

result of ongoing professional development and quality assurance programs in our hospital. However, our results can be considered valid only for highly resourced centres such as ours.

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## Anticoagulation

Jo-Anne Wilson and associates<sup>1</sup> claim that anticoagulation clinics provided better oral anticoagulation than family physicians, but these conclusions do not appear to be supported by their study results.

First, and notwithstanding the apparent statistical significance, the difference in the proportion of time that patients' international normalized ratio (INR) values were within the desired range was less (an absolute difference of only 6%, representing a relative difference of 8%) than the authors' predefined minimally clinically important difference (10% absolute, 20% relative). More-

over, with regard to this primary endpoint, patients under the care of family physicians fared far better (76%) than the authors expected they would in the care of specialty clinics (60%).

Second, there is clearly something amiss with the percentages of patients with high-risk INRs (mentioned in the abstract, the Results and Table 2): the difference between 30% and 40% for the sample sizes in this study would not be associated with a *p* value of 0.005. Indeed, this difference is not significant at all.

Third, selective emphasis on a subgroup that has been defined post hoc (new patients with target INR of 2.0 to 3.0; see Table 3) seems inappropriate. Are the authors implying that anticoagulation clinics are not as effective if the target INR is slightly higher or if the patient has previously received anticoagulants?

Finally, the authors give the impression that all of the measures of patient satisfaction favouring anticoagulation clinics were associated with a *p* value of 0.001. Again, this is simply not possible: some of the differences reported are not significant, and those that are significant are generally far more modest.

Overall, it appears that the anticoagulation therapy provided by family physicians in this study was clinically similar to that provided in the more expensive specialty clinics.

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1. Wilson SJA, Wells PS, Kovacs MJ, Lewis GM, Martin J, Burton E, et al. Comparing the quality of oral anticoagulant management by anticoagulation clinics and by family physicians: a randomized controlled trial. *CMAJ* 2003;169(4):293-8.

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Very much like the concept of optimizing patient care by choosing the best methods of care on the basis of research findings. Having been a general practitioner for a number of years, as

well as acting in the capacity of a specialist, I recognize the differences in expectations placed upon these 2 types of medical practice.

Thus, it would be helpful if Jo-Anne Wilson and associates<sup>1</sup> could comment on what they perceive as the differences in anticoagulation services between the anticoagulation clinics and the family physicians' offices in their study. It would also be helpful to know how the model for anticoagulation monitoring used by family physicians differed from that used in the anticoagulation clinics. For example, who called the patient to convey INR results, and how often were patients seen during the anticoagulation period? In terms of optimizing care, do the authors feel that anticoagulation might be better managed if the physician were able to focus on just that aspect of care, rather than having to address multiple problems during the same visit (as is usually the case for family physicians)? With regard to patient education about anticoagulation, should information be provided by the physician or by other staff (e.g., nurses)? Finally, did the authors review the differences in cost between the 2 types of service?

All of these details might help in optimizing the model of anticoagulation care.

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Jo-Anne Wilson and associates<sup>1</sup> suggest that centralized anticoagulation clinics perform better than, and are preferred by patients over, individual family physicians. However, it is not clear what management of anticoagulation by a family physician entails. As I

understand it, usual care in Canada consists of having blood taken at a laboratory remote from the physician's office, with the physician being responsible for dosing and arranging follow-up. This differs from the preferred UK model of primary care management, in which the INR is determined in the physician's office through point-of-care testing, with dosing undertaken by a practice nurse using computerized decision-support software, with minimal clinical input from the physician. There is a robust body of evidence to demonstrate the greater clinical effectiveness of this model of care (the "Birmingham model") over specialist-run hospital-based clinics.<sup>2</sup>

It is difficult to interpret the results as stated by Wilson and associates,<sup>1</sup> i.e., INR within the therapeutic range  $\pm 0.2$  INR units. This so-called extended range is fairly meaningless, especially on its own, so comparison with previous results is impossible. We have demonstrated that at least 2 outcome parameters should be expressed.<sup>3</sup> This problem negates the statement that "The care provided in both arms of this study would be regarded as high quality"<sup>1</sup> compared with that reported in other studies.

One other striking feature of this study is the degree of overtesting. If anticoagulation control was as good as the authors describe, why were patients tested 11 to 13 times over a 3-month period? The average number of tests in the United Kingdom is 6 to 8 over a full year.<sup>2</sup>

The serious flaws in this paper mean

that its conclusions are less than robust, and we should be concerned that policy-makers will take its headline message — "family physicians bad" — at face value. I would be grateful if the authors would acknowledge that family physicians can deliver high-quality care, albeit not within the current model of service delivery.

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The article about anticoagulant management by Jo-Anne Wilson and associates<sup>1</sup> raises some larger questions about how we deploy system resources and utilize health care personnel. It is perhaps not surprising that dedicated anticoagulation clinics did marginally better than family physicians in providing anticoagulation services.

The same may also be true of clinical outcomes at other specialized clinics.

However, we must also acknowledge just how well family physicians have done in addressing these clinical matters in an accessible, convenient, comfortable and inexpensive fashion. The value of family physicians (and other skilled generalists) clearly rests in the evidenced-based provision of a broad range of services, often during the same visit, with specialty support as needed. The public values such service and repeatedly identifies the family physician as the health care provider of choice.

We need to be clear about the possible paths before us: multiple specialty facilities, adequately resourced and therefore probably expensive, with a consequent reduction in the range of care provided by family physicians, or a recommitment to primary care and generalist physicians so that they can carry out services for which they have been perfectly well trained. Hopefully, such care will be delivered in an interdisciplinary fashion, with appropriate, clearly defined specialty involvement that has been conceived with attention to the role and resources of primary care.

Anticoagulation is but one example of activities that might be "decanted" away from family physicians, so we had better define our preferred model of care, and soon. We need to decide where and how the excellent, cost-effective and accessible care that we all want can best be delivered and how best to support its providers. The consequences of not doing so are concerning to me as a family physician and must be equally or more concerning to those who fund and use the system.

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