

## The publication metrics session at the EASE conference

13–15 June 2014, Split, Croatia

Along with the fruitful and interesting sessions of the EASE Split Conference last June, the one on publication metrics, coordinated by Paola De Castro, has put together experiences and knowledge from science editors working in different European and non-European countries. Editors are part of an evolving community that cares about the topic of publication metrics, and the new challenges posed by the new alternative assessment metrics, called “altmetrics”, provided hints for an interesting debate, which made this session lively and stimulating

Metrics have always been an essential part of academic writing and publishing. They have a strong influence on science communication and directly affect the different actors of the process (mainly authors, readers, funding agencies, and institutions). More recently, in the era of digital sources, traditional metrics have been supplemented by altmetrics to better assess the influence of online journal articles and the impact of new forms of scholarly outputs. Altmetrics embrace social media and other possible signals of potential impact, such as, how many persons read an article online (page views), article downloads, web links, research highlights, Twitter counts, Facebook posts, blogs, mainstream media and forums. Unlike citation metrics, altmetrics track the impact of a new journal article being accessed and talked about, not just cited, also taking into account influential but uncited work, and work from sources that are not peer reviewed.

From the presentations at the session and the stimulating discussion that arose on them, some important issues were considered as essential when discussing the importance of publication metrics: to create awareness on the different types of metrics, develop strategies to increase trust in editorial work, identify the many stakeholders involved and raise their awareness on the issue of publication quality and integrity, promote the use of persistent identifiers (such as the DOI) in scholarly communications, and identify best practices.

Arjan Polderman (*Pharmaceutisch Weekblad*, the Netherlands and former President of EASE) and Chris Sterken (*The Journal of Astronomical Data*, University of Brussels) described EASE studies and activities to reach a consensus on publication metrics also in relation with the San Francisco Declaration on Research Assessment (so-called DORA Declaration, <http://am.ascb.org/dora/>). In 2000, the 7th EASE conference devoted three workshops and the closing plenary session to the use and misuse of the Journal Impact Factor, and it was suggested that EASE should take action to discourage improper use. Further steps resulted in the publication of an EASE Statement on inappropriate use of impact factors in November 2007. This Statement met with a lot of sympathy and some scientific societies endorsed it, but the impact was low. In December 2012, at the Annual Meeting of The American Society for Cell Biology in San Francisco, a group of editors and publishers decided to issue DORA – a worldwide initiative

covering all disciplines, including a set of recommendations to improve the ways in which the output of scientific research is evaluated by funding agencies, academic institutions, and other parties. In its 18 recommendations, DORA addresses funding agencies, institutions, publishers, organizations that supply metrics, and researchers.

EASE supported the initiative as DORA has the same purpose as the EASE Statement: eliminating journal-based metrics as a tool in the assessment of research quality and consequently in career and funding considerations.

Remedios Melero (Spanish National Research Council, Valencia, Spain) described the passage from the Gutenberg to the post-Gutenberg era, from print to the digital age, from bibliometrics to altmetrics/cybermetrics/webometrics. Recent advances in technology, media, and ways of scholarly communication have made it possible to trace the impact of an individual article that is published digitally. She explained what altmetrics are: they combine data from traditional science dissemination channels and citation counts with other data collected from places where scientists, students, policy-makers, and members of the public, talk about science online for example, blogs, Twitter, Facebook, Google+, or scholarly networks such as ResearchGate or Academia.edu. Altmetrics expand the meaning of impact, well beyond citations. Being article-level metrics, they aggregate a variety of data that all together quantifies the impact of an article in terms of social immediacy and visibility: an article becomes a complex digital object that can be deconstructed into its constituent parts, and can be traced and followed (datasets, audio, video, and supplementary material). These metrics are both more granular and immediate than the traditional models. Among others, she gave examples from the Public Library of Science, Almetric.com, ImpactStory, and ReaderMeter to illustrate how these new metrics are applied to scientific publications and their components.

In her presentation, Magda Luz Atrián Salazar (Asociación Mexicana de Editores de Revistas Biomédicas, AMERBAC – Mexican Association of Biomedical Journal Editors) reported on a very interesting theme—the obsolescence of information—starting from a study aimed to determine the loss of usefulness in information published in three Mexican public health journals during a 6-year period (2008–2013). Obsolescence is the general decline over time in the validity or utility of information. Nowadays, the rapid growth of information is reducing the usefulness of the scientific literature and this trend represents a constant noise in scientific communication. Methods used for studying obsolescence include usage data and citation data, that are measured in multi-synchronous studies from the time the references are used in articles published in scientific journals. She presented measurements concerning aging factors, the loss of annual usefulness, the average life span, and the current level of the journals. The results of the study showed that each year

the usefulness of the information reported by the journals studied is reduced to 90% of that in the previous year. The Mexican delegation was warmly welcome in this session, also in consideration of the newly established collaboration between EASE and AMERBAC.

Laurence Mabile (Inserm, Université Toulouse III–Paul Sabatier, Toulouse, France) delivered an interesting presentation on the Bioresource Research Impact Factor (BRIF) initiative. This ongoing international initiative aims to create suitable tools to recognize and measure the use and impact of biological resources in scientific/academic work, in order to maximize access by researchers to collections of biological materials and attached databases, and to recognize efforts involved in their maintenance. The ultimate goal is the adoption of a biobank unique identifier for easy and reliable retrieval of biobank-based research. As a member of the BRIF and “Journal editors” subgroup, she described the activities carried on by this subgroup, involving both researchers and science editors, to foster the definition of a standardized citation format for bioresources in journal articles. She underlined that EASE actively participated in many of the subgroup initiatives. As a first result, a sentence on bioresources was included in the Methods section of the *EASE Guidelines for Authors and Translators of Scientific*

*Articles to be published in English*. Then, in June 2013, a meeting was organized in Rome: science journal editors (including some EASE members) and other editorial professionals discussed the best strategies to promote a standardized bioresource citation. She also distributed a brief questionnaire to all the participants in the session to learn their opinions on this last topic, and possibly involve them in the future activities of the BRIF.

From the presentations and suggestions coming from the debate it is evident that there is not yet a culture of citation around the new forms of scholarly outputs, and that efforts should be made to better understand the value and use of altmetrics. Ways to measure the impact of articles through the new social networking tools may represent a future concern of the editorial community, and EASE is open to further investigating these new trends.

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## Reporting what was done and what was found

*A report of sessions held at the EASE conference, 13–15 June 2014, Split, Croatia*

At this year's EASE conference in Split, Croatia, a session entitled ‘Reporting guidelines: a tool to increase the quality of health research published in your journal’ featured presentations from Professor Doug Altman (Centre for Statistics in Medicine, University of Oxford, and EQUATOR Network, UK), Iveta Simera (EQUATOR Network, UK), and Jason Roberts (Managing Editor, *Headache*, USA), exploring the need for, and the development and implementation of reporting guidelines. This was followed by a plenary talk by Professor Altman, who explored further the reasons behind poor reporting and the role of editors and others in changing the situation.

### What are reporting guidelines?

Reporting guidelines specify a minimum set of items required for a clear and transparent account of what was done and what was found. As Altman said, it is a simple concept “but people still don't get it”.

### Why are reporting guidelines needed?

Altman explained how failing to report findings is irresponsible and, at least in health care, has serious consequences. The research article is the end product of one process, but it is the starting point for other processes: informing new research; providing data for systematic reviews; and informing policies and practice guidelines. Reports should therefore contain enough data for readers (of all sorts) to fully evaluate and assess their reliability

and relevance. The goal is transparency: reports should not mislead and should allow replication (in theory). They also need to be fit for inclusion in systematic reviews and meta-analyses.

Substandard reporting comes in many forms. Altman described six types: (i) non-reporting (or delayed reporting); (ii) misrepresentation of study design; (iii) selective reporting (eg not all outcomes reported, selective analyses); (iv) incomplete publication; (v) misleading interpretation; and (vi) inconsistencies between sources (eg protocol compared with registry).

Altman referred to the many published studies showing that key elements of methods and findings are commonly missing from journal articles or where evidence exists of spin (usually negative results described as positive). The problem is widespread and large scale.

### Maximising the value of research

If the research goal is to generate new knowledge, and this is communicated via journal articles, reports must be fit for multiple readers with multiple purposes. Altman noted that authors need to be aware of their ethical and moral responsibilities in this regard, and of the need for honesty and transparency, but acknowledged that authors may not be taught well how to do research and write manuscripts. Peer reviewers do pick up some problems and authors fix them, but most reporting problems are missed at peer review.