Teaching statistics to patients

"Doc, I am a little worried about my MCHC," was how my patient started his office visit. As I am a trained professional I took this in calmly and answered, "What?"

"Remember, I was tired so you sent me for some blood work. I signed up to receive my lab results online, and my MCHC is supposed to be 315 to 365 but mine was 314. So am I okay?"

Stalling for time, I brought up his results and sure enough under the hematology panel, outlined in red, was the offending result. I am pretty sure I learned in medical school what MCHC stands for but all that popped into my head was something to do with MC Hammer. Fortunately, excellent medical advice is at my fingertips in the form of that well-respected resource, Google. "Well, Bob, sometimes a low MCHC, or mean corpuscular hemoglobin concentration, can be a sign of a serious problem, but yours is just barely outside the normal range, so fortunately I have saved your life again."

It is difficult to explain normal test result confidence intervals to patients—particularly when I don't understand them myself. Telling patients that 95% of people fall in those normal ranges 95% of the time makes their eyes gloss over and causes me to relive the dull headache that accompanied each of my undergraduate statistics lectures.

The above scenario is going to become more commonplace as our patients increase their online medical access. I have already had a number of office visits generated by anxious patients regarding essentially normal test results. It takes a fair bit of calm explanation to allay their fears and give them perspective. I wonder, moving forward, as patients begin to access other results such as diagnostic imaging, if these visits will become the norm. Will I find myself answering questions about biliary duct diameters, renal cysts, colonic stool content, and fatty livers?

The health authority in which I toil is adopting a new program called myHEALTHPlan (www.fraserhealth.ca/your_health/primary-health-care/myhealthplan/) through which patients can access part of their medical records online. I believe the theory is that if patients have this access they will be more engaged in their health management and more likely to make good health and lifestyle choices. Initially patients will have limited access and won't be able to read the physician's notes, but what if this changes? Before long I might find myself arguing with a patient over the details of their history. For example, why didn't I mention that their increased gas has a hint of vanilla? My physical findings might also come into dispute—why did I label them obese when they are just big boned, or why did I write that the pain is 3 cm to the left of the umbilicus when they measured 4? Before long I might even have to justify my differential diagnosis. Can you really rule out terminal insomnia or spontaneous human combustion?

Clinical interaction with our patients is changing as technology advances, and what form the office visit will take in 10 or 20 years is anyone's guess. I just remain thankful that so far no one has asked me why their eosinophil count is low—or what an eosinophil actually does.

—DRR

Up in smoke

It's common knowledge that most physicians abhor patient confrontation. The nature of our profession is to give care and compassion, and to advocate for our patients. In a previous editorial I wrote that those same caring qualities can be exploited when patients present with requests of questionable merit—for drugs, disability forms, or medical marijuana.[1]

The purpose of this editorial is not to question the therapeutic virtues of medical marijuana,[2] nor is it to call attention to the elephant in the room—legalization. Instead, this editorial is about you, the physician, who on 1 April 2014 will be handed the spoils of the failed Health Canada Marijuana Medical Access Regulations (MMAR) experiment.

Currently the MMAR provides rules and regulations about how patients can qualify for legal access to marijuana. Admittedly, completing and processing the required forms B(1) and B(2) can be cumbersome and slow. Once authorized, the patient is granted permission to purchase marijuana or, on further application, to grow it. Not surprisingly, the grow-op option has become increasingly popular, with such operations bringing the risks of fire, pesticides, and crime to the neighborhoods in which they operate. As one grower readily admitted, "excess production goes to pay for the expensive electricity bills."[3] Increasing administrative costs and protests from municipalities, police forces, and fire departments have resulted in a rethink of the MMAR program by Health Canada.

Under the newly proposed regulations—entitled "Marijuana for Medical Purposes Regulations" (MMPR)[4]—a patient can now be approved for access to medical marijuana by a physician or possibly a nurse practitioner. No more applications to Health Canada because of course you, the physician, are equipped with complete knowledge of marijuana pharmacotherapy and the scientific evidence for its medical use. You will now become the conduit or barrier for access to marijuana. Should you support patient access to medical marijuana following your assessment, you will need to complete a medical document similar to a prescription, noting patient identifiers, your licence number, where the patient was assessed, duration of authorization (maximum 1 year) and the marijuana quantity in grams. If you don't know anything about the required quantity, product strength, or composition, in most cases your patient will happily help you out.

With your authorization, the patient will be able to obtain medical marijuana from a licensed producer. In order to be licensed, producers must be large scale, have physical security measures, maintain records, and collaborate with fire authorities, municipal government, and local police. Storefront or retail distribution centres are forbidden and dried marijuana will be obtainable only if shipped securely in 15-gram maximum, child-proof containers with patient-specific labeling similar to a prescription. While patients are assured confidentiality when filling prescriptions for other medications, suppliers will be required to reveal the identity of registered clients upon police inquiry.

But wait, there's more! Under the new regulations, a pharmacist or a physician can also become a distributor for medical marijuana. You might find it ironic that while pharmacists are increasingly venturing into some aspects of the practice of medicine, finally physicians will be allowed to dispense—albeit only for medical marijuana!

Some physicians may see a Seagram-like business opportunity[5] in the proposed regulations, but be aware that the College regulates the marketing of products sold in physician offices. Moreover, it is doubtful that Health Canada would allow for unmonitored authorization and dispensing of medical marijuana. The issue of how physicians will be audited for authorizing a substance of unknown composition, potency, and sparse evidence-based indications for use will also arise and will need to be addressed.

Over the past decade we have seen the relaxation of marijuana restrictions in North America and Europe. The proposed Marijuana for Medical Purposes Regulations may address a number of significant problems caused by grow-ops, but when Health Canada proposes to foist legal access to marijuana onto the shoulders of physicians, we naturally ask, "What are they smoking?"

—WRV

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