

Statement of Commitment to Scientific Integrity by Principal Statistical Agencies

Our Nation relies on the flow of objective, credible statistics to support the decisions of governments, businesses, households, and other organizations. Any loss of trust in the integrity of the Federal statistical system and its products can foster uncertainty about the validity of measures our Nation uses to monitor and assess performance and progress.

Federal statistical agencies (or units) whose principal function is the collection, analysis, and dissemination of information for statistical purposes have set for themselves a high standard of scientific integrity. The following agencies are designated as “principal statistical agencies¹”:

- Bureau of Economic Analysis (Commerce Department)
- Bureau of Justice Statistics (Justice Department)
- Bureau of Labor Statistics (Labor Department)
- Bureau of Transportation Statistics (Transportation Department)
- Census Bureau (Commerce Department)
- Economic Research Service (Agriculture Department)
- Energy Information Administration (Energy Department)
- National Agricultural Statistics Service (Agriculture Department)
- National Center for Education Statistics (Education Department)
- National Center for Health Statistics (Health and Human Services Department)
- National Center for Science and Engineering Statistics (National Science Foundation)
- Office of Research, Evaluation, and Statistics (Social Security Administration)
- Statistics of Income Division (Treasury Department)

These agencies embrace a common set of professional standards and operational practices designed to ensure the quality, integrity, and credibility of their statistical activities. Implementation of these professional standards involves a wide range of managerial and technical challenges.

Principles and Practices of Statistical Agencies

To address these challenges, the National Academies of Sciences, Engineering, and Medicine (NASEM) has developed practical guidance in its publication, [*Principles and Practices for a Federal Statistical Agency*](#).²

The principal statistical agencies use this volume to guide their strategic planning, daily operations, and interactions with stakeholders. The principal statistical agencies embrace the five fundamental principles articulated in the Seventh Edition:

- **Principle 1:** Federal statistical agencies must provide objective, accurate, and timely information that is relevant to important public policy issues;
- **Principle 2:** Federal statistical agencies must have credibility with those who use its data and information;
- **Principle 3:** Federal statistical agencies must have the trust of those whose information they obtain;

- **Principle 4:** Federal statistical agencies must be independent from political and other undue external influence in developing, producing, and disseminating statistics; and
- **Principle 5:** Federal statistical agencies must continually seek to improve and innovate their processes, methods, and statistical products to better measure an ever-changing world.

Actual and perceived violations of any of these principles undermine the scientific integrity of, and public confidence in, the data produced by principal statistical agencies. Of special note is the emphasis that the NASEM publication places on the impartiality and independence of each statistical agency. The NASEM discussion of independence includes the following:

- Independence must include separation of the statistical agency from political and other undue external influence in developing, producing, and disseminating statistics.
- Independence must include the statistical agency having authority for professional decisions concerning their programs, including authority over the selection and promotion of staff; secure storage, and maintenance of data; and the timing and content of data releases, accompanying press releases, and documentation.

The principal statistical agencies also subscribe to the 10 practices identified by the NASEM as critically important in the application of these principles:

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

All of these practices are important to achieving and safeguarding scientific integrity. Implementation details of these practices vary across agencies.

Statistical Policy Directives and Standards

The Principles and Practices are closely related to Statistical Policy Directives and other standards issued by the Office of Management and Budget (OMB) in its role as coordinator of the Federal statistical system (44 U.S.C. 3504(e)). Specifically, OMB's directives and standards are designed to preserve and enhance the objectivity, utility, and transparency, in fact and in perception, of the statistical products themselves and the processes used to release and disseminate them. Examples include:

- **Standards and Guidelines for Statistical Surveys³**, which documents important technical and managerial practices that Federal agencies are required to adhere to, and the level of quality and effort expected in all statistical activities to ensure consistency among and within statistical activities conducted across the Federal Government.
- **Statistical Policy Directive Number 3⁴**, which is intended to preserve the time value of

principal economic indicators, strike a balance between timeliness and accuracy, prevent early access to information that may affect financial and commodity markets, and preserve the distinction between the policy-neutral release of data by statistical agencies and their interpretation by policy officials.

- **Statistical Policy Directive Number 4⁵**, which enumerates procedures intended to ensure that statistical data releases adhere to data quality standards through equitable, policy-neutral, and timely release of information to the general public.

Using Best Scientific Methods to Ensure Data Quality and Integrity

Finally, scientific methods play a critical role in maximizing the quality, objectivity, and credibility of information collected and disseminated by the principal statistical agencies. Examples of the application of scientific methods include probability sampling designed to avoid biased samples and randomized assignment for assessing the impacts of alternative protocols or question wording. Measures need to be valid and reproducible, and interpreting variations in these measures across data sources requires scientific knowledge of their properties. Combining data from disparate sources, such as surveys and administrative records, is increasingly important given the growing reluctance of respondents to provide data in Federal data collection efforts. These efforts require statistical modeling, as does the provision of statistics on small areas where direct estimates from surveys may be subject to large sampling errors. The procedures, equations, and assumptions, which define these models, must be publicly available to ensure that the information is presented in an accurate, clear, complete, and unbiased manner. Moreover, Federal statistical agencies apply complex statistical methods to the information that is publicly released to protect the confidentiality of data about respondents to Federal surveys.

Methodological improvements and rigorous approaches to data collection and analysis require the application of scientific methods. Computer scientists, demographers, economists, data scientists, mathematicians, survey statisticians, and other scientists are needed for producing high quality, objective statistics from surveys or administrative data. Subject area experts are also needed to maximize data quality. Research and methodological innovation are required to continuously improve the quality and scope of our data products while protecting privacy and ensuring confidentiality. All of the above-mentioned factors are critically important to ensuring the credibility of Federal statistical agencies.

Conclusion

The Principal Statistical Agencies reaffirm our commitment to maintaining the highest level of scientific integrity in producing official statistics. Together, the *Principles and Practices, Statistical Policy Directives and Standards*, and *Information Quality Guidelines* form the foundation for achieving and maintaining scientific integrity within and among the principal statistical agencies.

Notes

¹The Office of Management and Budget designates principal statistical agencies. The exact number of units considered principal statistical agencies has evolved over time. The most recent listing of such agencies is available in the Office of Management and Budget's *Statistical Programs of the United States Government*, available at: <https://www.whitehouse.gov/wp-content/uploads/2020/12/statistical-programs-20192020.pdf>.

²National Academies of Sciences, Engineering, and Medicine (2021). *Principles and Practices for a Federal Statistical Agency*, Seventh Edition. Washington, DC: The National Academies Press. Available at: <https://www.nap.edu/catalog/25885/principles-and-practices-for-a-federal-statistical-agency-seventh-edition>.

³https://www.whitehouse.gov/wp-content/uploads/2021/04/standards_stat_surveys.pdf; 55522 Federal Register / Vol. 71, No. 184 / Friday September 22, 2006.

⁴https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/assets/OMB/inforeg/stat_policy/dir_3_fr_09251985.pdf; 38932 Federal Register / Vol. 50, No. 186 / Wednesday, September 25, 1985.

⁵<https://www.federalregister.gov/documents/2008/03/07/E8-4570/statistical-policy-directive-no-4-release-and-dissemination-of-statistical-products-produced-by>; 12622 Federal Register / Vol. 73, No. 46 / Friday, March 7, 2008.