

third trimester if she has not already received one in adulthood.

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Competing interests
None declared

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Response to letters about vitamin B12

We thank Drs Rosenberg and Vitou for their letters^{1,2} pertaining to our article, "Oral vitamin B12: a cost-effective alternative."³ We would like to clarify a few of the statements. First, Dr Rosenberg raises the concern that B vitamins increase the risk of cancer and mortality. A systematic review of 12 randomized controlled trials (including the study Dr Rosenberg referenced) that enrolled more than 47 000 patients concluded that B vitamins do not increase the risk of cancer or mortality (and also do not prevent cardiovascular disease).⁴

Next, we do agree with Dr Vitou that some patients who do not have vitamin B12 (VB12) deficiency might feel less fatigued when they receive intramuscular VB12 injections. Of interest, it appears that the only high-level evidence supporting this practice was a small cross-over controlled trial of 28 patients published more than 40 years ago.⁵ In this study of relatively young, mostly female, non-anemic patients, both intramuscular VB12 injections and placebo improved general symptoms, including fatigue and overall well-being.

We believe that VB12 therapy should be reserved for patients with documented VB12 deficiency and not for cardiovascular disease prevention, for patients with cognitive impairment,⁶ or for patients with general fatigue. Best evidence suggests that VB12 does not increase cancer or mortality rates.

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Competing interests
None declared

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Powerful tool with manageable risks

I am concerned that the April editorial by Dr Ladouceur¹ will leave the impression that when medical data are stored or moved electronically, they cannot be protected, or that clinicians must avoid these technologies to provide appropriate protection. Fortunately, neither is the case.

While physicians are data custodians and have a fiduciary duty to protect clinical information, we are not the owners. Patients own their data.² Consequently, patients can be our partners in deciding what risks to their data are acceptable. Using this approach, if a physician wanted to send a picture of a patient's skin lesion to a specialist by e-mail, that physician could explain the risks of the electronic data transfer to the patient and seek his or her consent. If consent were provided and the data were compromised, there would be a degree of protection for the provider in the same manner as for a procedure for which informed consent was obtained, but an adverse outcome occurred.

It is also important to consider the overall structure of health information systems in Canada. Unlike in the Snowden scenario described in the editorial, our system for electronic management of health information is much less mature. This results in it being highly decentralized, with limited linkages between the disparate systems. As a result, a Snowdenlike attack would be exceptionally complex to carry out and thus much less likely. It also creates an opportunity for us to build privacy protection into the system as it matures. This approach is called *privacy by design* and is a robust method that can be applied throughout the life cycle of electronic medical information systems.³

While threats to clinical information held and moved in electronic systems certainly exist, they can be mitigated through thoughtful application of policy, procedures, and protective measures. Accomplishing this is essential, as medical information technology is a powerful tool in the practice of safe, effective, and patient-centred family medicine.

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Competing interests
None declared

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