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Principles and Practices for a Federal Statistical Agency

Ensuring Scientific Integrity in the Federal Statistical System

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STATISTICAL METHODOLOGY

The National Academies of Sciences, Engineering, and Medicine



- Private, non-profit societies of distinguished scholars and scientists, elected by their peers to membership for outstanding contributions to research
- [National Academy of Sciences](#) established by an Act of Congress, signed by President Abraham Lincoln in **1863**
- [National Academy of Engineering](#), [National Academy of Medicine](#) founded 1964, 1970

National Academies' Capabilities

The three Academies work together to provide **independent, objective analysis** and **advice to the nation** and conduct other activities to solve complex problems and inform public policy decisions

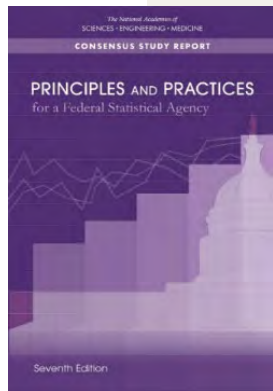
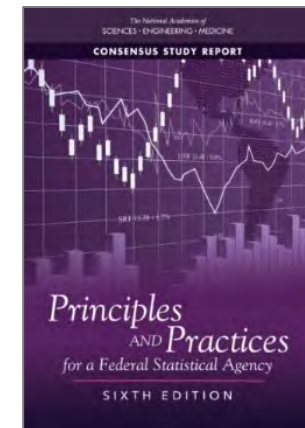
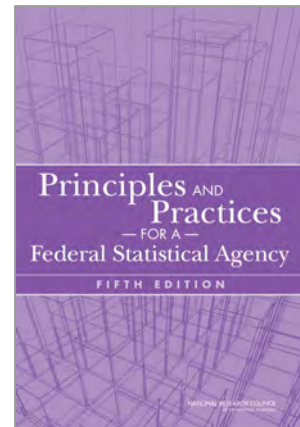
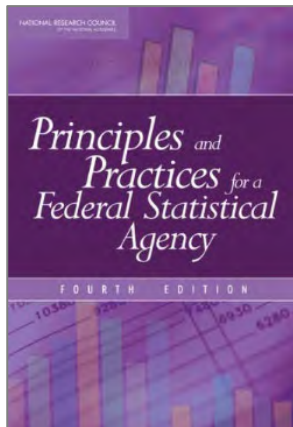
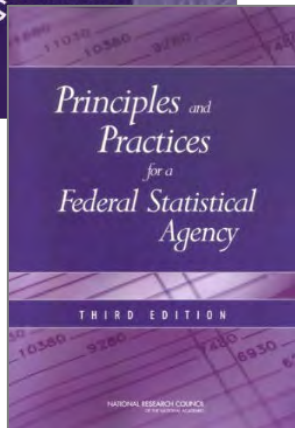
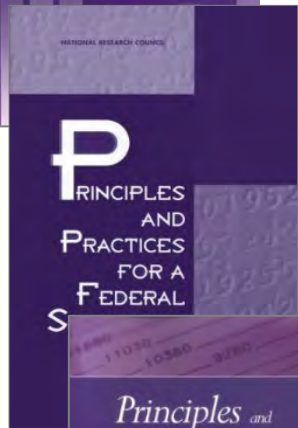
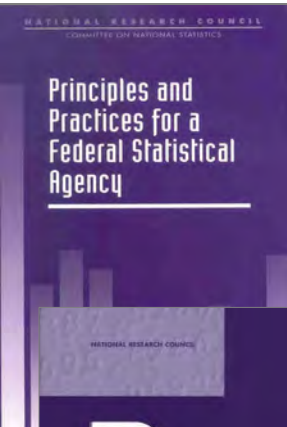
Provide Trusted, Consensus Advice	Convene Experts
Manage Original Research and Analysis	Promote the Scientific Enterprise

Serving the Statistical Community

- **Mission of CNSTAT** is to provide advice to the federal government and the nation grounded in the current best scientific knowledge and practice that will lead to improved statistical methods and information upon which to base public policy.
- Assist agencies with **specific issues**
 - Improve **economic and social measurement**
 - Review and evaluate **major statistical programs and surveys**
 - Improve statistical methods and estimates **for policy use**
- Address system-wide and **cross-cutting issues**
- **Expanding our reach** and making our products more widely used and more useful to the statistical **community**

Principles and Practices for a Federal Statistical Agency (*P&P* or the “purple book”)

- **Flagship publication** authored by CNSTAT itself
 - 1st edition, 1992; updated every 4 years beginning in 2001; 7th edition 2021
- Foundational: supports **invaluable role** of **widely available, trustworthy, relevant, accurate, and timely** government statistics
- Describes **decentralized structure** of U.S. statistical system
- 2021 edition prescribes **5 principles** (fundamental to a statistical agency) and **10 practices** (for making the principles operational)



Principles

1. **Relevance** to Policy Issues and Society
2. **Credibility** Among Data Users and Stakeholders
3. **Trust** Among the Public and Data Providers
4. **Independence** from Political and Other Undue External Influence*
5. Continual Improvement and **Innovation**

**Particularly important for scientific integrity; central to statistical agencies' mission to be seen as impartial*

Practices

1. A Clearly Defined and Well-Accepted **Mission***
2. Necessary Authority and Procedures to **Protect Independence***
3. Commitment to **Quality** and Professional **Standards of Practice***
4. Professional **Advancement of Staff***
5. An Active **Research Program**
6. Strong Internal and External **Evaluation Processes** for an Agency's Statistical Programs*
7. Coordination and **Collaboration** with Other Statistical Agencies
8. Respect for **Data Providers and Protection** of Their Data
9. **Dissemination** of Statistical Products that Meet Users' Needs
10. **Openness** about Sources and Limitations of the Data Provided

What *P&P* Is and Is Not

- It **IS** a statement of **principles** that statistical agencies must embody to carry out their mission fully – *Mission is statistical and scientific*
- It **IS** a statement of **practices** that provide the means for statistical agencies to implement the five principles
- It **IS NOT** a guide to best practices for data collection, processing, statistical methods, or dissemination
- It **does NOT** provide a set of data quality standards
- It **IS** a set of **guidelines** and **NOT** a set of prescriptions; **updated every 4 years** to help meet new challenges and opportunities
- It **does NOT** mention resources, but to live up to *P&P*, most federal statistical agencies today require a boost in staff and other resources

Who Uses *P&P*?

- Federal statistical agencies and other statistical programs
 - To inform Cabinet department officials, advisory committees, Congress, stakeholders, and others
- Office of Management and Budget (OMB) (The White House)
 - Has cited *P&P* in multiple Statistical Policy Directives
- U.S. Government Accountability Office (legislative branch)
 - Has cited *P&P* in many reports
- It has been cited in statistical agency head [confirmation hearings](#)

P&P and Scientific Integrity in the Federal Government

- Fourth Edition cited as a foundational document in [Statement of Commitment to Scientific Integrity of Principal Statistical Agencies](#) (2012)
 - On December 17, 2010, the White House Office of Science and Technology Policy [issued a Memorandum](#) requiring the Heads of Executive Departments and Agencies to submit a scientific integrity statement and policy
 - Endorsed by each of the 13 principal Federal statistical agencies

Resources

[Report](#)
[One-Page Summary](#) →
[Highlights](#)

[Interactive Web Tool](#)

Accessible, digestible format

The cover features a dark purple background with a white line graph showing an upward trend. The title 'PRINCIPLES AND PRACTICES for a Federal Statistical Agency SEVENTH EDITION' is prominently displayed in white. At the top left, the National Academies logo is visible, along with the fields 'Sciences, Engineering, and Medicine'. A navigation menu at the top includes 'Value', 'Government & Policy-making', 'Agencies', 'Principles', 'Practices', and 'Get the Report'.

PRINCIPLES AND PRACTICES

for a Federal Statistical Agency

SEVENTH EDITION

This report is intended to support the invaluable role of widely available, trustworthy, relevant, accurate, and timely government statistics. **The publication and the information below draws on CNSTAT's many studies of specific statistical and research agencies, programs, and topics.** Previous editions have proven helpful to Congress, OMB, federal statistical agencies, and others about what constitutes an effective and credible statistics entity. Beginning with the second edition in 2001, CNSTAT

PRINCIPLES AND PRACTICES for a Federal Statistical Agency, Edition 7

Principles and Practices for a Federal Statistical Agency is intended to support the invaluable role of widely available, trustworthy, relevant, accurate, and timely government statistics. The Committee on National Statistics (CNSTAT) of the National Academies of Sciences, Engineering, and Medicine developed these principles and practices and has refined and updated them periodically as part of its mission to provide an independent review of federal statistical activities. CNSTAT intends for its principles and practices to assist statistical agencies and units, as well as other agencies engaged in statistical activities, to carry out their responsibilities to provide accurate, timely, relevant, and objective information for public and policy use. It also intends this report to inform legislative and executive branch decision makers, data users, and others about the characteristics of statistical agencies that enable them to serve the public good.

FIVE PRINCIPLES

PRINCIPLE 1: Relevance to Policy Issues and Society: Federal statistical agencies must provide objective, accurate, and timely information that is relevant to important public policy issues.

PRINCIPLE 2: Credibility among Data Users and Stakeholders: Federal statistical agencies must have credibility with those who use their data and information.

PRINCIPLE 3: Trust among the Public and Data Providers: Federal statistical agencies must have the trust of those whose information they obtain.

PRINCIPLE 4: Independence from Political and Other Undue External Influence: Federal statistical agencies must be independent from political and other undue external influence in developing, producing, and disseminating statistics.

PRINCIPLE 5: Continual Improvement and Innovation: Federal statistical agencies must continually seek to improve and innovate their processes, methods, and statistical products to better measure an ever-changing world.



TEN PRACTICES

In order to fulfill these five principles, 10 practices are essential for statistical agencies to adopt:

1. A Clearly Defined and Well-Accepted Mission
2. Necessary Authority and Procedures to Protect Independence
3. Commitment to Quality and Professional Standards of Practice
4. Professional Advancement of Staff
5. An Active Research Program
6. Strong Internal and External Evaluation Processes for an Agency's Statistical Programs
7. Coordination and Collaboration with Other Statistical Agencies
8. Respect for Data Providers and Protection of Their Data
9. Dissemination of Statistical Products That Meet Users' Needs
10. Openness About Sources and Limitations of the Data Provided

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Revising *P&P* for the 8th Edition

Seeking feedback from the Federal Statistical System

- Questions and considerations –
- How have you used *P&P*?
- Content – How could *P&P* be more useful?
 - Are there important things missing that need to be added? Things that need more emphasis? Things included that don't belong?
 - Online appendices of relevant laws, regulations, guidance
- Resources and dissemination – improvements?
 - Currently have 1- and 4-page summaries, interactive website
 - CNSTAT will give briefings to staff or Department officials
- **Send comments** to CNSTAT@nas.edu with “**P&P**” in subject line

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CNSTAT website, events, and projects <http://www.nationalacademies.org/cnstat>

All CNSTAT reports available from National Academies Press (free)

<https://nap.nationalacademies.org/author/CNSTAT/>

[P&P main page](#) and [interactive site](#)

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Thank you!