

indicate that Canada is taking a more restrictive approach by banning experts with nonfinancial conflicts of interest from similar advisory and oversight committees. For example, Canada's Assisted Human Reproduction Act precludes people licensed to conduct human embryonic stem cell research, or potential licensees, from serving on the Board of Directors of the Assisted Human Reproduction Agency. This rule was severely criticized following the exclusion of stem cell scientists and fertility experts from the agency's recently constituted board.² Likewise, the Canadian Institutes of Health Research exclude researchers affiliated with Canada's Stem Cell Network from membership in the Stem Cell Oversight Committee, the national stem cell research ethics board.

This move toward a more restrictive regulatory regime is different from the approach used in other jurisdictions. For example, in California, stem cell research oversight committees can include members with relevant expertise. Similarly, fertility clinicians and human embryonic stem cell research scientists are allowed to be members of the Human Embryology and Fertilisation Authority, the body responsible for overseeing embryo research in the United Kingdom. A recent study of UK fertility clinic patients found "overwhelming support for doctors to be the most important members of the Authority, followed by researchers working in the area."³ Both jurisdictions manage conflicts of interest in advisory committees through strategies such as disclosure or divestment of conflicting interests and exclusion of experts from committee leadership roles.

It could be argued that the Canadian rules outlined above are specific to stem cell research and may very well be the result of Canadians' desire for strict regulation of emerging biotechnologies.^{4,5} However, conflicts of interest in stem cell research committees have not been shown to be qualitatively different from those in other scientific advisory and oversight contexts. Until there is such evidence to the contrary, the policy response to conflicts of interest should focus on addressing the need for specific expertise on these commit-

tees with effective management strategies, such as disclosure and divestment of financial interests.

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Is primary care a lost cause?

The difficulty in attracting graduating physicians to family practice that Wayne Kondro described in a recent *CMAJ* news piece¹ is a worldwide phenomenon.² In 1987, 31% of German medical students wanted to become family physicians, whereas in 1995 only 9% of medical students at the University of Göttingen made this career choice³; in 2006 fewer than 4% of medical students at the University of Leipzig chose family medicine.⁴

Among the many factors influencing specialty choice,⁵ one that can be easily altered to improve the appeal of family medicine to students is the set of state or professional regulations that govern the process of qualifying to become a general practitioner. In most parts of Europe it takes 3 years of training to qualify for a general practice licence. However, in Germany there have been 3 different routes to licensure for general practitioners over the past decade, requiring training periods ranging from 3 to 5 years. This lack of

consistency has had dramatic consequences in terms of shortages of family physicians; young physicians have been deterred from entering family practice in Germany because of the uncertainty associated with frequent changes in the regulations governing the clinical training periods and seminars on medical theory that are required to obtain licensure as a family physician.

Postgraduate education and the routes to licensure for family practitioners have been reformed almost continuously over the past decade in Germany in the spirit of quality improvement. However, when access to training in general practice was restricted in Germany at one point, a severe shortage of family physicians resulted. Many young Germans chose an alternative medical career (e.g., in general internal medicine) or went to countries with more relaxed and stable regulations, such as Switzerland and Australia.

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Sleepy older drivers

Norman Wolkove and colleagues recently presented an excellent review of sleep disorders in older people.^{1,2} However, they did not mention that one of the main symptoms of sleep disorders, excessive daytime sleepiness, increases the risk of automobile accidents.³ Primary caregivers should be aware that

sleepy drivers (including those with untreated sleep apnea) must be reported to the relevant motor vehicle licensing authority in some provinces. Such reports have the potential to limit an older person's independence because, as pointed out by Wolkove and colleagues,² there is marked variability within Canada in the coverage for continuous positive airway pressure devices, the treatment of choice for obstructive sleep apnea. Astonishingly, some provinces do not cover this therapy at all.

Another problem facing Canadian patients with sleep disorders is the variability between provinces in the time patients have to wait for sleep testing. In several provinces patients must wait much longer for testing than recommended by the Canadian Thoracic Society Sleep Disordered Breathing Committee.^{4,5} This places these patients at increased medical risk; the increased risk that they will be involved in an automobile accident may also endanger the public.

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Genetic analysis to prevent warfarin complications

Warfarin is the most widely used oral anticoagulant therapy for patients with thrombosis. Owing to the notoriously narrow therapeutic range of this drug, small variations in dosing may result in hemorrhagic or thrombotic complications. We read with interest the recent *CMAJ* article by Natalie Oake and colleagues, in which the authors concluded that improved anticoagulation control could decrease the likelihood of almost half of all anticoagulant-associated adverse events.¹

A variety of physiologic and pharmacologic factors modulate the patient's compliance with warfarin therapy, including the pharmacokinetics of warfarin, the bioavailability of vitamin K and the metabolic fate of the vitamin-K-dependent coagulation factors.² It has consistently been reported that analysis of the genes encoding cytochrome P450 2C9 and the C1 subunit of the vitamin K 2,3-epoxide reductase complex, 2 pivotal enzymes affecting compliance with therapy, might enable physicians to estimate warfarin dosage more precisely, thereby improving the global efficiency of the titration process and reducing the likelihood of hemorrhagic and thromboembolic events. These 2 genotypes along with age, sex and body weight account for up to 60% of the variance in daily maintenance dose of warfarin.³⁻⁶ Therefore, construction of dense genetic maps based on single nucleotide polymorphisms for both of these genes might be a powerful aid to dissecting the polygenic traits of drug response. When combined with an analysis of specific ethnic, clinical, environmental and psy-

chological factors, such a tool could assist clinicians to define a warfarin dose-response phenotype that could be used to improve the quality of dose management. This might be a crucial step toward individualized medicine.⁶

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Correction

In a recent News article,¹ the first photograph should be attributed to Lorne Turner. Incorrect information appeared in the print version of the July 17 issue. We apologize for this error.

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