EDITORIAL

Taking a more critical look at the use of costly and invasive testing

D. Robert Siemens, MD, FRCSC

Department of Urology, Queen's University, Kingston, ON, Canada, and CUAJ Editor-in-Chief

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Correspondence: Dr. D. Robert Siemens, Department of Urology, Queen's University, Kingston, ON, Canada; Robert.Siemens@kingstonhsc.ca

Readers of the *CUAJ* will be cognizant of the real forward progress of the Choosing Wisely recommendations, not only within our own practices but more broadly in our hospitals and communities.

Choosing Wisely Canada was officially launched in April 2014, and since that time, well over 300 statements have been presented across a broad range of clinical specialties. These temperate recommendations (and the mission of Choosing Wisely in general) is to promote the increasingly important conversations between clinicians and our patients in order to help choose care that is: truly necessary, free from harm, not duplicative, and supported by evidence. Beyond the recommendations themselves, many clinician and patient resources have been created offering plain-language information in order to foster conversations that can lead to smart and, hopefully, cost-effective care.

The springboard for this process included asking members of national specialty organizations to identify tests or procedures commonly used in their field whose necessity should be questioned and discussed during the decision-making process. Given growing evidence (and ubiquitous anecdotal experience) of overuse of medical imaging, it's not surprising that much of the initial Choosing Wisely campaign's recommendations involved radiological considerations.[1] Indeed, two of the five Canadian Urological Association (CUA) recommendations temper the use of imaging in low-risk prostate cancer and boys with cryptorchidism. Of the 15 things recommended by the American Urological Association (AUA) that physicians and patients should question, five of them focus on decreasing the use of imaging in urological diseases.

With this as background, it is worth highlighting a recent article in *JAMA Internal Medicine*[2] that addresses some of these concepts around the workup of hematuria. The authors report on a patient-level microsimulation of different guideline algorithms (including those from the CUA[3]) for the evaluation of both gross and microscopic hematuria, highlighting the imaging recommendations in order to approximate the relative benefits of cancer detection compared to possible harms and costs. The results are provocative but potentially unsurprising to Canadian urologists. The authors describe that guidelines, like those from the AUA, that include computed tomography (CT) scanning for all patients with hematuria were associated with some improvement in cancer detection rates but resulted in higher estimated rates of secondary cancers from radiation (more than 10 times higher than the additional number of cancers detected). Furthermore, the cost savings were significant when guidelines suggested using CT only in a risk-stratified approach, relying on ultrasound for patients at low risk, such as those with microhematuria, non-smokers, and of young age.

Although most of us are likely more focused on the margins with respect to missing a significant cancer diagnosis compared to the abstruse risks of secondary cancers or cost containment, this study is an excellent example of how guideline development can be enhanced with a keen eye on the evaluation of advantages, harms, and costs. Given the widespread use of urinalysis in general practice and the high prevalence of microscopic hematuria, it is not surprising that many of the Choosing Wisely statements for urology revolve around this topic: to dissuade workup based on chemical urinalysis alone and to avoid use of cytology.

On this theme, an interesting article in this issue of *CUAJ* describes a similar exercise around system-level changes that could potentially facilitate impressive cost savings while optimizing published guideline recommendations. Assmus et al[4] retrospectively reviewed referrals for hematuria in Alberta, and although guideline concordant care was high, they identified an issue with microscopy reporting that likely led to over-investigation. In their region, referrals were frequently based on reports indicating 1–5 red blood cells (RBC) per high-power field present and their subsequent findings suggested that only 41% of these had CUA guideline-defined microscopic hematuria. By

changing local microscopy reporting to differentiate 1–2 and 3–5 RBCs, they estimated $745 000 in annual savings to their region. The authors should be applauded for these efforts to critically look at our use of costly and invasive testing.

The CUA guideline for asymptomatic microscopic hematuria is in the process of being updated and, hopefully, explicit and comprehensive evaluations such as these will play a significant role in the recommendation deliberations. Beyond that, it is incumbent on all of us to ensure thoughtful implementation and make that time to discuss these "choices" with our patients and our primary care colleagues.

References

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