Do we need a new forum for researchers?

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John Harris has just completed a higher degree by thesis funded on a university scholarship. His project focused on mental health in the context of chronic low back pain. The exploratory study outlined the scope to apply a new and promising intervention in the clinical field. The main reason to publish this research is to communicate with peers, policy-makers and other stakeholders in order to make an impact in the field. But where should John publish?
There are dozens of journals on the market, but might John appreciate another forum for researchers to communicate in the health sciences? The short answer is very definitely, yes.
In this review we will explore the case for establishing a new journal with a particular focus on research from new and emerging experts in the field.

What is the scope for papers from emerging experts and new researchers?

There are substantial numbers of higher degree students now registered at Universities. Many governments have encouraged this trend through funding as they have recognised that universities are the key training ground for nurturing an urgently-needed professional workforce. As part of the encouragement, a postgraduate scholarships scheme has been established in Australia.[1] The main objectives of the Australian Postgraduate Awards (APA) programme are to:

- Support postgraduate research training in the higher education sector; and
- Provide financial support to domestic postgraduate students of exceptional research promise who undertake their higher degree by research at an eligible Australian higher education provider.

The allocation of funding to participating providers is based on a formula that reflects their over all research performance. Each provider (research institution) has responsibility for determining the selection process by which awards are allocated to applicants,. These processes vary, but whatever the process the funds are still largely determined by the research performance of the institution. This performance appears to rely on the publications of relatively few research-active staff, as can be seen in Table 1 which illustrates the numbers of postgraduate higher degree

research students, research-active staff and the numbers who generated publications in 2004.[2] The data hint at a large cohort of staff and students who do not publish.

University (State)	Number of Research Active Staff	Number of HDR students (Health and medical research)	Number of Staff who Generated Publications
A (WA)	110	169	121
B (WA)	225	251	143
C (Q)	141	388	127
D (NSW)	426	869	426
E (V)	694	670	464

Table 1. Numbers of HDR students, Research active staff and publications in health and medical research at five Australian Universities in 2004.

Where are the hurdles in publishing?

Failure to publish is a particular issue for research with negative findings, observational studies, research funded by internal university grants and that which reports what has been labelled to be of 'low' scientific importance.[3] The unpublished work is largely led by higher-degree students, and involves pilot and exploratory studies and studies in the early phases of developing a complex intervention.[4] Such research struggles to find a home – as was demonstrated in a recent report in which the authors reviewed 1107 papers submitted to the *BMJ* (Impact Factor 9.25 (2006), *Lancet* (Impact Factor 25.80) and *Annals of Internal Medicine* (Impact factor 14.80). Of the1107 manuscripts included in the review, 68(6%) were accepted, 777 (70%) were rejected outright, and 262 (24%) were rejected after peer review.[5] It is unlikely that all the rejected work is entirely devoid of merit.

Does the process inhibit authors?

Peer reviewing is at best promoted as 'intellectual quality control', a safeguard against publishing methodologically-flawed work. It is thought to curb the exaggeration of results and improve presentation. However a high proportion of poor quality studies are regularly published and there is ample evidence for publication bias, nationality bias and language bias. Peer reviewing as it is currently practised is widely accepted to have deep flaws, but despite this it effectively controls who is published and therefore likely to succeed in the competition for research monies. [6-8] Another disadvantage in the current publishing world is the delay between submission to publication, usually in the order of 12-16 months .[9] It's increasingly widely accepted that the conventional peer review of manuscripts is "*expensive, slow, prone to bias, open to abuse, possibly anti-innovatory, and unable to detect fraud*", and can yield published papers that "*are often grossly deficient*".[10] Only 50% of authors in some established journals are confident that peer review is intended to improve the quality of their publication.[11] Other problems were more fully explored by authors in the *Australian Family Physician* , a journal with no formal impact factor but which accepts a generous 61% of submissions.[12] The delay from official acceptance to publication is still reported to be on average 78 days. However it has been shown that people often lose interest in getting their work published after preparing papers for submission. In view of the effort required to prepare a manuscript, a surprising proportion of authors (15%) either withdraw their papers, or fail to respond to constructive criticism designed to bring papers to optimal standard. Some work simply does not see the light of day. This is not to argue that work need not be reviewed, only that the present system is flawed and results in many valuable findings not being reported.

Are impact factors critical?

The impact factor of the journals in which one publishes has implications for grant applications, job applications, promotions and bonuses. But is the impact factor the only relevant consideration? Many authors, and especially students, are encouraged to believe that a journal's impact factor is the major critical consideration when deciding where to submit their paper, whereas, those with a broad understanding of 'impact factors' consider them highly contentious with many confounders including strong national biases .[13-15] This criticism is especially justified when IFs are used to evaluate and compare the productivity and importance of the work of individual scientists. [16] There is a low correlation between the impact factor of a journal where an article is published and the number of future citations to that article.[17] Indeed, the inventor of journal citation reports and impact factors (Eugene Garfield) continuously warns about the misuse of journal impact factors and urges caution when they are used for evaluating the published work of individual scientists.[18]

It is important to realize that the IF of a journal represents the citation frequency of the average published article and not a specific article.[19] Accordingly, even if an article appears in *Nature* or *Science*, which are journals with high impact factors, this does not necessarily mean the article in question is later highly-cited. In short, the articles determine the journal's citation rate and not vice versa.[17]

What other 'impacts' might be relevant?

Differences in impact factors between medical disciplines are largely attributable to factors unrelated to scientific quality. These include citation habits, the interrelatedness of research projects and the number of related publications within a discipline, which is influenced by the total number of researchers working on related projects within a specialty, the quantity of papers published by individual scientists and publishing opportunity. When making comparisons within a discipline, non-quality related variations in impact factors also exist, but to a much lesser degree than cross disciplinary comparisons, which place some disciplines, such as the social sciences, general practice, allied health and public health, at an unfair disadvantage.

What is probably more important as far as many authors are concerned, and especially new researchers to the field, is the impact of research on society, but this is not what an IF is about – it is, after all, a limited and potentially flawed measure of scientific impact. The Royal Dutch Academy of Science has suggested the development of a 'societal impact factor'.[20] An Australian group attempted this for primary care research. End users of research were invited to assess the impact of specific research on social, economic, environmental and/or cultural outcomes.[21] Four primary care projects were evaluated and found to result in few journal publications, yet some of this work resulted in substantial state government reform.[21]

This is a story familiar to many people in primary care, where some apparently simple research can make quite dramatic changes in patient care. Such research may not even make it on to the radar of scientific impact because the impact is not primarily on the science, but on the practice. In assessing the value of a work more is needed than mere citation. The work needs first to find an audience and then some measure is needed of its effect on that audience. The impact of research on policy and practice can be determined, if not very accurately. However, for the impact to be felt at all the work needs to see the light of day. This is not an argument to publish work regardless of quality – blog sites and

the like can do that. It is, however, part of an argument that good work needs to be disseminated for it to have an impact on the areas that matter. Determining the nature and the extent of the impact is necessarily subsequent to its dissemination.

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What format?

The environment in which research is being conducted and disseminated is undergoing profound change, with the internet providing new opportunities, changing research practices demanding new capabilities and collaborations, and increased focus on research performance and quality. As one commentator recently put is:

"The scholarly community has sufficient expertise and incentive to collaborate on the design of a new model for scholarly communication that takes advantage of networking technology and extends the traditional benefits of print publications." [22]

There are new opportunities and new models for scholarly communication that could enhance the dissemination of research findings and thereby increase the returns to investment in R&D. Firstly research indicates that, across a variety of disciplines, open-access articles may have a greater research impact than articles that are not freely available.[23] We must therefore consider the value of new citation measures, such as CiteSeer or ParaCite, which assess the impact of individual articles.[24-25] Open-access articles make these new, more meaningful measures of research impact possible. Evidence of the rapid evolution of bibliometrics toward "webometrics, "cybermetrics," and "influmetrics," as Blaise Cronin has characterized them, is the partnership between ISI and CiteSeer to create a new citation measurement tool.[26,27]

The case for open access publishing for new and emerging experts in their field is compelling given that the dimensions of potential impact include:

- Faster access and speed of publication, reducing the time/cost involved for a given outcome and improving the efficiency of research output
- Improved access to established experts as reviewers and commentators, reducing the pursuit of blind alleys
- Wider access both providing enhanced opportunities for multi-disciplinary research, inter-institutional and inter-sectoral collaborations, and enabling researchers to study their context more broadly, potentially leading to increased opportunities for new projects; and
- Greater access leading to improved education outcomes, enabling an improvement in the capabilities of future researchers and research users.
- Greater and more timely effect on practice.

Secondly, by including such items multimedia presentations on websites we are able to offer the prospect of being seen, heard and read. This facilitates effective networking, especially for those early in their career who struggle for exposure in the traditional and established journals or for a major platform at many prestigious conferences. The evidence suggests that organizational boundaries in academia and other groups are becoming more permeable because of the internet, just as community boundaries already have. The internet enables many workers to connect with relevant others elsewhere, wherever they are and whomever they work for. As organizations grow towards their information and communication sources, so-called Computer Supported Social Networks should effect changes in organizational structures and alter the potential for researchers to make an impact in a meaningful way.[28]

What focus?

What do avian influenza, obesity, breast cancer and diabetes have in common? They are all major and complex health issues that require significant effort on the part of multiple health-science disciplines. Their characteristics and contributing factors are not bound by any disciplinary borders. In the face of these issues and others like them, health researchers and practitioners alike can and must draw on expertise and experience from across health science disciplines, and even disciplines based outside of health. Yet, in most academic contexts, the fundamental building blocks of the research establishment — training, funding, administration of grants, peer review, publishing and professional recognition — have been slow to shift to include interdisciplinary enquiry. Players outside academia also contribute to the entrenchment in the research establishment of disciplinary identity. Among these players are the granting agencies that set and fund the national research agenda. These maintain boundaries by constraining the selection process within tightly defined review panels. Other external influences are the available venues for publication of research results, where editorial boards consist of discipline-bound experts and members of professional societies. As Giacomini stated, "Disciplinary cultures shape members' identities, relationships and even the knowledge that is created by determining what counts as work and even whose work counts."[29]The main aim of any new journal in this space is to provide a forum to promote, encourage, and bring together various disciplines applying innovative theory, methods, and approaches to health problems.

As a point of distinction from the other forums the editorial board of a new journal must reflect a multidisciplinary approach and commit to support the work of new and emerging experts such as John Harris, the young researcher we started with. Striving for multi-disciplinarity requires that we employ new ways to share understanding and learn to write in ways that aim to inform people who do not necessarily share a disciplinary vocabulary or, more broadly, who do not have a shared understanding of how we make sense of complex issues. It will be challenging to create a journal that can address complexity with clarity. We invite your support.

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