



# 44 Years and Counting: CNSTAT's Role in Federal Statistics

Constance F. Citro, *Director, CNSTAT*  
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# What are the National Academies?



National Academy of Sciences—independent, nonprofit honorific society; 1863 congressional charter to advise govt. on science and “art”

National Academy of Engineering—est. 1964

National Academy of Medicine – est. 1970

National Research Council – est. 1916 as operating arm with 6 operating divisions and ~50 standing units like CNSTAT that oversee Academies’ work

# What is the Committee on National Statistics?



Established in 1972 as a standing unit of the Academies (recommended by the President's Commission on Federal Statistics) to provide an independent, objective resource for evaluation and improvement of federal statistical programs

Mission is to improve the statistical methods and information on which public policy decisions are based; also serves as coordinating force in highly decentralized U.S. federal statistical system

# CNSTAT Membership—

## Multidisciplinary



LAWRENCE BROWN (*chair*), statistics

JOHN ABOWD, economics

FRANCINE BLAU, economics

MARY ELLEN BOCK, statistics

MICHAEL CHERNEW, health econ

DON DILLMAN, survey research

CONSTANTINE GATSONIS,  
biostatistics

JAMES HOUSE, survey research

MICHAEL HOUT, sociology

SUSAN MURPHY, statistics

TOM MESENBORG, senior  
federal statistics mgt.

SARAH NUSSER, survey/stats

COLM O’MUIRCHEARTAIGH,  
survey research

RUTH PETERSON, criminal  
justice/sociology

ROBERTO RIGOBON, economics

TED SHORTLIFFE, biomedical  
informatics

Serve *pro bono* to oversee CNSTAT’s project portfolio

Supported by 17 FTE staff from variety of backgrounds



# What does CNSTAT Do?

***Consensus panels*** (10-14 members)—gather information and deliberate in response to charge; issue reports with findings and recommendations; members recommended by CNSTAT members/staff (sponsors have input) and appointed by NRC chair/NAS president; reports rigorously reviewed

***Stand-alone workshops***—convening function, summary report; organized by appointed steering committee

***Other convening activities***—standing committees, planning meetings, public seminars fall and spring, structured discussions with major statistical agencies

***Over 44 years***, CNSTAT has produced over 250 reports

***All participants are volunteers***; supported by staff



# Who Pays for CNSTAT's Work?

*Agency contracts/grants* fund individual projects

Ideas for projects often developed by sponsors through discussion with CNSTAT staff; sometimes mandated by Congress; must be approved by CNSTAT, DBASSE, and the NRC Governing Board Executive Committee

*Core support* comes in small amounts from 20 agencies to help CNSTAT maintain staff and undertake cross-cutting, “good citizen” activities: NSF/MMS, AHRQ, ASPE, BEA, BJS, BLS, BTS, Census, CIS/DHS, EIA, ERS, FNS, HUD, NASS, NCES, NCHS, NCSES, NIA, SOI/IRS, SSA

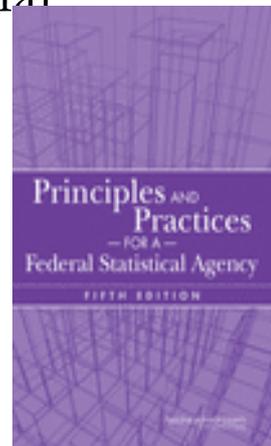
# Areas of CNSTAT Work



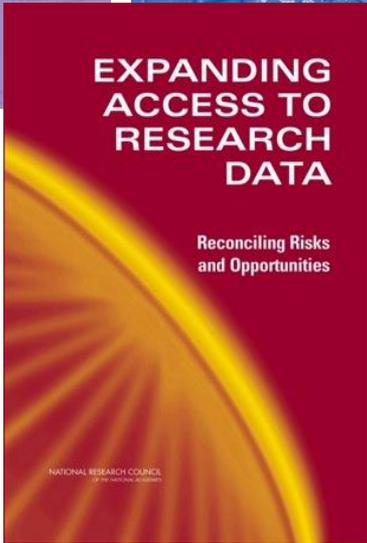
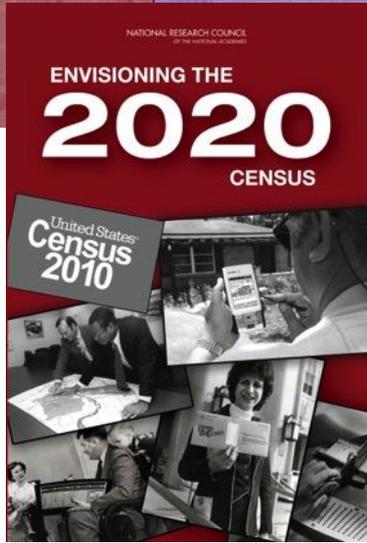
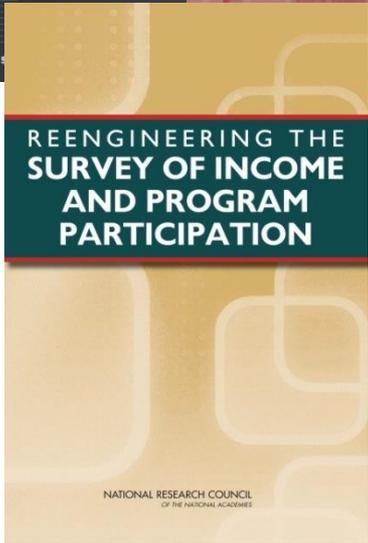
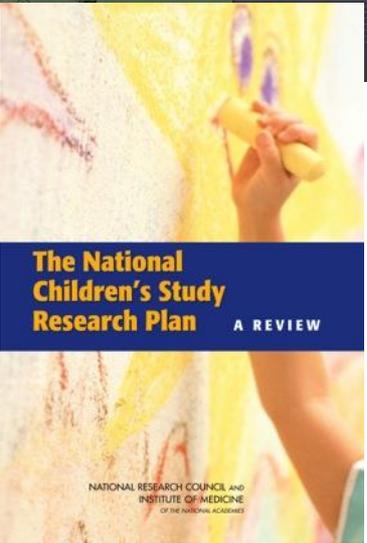
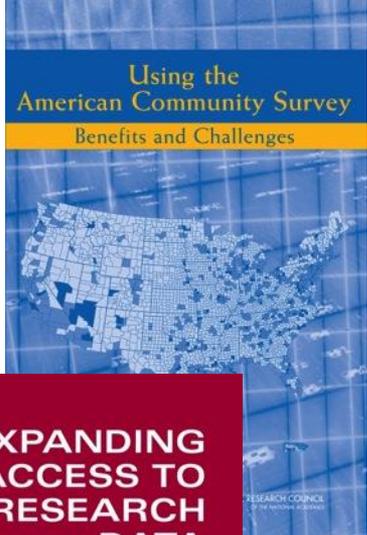
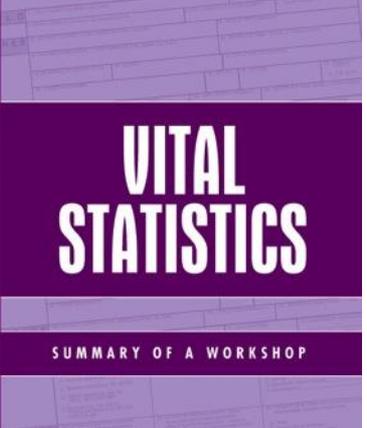
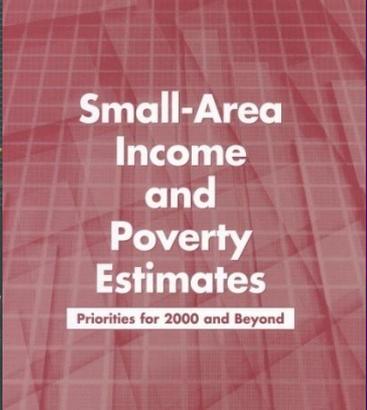
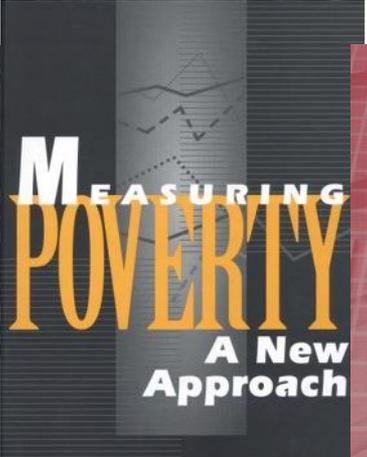
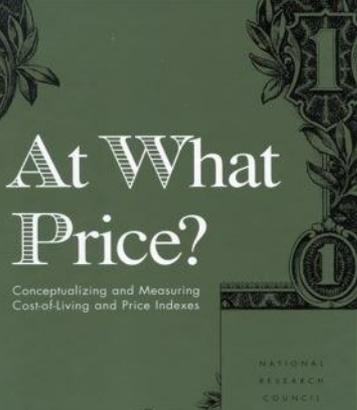
- *Principles & Practices for a Federal Statistical Agency*
- Decennial census and American Community Survey
- Entire agencies and major survey programs—e.g., BJS, BTS, NCES, NCSES; ARMS, CE, SIPP . . . .
- Data needs in specific areas—e.g., nutrition, health . . .
- Concept reviews—e.g., CPI, food security, poverty
- Issues shared across agencies—e.g., confidentiality, data access, dissemination, nonresponse, survey automation
- Statistical methods in diverse areas—e.g., clinical trials
- Often collaborate with other NRC units

# *Principles and Practices for a Federal Statistical Agency*

- Flagship publication, authored by CNSTAT itself; first issued 1992; updated every 4 years beginning in 2001; 5<sup>th</sup> edition 2013
- Prescribes 4 principles that are fundamental to a statistical agency and 13 practices for making the principles operational
- Principles can be summarized as:  
*Relevance; Credibility; Trustworthiness; Independence*
- Practices include: *Continual development of more useful data; Openness about sources and limitations of the data provided; Wide dissemination of data; An active research program; Professional advancement of staff; Strong internal and external evaluation program; and more*



# Sampling of CNSTAT Studies



# Context of CNSTAT's Work



## *Highly decentralized statistical system—*

- 13 “major” statistical agencies (from Census Bureau with budget of \$1 billion+, to 3 agencies with budgets <\$40million), in 9 cabinet departments and 2 independent agencies
- 100 agencies with statistical programs of at least \$500K
- Small coordinating office in OMB (chief statistician & 6 staff)
- Contractors that conduct many federal surveys
- Advisory committees
- Half a dozen congressional appropriations subcommittees

*Statistical agencies serve wide range of users* with time series, tables, small-area estimates (using models), microdata from surveys, access to confidential data in Research Data Centers, descriptive analyses

*Agencies have been very innovative historically, but . . .*

# Federal Censuses/Surveys Increasingly Challenged



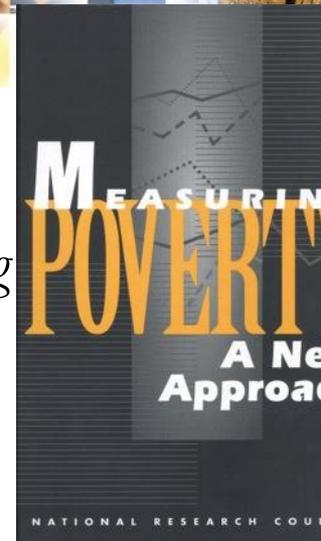
- Unit response in decline and costly to remedy  
E.g., NHIS: 92% household response in 1997, 76% in 2013
- Item nonresponse high and growing for key variables: e.g., income imputed in CPS up from 24% in 1993 to 35% in 2011
- Measurement error often a problem (e.g., income underreporting)
- Innovations not coming as easily in 21<sup>st</sup> as in 20<sup>th</sup> century
- Improvements hampered by constrained resources, constraints on sharing data and accessing administrative records, reluctance to affect time series, difficulties of redesigning established systems to handle data from multiple sources, etc.

# Wins for CNSTAT & Federal Statistics



## *Economic Measures, Statistics, and Surveys*

- Catalyzing a new Supplemental Poverty Measure (*Measuring Poverty: A New Approach*, 1995)
- Improving the Consumer Price Index (*At What Price? Conceptualizing and Measuring Cost-of-Living and Price Indexes*, 2002)
- Standing up the new Business R&D and Innovation Survey (BRDIS) and Science of Science & Innovation Policy Program (SciSIP) at NSF (*Measuring Research and Development Expenditures in the U.S. Economy*, 2004)
- Revitalizing the state and local government statistics program at the Census Bureau (*State and Local Government Statistics at a Crossroads*, 2007)



# Wins for CNSTAT & Federal Statistics



## *Social Measures, Statistics, and Surveys*

- Facilitating the American Time Use Survey (*Time-Use Measurement and Research: Report of a Workshop*, 2000)
- Improving small-area poverty estimates and validating their use for fund allocations to school districts (*Small-Area Estimates of School-Age Children in Poverty: Evaluation of Current Methodology*, 2000)
- Strengthening food security measures (*Food Insecurity and Hunger in the United States: An Assessment of the Measure*, 2006)
- Revitalizing the NCVS (*Surveying Victims: Options for Conducting the National Crime Victimization Survey*, 2008)
- Halting a poorly managed longitudinal survey (*The National Children's Study 2014: An Assessment*, 2014)

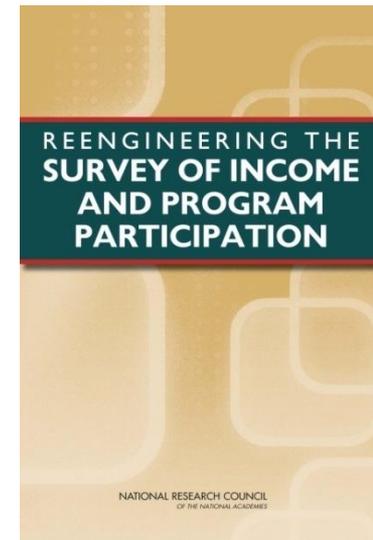
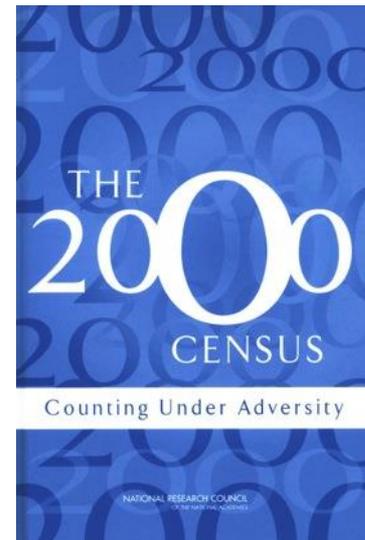


# Slower Going—Census, ACS, SIPP



CNSTAT has produced over 30 reports on decennial census methodology from 1978 – 2011, 7 on the ACS, and will soon produce a 3<sup>rd</sup> report on SIPP

Change has been slow –  
Now have in place a  
Standing Committee to work  
hand-in-glove on 2020 census





# Building Up Steam on Multiple Data Sources

Critical for stat agencies to adopt a paradigm of Multiple Data Sources (Surveys + Ad Recs, Commercial, Internet Data) for relevance, quality, and timeliness

OMB memo (2/14/14) blessing use of Ad Recs for statistics a milestone for decentralized U.S. system

Agencies are experimenting (see, e.g., [this CNSTAT site](#))

CNSTAT has multiple projects to help multiple data sources become the new paradigm

*Your challenge as users of federal statistics will be to understand their strengths and limitations*

# Some References (available on-line)



Citro, C. (2014, May), Principles and Practices for a Federal Statistical Agency: Why, what, and to what effect?, *Statistics and Public Policy*

Citro, C. (2014, Dec.) From multiple modes for surveys to multiple data sources for estimates, *Survey Methodology*

Brown, L., et al. (2014), The past, present, and future of federal surveys: Observations from the Committee on National Statistics, *Social Statistics Section Proceedings*

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CNSTAT reports are available at [www.nap.edu](http://www.nap.edu).