

EDITOR'S MESSAGE

Tackling the overwhelming amount of medical research being continuously published presents a challenge for physicians and medical trainees. Each month, over 7,000 articles are published in journals relevant to primary care alone that would need to be considered to comprehensively update the knowledge base of a family physician.¹ This figure is undoubtedly growing and does not account for sources of research that are disseminated in ways other than journal publications.

Yet somehow, clinicians must approach and incorporate valid new research to help patients. Best medical practice is constantly changing, sometimes reversing drastically and with important consequences. For example, the use of beta-blockers in heart failure, which now represent the cornerstone of therapy, was considered counterintuitive until the 1990s.² The use of hormone therapy in post-menopausal women and antiarrhythmic agents after myocardial infarction has decreased since trials were published demonstrating these therapies to be more harmful than previously thought.³ In the *New England Journal of Medicine* alone, 13% of original publications in 2009 represented a reversal in medical practice.³

For trainees, evolving medical knowledge means they must learn fundamental basics, but more importantly develop an approach to evaluating research and adding to what they have learned. The late Dr. David Sackett, the Canadian pioneer of evidence based medicine, suggested that “[h]alf of what you’ll learn in medical school will be shown to be either dead wrong or out of date within five years of your graduation; the trouble is that nobody can tell you which half—so the most important thing to learn is how to learn on your own.” Developing habits early in critical thinking, efficiently finding research, and communicating study results is essential.

It is important to acknowledge that continuing medical education (CME) does play a large role in Canada and appears to effectively achieve and maintain knowledge, attitudes, skills, and practice behaviours.⁵ However, the quality of evidence in support of CME is low and industry sponsorship is widespread.⁶ Regardless of CME’s role in updating and maintaining physician knowledge, it is unable to adequately keep pace with the rate of new research production, meaning additional strategies are required.

Many tools exist to bridge this gap and the best systems deliver valid, relevant information that is patient oriented, while filtering out extraneous information.⁴ Many email subscription services, such as EvidenceUpdates from the BMJ Group, are free and provide information about new research highlights that are suited to the specific interests and practice needs of

physicians. Canadian podcasts like Rounds Table and the Best Science Medicine podcast promote healthy skepticism and critical thinking. Dr. Richard Lehman’s weekly journal review in BMJ Blogs nicely injects humor into research and reviews key trials published in leading medical journals. Another platform providers and learners are increasingly accessing is social media. For example, Twitter can offer an alternative means of efficiently discovering new studies and following healthcare news.

In addition to these methods, the use of tablets and smartphone apps such as UpToDate at the bedside seems to be a growing trend in hospitals and among trainees. Given the volume and complexity of clinical practice guidelines, this can work to facilitate quality care. Yet perhaps the convenience of using these apps, especially from the outset of training, makes it easy to rely on information under the assumption that it is applicable to the patient in your office without much critical appraisal or background understanding.

The goal of having an information system is to help physicians feel confident in clinical practice and deliver the best possible patient care. It is my opinion that developing practical skills in critical thinking and continuous learning begins early in medical training and is the responsibility of the medical curriculum, but also requires students to take initiative and explore which strategies work best for them. The *Dalhousie Medical Journal* welcomes your thoughts on this topic and invites you to enjoy the enclosed issue.

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References

1. Alper BS, Hand JA, Elliott SG, Kinkade S, Hauan MJ, Onion DK, et al. How much effort is needed to keep up with the literature relevant for primary care? *J Med Libr Assoc* 2004;92:429-37.
2. Sacks CA, Jarcho JA, Curfman GD. Paradigm shifts in heart-failure therapy—a timeline. *N Engl J Med* 2014;371:989-91.
3. Prasad V, Gall V, Cifu A. The frequency of medical reversal. *Arch Intern Med* 2011;171:1675-6.
4. Shaughnessy AF. Keeping up with the medical literature: how to set up a system. *Am Fam Physician* 2009;79:25-6. department and the effect of an educational feedback strategy. *Postgrad Med J* 2006;82:823-9.
5. Marinopoulos SS, Dorman T, Ratanawongsa N, Wilson LM, Ashar BH, Magaziner JL, et al. Effectiveness of continuing medical education. *Evid Rep Technol Assess* 2007;149:1-69.
6. Eggertson L. Debate sparked over pharma-funded CME. *CMAJ* 2016;188:E65-6.