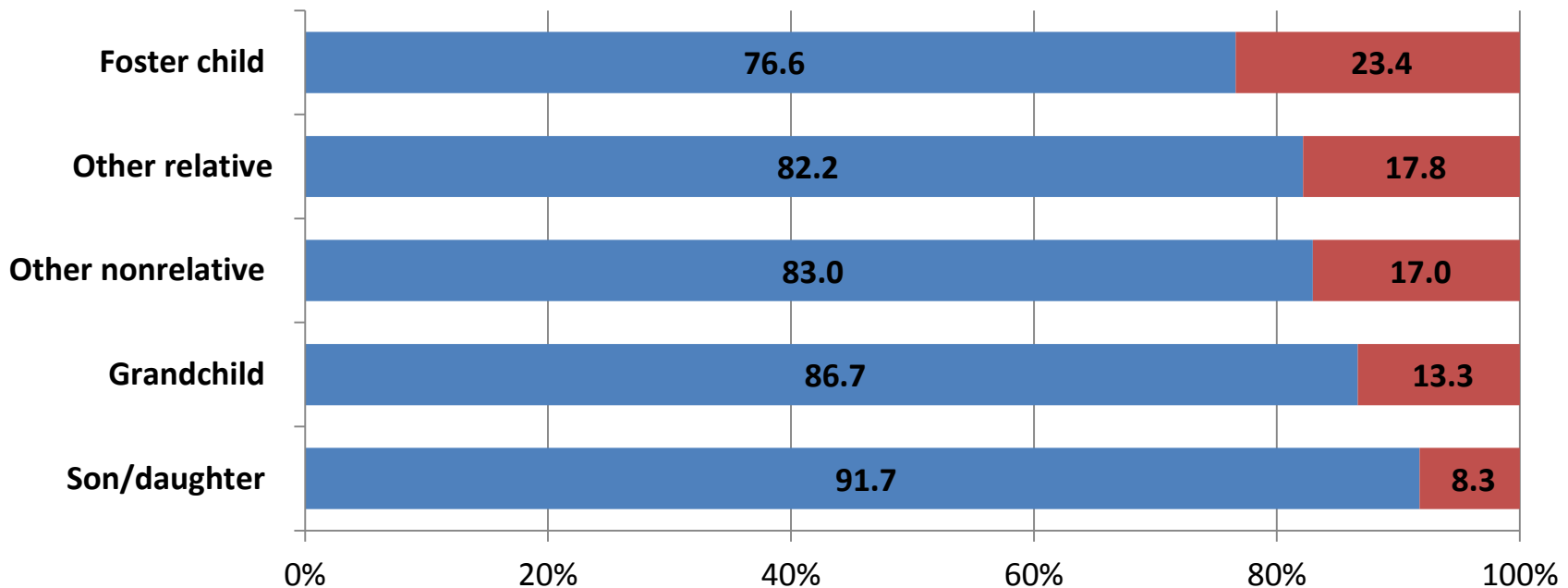
■ Children in AR-ACS found in Census ■ Children in AR-ACS not found in Census



AIAN = American Indian or Alaska Native
 SOR = Some Other race
 NHPI = Native Hawaiian or Pacific Islander

Children in AR & ACS less likely to be found in Census if they are foster children, 'other relative,' 'other non relative,' or grandchildren than children reported as sons or daughters

■ Children in AR-ACS found in Census ■ Children in AR-ACS not found in Census



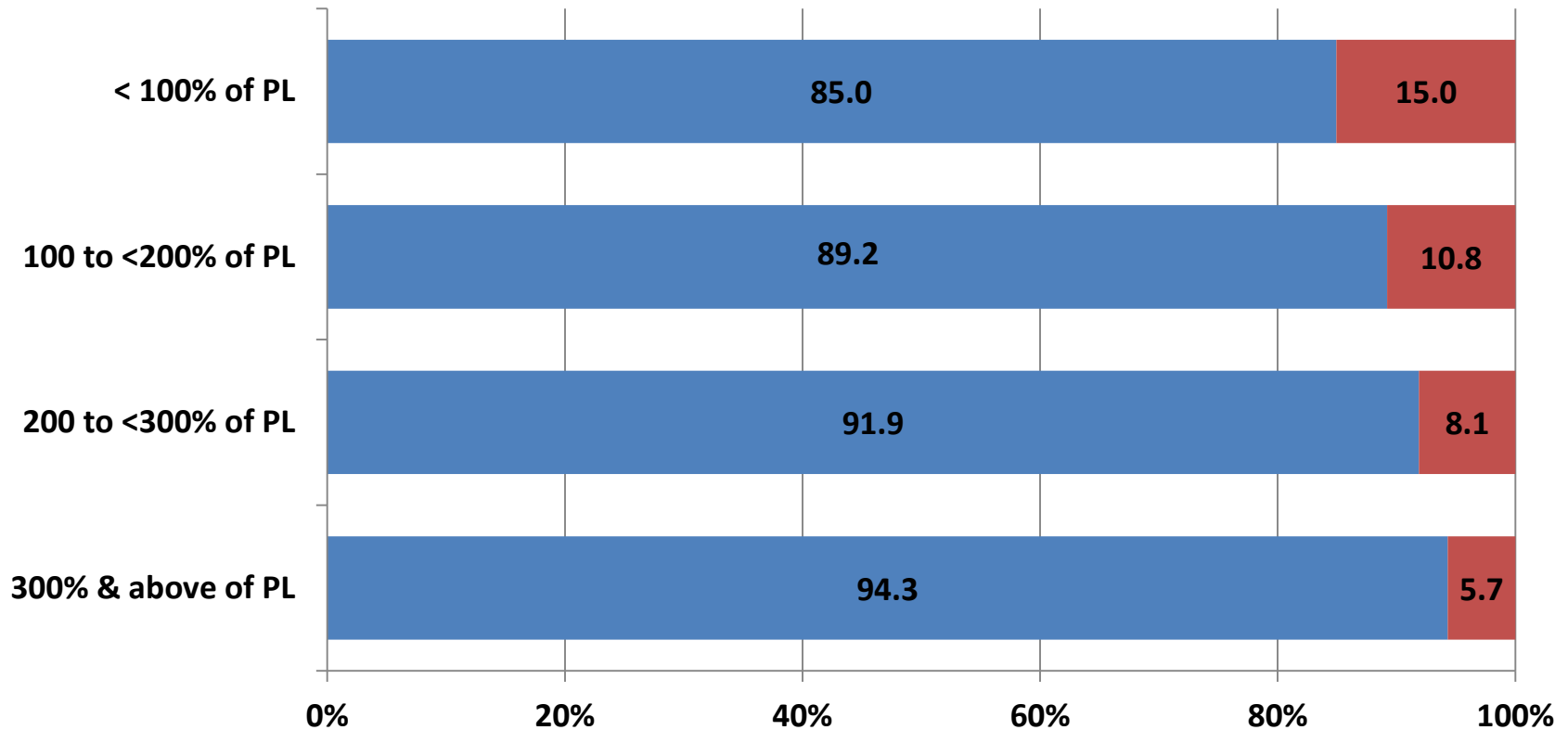
Other relative: brother/sister, in-law, other relative

Other nonrelative: Roomer/boarder, housemate/roommate, other nonrelative

Children in AR & ACS less likely to be found in Census if the household income is below 200 percent of the Federal poverty level than if they live in household with higher income

■ Children in AR-ACS found in Census

■ Children in AR-ACS not found in Census



Selected Characteristics of AR Children in ACS, by Presence in 2010 Census

- AR children in ACS were less likely to be found in Census if they were:
 - Living in a low-income non-family or single parent household
 - In a complex household containing one or more nonrelatives or subfamilies
 - In a household that was interviewed in ACS through CATI/CAPI rather than mail mode
 - In a household in disadvantaged neighborhoods (high unemployment, low median income)

Conclusions

- We find evidence of both children missed in Census housing units and housing units missed altogether. In addition, some children in AR do not have MAFID information, so that it is not clear whether their housing unit is in Census.
- Strategies to reduce the undercount of young children need to take into account multiple “hard-to-count” characteristics:
 - more likely to be racial/ethnic minorities
 - living in complex non-family or multi-family households in poverty,
 - reported as foster child, other relative or other non-relative by the survey reference person than children matched to Census.

Thank You!

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