

Goals of Ethics Education, Audiences, and Content

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Federal Responses to Research Misconduct

- Health Research Extension Act of 1985
- Definition of Research Misconduct: 1987
- Office of Scientific Integrity: 1989
- Office of Research Integrity: 1992
- Responsible Conduct of Research Education: 1990

Research Misconduct: What is it?

Research misconduct means fabrication, falsification, or plagiarism in proposing or performing research funded by NSF, reviewing research proposals submitted to NSF, or in reporting research results funded by NSF.

National Science Foundation
Title 45—Public Welfare Chapter VI—National Science
Foundation. Sec. 689.1(a)

http://edocket.access.gpo.gov/cfr_2007/octqtr/45cfr689.1.htm

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Research Misconduct Policy,
National Endowment for the Humanities

<http://neh.gov/grants/guidelines/researchmisconduct.html>

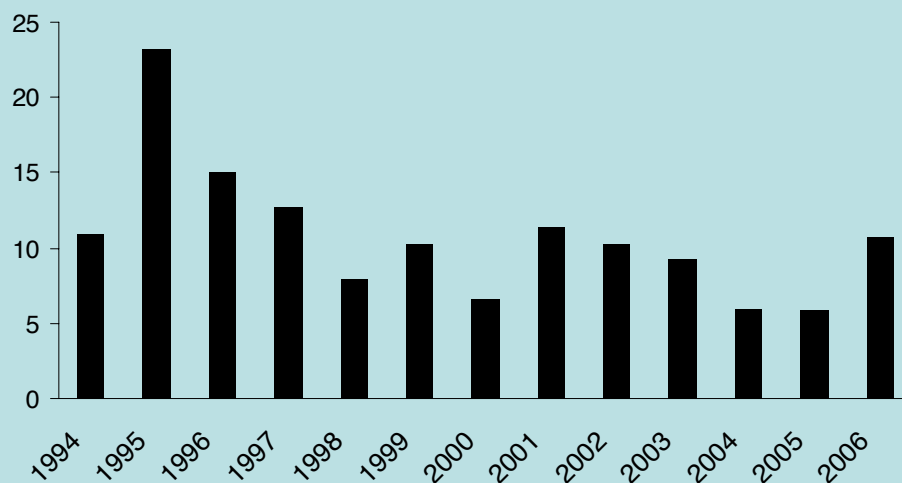
1990

Responsible Conduct of Research

“Since July 1990, the National Institutes of Health (NIH) has required all applications for Institutional National Research Service Award (NRSA) Research Training Grants (T32, T34) to include a description of a program to provide instruction in the responsible conduct of research.”

<http://grants.nih.gov/grants/guide/notice-files/not92-236.html>

Research Misconduct Findings: Normalized to 1994 number of scientists



Frequency of Research Misconduct

Lower Limit

0.001% (Steneck, 2000)

Upper Limit?

33% (Martinson et al., 2005)

3% (Titus et al., 2008)

0.2-0.5% (Martinson et al., 2005)

1.3% (Kalichman and Friedman, 1992)

It's not working...

Is Research Misconduct a
Disease or a Symptom?

Research Misconduct Necessary Failures

- Collaboration (Transparency, Openness)
- Authorship (Credit and Responsibility)
- Understanding of risk of Bias
- Understanding of meaning of Publication
- Data Management (incl. Recordkeeping)
- Peer Review
- Whistleblowing and asking questions
- Mentoring - adequate training

Who is the audience?

- Graduate Students
- Postdoctoral Researchers
- Faculty
- Staff
- Undergraduate Students
- The Community
- Other?

Goals for RCR Education

- Selected examples of goals recommended by 50 RCR Instructors interviewed in 2003 and 2004 (Kalichman and Plemmons, 2007)
- Should not be considered:
 - Comprehensive
 - Consistent
 - Feasible
 - Ideal

Knowledge

- *Ethics*: definitions, principles, biomedical ethics, international ethics
- *Law*: general principles, liability
- *Noncompliance*: personal and institutional impact
- *Power*: uneven power situations, vulnerable populations
- *Psychology*: psychology of conflict of interest
- *Intellectual property*: copyrights, patents
- *Science*: scientific method, scientific uncertainty
- *Resources*: where to find help
- *Other*: health disparities, health rights, HIPAA, biosafety, grant writing, standards in translational, genetics, and aging research, knowledge systems

Skills

- *Make ethical decisions*
- *Think critically, Solve problems*
- *Look for consequences of actions, violations of rights*
- *Manage stress*
- *Work in a multidisciplinary research team*
- *Manage people*
- *Communicate*
- *Resolve conflicts*
- *Balance risks and benefits*
- *Find and evaluate RCR information and resources*
- *Other: Identify collaborators, Use the IRB as a resource*

Attitudes

- Research ethics is serious and *deserving of the attention* of all researchers
- Researchers have a *personal responsibility* to model and promote RCR
- Researchers have a *responsibility to society*
- *Excellence in research* includes RCR
- Research often characterized by *ethical dilemmas* that are amenable to mitigation or resolution
- Researchers have many *tools and options* to question deviations from RCR
- *Open communication* with others is a part of RCR
- *Regulations* were developed in response to real problems
- *Other: Senior researchers should not abuse power differential, Individual differences* should be respected

Behavior

- *Model* the highest standards of scientific conduct
- *Identify* ethical dilemmas in the practice of research
- *Engage* in effective communication with others

Research Ethics Education: What are the topics?

Examples of Specific Topics

Human Subjects
Animal Subjects
Stem Cells
Dual Use Technology
Computers and
Information Technology
Environmental Protection

Examples of General Topics

Data Management
Conflict of Interest and Commitment
Authorship
Publication
Peer Review
Collaboration
Mentoring
Social Responsibility
Research Misconduct
Whistleblowing, Asking Questions
Dispute Resolution

Can't do it all

What should we do?

1. *Empowerment:*
Awareness of Rules, Issues, and Options
2. *Understanding:*
Purpose and value of ethical decision-making
Roles and responsibilities for asking questions
3. *Attitude:*
Positive disposition toward research ethics