



Population Estimates Methodology Updates

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Population Estimates

- Produced annually by the US Census Bureau
 - Each new vintage covers estimates for April 1, 2020 and then July 1 estimates up to the vintage year

Vintage 2023 releases:

December 2023	National and State	Total, Voting age, Components of change
March 2024	County	Total, Components of change
May 2024	Subcounty	Total
June 2024	County	Age, sex, modified race, and Hispanic origin

Methodology

Demographic balancing equation

Current population =

Base population

+ *Births*

- *Deaths*

+ *Net Domestic Migration*

+ *Net International Migration*



*Components
of change*

Components of change

- Births and Deaths
 - Birth and death certificates collected and geocoded by NYS Department of Health and by NCHS
- Domestic Migration
 - Based on place of IRS filing in two subsequent years or Medicare receipts
- International Migration
 - ACS question: “where did you live one year ago” is important component

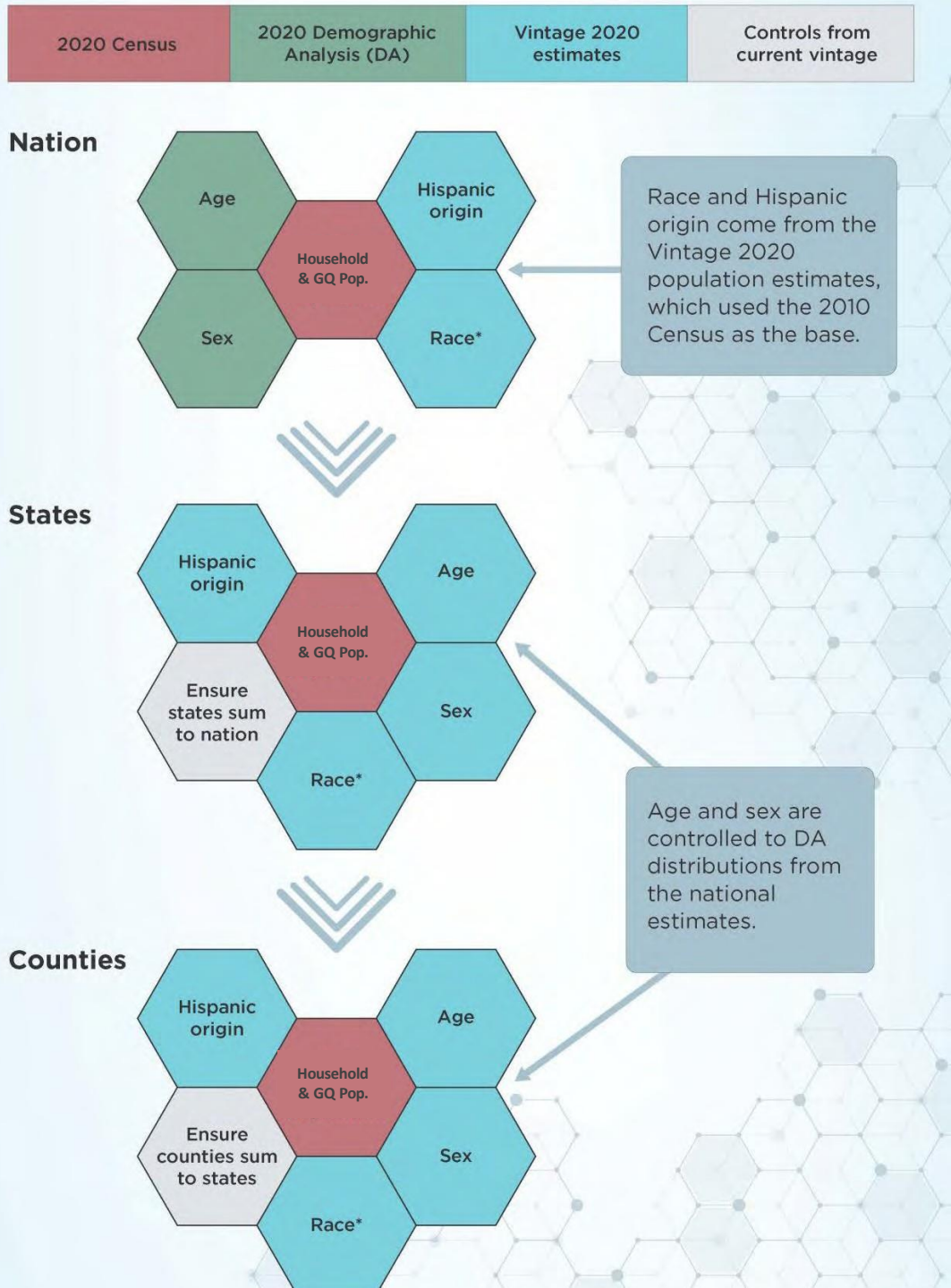
Base population

- Used to be directly based on the latest Decennial Census
- Decennial results late:
 - Blended Base
- Census Bureau started a base evaluations and research team (BERT)

Blended Base

- Full race/age/sex detail from Census not available until May 2023
 - Necessary for estimates process
- The Census Bureau created a blended base, blending information from
 - Redistricting file released in 2021 - *Total Household and GQ population*
 - Demographic Analyses - *National age distribution*
 - Vintage 2020 (estimates series 4/1/2010 – 7/1/2020) - *Characteristics*

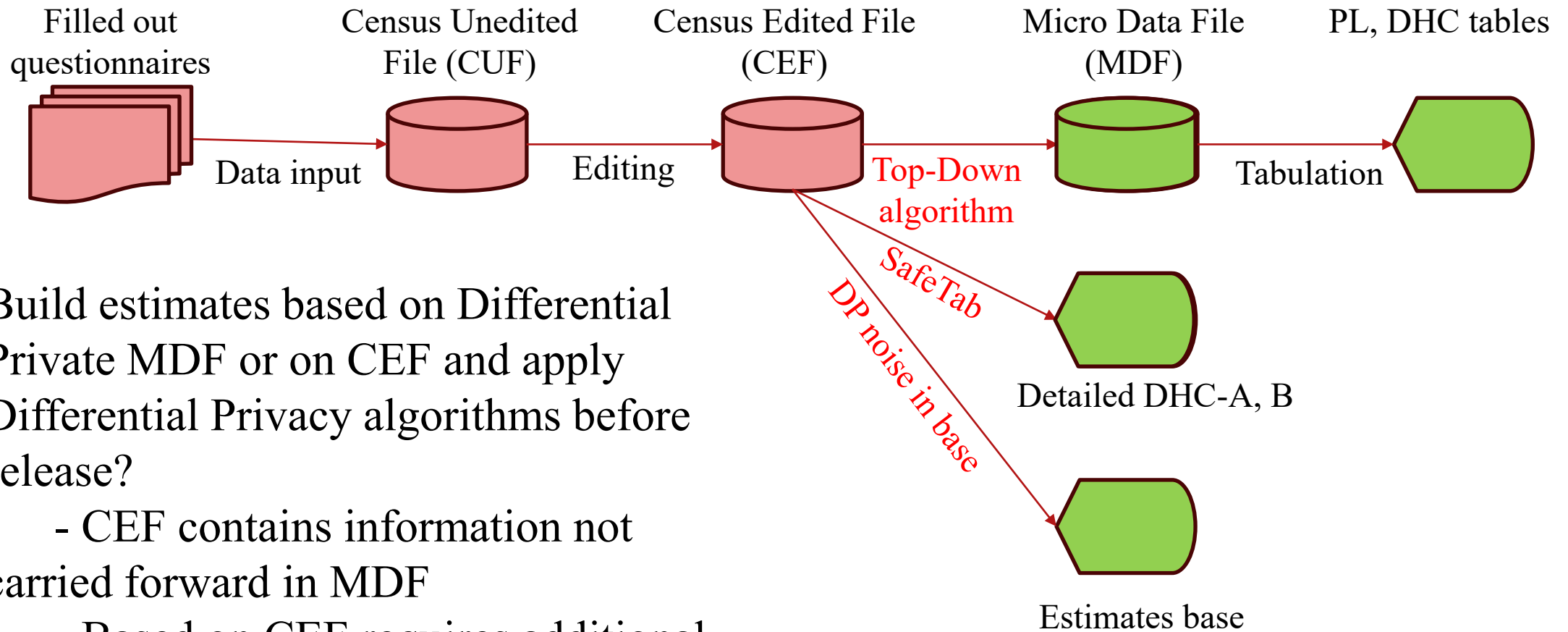
Vintage 2022 Blended Base Approach



Blended Base

- Age data are unaffected by the heaping apparent in the 2020 Census at the national level
- The undercount for young children in the 2010 Census (ages 10 to 14 in 2020) and 2020 Census (ages 0 to 4) is somewhat mitigated in the blended base

Disclosure Avoidance Dilemma



Build estimates based on Differential Private MDF or on CEF and apply Differential Privacy algorithms before release?

- CEF contains information not carried forward in MDF
- Based on CEF requires additional Privacy Loss Budget

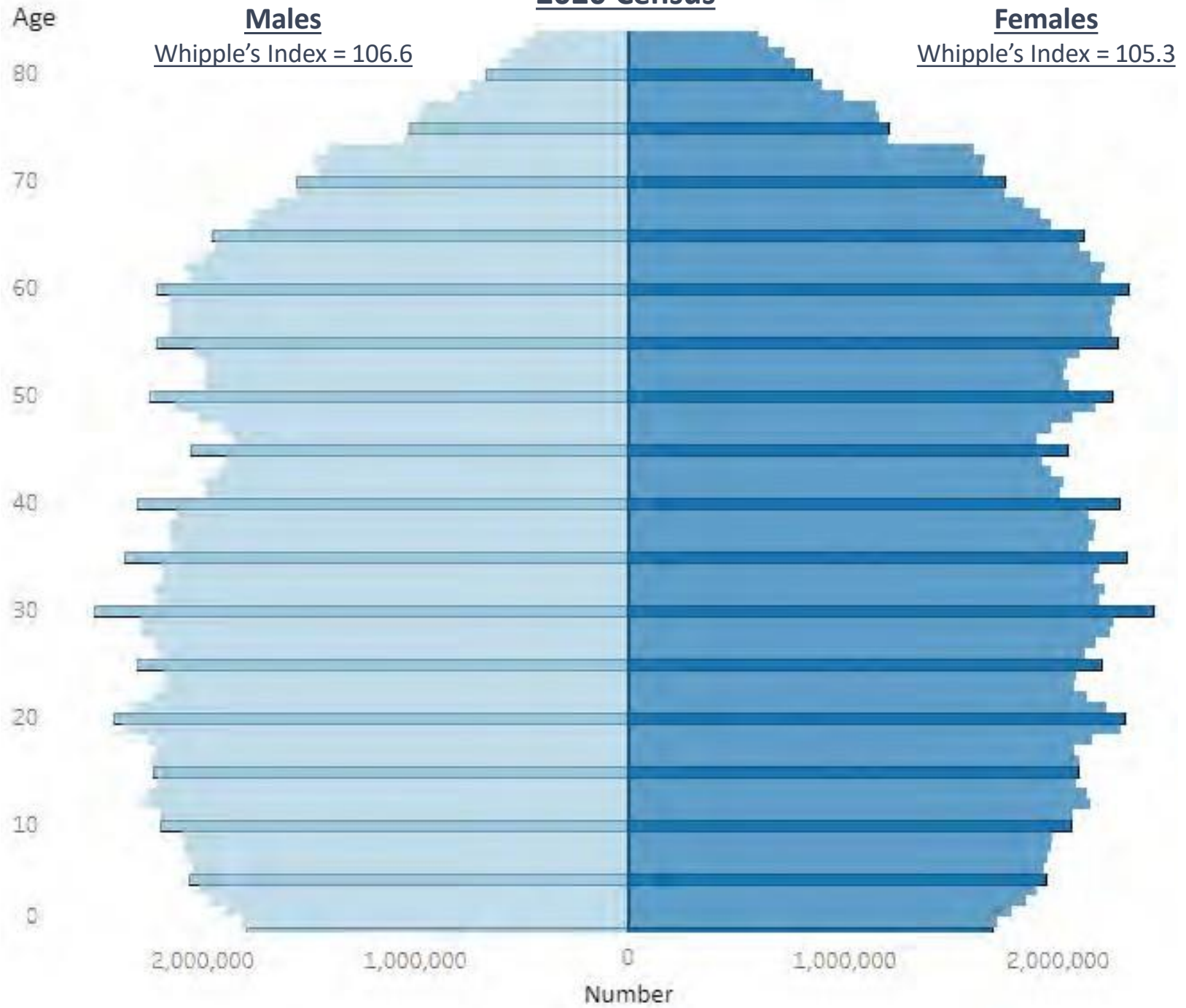
Base Evaluation and Research Team (BERT)

- Pressure to not adjust Census numbers in the base
- BERT is made up of subject-matter experts in the areas of
 - Population estimates
 - Age and sex statistics
 - Coverage measurement
 - Race and ethnicity
 - Demography
 - Disclosure avoidance
- Findings from BERT research will inform decisions about what 2020 Census data are used in the blended base

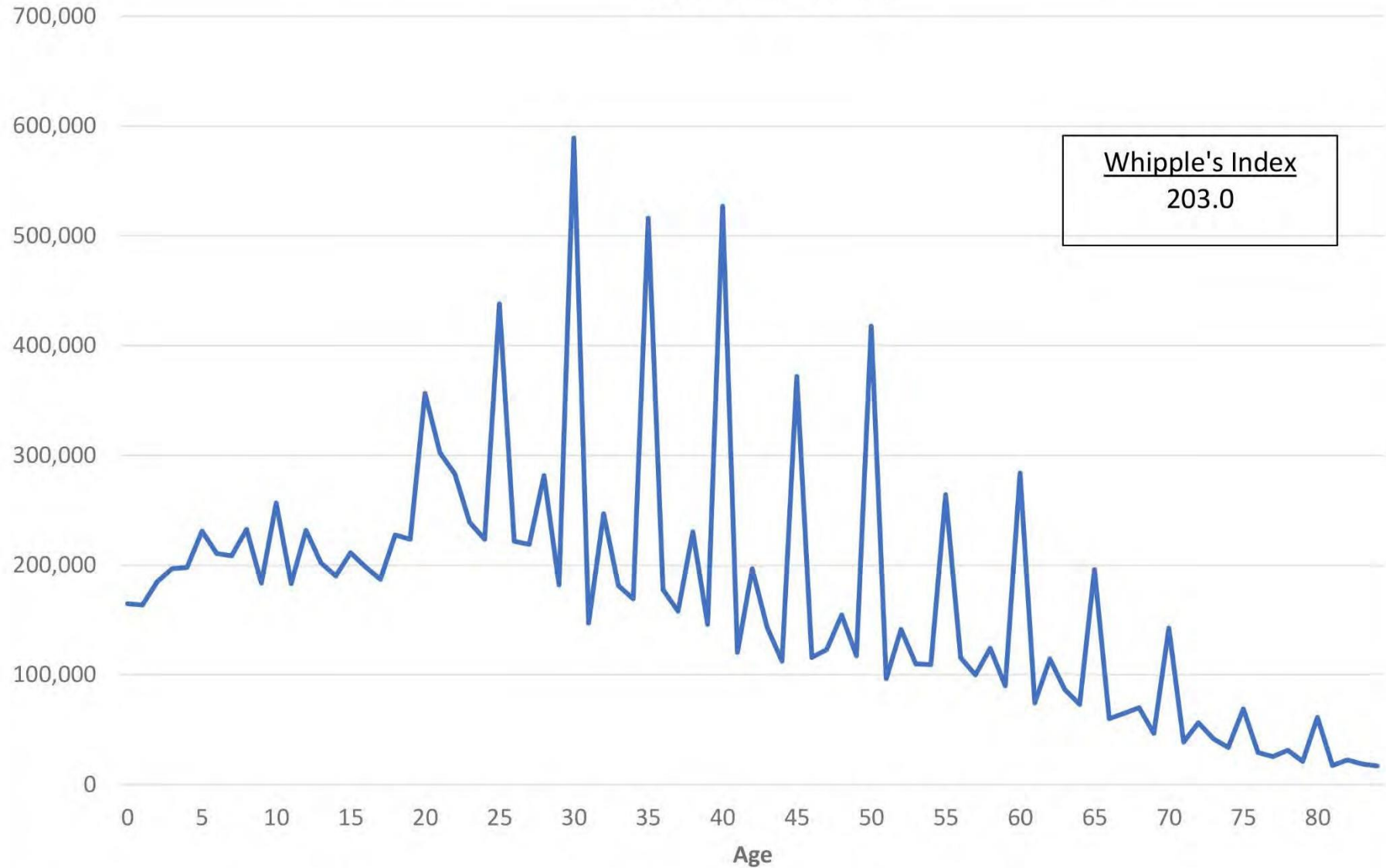
Age heaping

- Age heaping is the tendency to round ages to the nearest 5 or 10
- Age heaping a problem in 2020

2020 Census

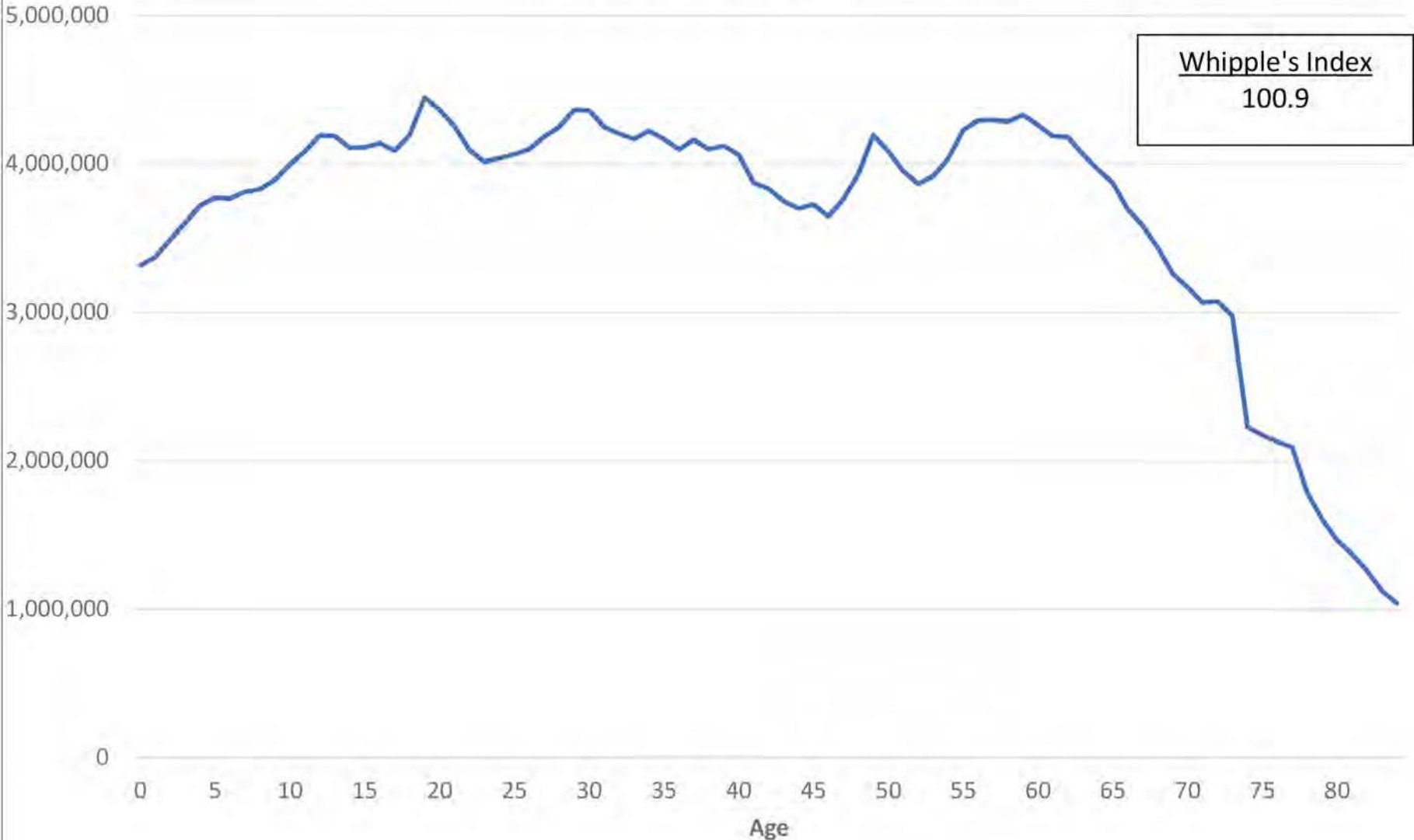


Age Distribution for the Household Population Only Reporting Age in the 2020 Census



Source: U.S. Census Bureau. 2020 Census, special tabulation (DRB Approval Number: CBDRB-FY23-0314).

Age Distribution for the Household Population Reporting Age and Date of Birth in the 2020 Census



Source: U.S. Census Bureau. 2020 Census, special tabulation (DRB Approval Number: CBDRB-FY23-0314).

BERT Expert Meeting on Vintage 2023 Base Population Updates

- Opportunity to socialize findings and recommendations among external experts, and to solicit feedback
- Virtual meeting format:
 - Background on the blended base and BERT
 - Vintage 2023 improvements
 - Evaluating the 2020 PES
- Use expert feedback to:
 - Assess sensitivity of findings
 - Develop external communication regarding these and other BERT research issues and progress
 - Inform further research/changes for Vintage 2024 and beyond

Modified race

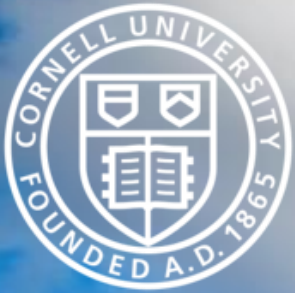
- Race/ethnicity categories in estimates
 - White
 - Black
 - American Indian
 - Asian
 - Native Hawaiian/Pacific Islander
 - All combinations of these (multi-race)
 - All race categories split out by Hispanic/Non-Hispanic
- **No “Other race”**
- Not all combinations are published, but come back as “Two or more races” and in “Race alone or in combination”

Modified race

- Differences between 2010 and 2020
 - Many more “Other race” and much more race recoding
 - Household relations not in MDF
 - Limited access to CEF because of Title 13 restrictions
 - Differential Privacy needs to be applied before use
 - Additional strain on review
 - Age heaping is a problem
- Modified race file is necessary to anchor the base, but also as an end point for 2010-2020 Intercensal estimates

Other adjustments to the base

- Boundary changes
 - For example: Tuxedo village is newly incorporated and that was reflected in Vintage 2022
- CQR and PCGQR
 - Most, if not all, approved CQR and PCGQR appeals will be incorporated in Vintage 2023



Questions?

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