EDITORIALS

Research to Publication e-learning

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BMJ programme aims to build capabilities for trustworthy, publishable, and usable health research

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"What should we think about researchers who use the wrong techniques (either wilfully or in ignorance), use the right techniques wrongly, misinterpret their results, report their results selectively, cite the literature selectively, and draw unjustified conclusions? We should be appalled. Yet numerous studies of the medical literature, in both general and specialist journals, have shown that all of the above phenomena are common...This is surely a scandal."

This extract from an editorial in *The BMJ* by statistics professor Doug Altman is more than 20 years old.[1] Sadly, things haven't improved all that much, and we know that health research efforts and resources continue to be wasted in high and lower income countries alike.[2] There's waste in publishing too. Editors reject papers because research questions and methods are inadequate, and papers get retracted because they are unusable or untrustworthy.

This is why BMJ has spent 18 months, in collaboration with the University of California, San Francisco (UCSF), developing Research to Publication (https://rtop.bmj.com/). This is a comprehensive e-learning programme on developing skills in clinical and public health research and getting studies published quickly, transparently, and ethically. It's aimed at early career researchers and their institutions worldwide, with a special focus on building research capabilities and supporting research integrity in low and middle income countries (LMICs).

The concepts and topics in Research to Publication have had plenty of road testing, not least during more than a decade of outreach, teaching, and workshops run by *The BMJ*'s editors with researchers in India, China, and Africa as well as the global North. Two free modules from the programme—from BMJ on publishing study protocols and, from UCSF, an introduction to clinical trials—have received good feedback from more than 1000 learners worldwide, most of them in LMICs.

Emerging economies need research evidence that is reliable and relevant enough to help them build universal health coverage and meet the sustainable development goals and targets for health.[3] There are excellent ongoing initiatives to build the capacity of health systems to do research and to use research outputs in developing policy (for example, through WHO's special programme for research and training in tropical diseases (www.who.int/tdr/capacity/en/) and NICE International). Publication is an important link in this chain too.

Universities and medical schools use publication output to monitor the efficiency and effectiveness of their research efforts, to climb up the academic league tables, to grow internationally strong reputations, to attract funding and high calibre undergraduate and postgraduate students, and to build long term capacity to generate usable evidence and improve health. Some are making great strides, but, even so, there's still a long way to go.[4] For instance, Africa's share of annual research publications on health rose from 0.7% in 2000 to 1.3% in 2014, with just three countries—South Africa, Nigeria, and Kenya—contributing over half.[5]

Why launch a programme that covers the integrity of publishing as well as of research? Because analyses of retractions from Medline reveal error and poor science, along with high rates of plagiarism and other publication misconduct. Some have shown that publications retracted for plagiarism are significantly more likely to have a first author from a low income country than from a high income country.[6] None of this is surprising when early career researchers worldwide (but increasingly in LMICs) are under intense and often counterproductive pressure to get something—anything—published.[7]

Medical writing courses abound, and there are free resources on statistics such as the Research Methods Library of Alexandria (http://ssc.bibalex.org/helpdesk/introduction.jsf). But the key scientific and ethical requirements for successful publication are a mystery to many authors. They need, but rarely find in journal instructions, clear answers to questions like: Why do medical journals reject clinical trials that were not preregistered? How can PhD theses be turned into papers that journals will want to publish? Do study results have to be strongly positive to get published? Why shouldn't the professor's name be on the paper? How do editors make decisions? Are they biased against authors from far flung places? What's the best journal for this paper? Why should I care about open access?

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Research to Publication covers—in six courses with 48 modules lasting more than 200 hours—everything from developing good research questions and the best and most ethical study designs (given local circumstances), through to reporting studies accurately and understanding what editors and peer reviewers are really looking for. Each module comprises a presentation of 30-60 minutes with video or narration that learners can run at their own pace, along with up to 3 hours of further reading and exercises. The format is ideal for blended learning or integration into a master's programme. All materials include real examples, including policies and case studies about doing and publishing research in low and middle income countries.

To ensure that Research to Publication is sustainable, it's available through affordable institutional and personal subscriptions. Learners receive BMJ/UCSF certificates on successful completion of modules, and institutions can opt to provide local accreditation. We will be monitoring publication rates from learners' institutions and countries and will encourage alumni to give feedback while learning and, later, when they successfully publish their research.

Competing interests: I have read and understood BMJ policy on declaration of interests and declare I am the editorial lead for Research to Publication.

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