CHAPTER SEVEN

Publication of Study Results

At the conclusion of this chapter, readers will be able to:

- Explain why investigators, administrators, hospitals, universities and research sponsors may have different expectations for publishing and presenting data.
- Discuss the implications of publishing study results for the investigator, the sponsor, other researchers, hospitals, universities and the public.
- Identify and minimize potential areas of conflict before starting the study.

Introduction

Surveys show professionals at the graduate and post-graduate levels receive most of their new knowledge by reading, especially the current peer-reviewed periodicals. Thus, it is important that research is published in a timely manner in an appropriate venue, and that data be presented accurately and clearly. Most of the time, this is the case. However, scientific publication is not immune to fraud and misconduct.

In his book, *Stealing into Print* (1992), Marcel Lafollette defines fraud in scientific communication as "when an author, editor or referee makes a false representation to obtain some unfair advantage or to injure deliberately the rights or interests of another person or group." This may include any of the following:

- Presenting data that do not exist or have been "made up"
- Misrepresenting or deliberately altering evidence
- Plagiarism
- Misrepresentation of authorship
- Unreasonably delaying review or publication for personal gain.

The underlying reasons for such actions may be personal (i.e., fame, career advancement, institutional pressure to publish) or financial (i.e., monetary gain, investment options, competitive advantage in the market). Another

reason is the conflict of interest that may occur between the investigator and the source of funding for the research. This type of conflict directly challenges the accountability and independence of the investigator and can create considerable tension among the investigator, the sponsor and the institution at which the research is being conducted. This chapter reviews some of the key issues for scientific publication related to conflicts of interest between sponsor and investigator.

Professionals receive most of their new knowledge by reading, especially current peer-reviewed scholarly journals and periodicals. Research results should be published in a timely manner and in an appropriate venue.

Examples of fraud in scientific publication can be found in all fields—from archaeology and psychology to engineering and medicine. However, in terms of press coverage, it is misconduct within the biomedical arena that receives the most attention, probably because of two factors: there is greater public awareness and interest in matters of health, and more sponsored funding is available from government agencies and from the pharmaceutical and biotechnology industries. Thus, the cases presented in this chapter focus on biomedical research, specifically research sponsored by industry. However, the issues and principles illustrated are not unique to medicine or biology but are applicable to any type of academic research funded by an outside source.

The requirement to publish clinical study results has gained widespread attention during the past decade in response to government- and industry-funded research sponsors failing to disclose, and even withhold, important safety information from the research community, the public and patients. In 2006, the International Committee of Medical Journal Editors (ICMJE) established requirements for authors when submitting manuscripts to top peer-review journals including the *British Medical Journal (BMJ), Journal of the American Medical Association (JAMA), the New England Journal of Medicine (NEJM)* and *The Lancet*. Since then, a number of other publishers of peer-reviewed biomedical research journals have established best practice guidelines and publications ethics that mirror the ICMJE requirements.

Some of the key requirements include:

Sponsorship disclosure: funding of any type in support of the research and publication should be transparent to disclose any interests that might appear to affect the objectivity and the integrity of the research results. In 2010, the ICMJE provided additional guidelines on a standardized reporting format for authors' conflicts of interest.

Contributing authorship disclosure: the list of authors should accurately reflect those individuals who made a material contribution to the manuscript. Greater authorship transparency may help discourage 'ghost writers'

(i.e., individuals who qualify as authors but are not noted) and 'guest writers' (i.e., individuals who are listed but did not contribute enough to merit inclusion).

Publication of original research results: journal publishers generally wish to consider only original work that has not been published elsewhere. Meta analyses of scientific literature can be distorted, and a health decision influenced, by a research result published redundantly.

Clinical trial registration: Editors of biomedical journals require that clinical trials reported in manuscripts be posted in a freely accessible, public registry prior to publication. This measures helps ensure transparency of the results and the opportunity to review and analyze study findings.

In 2007, federal regulations governing the dissemination of clinical research results were enacted. The Food and Drug Administration Amendments Act (FDAAA), Section 801, mandated the submission of summary clinical trial results data for phase IIb–IV studies, whether the results are conclusive, inconclusive, published or not. The mandate stipulates that failure to comply may result in a substantial civil penalty of up to $10,000 per day or the withholding of NIH grant funding if noncompliance remains uncorrected 30 days after the violation has been cited. Research sponsors are permitted to delay reporting results for up to three years for clinical trials conducted before drugs are initially approved and for studies of unapproved new clinical indications for those drugs already approved. The National Institutes is responsible for maintaining a public registry of clinical study results on www.clinicaltrials.gov; the FDA is responsible for enforcing compliance with the statutory requirements.

The Declaration of Helsinki (2008; Guideline 33) similarly obligates sponsors and research professionals to provide clinical trial results to study volunteers. The European Medicines Agency (EMA) has not yet made summary results information publicly available for clinical trials of approved and unapproved drugs conducted in the European Union.

The FDA does not object to a pharmaceutical company providing financial support to an investigator to present data or to publish a manuscript, but notes there may be questions about investigator independence under such an arrangement. Will the investigator author actually write the article or will the research sponsor provide assistance with a medical writer? If so, how much input will the investigator actually have? There also may be issues around the timing of the publication: could the sponsor try to delay (or, in extreme cases, even stop) publication of the data if they are not "acceptable" to it? The answers are not always as straightforward as they might seem. Two cases can serve as illustrations.

FDA concerns about publishing industry-sponsored studies most frequently focus on independence and how the sponsor may affect independence.