



An Interview with Michael Markie an open science and open data advocate

Medical writers commonly are hired to write for traditional journals targeting the highest possible impact factor. However, as medical writers, we should be aware of alternative options. In September last year, I had the pleasure to meet Michael Markie during a session on “The Future of Medical Journals and Getting Published in the Digital Age”, who gave an inspiring talk about Open Science publishing platforms.

Michael is the Publisher at F1000Research, and is an open science and open data advocate. Michael’s main role is to work on devising and implementing innovative ways to improve the uptake of open science practices and improve reproducibility for the scientific community as a whole. He has also helped to launch the new funder based publishing platform Wellcome Open Research.



MEW: Michael, can you explain the main differences between a traditional journal and an Open Science publishing platform?

Michael Markie (MM): The main difference is that an open science publishing platform allows the authors to be in control of their papers. We enable authors to publish what they want and when they want; this ranges from traditional narrative-based articles to incremental findings, methods, protocols, datasets and negative/null results. Further, we are trying to avoid some shortcomings of journals, such as the time it takes

to get something published, and that papers are not necessarily conducive to reproducibility. I think now we are at a stage where there is a lot of questions being asked around how reproducible the work published in journals really is. The problem is that articles themselves don’t have enough details for someone to reproduce or replicate a body of work. On F1000Research we mandate that the authors provide the underlying source data to enable reanalysis, replication attempts and data reuse. For example, if an author uses any software or a specific piece of equipment, we ask the author to provide all the parameters and all of the necessary details so someone can read the paper go into their lab, and replicate that experiment. So, I suppose that the main difference is that there is an opportunity to publish a wider variety of things and it is also more inclusive with authors getting to choose what they are going to publish and not necessarily an editor.

MEW: How can I select the “right” open platform?

(MM): You should choose one with a research area that covers your field. One thing to look out for is if you recognise some of the individuals or some of the work that is being published on the platform. Then, other things to consider are is it affordable, is it open access, and ask the question if your work will be visible to the research community from the platform. F1000Research for instance is one of the only,

maybe the only open science platform that is PubMed indexed.

MEW: Do you really publish everything?

(MM): In a sense we do. The first thing we do when we receive an article submission is we perform what we call a “pre-publication check”. You can’t just publish an article without going through this check. We check that the article meets our authorship criteria and if the paper is relevant to what we publish (so is it science or medical based). We check if the work is legible, we check if it is plagiarised or not, if it adheres to the correct standards of reporting and if it meets ethical guidelines. The work, or large parts of it, must not have been published previously or be currently under consideration or review elsewhere. These are all basically checks that the work has been done well. If all the criteria is met and the authors have made sure that they are adhering to these requirements, then we will publish the work.

MEW: How high is the percentage of rejected articles after the pre-check?

(MM): I would say around 20% get rejected.

MEW: What happens after the pre-publication check has been passed?

(MM): As well as the authors being in control of what they publish, they are also in control of their peer-review process. We ask the authors to select reviewers who they believe have the correct



expertise to review their paper. We obviously check for conflicts of interest, but we would never invite a reviewer without asking the author first, so the authors always know who will be invited to review their paper. When we have gone through the pre-publication check, we typeset the articles, create the HTML, XML and PDF and get everything ready for online publication; this takes on average around seven days. We then publish the paper which is clearly labelled as “awaiting peer review”, and it is at this point when the peer-review process begins. Our editorial team invites all the reviewers that were selected by the author. The reviewers must make their names available and state their academic affiliation, and we also publish their peer review reports with the paper. The other thing the reviewers have to do, which is different compared to typical journals, is they give the paper a status. There are three statuses the referee can give a paper. “Approved”, which is denoted with a green tick and means that the referee asked either for no changes to the manuscript or only a few small changes. The second status is “approved with reservations,” that is denoted on the website with a green question mark and means the referee has asked for some significant larger changes to be made to improve the paper. And finally, there is a “not approved” status denoted with a red cross. Not approved is quite rare, but it is meant to notify if a piece of research really has very significant flaws and the work overall to be poor science.

To be sent to PubMed and be PubMed indexed an article needs to have two approved statuses, or two approved with reservations and one approved. The authors will always have the

opportunity to revise their paper in a new version to satisfy the reviewers requests. The process is pretty much like revisions in closed peer review journals, but just in this instance it is all done openly and transparently. This enables the readers to see exactly how the paper came in (version 1), they can see all the comments, and then they can see the revised version 2. The idea is to try to make the process of publishing much more civil, by making the authors and reviewers have a constructive conversation about the work on how to improve the paper whilst enabling readers to see how the work developed from initial publication.

MEW: How do you see that open science platforms impacting the future of the articles?

(MM): The F1000Research platform doesn't have an impact factor and doesn't want an impact factor. The goal behind F1000Research is to try and move evaluation of a paper away from the journal level and emphasise the work completely on the article level. We are making a lot of efforts in trying to make it very clear to the reader how impactful an individual article is by letting people know how many downloads, views and citations it has. We also provide Altmetrics, which enables people to see how the paper is being talked in social media, policy documents and news outlets.

The future for open science platforms is to enable people to have a way to try and move away from publishing in traditional journals. The process is quicker and should help assessment to be made on the intrinsic value of the work rather than incorrectly judging it by the venue of its publication.

We are also working very closely with funding

agencies that have an invested interest in trying to improve the way the research they fund is communicated. For example, we have just created a platform that uses the F1000Research publication model for the Wellcome Trust who are the biggest biomedical funder in the UK. They want to give their fundees a way to publish research which is quicker, more transparent and they want to make it easier for researchers to provide enough information to reproduce work.

An open science platform can help reduce the barrier to data sharing, facilitate the publication of null or negative results, which helps to avoid the bias towards positive findings in literature. The platforms can reduce the amount of research waste and to try to help reduce the bias of understanding in the literature. By taking away the delay of traditional journals, it will enable researchers to get their work out more quickly and therefore allow others to make discoveries quicker.

MEW: Thank you for taking the time to share this important information with us. Open Science publishing platforms are obviously an important step towards transparency. Certainly, they will be a large step towards accuracy of meta-analysis as now all trial results, even confirmatory, inconclusive or negative ones can be published easily.

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