

## Should You Be Reading This Journal?



Pause for a moment and ask yourself why you are reading this editorial. In fact, consider why you make a habit of reading any medical journal, including this one. Justifications may come quickly to mind. Perhaps you are concerned about remaining current in your field. Perhaps you are fearful of missing an important article. Perhaps you read out of a sense of professional obligation. Perhaps you are influenced by the pragmatic benefit of earning continuing medical education credits for the time spent reading journals. Perhaps you share the views of the editor of this publication that reading journals causes you to acknowledge the nature of your participation in the medical discovery cycle and reinforces your critical appraisal skills<sup>1</sup>.

Most justifications posited for reading journals can be distilled to a single fundamental assumption: by reading journals, the physician obtains information and is influenced by it, leading to changes in practice that will result in improved patient care. From one point of view, the pathway from information to patient care may be direct: reading journals helps in deciding how to apply specific interventions to one's own patients. The effect of journals on practice may also be conceptualized as indirect: reading journals may strengthen information processing skills and reinforce good professional habits; these improvements create a better physician who may therefore deliver better care in general. From either perspective, the outcome ultimately thought to be achieved is a positive impact on practice.

But do we in fact know whether (or to what degree) this assumption is true? A need for proof may not immediately be obvious. Reading journals is a longstanding medical tradition and a widespread phenomenon. Its promotion as a normative educational activity begins from the time medical training commences. Throughout one's career, it continues to represent a tangible commitment to lifelong learning. Perhaps the worth of journal reading is so self-evident as to be free from the need for objective substantiation.

However, other trends suggest that there is indeed a need for the impact of medical journals to be scrutinized. The value of journal reading is now being openly debated, with some going so far as to assert that reading journals has no effect on changing clinical performance<sup>2</sup>.

At the same time, the reason for which medical journals continue to exist has in many cases undergone a shift. What

began as a means for professional medical societies to communicate information among their members has become, for many journals, a major profit-making venture; for most academics, the medium for an imperative (publish or perish) by which career advancement is or is not achieved; for the large body of physician readers, an ongoing source of guilt or pride, depending on one's success in keeping up with subscriptions. The effect that this evolution in purpose has had and continues to have on the value and impact of published articles bears questioning and understanding.

There are now roughly 20,000 medical journals in existence, publishing hundreds of thousands of articles per year<sup>3</sup>, numbers that continue to increase. This makes the ideal goal of the conscientious habitual reader impossible to achieve. One cannot read, much less read critically, every article of potential relevance to one's practice; there is simply too much of it. It is therefore necessary to choose. Your attention to these words means that you have chosen to read *The Journal of Rheumatology*. Recognize that in doing so, you have sacrificed the opportunity to read something else. Knowing how to make such choices rationally requires meaningful and reliable information with which journals can be evaluated and compared.

As questions about journals start to be asked, the idea of journals as a subject for study has taken root. The last decade has seen the birth of the field of journalology, which has assumed the task of scientifically studying medical journals. Primary research has emerged on the topics of peer review, authorship, ethics, conflict of interest, and the impact of other media<sup>4-6</sup>. For example, a study on the quality of peer review has shown that younger reviewers and those with a background in epidemiology or statistics produce higher quality reviews of submitted manuscripts<sup>7</sup>. However, driven mainly by journal editors, the output of the field of journalology to date has been almost entirely self-referential. Studies relating journals, journal articles, or aspects of the peer-review process to physician behavior, change in practice, or patient care outcomes have rarely appeared.

How, then, are readers to determine or compare the value of medical journals? The efficient reader may wish to subscribe to a journal that will provide exposure to the greatest number of articles. From this perspective, *The*

*Journal of Rheumatology* would seem a good choice; the 472 articles it published during the year 2000 surpassed the numerical output of every other rheumatology journal. However, relevant articles may appear in more general journals; must subspecialists also look beyond the publications of their own field? A Medline search covering the past 3 years reveals that among the original and review articles published by 4 leading general medical journals, only 4% related to musculoskeletal or connective tissue diseases; for the 3 leading internal medicine journals, the proportion is 10%. Such numbers may be interesting and possibly helpful. However, they fail to address the underlying question, which concerns the impact these articles will have on practice.

There is in fact a widely used measure of journal impact: the impact factor, published by the Institute for Scientific Information in their annual *Journal Citation Reports*<sup>8</sup>. Recently released statistics for the year 2000 assign *The Journal of Rheumatology* an impact factor of 2.910. Should the reader be impressed? Definitely, if the comparator is another rheumatology journal; perhaps not, if the comparator is a general medical journal such as the *New England Journal of Medicine*, which leads all clinical journals with an impact factor of 29.512. On the other hand, recognizing that *The Journal of Rheumatology* has the highest impact factor of any journal published in Canada places it in a much more favorable context. But what do these numbers really mean? The impact factor actually measures the average citation frequency per published article, nothing more. How this relates to the true clinical impact of an article is unknown. Furthermore, "impact" determined in this manner can only be assessed retrospectively after several years, which is hardly ideal for physicians who want to know what they should be reading now.

Without valid, comprehensive measures of value or impact, we have little understanding of how the output of medical journals affects medical practice. This must change. The relationship between journals and practice is one in which every member of the medical community has a vested interest.

How journals influence practice is, in the first place, important to journal readers. For readers, the absence of knowledge about the value and impact of journals creates two problems. First, the reader must choose what to read and therefore needs an objective basis for choosing. Second, the reader incurs a cost for reading. The cost is in part monetary, but for most physicians, the more valuable and limited resource that must be traded is time. Journal readers deserve to understand the value they are receiving for their investment.

How journals influence practice is also important to medical researchers. Researchers need to understand the factors that may influence the transmission of new scientific information into the realm of clinical care and to use this information to maximize the likelihood that their findings will generate the expected response among practicing physi-

cians. The most laborious efforts, most rigorous attention to methodology, and most generous expenditure of research funds ultimately mean nothing if the findings of medical science are not translated from potential benefit into practical utilization.

Finally, how journals influence practice is important to those who work to put journals together. The peer review process is premised on the concept that quality control of journal articles is important to the protection of the profession, of patients, and of science in general. The benefit of quality control exists only in proportion to the impact journals have. For journal editors and for the many others who voluntarily contribute their time and expertise, knowledge of this impact would validate the purpose for which they work.

Should you be reading this journal? At present, a reliable and objective answer is not possible. However, if proper attention is given in the near future to carrying out scientific studies of the relationship between medical journals and medical practice, we will have a much greater ability to make rational decisions about how to communicate and receive medical information effectively.

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