

# Volume 3, Issue 6

## April 2015

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## Happy Census Day!

*by John H. Thompson*

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April 1, 2015 marks Census Day for the Savannah, Georgia and Maricopa County, Arizona areas, sites where two important test censuses are underway.

During the decennial census every 10 years, Census Day provides the reference day for measuring the population. We're using the same reference day for the 2015 Census Tests in the Savannah and Maricopa County areas.

If you live in one of our 2015 test sites, I encourage you to learn more about the tests by visiting [www.census.gov/2015censustests](http://www.census.gov/2015censustests). Your participation is appreciated and will help us make critical design decisions that will shape how the rest of America participates in the next census in 2020. Mandated by the Constitution, the decennial census counts the residents of the United States once a decade. It determines the number of seats each state has in the U.S House of Representatives, and how over \$400 billion in federal funds are distributed to state, tribal, and local communities each year. The census is a huge undertaking, and the cost has increased significantly each decade. Our design changes will help us hold the cost down in 2020.

We are conducting these tests five years before the actual Census Day on April 1, 2020, to learn how to leverage new technologies and apply innovative methods to census operations in a real-world census environment. Our goal is a more efficient and cost-effective census that continues to produce high quality data.

We are testing different things at each site. In the 20 counties in Georgia and South Carolina that are part of the Savannah area test, we are exploring new outreach and promotion strategies to inform the public about the census. We are also learning the best ways to allow residents to complete the questionnaire quickly and securely over the Internet.

In Maricopa County, we are evaluating new technologies for collecting and processing responses to the census. We also will be testing a new field management structure to see if it improves the efficiency and effectiveness of operations to interview households that don't complete their census test questionnaire during the self-response phase.

The timing of these tests is critical as we must make important design decisions later this year. By 2018, we must lock in operating systems and methods for the 2020 Census. These tests, and those planned for 2016 and 2017, will give us the information we need to build our systems and develop the processes we will use to implement the largest peacetime operation conducted in the United States.

The 2020 Census will be unlike any other in history thanks to the tests we are conducting now. The new methods that we are researching will result in savings estimated to be approximately \$5 billion from the projected cost of using methods from the 2010 Census.

# American Housing Survey to Start 2015 Data Collection

by Tamara Cole

The 2015 American Housing Survey (AHS) begins interviewing on April 28, 2015. We will collect data for the majority of the sample between May 1 and September 18, 2015. A small number of cases in the Phoenix, Arizona, area will be interviewed between September and December 2015.

The 2015 AHS begins a new longitudinal panel, as well as introducing a significant number of changes to the questionnaire. The sample design continues to have two primary components: national (AHS-N) and metropolitan (AHS-MS). Furthermore the AHS-N includes four parts: (1) new national cases representative of the United States and nine Census divisions, (2) new subsidized renter oversample cases, (3) a new oversample of the top 15 metro areas in the United States, and (4) a bridge sample of housing units that were surveyed in 2013. The AHS-MS will consist of an additional 10 metro areas and will include approximately 30,391 records (approximately 3,000 per metro area). The total AHS 2015 sample will be about 120,000 housing units.

Starting in 2009, the AHS questions were classified into “core” modules and “rotating topical” modules in order to minimize respondent burden and satisfy widening needs for data content. Questions in the core modules are asked in each survey and typically undergo only minor revisions between surveys. Questions in the topical modules are asked on a rotating basis.

New data are being collected in the 2015 survey on the use and benefits of housing counseling services, the effects of arts and cultural venues on the community, the potential health and safety hazards in the home, and the access to and affordability of food. We will collect this data in the following four modules.

**Housing Counseling Module:** The Housing Counseling module was developed as a rotating module to get a sense of the number of homeowners and renters who have sought housing counseling advice. We are also generally interested in why they sought advice, how much they paid, and if it was helpful.

**Arts and Culture Module:** The Arts and Culture module was developed as a rotating module in the 2015 AHS to collect information on arts and cultural venues and events, their relationship to neighborhood choice and their convenience to the respondent’s residence, and to provide an assessment of their importance to the community.

**Healthy Homes Module:** The Healthy Homes module was included in the 2011 AHS. In the 2015 AHS, this module contains some new and revised questions about second-hand smoke, radon exposure, and other related topics. The overall goal of the Healthy Homes module is to explore the use of AHS as a cost effective means for improving national surveillance on housing characteristics and conditions that can adversely impact occupant health. For example, data will be collected on the presence of important asthma triggers (i.e., cockroaches, mice, mold) and key injury hazards. Questions on the presence of an occupant with asthma and the need for recent emergency treatment will allow an assessment of the association between exposure proxies and presence and severity of occupant asthma.

**Food Security Module:** The Food Security module was added to the 2015 AHS as a rotating topical module to collect data on the intersection between food security and housing costs. Food-insecure households lack consistent access to adequate food for one or more household members. Until now, data have not been available to enable research on housing burden and food security jointly. Food security data in the AHS will support research to understand this relationship at the household level, and to examine the role housing and energy assistance may have in moderating it. Most policy research has focused on the effects of food and nutrition assistance programs on food insecurity. The 2015 AHS will allow analysis of how HUD assistance programs, especially rental assistance, affect food security assistance.

A split of the survey sample was used to maximize the number of rotating topical modules that could be included in the 2015 AHS. Fifty percent of the sample will be asked the Healthy Homes module. The other 50 percent will be asked the Arts and Culture, Housing Counseling, and Food Security modules.

Results from the 2015 National and Metropolitan AHS will be available in 2016.

# Update on the U.S. Census Bureau's Race and Ethnic Research for the 2020 Census

*by Nicholas A. Jones, Director of Race and Ethnic Research and Outreach*

The Census Bureau's mid-decade research on race and ethnicity builds upon previous research which explored how Americans identify their race and ethnicity as our society continues to grow more diverse and more complex. Our research acknowledges that a growing number of people find the current race and ethnic categories confusing, or wish to see their own specific group reflected on the census. We remain committed to improving the accuracy and reliability of census results by researching approaches that more accurately measure and reflect how people self-identify.

The 2010 Census Race and Hispanic Origin Alternative Questionnaire Experiment (AQE) was fielded as the most comprehensive research effort on race and Hispanic origin ever undertaken by the Census Bureau. The research designed and tested different strategies to increase reporting in the major U.S. Office of Management and Budget (OMB) race and ethnic categories, to elicit reporting of detailed race and ethnic groups, to lower item non-response, and to increase the accuracy and reliability of the results. The results of the AQE supported all of these objectives and provided promising strategies to address the challenges and complexities of race and ethnic measurement and reporting. (For details on the 2010 AQE research, see [www.census.gov/2010census/news/press-kits/aqe/aqe.html](http://www.census.gov/2010census/news/press-kits/aqe/aqe.html).)

The 2010 AQE research marked the beginning of our race and ethnicity research this decade, and the research yielded critical findings from which additional experimental question refinements and research topics emerged. These research topics evolved over the past several years with ongoing qualitative and quantitative research, through internal discussions among Census Bureau experts, as well as through external dialogues with OMB, federal statistical and policy agencies, advisors, race and ethnic scholars, and myriad community leaders and stakeholders.

## **Mid-Decade Research on Race and Ethnicity**

The design of the Census Bureau's 2020 Census research on race and ethnicity builds upon the successful strategies of the 2010 AQE. The 2015 National Content Test (NCT) will be our primary mid-decade opportunity to compare different design options for race and ethnicity prior to making final decisions about the content for the 2020 Census. This research will examine key dimensions for the questions on race and ethnicity, including question format, response categories, wording of the instructions and question terminology, and evaluating performance of the questions with new web-based data collection methods.

**Question Format.** The first dimension is question format, wherein the 2015 NCT will continue to evaluate the use of two alternative question format approaches for collecting data on race and ethnicity. One approach uses two separate questions: the first about Hispanic origin and the second about race. The other approach combines the two items into one question. The 2015 NCT research will test both approaches with new data collection methods, including Internet, telephone, and in-person response.

### ***Separate Questions Approach***

→ **NOTE: Please answer BOTH Question 8 about Hispanic origin and Question 9 about race. For this census, Hispanic origins are not races.**

**8. Is Person 1 of Hispanic, Latino, or Spanish origin?**

Mark  one or more boxes **AND** print origins.

- No, not of Hispanic, Latino, or Spanish origin
- Yes, Mexican, Mexican Am., Chicano
- Yes, Puerto Rican
- Yes, Cuban
- Yes, another Hispanic, Latino, or Spanish origin – *Print, for example, Salvadoran, Dominican, Colombian, Guatemalan, Spaniard, Ecuadorian, etc. ↴*

**9. What is Person 1's race?**

Mark  one or more boxes **AND** print origins.

- White – *Print, for example, German, Irish, English, Italian, Lebanese, Egyptian, etc. ↴*
- Black or African Am. – *Print, for example, African American, Jamaican, Haitian, Nigerian, Ethiopian, Somali, etc. ↴*
- American Indian or Alaska Native – *Print name of enrolled or principal tribe(s), for example, Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Native Village of Barrow Inupiat Traditional Government, Nome Eskimo Community, etc. ↴*
- Chinese       Vietnamese       Native Hawaiian
- Filipino       Korean       Samoan
- Asian Indian       Japanese       Chamorro
- Other Asian – *Print, for example, Pakistani, Cambodian, Hmong, etc. ↴*       Other Pacific Islander – *Print, for example, Tongan, Fijian, Marshallese, etc. ↴*

- Some other race – *Print race or origin. ↴*

[Click Image to Enlarge](#)

**Combined Question Approach**

**8. What is Person 1's race or origin?**

Mark  one or more boxes **AND** print origins.

- White** – Print, for example, German, Irish, English, Italian, Lebanese, Egyptian, etc. ↴
  
- Hispanic, Latino, or Spanish origin** – Print, for example, Mexican or Mexican American, Puerto Rican, Cuban, Salvadoran, Dominican, Colombian, etc. ↴
  
- Black or African Am.** – Print, for example, African American, Jamaican, Haitian, Nigerian, Ethiopian, Somali, etc. ↴
  
- Asian** – Print, for example, Chinese, Filipino, Asian Indian, Vietnamese, Korean, Japanese, etc. ↴
  
- American Indian or Alaska Native** – Print name of enrolled or principal tribe(s), for example, Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Native Village of Barrow Inupiat Traditional Government, Nome Eskimo Community, etc. ↴
  
- Native Hawaiian or Other Pacific Islander** – Print, for example, Native Hawaiian, Samoan, Chamorro, Tongan, Fijian, Marshallese, etc. ↴
  
- Some other race or origin** – Print race or origin. ↴

[Click Image to Enlarge](#)

**Response Categories.** The second research dimension examines response categories, exploring how to collect and tabulate data for Middle Eastern or North African (MENA) respondents. The 2015 NCT will evaluate the addition of a separate MENA checkbox category and relevant examples, compared to approaches without a separate MENA checkbox category where MENA is part of the “White” category.

MENA Included as Part of “White” Category

- White** – Print, for example, German, Irish, English, Italian, Lebanese, Egyptian, etc. ↴

Separate “MENA” Category

- Middle Eastern or North African** – Print, for example, Lebanese, Iranian, Egyptian, Syrian, Moroccan, Algerian, etc. ↴

**Instructions and Terminology.** The third dimension pertains to the wording of instructions and question terminology, examining ways to optimize detailed reporting and to improve respondent understanding of the options to report multiple race and ethnic groups. The 2015 NCT will evaluate the use of different approaches for wording the instructions used to collect data on race and ethnicity in an attempt to improve the clarity of the

question and make it more apparent that more than one group may be selected. The following graphics illustrate some of the instruction options that will be tested in the 2015 NCT.

#### Old Instructions

**Mark  one or more boxes AND print origins.**

#### New Instructions

**Mark all boxes that apply AND print ethnicities in the spaces below.  
Note, you may report more than one group.**

The 2015 NCT will also evaluate the use of different conceptual terms (e.g., origin, ethnicity, or no terms) in the wording of questions. Recent Census Bureau qualitative research found that the terms “race,” “ethnicity,” and “origin” are confusing or misleading to many respondents, and they mean different things to different people. The 2010 AQE tested the removal of the term “race” from the question and showed no evidence that removal of the term had any effect on either unit or item response rates. Recent cognitive research tested an open-ended instruction (“Which categories describe you?”) and found that respondents did not have issues with understanding what the question was asking. Therefore, an alternative option being explored tests the removal of the terms “race,” “origin,” and “ethnicity” from the question stem and instructions. Instead, a general approach asks, “Which categories describe Person 1?”

## 8. Which categories describe Person 1?

**Mark all boxes that apply AND print details in the spaces below.  
Note, you may report more than one group.**

**Which categories describe Person 1?**  
*Select all boxes that apply. Note, you may select more than one group.* [\(Help\)](#)

**White**  
For example, German, Irish, English, Italian, Polish, French, etc.

**Hispanic, Latino, or Spanish origin**  
For example, Mexican or Mexican American, Puerto Rican, Cuban, Salvadoran, Dominican, Colombian, etc.

**Black or African Am.**  
For example, African American, Jamaican, Haitian, Nigerian, Ethiopian, Somalian, etc.

**Asian**  
For example, Chinese, Filipino, Asian Indian, Vietnamese, Korean, Japanese, etc.

**American Indian or Alaska Native**  
For example, Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Native Village of Barrow Inupiat Traditional Government, Nome Eskimo Community, etc.

**Middle Eastern or North African**  
For example, Lebanese, Iranian, Egyptian, Syrian, Moroccan, Algerian, etc.

**Native Hawaiian or Other Pacific Islander**  
For example, Native Hawaiian, Samoan, Chamorro, Tongan, Fijian, Marshallese, etc.

**Some other race, ethnicity, or origin**

**Web-Based Technology.** The 2015 NCT also presents a critical opportunity to compare the success of different question designs with the advantage of new

technology to collect data via web-based designs. The fourth dimension of our research explores the use of Web-based technology to enhance question designs and optimize reporting of detailed racial and ethnic groups, while enabling people to respond via computer, smartphone, and telephone questionnaire assistance.

The web-based approaches provide a series of screens to collect data for major groups (such as White, Hispanic, Black, and Asian) as well as data for detailed groups (such as Samoan, Iranian, Filipino, Jamaican, Puerto Rican, Irish, etc.).

On the initial screen, we collect data on the major OMB categories via a checkbox and examples, which are shown for the six largest detailed groups representing the geographic diversity of the OMB race/ethnic group's definition.

So here, the red arrows show an example where the respondent marks Hispanic, Latino, or Spanish and also marks Asian.

The screenshot shows a survey screen with a light blue background. At the top, it says "Select all boxes that apply and/or enter details in the space below." with a blue "(Help)" link to the right. Below this is the heading "HISPANIC, LATINO, OR SPANISH". There are six checkboxes with corresponding labels: "Mexican or Mexican American" (checked), "Puerto Rican", "Cuban", "Salvadoran", "Dominican" (checked), and "Colombian". Below the checkboxes is a text input field containing "Guatemalan, Peruvian". At the bottom are two buttons: "Back" and "Next", with the "Next" button highlighted by a red border.

After that, they will move to the next screen.

For any selected category, a subsequent screen presents either several detailed checkbox groups and/or a dedicated write-in area to collect additional detailed responses, depending on the design treatment.

In our example, where the respondent marked they are Hispanic and Asian, the first followup screen will collect detailed Hispanic groups, such as Mexican or Mexican American and Dominican.

Additionally, respondents can enter multiple additional responses, such as Guatemalan and Peruvian.

After that, the respondent would go to the NEXT screen.

Select all boxes that apply and/or enter details in the space below. [\(Help\)](#)

**ASIAN**

Chinese

Filipino

Asian Indian

Vietnamese

Korean

Japanese

Enter details below (for example, Pakistani, Cambodian, Hmong, etc.)

Bangladesh, Hmong

On this screen, in a similar fashion to the previous one, the instrument will collect detailed Asian responses, such as Filipino and Vietnamese.

Additionally, respondents can enter multiple additional responses, such as Bangladeshi and Hmong.

Similar screens would collect detailed data for all communities, such as German, Jamaican, Lebanese, Samoan, etc.

### Stakeholder Engagement on Race and Ethnic Research

Since the release of the 2010 AQE research findings in the Summer of 2012, the Census Bureau has been very active in reaching out to stakeholders to make them aware of the research, to discuss the findings with them, and to obtain their feedback. Our Census Bureau Race and Ethnic Research Team has been involved in ongoing dialogues, outreach discussions, and engagement with myriad racial and ethnic communities and other key stakeholders.

The Census Bureau has a lot to consider regarding decisions for the 2020 Census, and in order to make the best decisions possible, this mid-decade research is being undertaken along with engagement in ongoing discussions about race and ethnicity with OMB, federal statistical agencies, and myriad stakeholder groups. Together, these discussions and research will enable the Census Bureau to provide the most accurate, reliable, and relevant data possible about our changing and diversifying nation. These discussions have been especially helpful for us as we design new and innovative ways to collect data for both major OMB categories (e.g., White, Hispanic, Black, Asian, etc.) and data for detailed groups (e.g., Irish, Puerto Rican, Jamaican, Filipino, etc.).

We are excited about our prospective research this year, and believe this work will vastly improve the prospects for collecting and providing detailed data for all groups. We will continue our efforts to address questions and concerns through outreach and engagement. All in all, the 2010 AQE research started an important conversation that has yielded notable insights to the complexities of race and ethnicity, and we have been meeting with and advising stakeholders about the findings, as well as our plans for future research for the 2020 Census. The results from the 2015 NCT will lead to recommendations for the content of the 2020 Census and the 2019 American Community Survey.

If you are interested in learning more about this research, please visit our website for a link to the March 2015 presentations that we gave as part of the Spring 2015 meeting of the Census Bureau's National Advisory Committee on Racial, Ethnic, and Other Populations: <[www.census.gov/about/cac/nac/meetings/2015-03-meeting.html](http://www.census.gov/about/cac/nac/meetings/2015-03-meeting.html)>.



An archived webcast video of the meeting is also available from the Census Bureau's online video library: [www.census.gov/library/video/2015-nac.html](http://www.census.gov/library/video/2015-nac.html).

### **Future Outreach on Race and Ethnic Research and Plans for the 2020 Census**

We have learned so much from the 2010 AQE, but it was not the end, just the beginning. Our 2010 AQE research provided a strong foundation upon which we are building our research strategies to improve racial and ethnic data for the future. We continue to meet with stakeholders about the research findings, as well as our plans to explore ways to optimize race and ethnic reporting in our mid-decade research. We expect these discussions to continue, and we embrace them as a major part of our preparations for the 2015 National Content Test and future discussions of results and next steps. We welcome the opportunity to continue these discussions as we move forward with our work, and we welcome your feedback. Ultimately, we recognize that these discussions have been, and will continue to be, paramount to the success of improving data on race and ethnicity for the future.

## **SAHIE Adapts With the Changing Healthcare Landscape**

*by: Lucinda Dalzell, Social, Economic, and Housing Statistics Division*

In March 2015, the Census Bureau's Small Area Health Insurance Estimates (SAHIE) program released estimates for 2013 of the number and percent of insured and uninsured persons for counties and states nationwide. The SAHIE program is the only source of single-year estimates of health insurance coverage for all counties in the United States. These statistics are provided by selected age groups, sex, and income-to-poverty levels that reflect the federal poverty thresholds for state and federal assistance programs. At the state level, race and Hispanic-origin detail are also available.

The Centers for Disease Control and Prevention partially sponsor SAHIE for use in their National Breast and Cervical Cancer Early Detection Program (NBCCEDP). The CDC has a congressional mandate to provide screening services for breast and cervical cancer to low-income, uninsured, and underserved women.

SAHIE also produces estimates reflective of the income categories relevant to the Affordable Care Act (ACA). For some states, the ACA will allow access to health care by allowing Medicaid to cover families with incomes less than or equal to 138 percent of the poverty threshold in states that have enrolled for the ACA. Families with incomes above the level needed to qualify for Medicaid, but less than or equal to 400 percent of the poverty threshold, can receive tax credits that will help them pay for health coverage in the new health insurance exchanges.

For both the 2012 and 2013 releases, SAHIE provided estimates for state and county uninsured populations with incomes up to 138 percent and 400 percent of the federal poverty level (see map below), in order to provide useful information about health insurance expansions under the ACA.

***Click Image to Enlarge***

SAHIE are considered model-based estimates because we enhance health insurance coverage estimates from the American Community Survey (ACS) by statistically modeling them with administrative records and other Census Bureau data sources. These auxiliary data strengthen the precision of SAHIE statistics relative to those of survey estimates alone. As part of every round of production, the SAHIE team does extensive review to ensure the auxiliary data have the highest level of quality, thus allowing government and healthcare officials to utilize SAHIE to prepare for changing healthcare landscapes.

One way we do this is by researching alternative sources of information to evaluate and improve our model inputs. In particular, research on the Medicaid data used in the modeling process is underway in advance of the 2014 SAHIE production release. In a typical round of SAHIE production, Medicaid participation records are the final input data source acquired by the Census Bureau. The SAHIE team has been able to mitigate the effects of this by using lagged Medicaid data. For example, the 2013 SAHIE release used Medicaid participation records for 2011. As long as Medicaid participation remained relatively stable from year-to-year, this

assumption was acceptable. Given the expanded Medicaid participation that took place in 2014 as part of the ACA, it became necessary to investigate the possibility of using more recent Medicaid data.

The SAHIE program seeks to reduce the Medicaid time lag by benchmarking its detailed Medicaid tallies (by age, sex, and county) from the Medicaid Statistical Information System (MSIS) with timely state-level Medicaid growth figures or numerical benchmarks to more rapidly published data series from the Centers for Medicare and Medicaid Services (CMS) and/or the Kaiser Family Foundation (KFF). The SAHIE program will evaluate the accuracy of the new data and quantify the improvement of model fit, area residuals, and variances in comparison to the traditional MSIS data.

The 2014 SAHIE is planned for release in 2016, and will provide state and county estimates of people with and without health insurance coverage by:

- Ages 0-64, 18-64, 40-64, and 50-64 years
  - Sex
  - All incomes and income-to-poverty ratios (IPR) of 0-138, 0-200, 0-250, 0-400, and 138-400 percent of the poverty threshold
  - For states only: White not Hispanic, Black not Hispanic, and Hispanic (any race)
- In addition, estimates for age category 0-18 years by the six income categories listed above are produced.

More information regarding the program, methodology, inputs, estimates of health insurance coverage, and additional reports can be found through the SAHIE website:

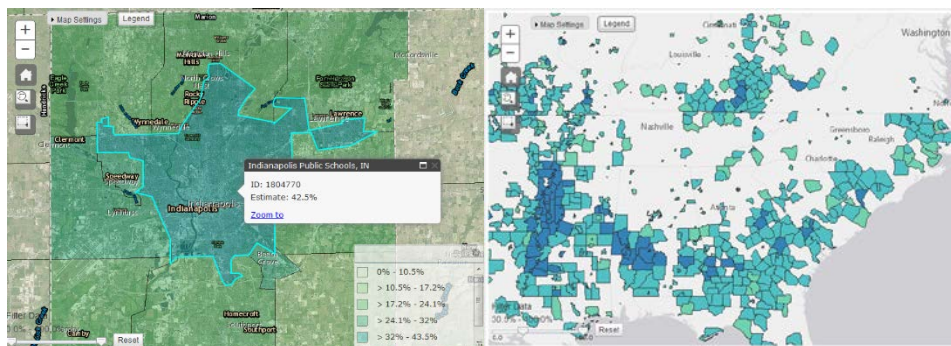
< <https://www.census.gov/did/www/sahie/index.html>>.

## Using GIS Technology to Promote Data Exploration

*by: Meade Turner, Demographic Surveys Division*

Current Internet users want and expect more and much faster access to data. Concurrently, analysis and usefulness of the data can be greatly enhanced by visual displays. Imagine seeing what poverty looks like and where it is. How can I quickly see what the U.S. median household income looks like on a national scale and then zero in to a specific location to do further investigation? How about filtering out school districts that meet a user-defined threshold?

School district boundary display with poverty estimates using GIS mapping tool



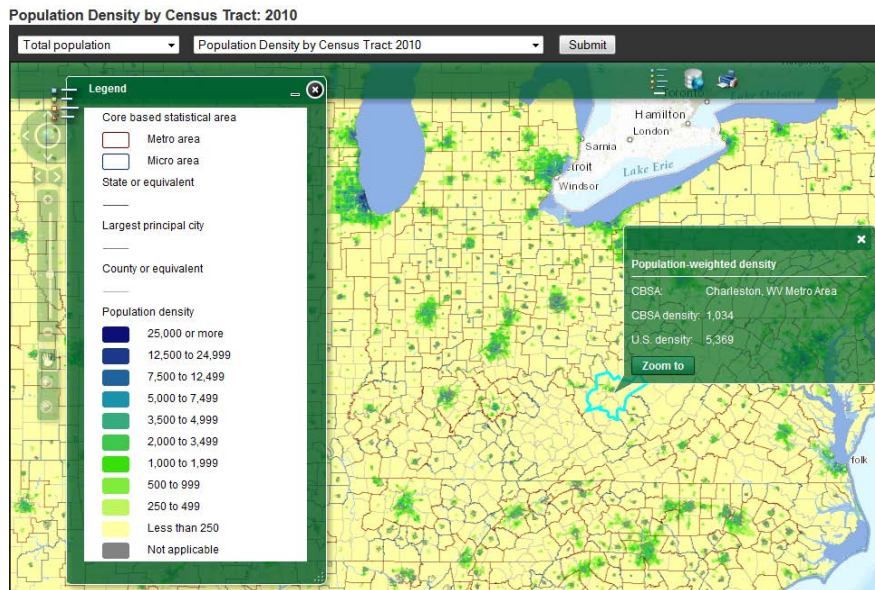
*Click Images to Enlarge*

These capabilities are just some of the features users can find in some of the Demographic Directorate's online map applications. Geographic Information Systems (GIS) provides the platform to easily show data that users can turn into information without having to read tables and spreadsheets to see patterns and distributions. The

Demographic Surveys Division (DSD) dissemination team in partnership with subject matter areas such as the Population Division and the Social, Economic, and Household Statistics Division, have taken such an approach to make data more accessible to consumers and put the power of visual exploration at their fingertips. GIS technology takes advantage of integrating geographic boundaries (from the Census Bureau's Topologically Integrated Geographic Encoding and Referencing (TIGER) files) with Census Bureau estimates data to provide a tool for data discovery.

IT specialists here at Census have access to industry-leading tools from the Environmental Systems Research Institute (ESRI) to develop such applications. Several online mapping tools have been built using ESRI technology that display language use, poverty and income, metropolitan change over time, and a soon-to-be released international data map viewer.

### Patterns of Metropolitan and Micropolitan Population Change: 2000 to 2010

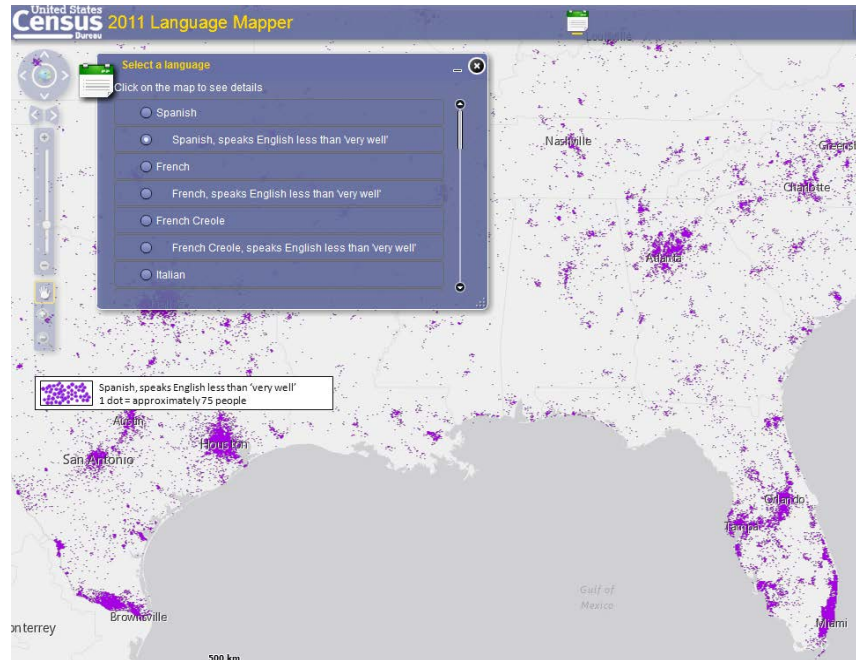


*Click Image to Enlarge*

Census tract population density for 2010 using the census tract thematic map viewer.

[URL https://www.census.gov/population/metro/data/thematic\\_maps.html](https://www.census.gov/population/metro/data/thematic_maps.html)

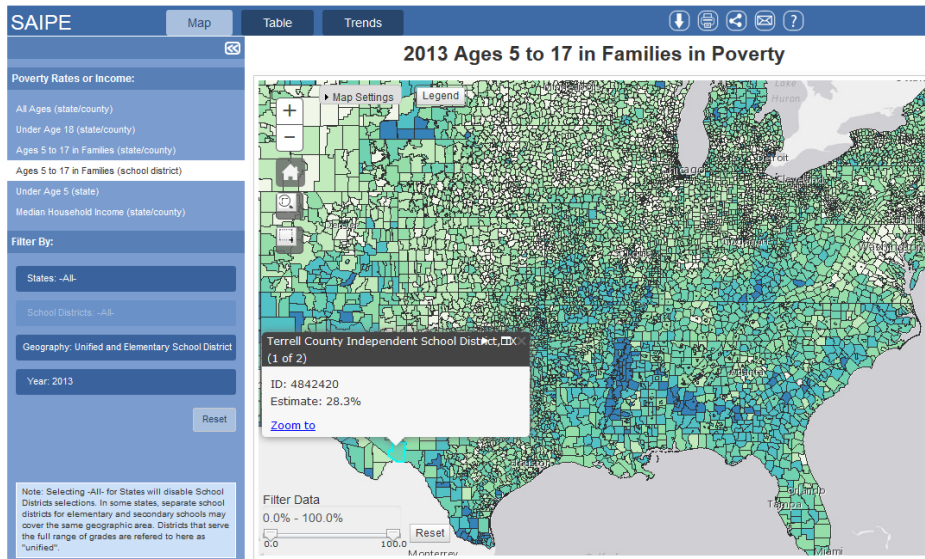
**2011 Language Mapper**



Click Image to Enlarge

Dot distribution map of Spanish speakers that speaks English less than very well.  
 URL <https://www.census.gov/topics/population/language-use/tool.html>

### Small Areas Income and Poverty Estimates



Click Image to Enlarge

Poverty estimates ages 5 to 17 in families by school district.

The DSD development team has partnered with the Geography division to utilize their existing enterprise ESRI

mapping service that currently hosts the web-enabled viewer for TIGER. This partnership has been beneficial by leveraging existing infrastructure and reuse of enterprise investments made by the Census Bureau.

The dissemination team in DSD is building on successful deployments of interactive maps to attract the casual Census data user and to fulfill a growing demand from tech-savvy users. Future versions will provide better mobile support along with new functions to interact with the data.

## Simulation (SIMEX) of Re-engineered Field Operations for the 2020 Census

*by: Kimberly Higginbotham, 2020 Research and Planning Office*

In preparation for the 2015 Census Test now underway in Maricopa County, Arizona, the Census Bureau conducted a simulation experiment, or SIMEX, in the fall of 2014 to test a new operational concept for the Decennial Census Nonresponse Follow-up (NRFU) phase. During this phase of the Census, field staff must make in-person visits to all the households who do not self-respond via Internet, telephone, or on paper. Historically this has always been the largest and most expensive phase of the Census—in 2010, the NRFU workload was over 47 million addresses.

In preparation for 2020, the decennial program has identified the largest cost drivers for the census. As mentioned earlier, field operations are the most expensive. Thus, the Census Bureau is re-engineering how it will manage and conduct the NRFU phase to automate as many processes as possible and utilize technology to aid us in working smarter. This new concept is being deployed in the field for the first time during the 2015 Census Test. The updated procedures and processes include a new management structure, an automated operational control system called MOJO, the use of online training, and the use of mobile devices to conduct the interviews and collect the data. These changes – along with other new census-taking methodologies – are projected to save over \$5 billion compared to conducting the 2020 Census the same way as the 2010 Census.

The participants in the 2014 simulation exercise were spread across the entire United States. Senior field operation managers (the Area Manager of Operations and two Field Managers of Operation), sat in the Area Operations Support Center created at Census HQ. They simulated the supervision of forty Local Supervisors of Operations (LSOs) located throughout the Census Bureau's six regional offices. In turn, these LSOs simulated supervision of other staff who were simulating field interviewing activities from another off-site location. All of the 70+ participants were regional office staff members, with varying degrees of Decennial Census experience. During the simulation, the field interviewers contacted the LSOs with a wide variety of field problems. The LSOs responded to these, and then communicated with the FMOs about the field problems.

The main focus of SIMEX was to answer the following questions.

- Did we get the operational control system (MOJO) right? Is it an intuitive and functional system?  
We put MOJO in the hands of each of the different operations managers to see how easily they were able to learn and work with the system. Although they had a wide variety of skill sets, nearly all of the participants were comfortable using the system within the first few days of simulations. In addition, LSOs made several suggestions for how to improve MOJO, such as updating the messaging function to be more like email.
- What are the appropriate staffing ratios for field interviewers to LSOs?  
Each day we ran two three-hour simulations. We varied the number of participating LSOs from 20 to 40, and the number of contacts between interviewers, LSOs, FMOs, and the AMO ranged from 87 to 643. By varying the simulations, we were able to answer questions about how many staff each LSO might be able to handle in 2020. We found that a staffing ratio of interviewers to LSOs of 23:1 performed well in the SIMEX. This is more than twice the ratio for the 2010 Census, where supervisors managed teams of about 10 interviewers.

- Did the online training materials help participants do their jobs? Did we cover what we needed to before sending them to the field?

LSOs and FMOs received an abbreviated training, and at the end of the simulation we asked them to provide feedback about what they felt was missing from the training package. Participants told us that our training helped them do their jobs in most areas, but a few things were missing. They gave us good ideas for improvements, including suggesting that we provide more information about how to handle supervisory and administrative tasks.

Overall, the SIMEX ran very smoothly and gave us vital information that will help lead the Census Bureau to success in the 2015 Census Test and beyond.

## Seeing Through the Public's Eyes: The Census Bureau's Center for Survey Measurement Provides Reality Check

*by: Paul Beatty, Chief, Center for Survey Measurement, and Jeannie Shiffer, Associate Director for Communications*

Whether we're designing a survey for data collection or a web site for data dissemination, it's important to remember that we create products for the public and that we must see them through their eyes. Census Bureau products should be "easily accessible, understandable, and available in formats that help people answer their questions."

To assist in this effort, the Center for Survey Measurement (CSM)'s Human Factors and Usability Research Group and Questionnaire Development and Evaluation Group are valuable resources for evaluating Census Bureau communications. CSM offers services such as usability testing, expert reviews, cognitive interviewing, and focus groups. These services facilitate the effective development of survey questions, paper and online survey instruments, data dissemination products, and mobile applications.

If a respondent doesn't understand a question or how to interact with an online survey, we may get incorrect or incomplete data -- or no data at all. Similarly, if our users can't navigate our dissemination sites, they may go elsewhere for the data and information they need. CSM provides a reality check on how well our various communications with the public are actually working. More importantly, they keep the needs of the public at the forefront of Census Bureau activities.

CSM has worked with many Census-sponsored surveys to improve their data collection efforts. Our work with the American Community Survey (ACS) is a good example of how our services make significant contributions at each step of the survey life cycle. Using cognitive testing, we evaluated the wording of questions to see how they were being interpreted and answered by ACS respondents. Through usability testing and expert review, we provided real-time input into the design decisions of both the ACS on-line questionnaire and website. Using eye-tracking software, we were able -- literally! -- to see through the respondents' eyes as they used these instruments. We could see what information they read and what they skipped, and could tell if they paid attention to important links and functions. These collaborative efforts can result in a better experience for all ACS respondents and better data for the Bureau.



***Eye tracking software follows how respondents read surveys and other tools.***

Usability and cognitive tests give us a unique perspective on how a respondent may interact with surveys and websites. Test participants can tell us what they are thinking in real-time while they are answering a survey question or using a website. We can get a better understanding of what is confusing to them, the processes they go through while trying to accomplish a task, and how they expect the instrument or site to work. Usability and cognitive techniques free us from a more restricted view of our survey and web products, and allow us to better design and improve our products to suit the respondents and data users.

CSM is an in-house resource that can advise on web products, online instruments, and survey and question development. We are also experts in choosing and convening focus groups. Involving us early in the process can prevent time-consuming and costly revisions later on in the Survey Life Cycle. We encourage program managers to contact us—the earlier the better! We are excited to provide services that make clear and effective communication a core feature of Census Bureau products.

# Recent and Upcoming Data Releases

## April 2015

### Demographic

**Fertility of American Women** - April 7 - The U.S. Census Bureau will release new data from the 2014 Current Population Survey's Fertility Supplement showing the fertility of women age 15 to 50 as of June 2014. The data includes information on children ever born, rates of childlessness and relationship status at first birth.

**Recent Population Trends for the U.S. Island Areas: 2000 to 2010** - April 8 - This report examines demographic trends for American Samoa, the Commonwealth of the Northern Mariana Islands, Guam and the U.S. Virgin Islands. The report will provide information on each area's population trends and census geography.

### **Estimates of U.S. Population by Age and Sex: April 1, 2010 to July 1, 2014**

A downloadable file containing estimates of the resident U.S. population by single year of age and sex will be released on the Population Estimates webpage (<https://www.census.gov/popest/data/datasets.html>). (Scheduled for release April 23.)

### Census

#### **Phoenix and Savannah Areas Mark Census Day 2015**

April 1 — The U.S. Census Bureau marked April 1 as Census Day for the two locations — Maricopa County, Ariz., and the Savannah, Ga., area — where it is conducting the 2015 Census Test to research modern and cost-effective methods for the 2020 Census. Internet address: <<https://www.census.gov/newsroom/press-releases/2015/cb15-63.html>>.

### Economic

#### **New, Advanced Report on U.S. International Trade to Improve Measurement of GDP**

April 2 — On July 30, the Census Bureau will release for the first time "Advance Report: U.S. International Trade in Goods," a new monthly report providing more timely statistics on exports and imports of goods. This report will enable decision makers to improve their measurements of the U.S. economy. It will be released 4-7 business days in advance of the "U.S. International Trade in Goods and Services" report and will present advance statistics for the reference month; for example, the July 30 release will feature advance statistics for June 2015. Internet address: <<http://census.gov/newsroom/press-releases/2015/cb15-tps29.html>>.

#### **2013 County Business Patterns**

These statistics provide the only detailed annual information on the number of establishments, employees, and quarterly and annual payroll for nearly 1,200 industries covered at the national, state and county levels. These data are useful for studying the economic activity of small areas; analyzing economic changes over time; and as a benchmark for other statistical series, surveys, and databases between economic censuses. (Tentatively scheduled for release April 23.)

#### **2012 Economic Census Geographic Area Series: Educational Services**

This is a series of national-, state-, county-, place- and metro area-level data files that include data for business schools and computer and management training, technical and trade schools and educational support services. The files provide data on the number of establishments, receipts or revenue, payroll, number of employees and other data items by industry. This release is the first for the educational services sector and covers Colorado and Hawaii and geographic areas therein only. Statistics for the other states and geographic entities within them for this sector will be released on a flow basis over the coming months. (Tentatively scheduled for release late April.)

#### **2012 Economic Census Geographic Area Series: Health Care and Social Assistance**

This is a series of national-, state-, county-, place- and metro area-level data files that include data for ambulatory health care services, hospitals, and nursing and residential care facilities. The files provide data on the number of establishments, receipts or revenue, payroll, number of employees and other data items by industry. This release is the first for the health care and social assistance sector and covers Colorado and Hawaii and geographic areas therein only. Statistics for the other states and geographic entities within them for



this sector will be released on a flow basis over the coming months. (Tentatively scheduled for release late April.)

### **2012 Economic Census Geographic Area Series**

Continuing on a flow basis through September 2015, this series provides detailed industry statistics by geographic area for establishments of firms with paid employees. Data are shown on the 2012 North American Industry Classification System (NAICS) basis. These data supersede the data shown in the Industry Series and may be superseded by data shown in later publication series for selected sectors. See <https://www.census.gov/econ/census/schedule/> for more information.

## **March 2015**

### **Demographic**

**2013 American Housing Survey for Selected Metropolitan Areas** - March 31 — Microdata and tables for 25 selected metropolitan areas from the American Housing Survey provide a comprehensive look at a variety of housing statistics. Every odd-numbered year, data are collected to provide national and selected metropolitan area statistics. Statistics are released jointly by the U.S. Department of Housing and Urban Development and the U.S. Census Bureau. Internet address: <https://www.census.gov/newsroom/press-releases/2015/cb15-61.html>.

**County, Puerto Rico Municipio, Metropolitan and Micropolitan Statistical Area Population Estimates: July 1, 2014** - March 26 — Internet tables and detailed downloadable files showing population estimates, rankings and components of change since the 2010 Census. Internet address: <https://www.census.gov/newsroom/press-releases/2015/cb15-56.html>.