

Poster-Session Abstracts: 2009 CSE Annual Meeting

Celebrating the theme of the Council of Science Editors 2009 annual meeting, "Show Me the Data", CSE once again held a research-poster session. Research for presentation was chosen on the basis of blinded review of abstracts by the session organizers, followed by discussion to achieve consensus, and in many cases, revision before final acceptance. The reviewers were Margaret Winker, chair (*JAMA: Journal of the American Medical Association*), Mirjana Huic (*Croatian Medical Journal*), Ana Ivaniš (*Croatian Medical Journal*), Ana Marusic (*Croatian Medical Journal*), Judy Quong (American Association for Cancer Research), and Elizabeth Wager (SideView, United Kingdom); those who submitted abstracts or whose journal colleagues submitted abstracts were not involved in review or discussion of those abstracts. Twelve abstracts were submitted; seven were accepted, four were rejected, and one had to be withdrawn. Presented below are the abstracts of the selected research, which addressed topics in authorship, readership, editorial-office management, editing, and journal indexing. Forthcoming issues of *Science Editor* will include reports on plenary, concurrent, and other sessions of the annual meeting.

AUTHORSHIP

Trend in Authorship: Obstetrics & Gynecology 1988, 1998, and 2008

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Background: In the last few years, some authors have listed a large number of coauthors in their manuscripts despite the common limit of six authors. The purpose of our study was to evaluate whether there was an increasing number of authors in *Obstetrics & Gynecology* over the years and whether the increase was related to the level of evidence.

Methods: We examined original articles published in 2008 ($n = 227$) and compared them with those in 1998 ($n = 309$) and 1988 ($n = 291$). We evaluated the number of authors per article, the level of evidence, and characteristics such as whether the study was multicenter and whether it was funded. The criteria of authorship for the journal are similar to those of the International Committee of Medical Journal Editors (ICMJE).

Results: The number of authors in 1988 was 4.1 ± 1.5 (range, 1–6); in 1998, 4.4 ± 1.4 (range, 1–8); and in 2008, 5.7 ± 2.7 (range, 1–20) ($P < 0.0001$). In 2008, more than 20 articles had 10 or more authors. The number of articles reporting level 1 evidence (randomized controlled trials) increased significantly from 5.2% to 18.1% (power, 99.6%). We found that the increase in the number of authors was not related to the level of evidence ($r^2 = 0.012$, 95% confidence interval [CI] for $r = -0.24$ to 0.02). The numbers of multicenter studies and their authors were 6 and 5.5 ± 0.8 in 1988, 18 and 4.4 ± 1.6 in 1998, and 68 and 7.3 ± 3.8 in 2008. Multicenter studies in 2008 had more authors (7.3 ± 3.8) than did single-center studies (5.1 ± 1.8 ; $P < 0.0001$). Similarly, the number of authors of agency-funded studies (6.3 ± 3.3) was higher than that of nonfunded studies (5.1 ± 1.9 ; $P < 0.05$).

Conclusions: Despite the journal limit on the number of authors, the number of authors per article rose steadily from 1988 to 2008. The increase was independent of level of evidence. In addition, the number of articles from multicenter studies and randomized controlled trials increased over time. Our study was limited in that we could not assess whether all authors fulfilled authorship criteria. Journals and editors may need to consider policies for number of authors other than a limit.

READERSHIP

Croatian Open-Access Journal Platform HR AK: Tracking Growth and Use of Journals

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Background: Croatia has about 200 scholarly journals subsidized by public funds. Until 2006, almost all were available only in print form. Since 2006, the national open-access journal platform HR AK has provided a free and easy-to-use tool for journals to publish their content online. Our aim was to analyze the growth of HR AK and its visibility.

Methods: We used the statistical tools Webalizer (version 2.0.1) and Google Analytics to collect data on access to HR AK from 2006 to February 2009.

Results: HR AK grew from about 50 journals in April 2006 to 170 journals in 2009. It now contains 2,367 individual journal issues with 28,388 articles; 19 journals have archived all their back issues, some ranging back 37 years. The majority of the journals are in the humanities and social sciences (53 and 43, respectively, from a total of 170). The growth of the HR AK platform was paralleled by an increase in its electronic visibility, from 2,665 unique page visits in February 2006 to 284,503 visits in February 2009. About half the visitors were from Croatia; other countries represented included Bosnia and Herzegovina, the United States, Czech Republic, Serbia, and Germany. The journal with the greatest number of visits (44,957 from February 2008 to 25 January 2009) was *Rasprave Instituta za hrvatski jezik i jezikoslovlje* (*Treatises of the Institute of Croatian Language and Linguistics*), a journal in the humanities.

Conclusion: Although the results of our followup of a single national journal

platform are not generalizable to other scientific communities, they indicate that electronic publishing can greatly contribute to the visibility of journals at the so-called scientific periphery, especially journals in the humanities and social sciences. Electronic publishing and Web statistics also help journals to estimate the number of readers and the type of content that attracts them.

EDITORIAL-OFFICE MANAGEMENT

In-House Efforts to Improve Timing Statistics in a Peer-Reviewed Medical Journal

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Background: *Obstetrics & Gynecology* is a monthly peer-reviewed medical journal with a circulation of about 46,000. In January 2004, it began publishing with a new publisher. With the change in publishers came a new, shortened production schedule (8 weeks rather than 10 weeks from production to publication). The editorial office renewed its efforts to decrease the time between submission and publication with the goal of publishing 80% of all unsolicited, peer-reviewed manuscripts within 6 months. Monthly reports were sent to all staff and editors, and regular staff meetings encouraged analysis of specific intervals needing improvement. The purposes of this study were to determine whether the journal had improved its submission-to-publication timing statistics (according to stated goals) and to evaluate what was responsible for any change.

Methods: Data were collected on manuscripts published in 2004–2008. Specifically, data on each article in each issue were compiled in Microsoft Excel. Timing was based on days from submission to publication in print. Any article published in 180 days or less was considered to have been published within 6 months. Case reports were excluded from the analysis because they are published only twice a year. And, even though they undergo peer review, solicited articles were excluded because they are scheduled differently from regular,

unsolicited research articles. Data on timing of specific intervals (such as days in review, days with editor for final decision, and days from acceptance to transmittal) were also collected by year.

Results: *Obstetrics & Gynecology* received 6,323 unsolicited research manuscripts in 2004–2008 (1,062 in 2004, 1,133 in 2005, 1,214 in 2006, 1,451 in 2007, and 1,463 in 2008). The journal published 1,518 unsolicited, peer-reviewed articles between 2004 and 2008 (307 in 2004, 310 in 2005, 315 in 2006, 296 in 2007, and 290 in 2008). In 2004, an average of 42% of the articles were published within 6 months. That average increased each year thereafter: to 50% in 2005, 72% in 2006, 75% in 2007, and 85% in 2008. The interval receiving the most attention from staff was that between acceptance and transmittal, which averaged 11.8 days in 2004, 6.4 days in 2005, 1.3 days in 2006, 3.1 days in 2007, and 2.5 days in 2008. The journal also focused on the editors' first decisions and final decisions, which averaged, respectively, 11.1 days and 11.7 days in 2004, 9.0 days and 9.1 days in 2005, 8.2 days and 10.6 days in 2006, 8.1 days and 8.6 days in 2007, and 7.5 days and 8.5 days in 2008.

Conclusion: Rapid publication is important to all authors, and journal offices should strive to ensure prompt peer review. When goals are set, regular analysis of performance ensures that corrective measures may be taken if needed. By focusing on specific intervals that can be controlled by the staff and editors, we were able to make incremental improvements. Monthly communications emphasized the importance of the goal and promoted a cooperative environment, encouraging and allowing our success.

Evaluating the Application of a Reviewer Grading System in a Peer-Reviewed Medical Journal

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Background: *Obstetrics & Gynecology* is a peer-reviewed medical journal that calls on the services of about 1,100 reviewers each year. All reviewers are graded. The

cumulative grades assist the three editors in choosing reviewers. In addition, the grades help the editor-in-chief to identify the top 10% on an annual basis, and each reviewer in this group receives a letter of commendation from the journal. Reviewer grades also assist the editors in identifying potential Editorial Board members, inasmuch as each Board member is called on to review eight manuscripts each month. Finally, reviewers with low scores have their reviewer status revoked. To treat each reviewer fairly, the editors have agreed on a rating system based on a 1–5 scale. Our hypothesis was that if a reviewer grading system with specific criteria for each grade and goals for the percentage of each grade assigned by editors was established in advance, editors would be more apt to assign grades be more apt to assign grades based on these goals. The study establishes a system that would be applicable to other journals that have multiple editors who grade reviewers.

Methods: Grades are assigned by the editors at the completion of each review. The editors' current goals are to assign a 5 (exceptional) to 10% of reviewers, a 4 (very good) to 25% of reviewers, a 3 (good) to 50% of reviewers, a 2 (below average) to 10% of reviewers, and a 1 (unacceptable) to 5% of reviewers. The stated goals for the scores of 5 and 2 (originally 5% and 15%, respectively) were adjusted once during the last several years to account for changes in the quality of reviews received. The study evaluated reviewer grades from 2002 to 2008 on the basis of the current goals. Data originally captured by using a 20, 40, 60, 80, 100 scale were converted to a 1–5 scale in Microsoft Excel.

Results: From 2002 to 2008, 1,517 of the 30,188 reviews received did not receive a score (5%). Reviews with no scores were excluded from the analysis. Of the 28,671 reviews received and scored, 12.6% received a score of 5, 32.9% a score of 4, 48.2% a score of 3, 5.2% a score of 2, and 1.0% a score of 1.

Conclusion: Having a reviewer scoring system with stated percentage goals encourages uniform grading when multiple

Abstracts continued

editors are assigning grades. For *Obstetrics & Gynecology*, actual scores overall were assigned at rates close to the target percentages. Some improvement could be seen in the scores assigned at the lower end (1 and 2). This study points to the importance of periodic assessment of journal goals to allow correction or adjustment if needed.

EDITING**Readability in Natural-History Journals**

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Background: Natural-history information on plant and animal species needs to be read and comprehended by diverse people, including resource managers, research scientists, and policy makers. The increase in use of complex jargon over the last century has caused concern about the accessibility of research in many scientific fields. However, it is generally unknown how readable research articles are and whether a highly readable paper is more likely to be applied than a less readable one.

Methods: We systematically sampled 30 full-length articles in each of four regional US natural-history journals. Using the average of four common readability indexes, we assessed the readability of randomly selected, 100-word segments taken from the abstract, introduction, methods, results, and discussion sections of each article. We used a general linear model with journal and article section as fixed main effects and article nested in journal as a random effect. Using "times cited" (ISI Web of Knowledge) to indicate each article's use, we correlated use and readability (Spearman rank procedure).

Results: Readability averaged over journals and article sections was at the reading level of a university upper-class student (grade, 14.99; SD, 3.58). Readability did not differ significantly among US natural-history journals ($F_{3,465} = 0.862$; $P = 0.460$). There were, however, significant differences in readability among sections of natural-history papers ($F_{4,465} = 45.772$;

$P < 0.001$). Readability scores of methods and results sections were similar to each other but significantly lower than scores of the other three sections taken as a group (Tukey HSD). Citation rate did not correlate with readability ($r_s = -0.098$; $P > 0.25$).

Conclusions: Natural-history articles are written at a grade level that has been attained by most users of the information. Authors use longer sentences and more complex words to express concepts and interpretations of data. Understanding the differences in readability among article sections can help authors and editors to focus their efforts to make the most improvements in overall readability. We must look beyond readability for factors influencing citation rate.

Measurement and Correction of Incorrect Reference Information in Two Specialty Nursing Journals

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Background: Concerns regarding accuracy of bibliographic information supplied by authors began surfacing in biomedical journals in the 1970s and 1980s, when rates of incorrect reference information were quoted to be as high as 40% to 50% in some journals. More recent evaluations have demonstrated that the problem has not abated. Checking each reference individually can be burdensome in production processes; few other solutions were described in the literature. Depending on complexity and quality, checking and correcting a reference can take anywhere from 30 seconds to a few minutes. We hypothesized that if authors were reminded that accuracy is their responsibility and that errors can delay publication, the threat of delayed publication would be enough to ensure that authors would check and correct references before final submission.

Methods: A no-error standard was instituted. Copyeditors checked all references in two peer-reviewed specialty nursing journals (about 130 articles/year combined) against indexing databases, such as

PubMed. Statistics were kept from January 2005 to June 2006 (18 months). After the first 6 months, authors were specifically told in the acceptance letter that their article's publication would be delayed if errors were found in the reference list. (Papers are "accepted" pending successful resolution of reviewer or editor final concerns.)

Results: The average proportion of references with errors identified for issues published during the 18 months (including one supplement) was 26% (range, 0–91% per article; mean, 24% per article); 1,858 (23%) of 8,090 references had major errors, that is, errors that could interfere with retrieval, such as misspelled author names, inconsistencies between text citation and reference list, and incorrect title or journal information. Despite specific warnings to authors, no measurable improvement in reference accuracy occurred (pre-intervention error rate, 22.90%; post-intervention error rate, 22.99%).

Conclusion: Error rates in submitted reference lists were not reduced by specific author instructions or the potential for publication delay. Authors continue to be instructed to ensure accuracy and are required to correct important errors in an attempt to educate them; however, production processes now require copyeditors to check the accuracy of every reference and correct as needed. Journal publishers must determine their own level of tolerance of reference errors. Those seeking error-free lists will need to depend on checking by copyeditors. The institution of this solution depends on the volume of articles and references, production turnaround times, and availability of copyediting staff.

JOURNAL INDEXING**Visibility of Small Scholarly Journals after Inclusion in the Web of Science: Case Study of Croatian Scientific Journals**

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Background: In 2007 and 2008, the Web of Science citation database (WoS)

of Thomson Reuters was expanded with 1,228 regional journals, including 647 in Europe. To test the hypothesis that inclusion of a journal in a major database would result in a general increase in journal content visibility and consequent increase in citations, my study used another independent citation database, SCOPUS, to assess the citations of Croatian journals recently included in WoS.

Methods: We identified two groups of Croatian journals: 10 journals indexed in the WoS and SCOPUS citation databases for several years and 15 journals indexed

in SCOPUS and recently added to the WoS database. The SCOPUS “citation trend” (number of citations per article) of the journals was analyzed for 2006–2008. For an increase in the citation trend of 1, with an estimated SD of 0.5, the number of years needed for analysis was 2 (at $\alpha = 0.05$ and $\beta = 0.20$).

Results: Journals newly indexed in WoS and those indexed in WoS for several years had the same increase in the citation trend from 2006 to 2008: a mean increase in citation trend of 1.4-fold (95% confidence interval [CI], 0.7–2.1) versus 1.0 (95% CI,

-0.1 to 2.2), respectively ($P = 0.5916$; t test for independent samples).

Conclusion: Our study showed that the citations of small scholarly journals of small scientific communities, such as Croatia, did not increase after inclusion in a major citation database. Longer follow-up is needed to detect possible changes in citation trends for newly included journals, which may depend not only on inclusion in databases but on the research field and the quality of the journal content. 

Coming Up: Reports on Annual Meeting Sessions

For reports on sessions of the 2009 CSE annual meeting, please see upcoming issues of *Science Editor*.