

Innovations in Scholarly Publishing

Evolving Trends in Research Communication in a Digital Age: Examples from the BMJ

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As technology and communication evolve rapidly in this digital age, scholarly publishing is also undergoing a makeover to match the diverse needs of researchers and clinicians. The BMJ has been at the forefront of innovating the presentation of research to increase its readability and usefulness. This article presents some of recent formats used for research communication at the BMJ. (doi: 10.2302/kjm.2014-0001-RE; Keio J Med 63 (4) : 67–68, December 2014)

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“To your heart be true
An egg with your morning kiss
May help not harm you”

Wendy-Jane Walton¹

Who would have imagined that the findings of a meta-analysis that “a higher consumption of eggs is not associated with increased risk of coronary heart disease or stroke” could be communicated in so poetic a manner?²

Indeed, last Christmas the BMJ attempted to push the boundaries of communicating science a little further. Embracing a Japanese twist, we invited readers to put on their creative hats and convey findings of research articles through haikus, rendered in English in three lines of five, seven, and five syllables.³

Medical research has grown exponentially in recent times, contributing to an ever-increasing body of scientific literature. Technology has simultaneously kept pace, providing doctors access to this information at their fingertips through the internet on smartphones and tablet computers. Accordingly, communication of research has had to evolve to match consumption in this fast-food world: quick, simple, and easy-to-digest.

One of the challenges for medical journals is to progressively address contrasting needs of authors and read-

ers; broadly put, that of researchers and clinicians. Researchers tend to prefer an in-depth account of the study with adequate detail to appraise it or to replicate the experiment described, and increasingly to include it in a systematic review. On the other hand, clinicians prefer succinct and accurate messages that may directly guide decision-making at the point of care.

To plough the middle ground and cater to these diverse needs of its readers, in 1999 the BMJ adopted a process labeled ELPS, which stands for “electronic long, paper short.” This meant the full research paper was published online with an abridged version in the print journal.⁴ A decade later, the shorter print version was further packaged in the format of an evidence abstract, called BMJ pico, to increase readability and usefulness of research⁵. “Pico,” meaning small (10^{-12} in SI units), also stands for the widely used critical appraisal tool PICO (population, intervention or exposure, comparison, outcomes). This one-page format of the research paper essentially comprises bite-sized information on the research question and the answer and provides a context of “what is known and what this study adds” to the literature on the topic. Balancing accuracy, brevity, and comprehensiveness, BMJ pico also highlights the role of chance, bias, and confounding in the study design, and cautions readers on potential harms and generalizability. Completing

it, a summary figure or table provides a snapshot of the relative risks and odds ratios of the main findings of the study. Fundamentally, BMJ pico serves as an “evidence-based medicine tool” providing busy clinicians just enough information to evaluate the validity and applicability of research findings to their practice context.

The overarching ambition of innovation in scholarly publishing is to expand the reach of research to end-users so it is customized to their diverse needs and presented in a simple and engaging way. Keeping in tune with the latitude offered by digital media, a recent initiative at the BMJ is to invite authors to submit video abstracts to accompany research papers on *bmj.com* that are accessible via BMJ multimedia (www.bmj.com/multimedia) and YouTube (www.youtube.com/user/BMJmedia) channels.⁶

Ranging from a peek into a specialist mental health unit for the elderly,⁷ the challenging circumstances of delivering home-based HIV counseling and testing in rural South Africa,⁸ and an audio-visual portrayal of the impact on mortality of change in Cuba’s food and transport policies,⁹ video abstracts enable a vibrant presentation of an otherwise dry and verbose research paper. They afford researchers a face and a voice, with the opportunity to talk about their research study. Authors may present the context that led to the research question, discuss how the study was operationalized, use fancy animation and infographics to showcase the main findings, and bring out their application to health policy and clinical practice. Viewers get a glimpse of the settings in which the study was conducted and can listen to the author break down a complex study into simpler bits while directing them to the main aspects of the study.

As social media become a prime platform for sharing and discussing research, video abstracts offer a format that is amenable to sharing via Facebook, Twitter, and blogs, thereby increasing penetration of research to a wider audience. Indeed, with shifting preferences in both supply and demand, research communication is fast moving away from the rigid framework of scholarly publishing toward more flexible and embracing outlets afforded through forms such as academic blogging, videos, and podcasts.¹⁰

Conforming to principles laid down by the World Medical Association (WMA) Declaration of Helsinki for ethical research,¹¹ of prime importance is that results of research on human subjects be published or made publicly available. While there is a concurrent emphasis on ensuring completeness and accuracy of research reports, the WMA neither discourages nor advocates a particular medium or format of communication. The vision is for research to be shared as widely as possible to stimulate dis-

course and debate and, consequently, to influence medical progress. Reflecting this, measurement of the value of scholarly publishing is increasingly moving away from the conventional and skewed measure of journal impact factor toward ratings such as altmetrics that capture article-level metrics on the attention an article is getting on social media platforms, mainstream news outlets, blogs, and other sources.

As has been the trend, technology and changing preferences will shape scientific communication of the future. There is no turning the tide now.

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