Climate change in common

I would like to draw attention to another challenge that both Brazilian and Canadian family physicians will have to face in upcoming years, one that was not addressed in the article by Ponka et al in the December issue of *Canadian Family Physician*[1]: climate change. This is timely given Dr Roger Ladouceur's recent call for involvement by family physicians.[2] Both countries have large areas with vast natural areas inhabited by Indigenous populations whose ways of life and local environment are threatened.[3,4] In addressing health inequity, we need to act to address climate change, and it stands to affect Indigenous populations heavily. As health care is being increasingly recognized as a contributor to greenhouse gas emissions, telemedicine and electronic consultations to bolster care in rural areas are important low-emission alternatives to traveling in person to attend consultations, or to traveling consultants.[1,5] We should also count on our family physicians to advocate for action against the disease that is climate change. The Besrour Centre could be an effective communication tool to share interventions against climate change across continents. The Besrour Centre could also put pressure on 2 large governments that need to do more for their people and their people's health.

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Competing interests
None declared

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Balancing breast cancer screening limitations

We thank Bell et al[1] for their article in the November issue of *Canadian Family Physician*. This informative article captures key considerations for developing quality indicators or performance measures for primary care to support quality improvement initiatives.

The authors reference the mammogram screening indicator definition featured in the "MyPractice: Primary Care report technical appendix"[2] by Health Quality Ontario (now part of Ontario Health):

> The Health Quality Ontario "MyPractice: Primary Care report technical appendix," version 4, provides an example of a performance measure for screening with mammography. This was defined as the "percentage of screen eligible female patients aged 52 to 69 years who had a mammogram within the past two years." However, for most screening maneuvers there is a narrow trade-off between the potential for benefit and the potential for harm.[1]

Ontario Health, the government agency responsible for ensuring Ontarians receive high-quality health care services where and when they need them, agrees that benefits of mammograms for breast cancer screening in this age group might not always outweigh potential harms. Moreover, we fully acknowledge the critical roles that patient values, preferences, and choice play in clinical care. Ontario Health uses administrative databases to generate the MyPractice: Primary Care reports to minimize the burden of new data collection, understanding these databases do not capture patient choice, preferences, or values.

To balance this limitation and reflect the importance of shared decision making for breast cancer screening,[3] the MyPractice: Primary Care report explicitly states the importance of discussing care options with patients:

> We recognize that the current recommendation is to have an active discussion with women about the benefits and limitations of breast screening. Some women who are eligible to be screened choose not to. Thus, the data need to be interpreted in that context.[4]

Our MyPractice: Primary Care physician sample report can be found at **https://hqontario.ca/quality-improvement/practice-reports/primary-care**; page 13 specifically discusses breast cancer screening.

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Competing interests
None declared

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Correct math shows no improvement on clinical judgment

I have a problem with the math in Table 1 of the article "Chest pain investigation in patients at low or intermediate risk. What is the best first-line test to rule out coronary artery disease?" which appeared in the January issue of *Canadian Family Physician*.[1] First, pretest probability is not actually specified, but let us do the calculations using 10% as low risk and 50% as intermediate risk. I will also take the midpoint of the reported ranges of sensitivity and specificity for the purposes of illustration.

The following 2 × 2 tables are generated, the first using a pretest likelihood of 10% and the second using 50%; both use an N of 1000 (**Tables 1** and **2**).

Table 1. Pretest likelihood of 10% (low risk): *Sensitivity of 85%, specificity of 50%, positive predictive value of 16% (85/535), negative predictive value of 97% (450/465).*

	DISEASE		
TEST RESULT	PRESENT	ABSENT	TOTAL
Positive	85	450	535
Negative	15	450	465
Total	100	900	1000

Table 2. Pretest likelihood of 50% (intermediate risk): *Sensitivity of 85%, specificity of 50%, positive predictive value of 63% (425/675), negative predictive value of 77% (250/325).*

	DISEASE		
TEST RESULT	PRESENT	ABSENT	TOTAL
Positive	425	250	675
Negative	75	250	325
Total	500	500	1000

In neither case are the predictive values reported in Table 1 in the original article (positive predictive value [PPV] of 44% to 64% and negative predictive value [NPV] of 95% to 100%) accurate and in neither case is this test alone a good enough clinical tool.

In the first case of low pretest likelihood, we have little confidence in either the PPV or NPV, and the test improves very little on our clinical judgment. The PPV is only 16%. We go from 10% certain the patient has coronary artery disease (CAD) to 16% certain. The NPV is 97%, which is only an absolute 7% better than the pretest likelihood based on clinical judgment! We go from 90% certain to 97% certain the patient does not have CAD. This illustrates the fallacy of testing when pretest probabilities are low.

In the second case, where the clinical judgment is equivalent to a coin toss, the PPV is 63% and the NPV is 77%. We go from 50% sure the patient has CAD to 63% sure, and 50% sure the patient does not have CAD to 77% sure.

I would assert that a second test is needed in both the positive and negative groups. The positives need to be tested with a test of high specificity, and the negatives need to be tested with a test of greater sensitivity, which is why the patient in the clinical vignette proceeded ultimately to angiography.

I suspect but I cannot prove that our clinical judgments are more refined than we believe. As generalists, we look at the whole picture, the nature of the concern along with family history, lifestyle risk factors—diet, smoking, exercise—blood pressure, lipid levels, and medications. In general practice, the low-probability cases are weeded out on clinical grounds alone, leaving the intermediate- and high-probability cases for referral. Emergency physicians have a different dilemma and I will leave it to them to comment further. Either way, the search for absolute certainty is a fool's errand and we need to know how to manage uncertainty in conversation with our patients.

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Competing interests
None declared

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Thiamine in the management of alcohol use disorders

Thiamine supplementation was not included as a recommendation in the 2019 "Office management of alcohol withdrawal" onsert that arrived with the November 2019 issue of *Canadian Family Physician*,[1] despite the fact that individuals with alcohol use disorder are often nutritionally depleted.[2] Thiamine supplementation reduces the risk of developing Wernicke syndrome, Korsakoff syndrome, and beriberi.[3] Physicians working with patients with alcohol use disorders should have a high index of suspicion for Wernicke syndrome, particularly if the patient shows evidence of ophthalmoplegia, ataxia, or confusion.[4]

Although more research is needed on the dose, duration, and route of thiamine administration, there is growing agreement that patients with Wernicke syndrome, or who are at a high risk of developing Wernicke syndrome, should be managed with parenteral thiamine.[5]

Moreover, oral thiamine supplementation might prevent or improve thiamine-deficient states.[6] Although past studies showed reduced gastrointestinal absorption of oral compared with intramuscular thiamine,[7-9] the benefits of oral supplementation in preventing thiamine deficiency might outweigh the low risk.

The 2017 update of the National Institute for Health and Clinical Excellence evidence-based guidelines recommends prescribing prophylactic oral thiamine to individuals with alcohol dependence.[10] Similarly, the British Association for Psychopharmacology suggests giving oral thiamine to individuals with alcohol dependence who might not be eating healthy diets.[5] Further, an article on outpatient management of alcohol withdrawal recommended routine prescriptions of thiamine at 100 mg daily and folic acid at 1 mg daily.[11]

In the management of patients with alcohol dependence, physicians should have a high index of suspicion for thiamine-deficient states, especially Wernicke-Korsakoff syndrome. Given the potential benefit of preventing thiamine deficiency, oral thiamine supplementation is a consideration in the office management of alcohol use disorders and alcohol withdrawal.

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Competing interests
None declared

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Response

I thank Ms Shakory for a concise and evidence-based review of the role of thiamine in the management of alcohol use disorders in response to the "Office management of alcohol withdrawal" document.[1] While thiamine is routinely administered in acute care settings, Ms Shakory correctly points out that thiamine supplementation also has a role in primary care settings. Oral supplementation of 100 mg per day is recommended for at least 1 month after parenteral supplementation in an emergency or inpatient setting.[2] While evidence-based guidelines are lacking, long-term oral supplementation (50 to 100 mg) should be considered for 2 high-risk groups: those who are chronically malnourished and those with chronic liver failure.

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Competing interests
None declared

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