

Incorporating 2020 Census Data into the Population Estimates

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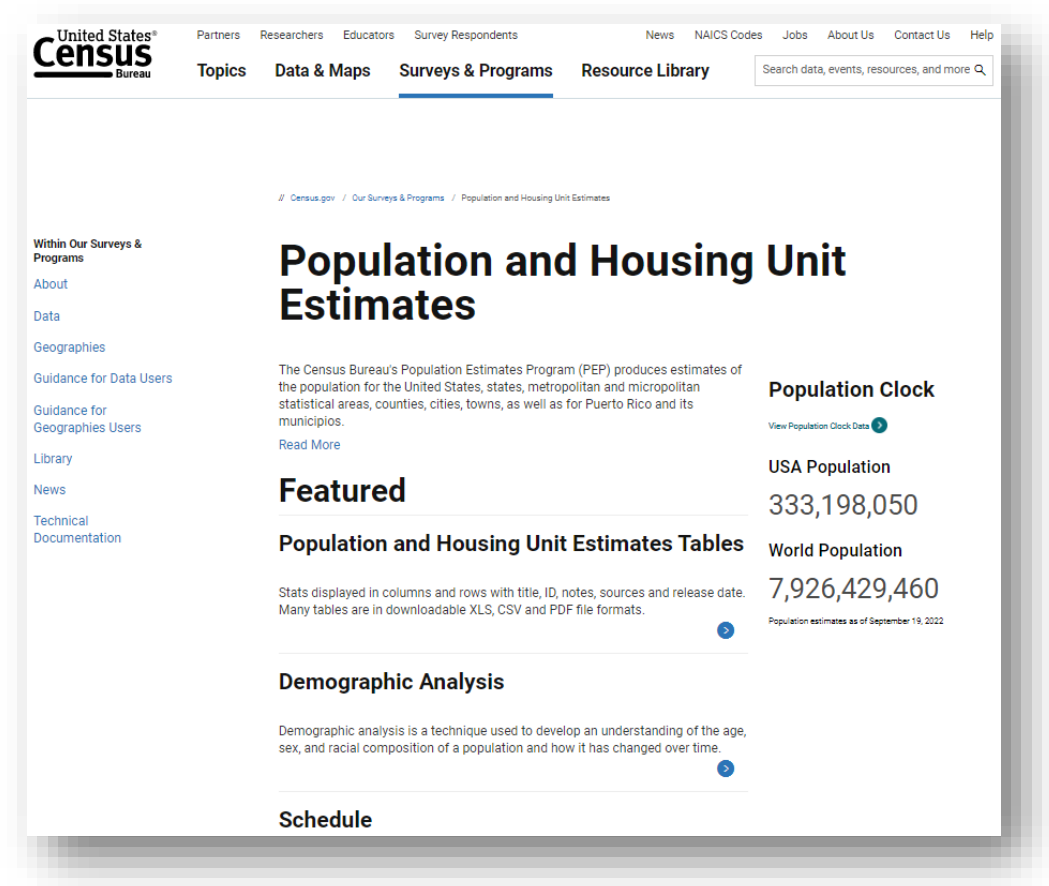
Population Association of America 2023 Annual Meeting

New Orleans, LA

April 13, 2023

The Population Estimates Program

- The Population Estimates Program (PEP) disseminates official measures of population and housing units between decennial censuses
- Mandated by federal law
- Use cases include:
 - Population controls and denominators
 - Academic and business research
 - Program planning in the public and private sectors
- Time series are released annually featuring data for the date of the last census through the vintage year, which represents the latest year of estimates available
- Vintage 2022 release cycle is underway
 - Contains estimates for April 1, 2020 to July 1, 2022



The screenshot displays the United States Census Bureau website. The main navigation bar includes links for Partners, Researchers, Educators, Survey Respondents, News, NAICS Codes, Jobs, About Us, Contact Us, and Help. Below this, there are tabs for Topics, Data & Maps, Surveys & Programs (which is selected), and Resource Library. A search bar is located on the right side of the navigation bar.

The page title is "Population and Housing Unit Estimates". The breadcrumb trail shows the path: // Census.gov / Our Surveys & Programs / Population and Housing Unit Estimates.

On the left side, there is a sidebar menu with the following items: "Within Our Surveys & Programs", "About", "Data", "Geographies", "Guidance for Data Users", "Guidance for Geographies Users", "Library", "News", "Technical", and "Documentation".

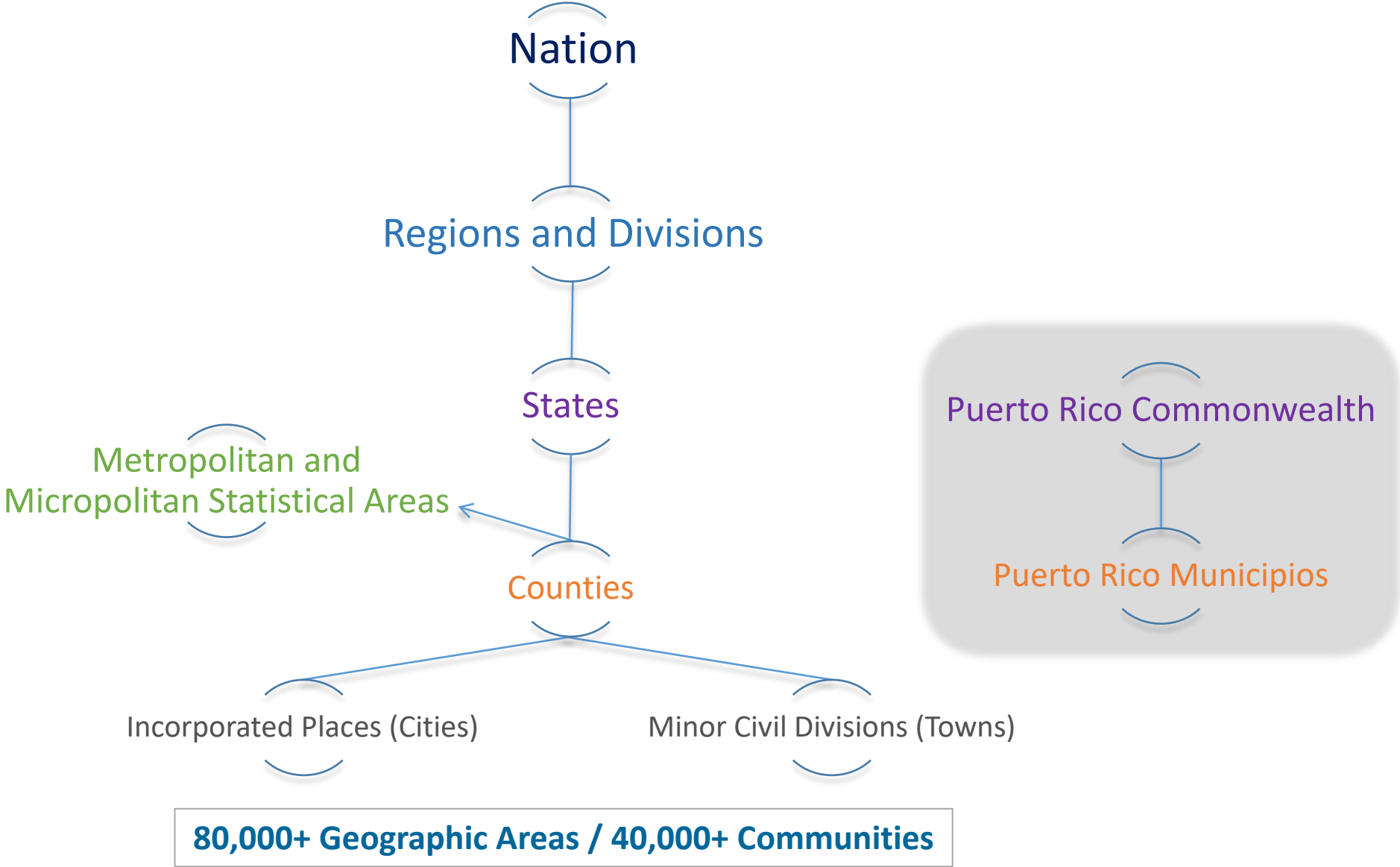
The main content area features a large heading "Population and Housing Unit Estimates" followed by a brief description: "The Census Bureau's Population Estimates Program (PEP) produces estimates of the population for the United States, states, metropolitan and micropolitan statistical areas, counties, cities, towns, as well as for Puerto Rico and its municipalities." Below this is a "Read More" link.

There are three main sections on the page:

- Population Clock**: Shows "USA Population" as 333,198,050 and "World Population" as 7,926,429,460. A note indicates "Population estimates as of September 19, 2022".
- Featured**: Titled "Population and Housing Unit Estimates Tables", it states that stats are displayed in columns and rows with title, ID, notes, sources, and release date, and that many tables are in downloadable XLS, CSV, and PDF file formats.
- Demographic Analysis**: Describes demographic analysis as a technique used to develop an understanding of the age, sex, and racial composition of a population and how it has changed over time.

At the bottom of the page, there is a "Schedule" section.

PEP Estimates Geographies



National, State, and County Estimates: *Cohort-Component Method*



- Cohort-component method measures population change since the last census using the most current administrative records and survey data on births, deaths, and migration
- Population base represents the date of the latest decennial census

Developing the Post-2020 Estimates Base

- The most recent decennial census typically forms the estimates base
 - Still applies for the subcounty and housing unit estimates methods
- Vintage 2021 was more complicated for counties and higher levels of geography
 - Data availability was delayed due to the impact of COVID-19 and updated disclosure avoidance requirements
- A method was developed to build an estimates base using alternative data sources

2020 Census: COVID-19 Presents Delays and Risks to Census Count

GAO-20-551R

Published: Jun 09, 2020. Publicly Released: Jun 09, 2020.

The New York Times

Knocked Off Track by Coronavirus, Census Announces Delay in 2020 Count

Knocked Off Track by Coronavirus, Census Announces Delay in 2020 Count ... 15, to Oct. 31, and would begin reopening its field offices – which have been...

Jul 28, 2020

NBC Chicago

US Census Bureau Suspends Field Operations on Virus Concerns

A week after starting its 2020 count, the U.S. Census Bureau on Wednesday suspended field operations for two weeks out of concern about the health and...

Mar 18, 2020

PBS

[How the coronavirus pandemic has affected the 2020 census](#)

But the bureau has suspended all in-person census surveys until further notice, and has stalled field operations until at least April 15. And those parts of the...

Apr 1, 2020

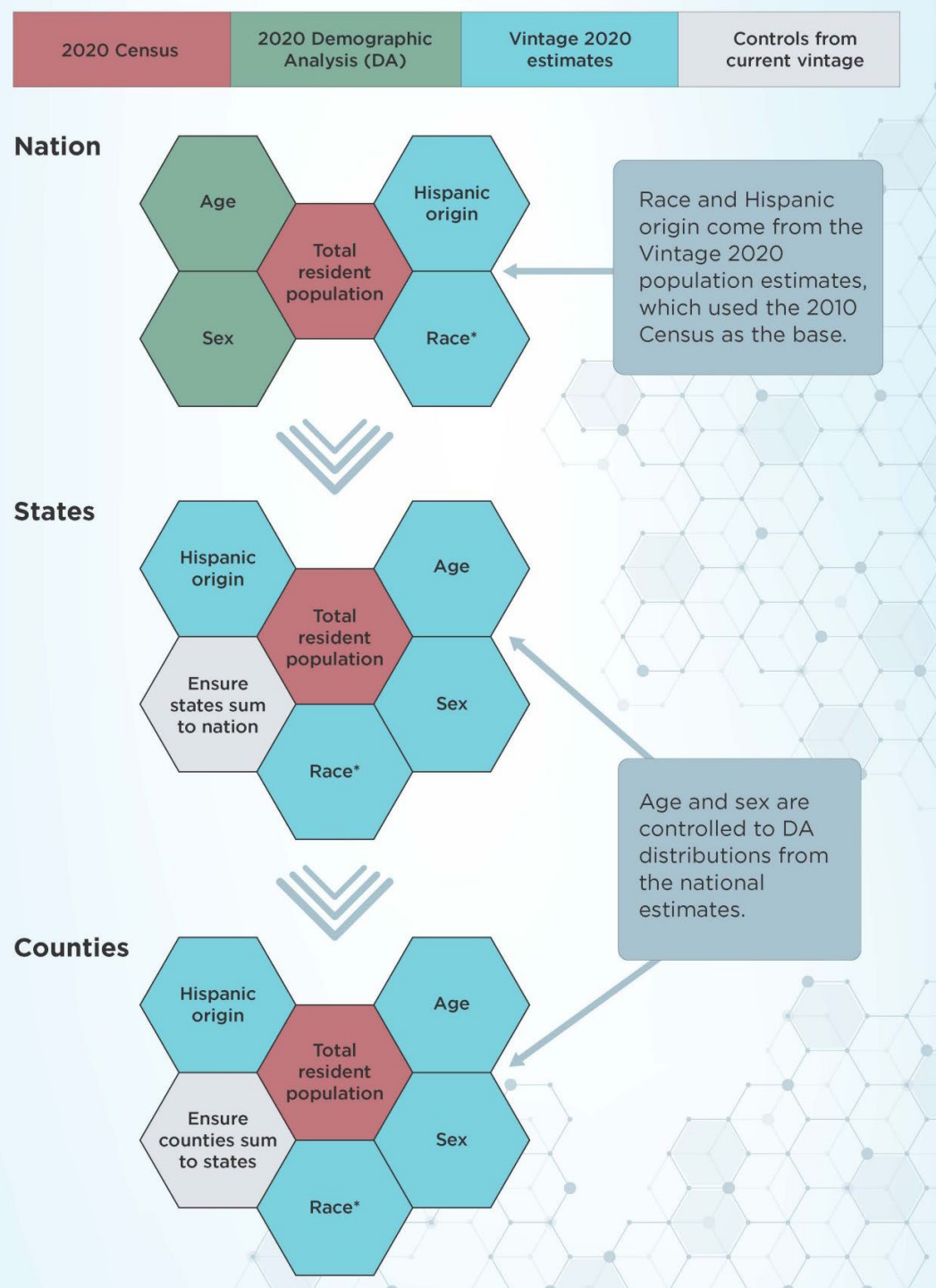
// Census.gov / By Decade / 2020 Census Decade / 2020 Census Program Management / 2020 Census Operational Adjustments Due to COVID-19

2020 Census Operational Timeline and Adjustments Due to COVID-19

share   

Conducting a decennial census involves extensive planning and complex coordination across different operations. In light of the COVID-19 pandemic, the U.S. Census Bureau adapted and shifted some of the 2020 Census operations to protect the health and safety of the public and Census Bureau staff who interacted with them. These adjustments were made to fulfill our Constitutional mandate to count the nation's population and deliver the results to the President and Congress.

Blended Base Approach

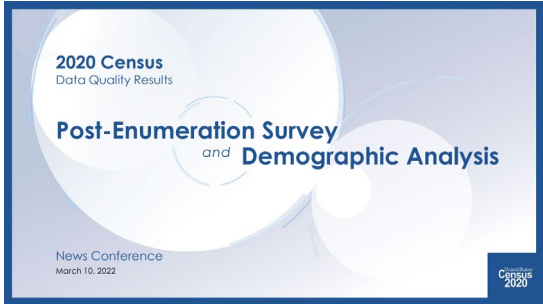


Vintage 2021 Blended Base Results

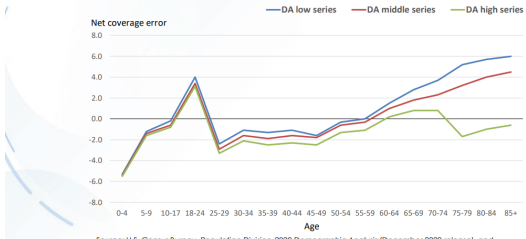
- Resident population totals match 2020 Census redistricting data exactly for the nation, states, and counties
- National resident population by age (0-84, 85+) and sex matches 2020 Demographic Analysis distribution
- Race, Hispanic origin, and lower-level geographic distributions reflect the Vintage 2020 population estimates
- 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

For Immediate Release: Thursday, March 10, 2022

Census Bureau Releases Estimates of Undercount and Overcount in the 2020 Census



2020 Demographic Analysis (DA) Net Coverage Error Estimates for Selected Age Groups by Series: April 1, 2020



Post-Enumeration Survey and Demographic Analysis Help Evaluate 2020 Census Results

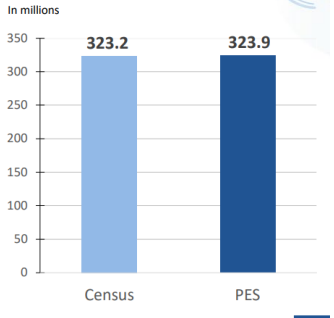
March 10, 2022 – The U.S. Census Bureau released results today from two analyses about the quality of the 2020 Census counts. While both showed the strength of the count for the total U.S. population, each analysis revealed that the 2020 Census overcounted or undercounted various demographic groups.

“Today’s results show statistical evidence that the quality of the 2020 Census total population count is consistent with that of recent censuses. This is notable, given the unprecedented challenges of 2020,” said Director Robert L. Santos. “But the results also include some limitations – the 2020 Census undercounted many of the same population groups we have historically undercounted, and it overcounted others.”

The two analyses are from the Post-Enumeration Survey (PES) and Demographic Analysis Estimates (DA) and estimate how well the 2020 Census counted everyone in the nation and in certain demographic groups. They estimate the size of the U.S. population and then compare those estimates to the census counts.

Coverage of the Census

Census count of the population	323,200,000
Estimate of the population from the PES	323,900,000
Net coverage error	-782,000
Percent net coverage error	-0.24 %



Coverage Concerns

- Following the release of census coverage measures, concerns about census quality became apparent
- Many looked to the population estimates, and particularly the blended base, as a potential solution
 - Stakeholders, advisory groups, census leadership, media

Demographic Analysis Method

$$\text{Population} = \text{Births} - \text{Deaths} + \text{Immigration} - \text{Emigration}$$



The Base Evaluation and Research Team (BERT)

- 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
- BERT is working with experts from other Census projects, such as Frames, to maximize the impact of research efforts

Historical Context

- The Census Bureau has a long history of planning, researching, and exploring the feasibility of adjusting the postcensal population estimates for coverage error in the decennial census
- To date, PEP has never adjusted the census totals in the estimates base for coverage issues



BERT Progress

- The team has been meeting since March 2022
- Research has been focused on analyzing 2020 Census data and coverage measures
 - Comparisons to benchmark data
 - Evaluations of change since the 2010 Census
 - Assessment of demographic plausibility
- BERT hopes to have results to share with the public this summer
- Contingent on the findings, the Vintage 2023 estimates will be the first opportunity to implement any findings

Updates to the Blended Base for Vintage 2022

- Features processing improvements
- Expands use of 2020 Demographic Analysis data from ages 0-85+ to 0-100+
- Incorporates additional 2020 Census data by universe (aggregated noisy subcounty data for the household and group quarters populations)
- Incorporates geographic changes, including new Connecticut county equivalents

Beyond Vintage 2022

- Investigating ways to implement research findings from BERT is a major focus for Vintage 2023 and beyond
- This research is a priority among Census leadership
- Thoughtful, methodologically-sound solutions take time and resources, but we are committed to perpetual improvement and innovation

Thank you.

Questions?

For more
information:

pop.bert@census.gov