

The making of an urban medical myth

Urban myths come in varying shapes and sizes. Some, like JFK conspiracy theories, seem innocuous. Others, like the myth that vaccines cause autism, are of concern because of their effect on the likelihood that parents will vaccinate their children.

Other myths may affect the views of policymakers and the public in terms of the trust and credibility given to the medical profession.

The marriage of science and medicine over the course of the last century has led to substantial advances in care and longevity. There has been an explicit commitment since Flexner to link medical education and practice to the best available evidence so that better treatments can be brought on board and less effective ones discarded. But just how far has this process been implemented?

We can all point to recent examples of medical modalities that have been found to be lacking in merit (e.g., routine anti-arrhythmics for palpitations), but for the most part the polarity has been toward evidence-based practice.

Thus it is troubling that the claim that only 10% to 15% of conventional medicine is evidence based¹ has taken hold not only in public but also in medical discourse.

The 10% figure first gained respectability in 1979 (and again in 1983), in reports from the US Office of Technology Assessment (OTA). The reports contain the statement, "it has been estimated that only 10% to 20% of all procedures currently used in medical practice have been shown to be efficacious by controlled trial."² This statement is attributed to the in-

formal comments of OTA epidemiologist Kerr White.¹

Dr White was referring to a 1963 insurance study that drew data from two surveys of 19 family practitioners in northern England. The surveys were intended to assess drug costs and compared the "specificity" of prescriptions for brand name versus generic drugs. Prescriptions were deemed to be "specific" if they were appropriately targeted to the condition being treated.¹

It was in this study that prescriptions were found without doubt to be correctly targeted 10% of the time. While the study did not address whether the treatments themselves were efficacious (and Dr White apparently did not intend his comments to be generalized),¹ the figure has become immortalized.

There have been other dismal assessments of the basis of medical practice. Dr David Eddy, cited in a 1991 *BMJ* editorial, stated that only 15% of medical interventions were supported by solid scientific evidence.³ Dr Eddy's figure, drawn from studies of treatments for glaucoma and claudication¹ has been widely cited as a criticism of mainstream medicine.³

Part of the problem is what is meant by the term "evidence based." Demanding that treatments be supported by iron-clad randomized controlled trials will likely yield a lower percentage of evidence-based therapies than treatments that make sense in the context of basic biology and seem clinically plausible. It would be unfair, for example, to claim that the use of ASA for pain in the left fourth toe is baseless simply because there are no RCTs for that specific indication.

But lacklustre assessments of the

scientific basis of modern medicine must be taken into account along with the bulk of studies that have attempted to address the question. Numerous reviews and analyses have generated figures far more generous than those of Eddy and White.^{1,4}

For example, the Cochrane Collaboration website lists three much more recent (and much more rigorous) estimates showing that the vast majority of modalities in fields ranging from pediatric surgery to inpatient general medicine were based on evidence ranging from observational trials to RCTs.⁵

Retrospective chart reviews conducted in the United Kingdom have found that over 80% of general practice treatments enjoyed compelling scientific support.⁶

Some observers might feel that the 80% figure is still far too low. But it is unlikely that the figure will ever approach 100%. The inability to cover every conceivable situation with RCT support, the evolving nature of medical treatments, and the simple fact that patients do not necessarily present as discrete diagnoses all combine to put clinicians in a position where doctors do what they do best: to act in the face of uncertainty to deliver care that is consistent with the best available evidence in a professional and compassionate context.

—Lloyd Oppel, MD
Chair, Allied Health Practices
Committee

References

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engaging in this type of work, especially if they are front-line firefighters working in fire suppression. This work is extremely physically demanding. Workers with mild and well-controlled respiratory disease may be able to work with few or no restrictions. Those with more advanced COPD with fixed airway obstruction or brittle asthma may be limited in their ability to do this type of work. Such cases may warrant a referral to a cardiologist, respirologist, or occupational medicine specialist.

For more information

If your patient is a seasonal wildland firefighter and you would like further information or assistance with his or her diagnosis or treatment, please call a medical advisor in your nearest WorkSafeBC office.

—Sami Youakim MD, MSc,
FRCP

Medical Advisor, WorkSafeBC
Occupational Disease Services

A version of this article listing sources is available online at bcmj.org.

Additional reading

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many of the traditions that had left such an impression on me. I even added a new custom—a trip out to the forest in my snowmobile to cut down a Charlie Brown Christmas tree and then haul it back on the trailer. We were guaranteed snow over Christmas in Yukon.

My own children have been brought up with the same blend of traditions. And we added something else to the mix: a musical Christmas in which the family and guests each bring and play a musical instrument—we've had more than a dozen musicians.

However you enjoy this festive season, I wish you happiness and laughter, good food and good cheer, and time spent with friends and loved ones.

—William Cunningham, MD
President

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- Office redesign coaching to examine care services and optimize care delivery to improve access and thus improve attachment.
- Enhanced home and community care to better support chronic disease management in the community and be connected with the primary care home and family physician rather than being geographically based.

In the Cowichan Valley, attachment was explored through a patient-centric lens, and several improvement options were supported by the division and its partners. The prototype work has seen early positive results, connecting about 2000 Cowichan residents with family doctors. However, the issue of patient attachment is complex. The next step is to implement additional changes and to continually evaluate their impact in order to share the outcomes.

For more details on the Cowichan Valley Attachment initiative prototype, visit www.leadlab.ca/wp-content/uploads/2013/09/CowichanAttachment.pdf.

For more information on the GPSC's Attachment initiative, visit www.gpsc.bc.ca/attachment-initiative.

—Morgan Price,
MD, PhD, CCFP
Assistant Professor, UBC

Family Medicine
Residency Program

—Nicole A. Kitson, PhD
Social Science Researcher,
eHealth Observatory,
University of Victoria

—Grey Showler, RN, BA,
BSN

Nurse, Cool Aid
Community Health Centre

—Valerie Nicol, MA, CCC
Executive Director,
Cowichan Valley Division of
Family Practice