

2022 Revised Ethical Guidelines for Statistical Practice Webinar, Part 2

Sponsored by ASA Committee on Professional Ethics
Stephanie Shipp, Jennifer Ortman,
Matthew Rotelli, Rochelle Trachtenberg

June 9, 2022



2022 Revised Ethical Guidelines for Statistical Practice

Welcome and Introduction to the Presenters — Stephanie Shipp

Link to the May 26, Part 1 webinar recording:

<https://youtu.be/cUpRNEgv5WU>

Brief Overview of Guidelines & Revision — Rochelle Tractenberg

Vignettes – emphasizing E, F, G, H, and Appendix

- Jennifer Ortman – US Census Bureau (government)
- Rochelle Tractenberg – Georgetown University (academia)
- Matthew Rotelli - Eli Lilly (industry)
- Q&A from the audience & closing remarks

Our presenters

**Jennifer Ortman –Principal Demographer, Population Division,
U.S. Census Bureau**

**Rochelle Tractenberg– Professor of Neurology, Georgetown
University, co-chair of the Ethics Guidelines Revision Working Group**

**Matthew D. Rotelli, AVP and Head, Lilly Bioethics Program, Eli Lilly
and Company, Vice-Chair Committee on Professional Ethics**

**Stephanie S. Shipp, Social and Decision Analytics Division,
Biocomplexity Institute, University of Virginia**

Disclaimer: Any opinions expressed in this webinar are those of the authors/presenters and do not constitute or reflect the opinions and policies of the organizations or industries they work for. Authors express their views as members of the statistical community.

Brief Overview of the Guidelines and Revision Effort



ASA Guidelines for Statistical Practice

The Guidelines are based on transparency, fairness, accountability, and respect

- **“Statistical practice” includes**
 - designing the collection of, summarizing, processing, analyzing, interpreting, or presenting data
 - model or algorithm development and deployment

Applicable to anyone practicing statistics

2022 Guidelines



A. Professional Integrity and Accountability (7 → 12)



B. Integrity of Data and Methods (11 → 7)



C. Responsibilities to Stakeholders (5 → 8)



D. Responsibilities to Research Subjects, Data Subjects, and those directly affected by statistical practices (7 → 11)



E. Responsibilities to Multidisciplinary Team Colleagues (4 → 4)



New Place!
H. Responsibilities Regarding Potential Misconduct (6 → 8)



New!
G. Responsibilities of Leaders, Supervisors, Mentors in Statistical Practice (5)



F. Responsibilities to Fellow Statistical Practitioners and the Profession (4 → 5)



New!
+APPENDIX. Responsibilities of Organizations/Institutions (7 + 5)

ASA
Ethical Guidelines
8 principles
60+12 elements

Overview of Revision Effort

- COPE had three goals: to update, to clarify, and to make as inclusive as possible the Ethical Guidelines for Statistical Practice.
- Given the core role of statistics in the definitions, and evolution, of data science, COPE agreed that the Guidelines should be recognizable, and applicable, to statisticians and data scientists.
- Part of the inclusivity aims to ensure that practitioners across all domains and disciplines recognize the utility and importance of the Guidelines.

E: Responsibilities to Members of Multidisciplinary Teams

Topics covered

- Recognize and respect that other professions may have different ethical standards and obligations.
- Prioritize these guidelines for the conduct of statistical practice in cases where ethical guidelines conflict.
- Ensure all communications regarding statistical practices are consistent with these guidelines.
- Avoid compromising validity for expediency.

F: Responsibilities to Fellow Statistical Practitioners and the Profession

Topics covered

- Use constructive discourse to focus on scientific principles and methodology and not personal attributes.
- Help strengthen the work of others through appropriate peer review or consultation.
- Take full responsibility for their contributions as instructors, mentors, and supervisors of statistical practice.
- Promote reproducibility and replication, whether results are “significant” or not, by sharing data, methods, and documentation to the extent possible.
- Serve as an ambassador for statistical practice.

G: Responsibilities of Leaders, Supervisors, and Mentors in Statistical Practice

Topics covered

- Protect the statistical practitioners who comply with these guidelines and advocate for a culture that supports ethical statistical practice.
- Promote a respectful, safe, and productive work environment.
- Identify and/or create opportunities for team members/mentees to develop professionally and maintain their proficiency.
- Promote appropriate recognition of statistical practitioners' contributions, e.g., authorship.
- Establish a culture that values validation of assumptions and assessment of model/algorithm performance over time and across relevant subgroup.

H: Responsibilities Regarding Potential Misconduct

Topics covered

- Aware of misconduct definition and institutional procedures.
- Avoid condoning or appearing to condone statistical, scientific, or professional misconduct.
- Discreetly make complaints about misconduct and to the relevant institutional body.
- Ensure transparency, fairness, and confidentiality.
- Support investigation outcomes.
- Avoid and discourage retaliation.

Appendix ~ NEW!

Proposal: The ASA Ethical Guidelines for Statistical Practice are unlikely to be adhered to by Institutions/Employers, however, articulating the characteristics of an ethical workplace supporting ethical statistical practice is important.

Part 1: Responsibilities of organizations/institutions employing statistical practice (7 elements)

Part 2: Responsibilities of those in leadership, supervisory, or managerial positions who oversee statistical practitioners (5 elements)

Vignettes

*Connecting Guidelines to Statistical
Practice*

Connecting Guidelines to Statistical Practice

Vignette 1:
Making the transition from peer to leader/supervisor and reviewing statistical work

Jennifer Ortman –
Principal Demographer,
Population Division, U.S.
Census Bureau

E. Responsibilities to Members of Multidisciplinary Teams

E1 It is essential to have a respectful exchange of views.

F. Responsibilities to Fellow Statistical Practitioners and the Profession

F1 Constructive discourse with mutual respect focuses on scientific principles and methodology and not personal attributes.

F2 Helps strengthen, and does not undermine, the work of others through appropriate peer review or consultation.

H. Responsibilities Regarding Potential Misconduct

H1 Seeks to clarify facts and intent before alleging misconduct by others.

Connecting Guidelines to Statistical Practice

Vignette 2: Handling disagreements on approaches to design, analysis, or interpretation

Matthew D. Rotelli, AVP
and Head, Lilly Bioethics
Program, Eli Lilly and
Company

F. Responsibilities to Fellow Statistical Practitioners and the Profession

F1 Recognizes that statistical practitioners may have different expertise and experiences, which may lead to divergent judgments about statistical practices and results.

F2 Helps strengthen, and does not undermine, the work of others through appropriate peer review or consultation.

F4 Promotes reproducibility and replication, whether results are “significant” or not.

F5 Serves as an ambassador for statistical practice by promoting thoughtful choices...Instills appreciation for the concepts and methods of statistical practice.

Connecting Guidelines to Statistical Practice

**Vignette 3:
Reconciling
conflicting views
within
multidisciplinary
team when pilot
testing sensitive
topics for a survey**

E. Responsibilities to Members of Multidisciplinary Teams

E1 Dissonance in ethics may still arise, even if all members feel they are working toward the same goal. It is essential to have a respectful exchange of views.

E2 Prioritizes these guidelines for the conduct of statistical practice in cases where ethical guidelines conflict.

E4 Avoids compromising validity for expediency.

F. Responsibilities to Fellow Statistical Practitioners and the Profession

F1 Constructive discourse with mutual respect focuses on scientific principles and methodology and not personal attributes.

G. Responsibilities of Leaders, Supervisors, and Mentors in Statistical Practice

G5 Communicates with relevant stakeholders regarding model or algorithm maintenance, failure, or actual or proposed modifications.

Jennifer Ortman – Principal
Demographer, Population
Division, U.S. Census
Bureau

Connecting Guidelines to Statistical Practice

Vignette 4a: Developing the next generation of statistical practitioners

Jennifer Ortman –
Principal Demographer,
Population Division, U.S.
Census Bureau

F. Responsibilities to Fellow Statistical Practitioners and the Profession

F3 ... ensures developing practitioners are guided effectively as they learn and grow in their careers.

F5 Serves as an ambassador for statistical practice by promoting thoughtful choices about data acquisition, analytic procedures, and data structures...

G. Responsibilities of Leaders, Supervisors, and Mentors in Statistical Practice

G3 Identifies and/or creates opportunities for team members/mentees to develop professionally and maintain their proficiency.

G4 Advocates for appropriate, timely, inclusion and participation of statistical practitioners as contributors/collaborators.

G5 Establishes a culture that values validation of assumptions and assessment of model/algorithm performance ...

Connecting Guidelines to Statistical Practice

Vignette 4b: Developing the next generation of statistical practitioners

Rochelle Tractenberg,
Professor, Georgetown
University

E. Responsibilities to Members of Multidisciplinary Teams

E3 Ensures all communications regarding statistical practices are consistent...

E4 Avoids compromising validity for expediency.

F. Responsibilities to Fellow Statistical Practitioners and the Profession

F3 Takes full responsibility for their contributions as instructors, mentors, and supervisors of statistical practice by ensuring their best teaching and advising...

F5 Serves as an ambassador for statistical practice by promoting thoughtful choices about data acquisition, analytic procedures, and data structures...

G. Responsibilities of Leaders, Supervisors, and Mentors in Statistical Practice

G1 Ensure appropriate statistical practice that is consistent with these guidelines.

Connecting Guidelines to Statistical Practice

Vignette 5:

Align questions to be investigated, the design, the sample size, the analytical plan, and the interpretation of the results

Matthew D. Rotelli, AVP
and Head, Lilly Bioethics
Program, Eli Lilly and
Company

E. Responsibilities to Members of Multidisciplinary Teams

E1 Recognizes and respects that other professions may have different ethical standards and obligations...It is essential to have a respectful exchange of views.

E3 Ensures all communications regarding statistical practices are consistent with these guidelines.
Promotes transparency in all statistical practices.

E4 Avoids compromising validity for expediency.
Regardless of pressure on or within the team,
does not use inappropriate statistical practices.

Connecting Guidelines to Statistical Practice

Vignette 6:
Investigator demanded inappropriate statistics and put the statistician's name on paper after explicit insistence not to put their name on paper

Rochelle Tractenberg,
Professor, Georgetown
University

E. Responsibilities to Members of Multidisciplinary Teams

E4 Avoids compromising validity for expediency.

H. Responsibilities Regarding Potential Misconduct

H1 Recognizes that differences of opinion and honest error do not constitute unethical behavior.

Appendix. Responsibilities of Organizations/ Institutions

Appendix 1 Expecting and encouraging all employees and vendors who conduct statistical practice to adhere to these guidelines.

Appendix 4 Not allow organizational objectives or expectations to encourage unethical statistical practice by its employees.

Appendix 5 Recognizing that the inclusion of statistical practitioners as authors ... requires their explicit permission

Appendix 8 Recognizing it is contrary to these guidelines to report or follow only those results that conform to expectations ...

Appendix 10 Objectively, accurately, and efficiently communicating a team's or practitioners' statistical work throughout the organization.

Connecting Guidelines to Statistical Practice

Vignette 7: Role of the statistician in face of a controversial programmatic change

Jennifer Ortman, PhD,
Principal Demographer,
Population Division, U.S.
Census Bureau

E. Responsibilities to Members of Multidisciplinary Teams

E2 Prioritizes these guidelines for the conduct of statistical practice in cases where ethical guidelines conflict.

E3 Promotes transparency in all statistical practices.

E4 Regardless of pressure on or within the team, does not use inappropriate statistical practices.

F. Responsibilities to Fellow Statistical Practitioners and the Profession

F5 Serves as an ambassador for statistical practice by promoting thoughtful choices about data acquisition, analytic procedures, and data structures....

G. Responsibilities of Leaders, Supervisors, and Mentors in Statistical Practice

G2 Promote a respectful, safe, and productive work environment.

Connecting Guidelines to Statistical Practice

Vignette 8:

Grant review panel chair, frustrated by appropriate reviews of tragically inappropriate statistical analysis plans, bans statisticians from contributing to the discussion.

Rochelle Tractenberg,
Professor, Georgetown
University

E. Responsibilities to Members of Multidisciplinary Teams

E4 ...does not use inappropriate statistical practices.

G. Responsibilities of Leaders, Supervisors, and Mentors in Statistical Practice

G2 Promote a respectful, safe, and productive work environment.

G4 Advocate for appropriate, timely, inclusion and participation of statistical practitioners as contributors/collaborators.

H. Responsibilities Regarding Potential Misconduct

H1 Recognizes that differences of opinion and honest error do not constitute unethical behavior.

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Appendix 8 Recognizing it is contrary to these guidelines to report or follow only those results that conform to expectations

Appendix 10 Objectively, accurately, and efficiently communicating a team's or practitioners' statistical work throughout the organization.

Connecting Guidelines to Statistical Practice

Vignette 9:
Convincing someone (a mentor) to leave my name off a paper that I had not contributed to.

Rochelle Tractenberg,
Professor, Georgetown
University

G. Responsibilities of Leaders, Supervisors, and Mentors in Statistical Practice

G4 Promote appropriate recognition of the contributions of statistical practitioners, including authorship if applicable.

H. Responsibilities Regarding Potential Misconduct

H1 Recognizes that differences of opinion and honest error do not constitute unethical behavior.

Appendix. Responsibilities of Organizations/ Institutions

Appendix 1 Expecting and encouraging all employees and vendors who conduct statistical practice to adhere to these guidelines.

Appendix 4 Not allowing organizational objectives or expectations to encourage unethical statistical practice by its employees.

Appendix 5 Recognizing that the inclusion of statistical practitioners as authors ... requires their explicit permission.

Connecting Guidelines to Statistical Practice

Vignette 10:
Received lecture notes (to utilize for grad level intro to biostats) with one vacuous slide (for the semester) “it’s nice to be ethical about statistics”

Rochelle Tractenberg,
Professor, Georgetown
University

E. Responsibilities to Members of Multidisciplinary Teams

E3 Ensures all communications regarding statistical practices are consistent with these guidelines. Promotes transparency in all statistical practices.

E4 Avoids compromising validity for expediency.

F. Responsibilities to Fellow Statistical Practitioners and the Profession

F3 ...ensures developing practitioners are guided effectively as they learn and grow in their careers.

F5 Serves as an ambassador for statistical practice.

G. Responsibilities of Leaders, Supervisors, and Mentors in Statistical Practice

G1 Ensure appropriate statistical practice that is consistent with these guidelines.

Appendix. Responsibilities of Organizations/ Institutions

Appendix 1 Expecting and encouraging all employees and vendors who conduct statistical practice to adhere to these guidelines.

Special THANKS from COPE members to our audience who joined today's webinar.

COPE Members

- Jing Cao (Chair)
- Matthew Rotelli (Vice-Chair)
- Jason Gillikin
- Harold Gomes
- Nilupa Gunaratna
- Andrew Hartley
- Stephanie Shipp
- Philip Waggoner
- Millennia Young

Special THANKS to our COPE Friends for their contributions. (former COPE members)

- Rochelle Tractenberg
- Michael Hawes
- Marcia Levenstein

*Special THANKS to
Donna LaLonde, ASA
for technical support with this
webinar.*

Link to the May 26, Part 1 webinar recording <https://youtu.be/cUpRNEgv5WU>

Attend our JSM 2022 Session

Sunday, August 7, 4-5:50 PM (Session 48)

Incorporating Ethical Thinking into Research and Innovation
through Education, Planning, Conduct, and Communication,

Panelists:

James Giordano, Georgetown University and US Naval War College

Jeri Metzger Mulrow, Westat

Matthew Rotelli, Eli Lilly

Jing Cao, SMU

Momin Malik, Mayo Clinic

Nathan Colaner, Seattle University

Questions from the Audience
Please use Q&A box in Zoom

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Questions from the Audience
Please use Q&A box in Zoom

Q-Are there any recommendations if you find yourself in an organization resistant to conforming to these guidelines?