When research misconduct becomes public

Chapter 2. Research Misconduct

Public concern about misconduct in research first surfaced in the early 1980's following reports of cases of egregious misbehavior. One researcher republished under his own name dozens of articles previously published by others. Other researchers in one way or another falsified or fabricated research results. To make matters worse, it seemed as if research institutions sometimes ignored or deliberately covered up problems rather than investigate them. Eventually Congress stepped in and required Federal agencies and research institutions to develop research misconduct policies.

Research misconduct policies provide guidance on responsible conduct in three areas. They:

- ✓ **establish definitions for misconduct in research,**
- ✓ **outline procedures for reporting and investigating misconduct, and**
- ✓ **provide protection for whistleblowers (persons who report misconduct) and persons accused of misconduct.**

Together, the definitions of and procedures for handling allegations of misconduct in research form an initial foundation for effective self-regulation in research.

Although Federal policies technically apply only to federally funded research, many research institutions apply Federal research misconduct policies to all research. Many research institutions have also broadened the basic Federal definitions to include other inappropriate practices. In combination, Federal and institutional research misconduct policies define research practices that researchers must avoid. Failure to do so can result in the termination of employment or ineligibility to receive Federal funding.

Case Study

Dr. José M. is beginning his fifth year as an independent researcher. His work is going well. He has published a number of important articles and secured a large grant for future work. Based on this progress, he expects his pending promotion review to proceed without problems.

Late one afternoon a graduate student hands José two papers written by a senior colleague in his department. She has circled graphs in each of the papers that are clearly the same but reported as representing two different experiments. After checking the graphs carefully and reviewing the supporting data, José agrees that something is wrong. The senior colleague, who will almost certainly be a member of his promotion review, has either made a careless mistake or falsified information in a publication. What should he do?

- Ask the senior colleague about graphs?
- Bring the publications to the attention of his department chair?
- Report the problem anonymously to a research administrator?
- Encourage the graduate student to report the problem?
- Nothing, at least until after the promotion review is completed?

2a. Federal research misconduct definition and policies

After a decade of sometimes spirited debate, in December 2000 the Office of Science and Technology Policy (OSTP) in the Executive Office of the President adopted a Federal Policy on Research Misconduct. The OSTP Policy is in most respects similar to earlier ones adopted by the Public Health Service (PHS) and the National Science Foundation (NSF), but it did recommend some significant changes to the definition of research misconduct. When it is finally implemented by all government research agencies (the target date of December 2001 was not met), all federally funded researchers will be subject to a uniform definition of research misconduct.

Definition. The OSTP Policy defines "research misconduct" as "fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results" (see accompanying box for details). It also sets the legal threshold for proving charges of misconduct.

To be considered research misconduct, actions must:

- ✓ represent a "significant departure from accepted practices";
- ✓ have been "committed intentionally, or knowingly, or recklessly"; and
- ✓ be "proven by a preponderance of evidence."

These further stipulations limit the Federal Government's role in research misconduct (fabrication, falsification, or plagiarism) to well-documented, serious departures from accepted research practices.

When using the common Federal definition to discuss research misconduct, it is important to understand that it establishes a minimum standard for measuring acceptable behavior, not a standard for judging all research behavior. In particular, it does not imply that all other behaviors are acceptable. It also does not encompass criminal behavior, personal disputes, violations of grant management policies or other unacceptable behaviors not unique to research, such as discrimination or harrassment. The government's main concern in establishing this definition is to assure that publicly funded research is accurate and appropriately represented by clearly stating that three practices, commonly referred to as "FFP," are wrong.

Federal Policy on Research Misconduct

I. Research Misconduct Defined. Research misconduct is defined as fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results.

- Fabrication is making up data or results and recording or reporting them.
- Falsification is manipulating research materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.
- Plagiarism is the appropriation of another person's ideas, processes, results, or words without giving appropriate credit.
- Research misconduct does not include differences of opinion.

http://www.ostp.gov/html/001207_3.html

Reporting and investigation. Federal misconduct policy assumes that researchers and research institutions bear the primary responsibility for reporting and investigating allegations of misconduct. This assumption is consistent with the position, strongly supported by most researchers, that research is a profession and should regulate its own conduct (see Chapter 1).

Successful professional self-regulation depends on conscientious community participation. For individual researchers, this means they must assume responsibility for their own actions, take misconduct seriously, and report apparent misconduct by other researchers.

Every institution that receives PHS funding must have procedures in place for receiving and investigating reports of research misconduct. These procedures must include:

- ✓ **the designation of individuals who are authorized to receive and investigate allegations of misconduct,**
- ✓ **provisions for an initial inquiry to determine whether the allegations have any merit,**
- ✓ **provisions for a formal investigation to reach conclusions about the truth of the allegations,**
- ✓ **the designation of an individual who is authorized to weigh (adjudicate) the conclusions reached in the investigation and impose administrative actions to redress the misconduct (sanctions) or take steps to vindicate the person charged, and**
- ✓ **provisions for reporting findings to ORI.**

Researchers should be familiar with these procedures and their institution's definition of research misconduct (discussed below).

Basic protections. Researchers who commit misconduct place their careers at risk. The Federal Government can debar researchers who commit misconduct from receiving Federal funds for a specified period of time. In most

instances, research institutions also take their own actions, such as terminating a researcher's employment or requiring supervision of future research activities. By like token, making allegations of misconduct—blowing the whistle—can sometimes place a whistleblower's career at risk. Although by law institutions must not retaliate against whistleblowers who report in good faith, they sometimes do.

The new common Federal policy provides guidelines for protecting both parties—the whistleblower and the respondent—in research misconduct investigations. As a general rule, research misconduct allegations must not be made public until they have been fully investigated and confirmed. There are, however, exceptions to this rule. If the misconduct could pose a threat to public health or safety, such as misconduct in a clinical trial, it must immediately be brought to the attention of the person heading the trial, the person with oversight authority, or both. ORI and the Federal sponsor must also be notified immediately. In such cases, the names of the persons charged should remain confidential, but steps must be taken to safeguard the subjects in the trial.

Similarly, research institutions and researchers must not in any way penalize or take action against individuals who report research misconduct in good faith. Even if accusations are not sustained, as long as they are brought in good faith, informants must be protected and given support since they play a vital role in professional self-regulation.

2b. Institutional research misconduct policies

Institutional research misconduct policies generally follow the pattern recommended by the Federal Government, but almost always include some additional elements that for one reason or another are assumed to have local importance. This is particularly true for the definition of research misconduct. Institutional definitions must include some

University Research Misconduct Policies

Rice University. Research misconduct may include the fabrication/ falsification of data, plagiarism, or other practices that seriously deviate from those that are commonly accepted within the scientific community for proposing, conducting, reviewing, or reporting research. It also encompasses the failure to comply with federal requirements for protecting researchers, human and animal subjects, and the public. In general, gross negligence of research standards and any action taken with the intent to defraud are considered forms of research misconduct. It does not, however, include honest error or honest differences in interpreting or judging data.

http://www.ruf.rice.edu/ ~ presiden/Policies/Research/324-99.html

University of New Mexico. A researcher commits research misconduct under UNM's policy if he or she fabricates or falsifies data or research results or plagiarizes another person's ideas or work. Research misconduct also occurs if a researcher wantonly disregards truth or objectivity or fails to comply or attempt to comply with legal requirements governing the research; however, other University policies and procedures will be followed in resolving such cases. It is important to understand that research misconduct is not a mistake in reasoning, disagreeing with recognized authorities, misinterpreting results, an error in planning or carrying out an experiment, or an oversight in attribution.

http://www.unm.edu/ ~ ripls/faqremis.htm

version of FFP, but then sometimes add other practices that also constitute misconduct in the particular local setting. Thus, depending on where a researcher works, any of the following practices could be reported as misconduct in research.

Violation of Federal rules. As will be discussed in later chapters, research is subject to many rules or regulations other than research misconduct policies. Although the violation of a research rule or regulation is not considered misconduct under the common Federal definition of research misconduct, many research institutions explicitly state that the violation of any research regulation is research misconduct.

Abuse of confidentiality. Confidentiality plays a number of important roles in research. Most peer review is done confidentially (see Chapter 10). Researchers also share

ideas with colleagues with the understanding that they will not be used or made public without permission (see Chapter 8). Federal regulations, such as the Health Insurance Portability and Accountability Act of 1996 (see Chapter 3), impose confidentiality requirements on human subjects research. The abuse of confidentiality may not undermine the validity of research data, but it can undermine the integrity of the research process. Therefore, some institutions include such abuses under their definition of research misconduct.

Authorship and publication violations. As will be discussed in Chapter 9, there are well-established guidelines for getting credit for work done (authorship) and making research results known (publication). Some violations of these guidelines do not rise to the level of FFP, as defined in Federal policy. For example, the Federal Government usually does not get involved in disputes over authorship or investigate charges of trivial publication (dividing the results of a single experiment into multiple publications so that there are more to list on a résumé). However, given the importance of the integrity of the research record, some research institutions include authorship and publication violations in their misconduct policies.

Failure to report misconduct. Failure to report many crimes can be considered a crime and result in penalties. This is particularly true if failure to report a crime puts other individuals or society at risk. Research misconduct can put individuals at risk, if, for example, the misconduct affects information that is used for making medical or public decisions. Failure to report research misconduct also undermines professional self-regulation. Therefore, some research institutions include failure to report misconduct in their research misconduct policies.

Obstruction of investigations and retaliation. To emphasize the importance of research misconduct investigations, some institutions also include obstruction

of investigations and retaliation against whistleblowers under research misconduct.

Other practices. Early in the evolution of Federal research misconduct policies, the National Science Foundation (NSF) and the Public Health Service (PHS) included a broad provision in their definitions to catch other practices that "seriously deviate" from commonly accepted practices. NSF in particular felt that FFP left out behaviors that could undermine the integrity of the research it funded. While the "serious deviations" clause no longer exists in the common Federal definition, except as a standard for judging FFP, it can still be found in some institutional policies. Researchers therefore need to be aware of the fact that in some settings, actions that seriously deviate from commonly accepted practices can be considered research misconduct.

2c. Putting research misconduct into perspective

Research misconduct has understandably received considerable public attention. Researchers who act dishonestly waste public funds, harm the research record, distort the research process, undermine public trust, and can even adversely impact public health and safety. Research misconduct policies, whether Federal, state, institutional, or professional, identify seriously inappropriate behaviors and establish procedures for dealing with them.

Judged on the basis of the number of confirmed cases, misconduct apparently is not common in research. Over the last decade, PHS and NSF combined have averaged no more than 20 to 30 misconduct findings a year. This puts the annual rate of misconduct in research at or below 1 case for every 10,000 researchers. However, before making too much of this assessment, two important cautions need to be kept in mind.

First, the number of confirmed cases is probably less than the number of actual cases. Underreporting is to be

expected, as it is in criminal and other types of inappropriate behavior. Moreover, several studies have suggested that researchers do not report suspected misconduct, even though they should (see Korenman, Additional Reading). Since every case of misconduct can potentially undermine public support for research, researchers should take their responsibility to look out for and report research misconduct seriously.

Second, the responsibility to avoid misconduct in research is a minimum standard for the responsible conduct of research, so the fact that most researchers do not engage in research misconduct does not necessarily imply that the level of integrity in research overall is high. Responsible research requires careful attention to many other expectations for appropriate practice, as discussed in the remainder of the *ORI Introduction to RCR*.

Questions for discussion

1. **Should other practices besides fabrication, falsification, and plagiarism be considered misconduct in research?**
2. **Is it fair to use "significant departure from accepted practices" to make judgments about a researcher's behavior?**
3. **Should researchers report misconduct if they are concerned that doing so could adversely impact their career?**
4. **What evidence is needed to demonstrate that a researcher committed misconduct "intentionally, or knowingly, or recklessly"?**
5. **What are appropriate penalties for different types of misconduct?**

Resources

Policies, Reports, and Policy Statements

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United States. Congress. House. Committee on Science and Technology. Subcommittee on Investigations and Oversight. *Fraud in Biomedical Research*, Washington, DC: GPO, 1981.

General Information Web Sites

National Science Foundation, Office of Inspector General. *Home Page*, 2003. http://www.oig.nsf.gov/

Office of Research Integrity. *Handling Misconduct*, 2003. http://ori.hhs.gov/html/misconduct/introduction.asp

Additional Reading

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