Peer-Reviewers: The Anonymous Backbone of Medical Literature

Samuel J. Stratton, MD, MPH

In a 2009 paper, Erin Smith and co-authors reported that from 1977 to 2008 there were 2,098 peer-reviewed disaster event related articles published in 789 different journal titles.[1] With each of these papers the author names and their affiliations are published and those who edited and produced the journals in which the papers were published are prominently noted in the front of each journal. But, those that peer-reviewed each of these published papers received no recognition for their work and contributions. Such is the nature of the scientific peer-review process.

Peer review is an accepted standard in publishing medical literature. It is best defined as review of a manuscript by experts in the subject of the paper to assess the importance and quality of the paper.[2] Since the mid-1940s, the use of expert consultants has been a standard to advise journal editors about the relevance of submitted manuscripts and to provide suggestions for improvement of papers being considered for publication.[2] Peer-review is largely a volunteer effort of the reviewers that sometimes requires a considerable amount of time.

The process of peer-review has an enormous impact on the medical literature. Editors rarely accept papers that peer-reviewers believe should be rejected. Papers that may seem esoteric are often recognized by peer-reviewers as an important addition to the scientific knowledge base and highly recommended for publication. Most important, comments that are sent back to authors after review of their manuscripts become an effective way for authors to improve future submissions. In fact, the use of peer-review comments to inform authors of questions and concerns about their work is as important an aspect of peer-review as that of advising an editor of the importance of a paper.

Key to the process of peer-review is the detection of investigator bias. It is bothersome for an editor when peer-reviewers suspect lack of author scientific objectivity. This is often a reason for rejection of a manuscript.

There are two other common reasons for a poor review of a manuscript. When a new manuscript is peer-reviewed, a first question is what is the objective or hypothesis for the study? A vague or ill-defined study objective is a guarantee that the manuscript will be "painful" to read. An unfocused study objective leads to a rambling paper with an ambiguous conclusion. From the start of review, a concise and focused study objective places a paper at an advantage for acceptance.

A second common reason for poor peer-review is to state more in a conclusion than can be supported by the data presented in a manuscript. Over-interpretation of study data is to be avoided. Author embellishment of study findings in a conclusion statement is often interpreted as an insult of the intelligence of readers.

While determining the scientific quality of a paper is important, peer-reviewers also help determine the importance of a paper. Few journals have unlimited space for publishing manuscripts and editors seek to publish papers that add to the scientific knowledge base. In broad fields such as prehospital and disaster medicine, peer-reviews are important in recommending publication of papers that are valid in scientific approach and of value to advance knowledge.

In my few months as the Editor for *Prehospital and Disaster Medicine*, I have developed a strong appreciation for those experts who take time to anonymously peer-review manuscripts. It is recognized that peer-reviewers are busy and must take time from other scholarly projects to make their contributions. Each review is crucial to advance research in the field of prehospital and disaster medicine. As

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important, authors can use the review comments to improve research technique and skills. For all who have helped with peer-review of submissions to *Prehospital and Disaster Medicine*, the Editorial Office extends a sincere thank you. Be assured that your work is highly regarded and much appreciated.

References

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