Census 2020—A Preventable Public Health Catastrophe

See also Morabia, p. 1061, Gaston et al., p. 1079, Monnat et al., p. 1084, and Krieger, p. 1092.

The US decennial census serves key roles in shaping Congress and its legislative framework, providing data that undergird much of public health research and practice and guiding the allocation of a broad range of federal funding. The 2020 Census is confronted by numerous challenges, including budgetary constraints, a shift toward online data collection, threats to data security, and the inclusion of a citizenship question and a race/ethnicity series with questionable accuracy. If these challenges are not addressed properly, a compromised 2020 Census will result in difficulty planning for standard public health needs, impede work to reduce social inequalities in health, and challenge the identification and management of novel and emergent public health threats.

WHY THE CENSUS MATTERS

The decennial census counts every person and residence in the United States. As constitutionally prescribed, the count is used to apportion the 435 seats in the House of Representatives, giving the census enormous importance in shaping Congress and its legislative framework. In addition, a range of fields, including demography, economics, and urban planning rely on census data. Critically, census data guide the allocation of federal assistance ($675 billion in 2015), which supports a range of activities, including highway construction, Head Start, and support services for victims of crimes.

Beyond these important functions, the census serves public health research and practice in several ways.[1,2] Population counts provide denominators used to derive disease prevalence and rates. Inaccurate counts limit our ability to understand and track disease over time. Demographically stratified counts and proportions facilitate the tracking of social determinants of health. If we cannot accurately stratify our populations by social factors such as education and race/ethnicity, we cannot assess their relationships to health. Census counts are integral to the geospatial mapping of disease and risk factors. Compromised geospatial mapping data will limit our capacity to track environmental hazards and infectious disease dynamics. Population health simulations and projections require accurate counts to identify target populations. Inaccurate counts will result in mismatches between inferences drawn and target populations.

THREATS TO THE 2020 CENSUS

Despite the vital functions the census serves—to the country and to the public's health—four threats to the validity of the 2020 Census have emerged in the past year.

First, the 2020 Census has faced ongoing budgetary challenges amid rising costs,[3] driven by declining mail response and requisite follow-up efforts. Because of these funding challenges, the US Census Bureau (USCB) has vastly reengineered its canvassing approach by allowing residents to respond online and relying more on administrative records and satellite imagery to enumerate residences.[4] Unfortunately, their reengineered canvassing approach has not been adequately pretested and validated, and several concerns remain, including home vacancy identification, fictitious self-responses, and undercounts of difficult-to-reach populations.

Second, Web-based information technology systems designed to collect and store enumeration data are in danger of being improperly secured and managed. Most operational systems contain personally identifiable information. Yet, at the time of 2018 end-to-end testing, security assessments were incomplete, and thousands of specific weaknesses identified by the USCB remained unaddressed, delaying testing and troubleshooting and increasing the risk of operational failures. Further, data collected from online systems will be partly stored in a cloud-based infrastructure, raising further uncertainty about data security amid deepening public distrust of the federal government and continuing public data security concerns following Russian interference in the 2016 presidential election.

Third, the USCB reintroduced a citizenship question, a focal point of popular criticism and legal action. In the current sociopolitical context of rising xenophobia, uncertainty about immigrant rights, and public distrust in government, the citizenship question is expected to depress participation and lead to undercounts, particularly in urban metropolitan areas. John Abowd, chief scientist at the USCB, has voiced clear concerns about this, arguing that its addition will be costly, increase response burden, harm the quality of the census count, and result in inaccurate citizenship data.[5]

Fourth, the accuracy of the race/ethnicity series is questionable. A USCB report[6] recommended

ABOUT THE AUTHORS
Gregory H. Cohen, Craig S. Ross, Yvette C. Cozier, and Sandro Galea are with the Department of Epidemiology, Boston University School of Public Health, Boston, MA.
Correspondence should be sent to Gregory H. Cohen, Statistical Analyst, Boston University School of Public Health, 715 Albany St., Boston, MA 02118 (e-mail: ghcohen@bu.edu). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

restructuring the series by combining separate questions on race and ethnicity into a single question, encouraging respondents to "select all boxes that apply" and including a dedicated Middle Eastern and North African (MENA) category. USCB demonstrated experimentally that these changes increased the reporting of Hispanic alone and MENA alone, while increasing reporting of multiracial status, decreasing the selection of residual categories, and broadly improving accuracy and item response. Absent implementation of these changes, the accuracy of census race/ethnicity data in the census will not keep pace with the changing demographic makeup of the United States.

PUBLIC HEALTH COSTS OF A COMPROMISED CENSUS

Content and operational changes to the 2020 Census threaten an accurate population count and in turn imperil foundational public health data.[1,2] Urban areas with large immigrant populations would be most affected by the citizenship question, but rural populations with spotty Internet connectivity are also likely to be undercounted. Smaller geographic area units, such as census tracts, will be particularly vulnerable to misestimation. Notably, the annual intercensal American Community Survey depends on the decennial census for an accurate sampling frame.

Problems with the 2020 Census threaten public health efforts in four particular ways. First, inaccurate counts will hinder planning efforts for standard population health needs, such as safety net health services.

For example, dementia-related care is becoming increasingly important as our population ages. Difficulty in accurately projecting the demographic distribution of dementia will undermine the availability of needed health services, including interpreters and multilingual providers.

Second, a flawed count may impede work to monitor and reduce social disparities in health.[1,2] Social dimensions of race/ethnicity, income, and education are linked to protection from or risk of various health outcomes. Social determinants of health and health risk tend to cluster and can be understood in urban contexts at the neighborhood level, which depends on accurate small area data. The misestimation of social disparities in health will impede our capacity to reduce them.

Third, a faulty census will challenge the identification and response to novel public health threats. During the 2015 emergence of Zika virus, the New York Department of Health and Mental Hygiene used census tracts to guide their surveillance work.[2,7] Zika testing rates were lowest in tracts with the greatest risks (i.e., density of childbearing-aged women born in countries with active transmission) and highest in tracts with the lowest risk. Using this information, the department ran a targeted public information campaign and reversed this trend within two months.

Fourth, a flawed census will compromise efforts to track and effectively manage emergent public health threats such as natural disasters, which require geographically focused provision of food, water, and shelter. Studies projecting resource needs or simulating interventions on the basis of flawed population counts will likely misestimate the distribution of resource needs and undermine emergency response efforts.

Resolving these threats to the 2020 count will require removal of the citizenship question, as enforcement of the Voting Rights Act is not a charge of the census and viable data alternatives exist[5]; modification of the race/ethnicity series according to prior USCB recommendations[6]; and further oversight and testing of their reengineered, largely online canvassing. Damage to the decennial census will persist for at least 10 years, while its ill effects on the USCB's reputation and efforts to improve the health of the public could last for decades. AJPH

Gregory H. Cohen, MPhil, MSW
Craig S. Ross, PhD, MBA
Yvette C. Cozier, PhD
Sandro Galea, MD, DrPH

REFERENCES
1. Krieger N. A century of census tracts: health & the body politic (1906–2006). *J Urban Health*. 2006;83(3):355–361.

2. Wilson RT, Hasanali SH, Sheikh M, et al. Challenges to the census: international trends and a need to consider public health benefits. *Public Health*. 2017;151: 87–97.

3. Government Accountability Office. Progress on many high-risk areas, while substantial efforts needed on others. 2017. Available at: https://www.gao.gov/ assets/690/682765.pdf. Accessed January 28, 2018.

4. US Census Bureau. 2020 Census operational plan. 2018. Available at: https://www.census.gov/programs-surveys/ decennial-census/2020-census/planning-management/planning-docs/operational-plan.html. Accessed March 16, 2018.

5. US Department of Commerce. Administrative Record Upon Which the Secretary of Commerce Decided to Reinstate a Question Concerning Citizenship on the 2020 Decennial Census. 2018. Available at: https://assets. documentcloud.org/documents/4500011/ 1-18-Cv-02921-Administrative-Record. pdf. Accessed September 30, 2018.

6. US Census Bureau. 2015 National content test: race and ethnicity analysis report. 2017. Available at: https://www.census.gov/ programs-surveys/decennial-census/2020- census/planning-management/final- analysis/2015nct-race-ethnicity-analysis. html. Accessed August 17, 2018.

7. Lee CT, Vora NM, Bajwa W, et al. Zika virus surveillance and preparedness— New York City, 2015–2016. *MMWR Morb Mortal Wkly Rep*. 2016;65(24): 629–635.