Inaccuracies and omissions in editorial about robotic-assisted prostatectomy

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In this issue of the *Canadian Urological Assocation Journal*, Wallis and Detsky write about cost-effectiveness in the assessment of medical innovation.[1] Their article referred to a Health Quality Ontario report about robotic-assisted prostatectomy[2] that was produced under our supervision, as well as an associated funding recommendation.[3]

Wallis and Detsky incorrectly state that our assessment of clinical effectiveness relies on a single randomized controlled trial.[4] While the recently published Cochrane review did include only randomized trials,[5] we also included more than two dozen observational studies in our assessment. We report this in both the methods and results sections of our report, and we included evidence from relevant observational studies in various meta-analyses. The observational studies evaluating the effectiveness of robotic-assisted prostatectomy have different designs, use different methods, and draw different conclusions. However, many observational studies, including one focusing on high-volume surgeons at high-volume hospitals,[6] have not found a difference in functional or oncologic outcomes between open and robotic-assisted prostatectomies.

Given the lack of evidence demonstrating the superiority of robotic-assisted prostatectomy with respect to important clinical outcomes, we believe it was reasonable to use evidence from the randomized trial for some of the inputs into our economic model. Wallis and Detsky correctly note that it is futile to build a cost-effectiveness model if there is no difference in the clinical outcomes of interest. However, some proponents of robotic-assisted prostatectomy have focused on clinical outcomes that do differ, such as the need for blood transfusion. Another important reason to build a model is to see what might happen if there were a difference in more important clinical outcomes. The economic model we built allowed us to examine a variety of different scenarios, even ones that are not supported by the available evidence and may be viewed as implausible. As a result, we were able to report that if robotic-assisted prostatectomy were to produce substantially better oncologic and functional outcomes than open prostatectomy,

the incremental cost-effectiveness ratio might be approximately $84,000 per quality-adjusted life-year. We highlighted this finding in the abstract of our report.

Wallis and Detsky also incorrectly state that we "used an arbitrarily chosen threshold of economic attractiveness." Health Quality Ontario does not rely on arbitrary thresholds to make funding recommendations, but rather uses a holistic framework that considers clinical benefits and harms, value for money, consistency with societal and ethical values, and feasibility of adoption.[7] We can point to recent examples where Health Quality Ontario has recommended publicly funding a technology that would not appear cost-effective if we used an "arbitrarily chosen threshold."[8]

Wallis and Detsky are correct that we did not interview patients for this health technology assessment, as we often do. However, there are three points we wish to make regarding patient involvement. First, there is an extensive literature about patient preferences and values specifically related to prostate cancer and its treatments. Even issues like "decision regret" have been carefully studied,[9] which is unusual in comparison to other conditions and treatments. We reviewed this literature in our report. Second, we always post both the provisional recommendation and a draft of the health technology assessment report on our website, and carefully consider feedback from patients, clinicians and others before making a final recommendation. Third, there are three patient members on the committee that made both the provisional and final recommendation.

Wallis and Detsky make several important points regarding education and research, with which we broadly agree. We strongly support innovation, and would encourage urologists and other surgeons, academic health science centres, research funders, and governments to support education and research as they relate to innovative surgical techniques including robotic surgery. However, Health Quality Ontario's task was to assess what is currently known about robotic-assisted prostatectomy and make a recommendation about whether or not hospitals should receive more funding for each robot-assisted procedure than they do for open prostatectomy. Based on the available evidence, we do not believe that routinely paying several thousand dollars more for each robotic-assisted prostatectomy would be be a wise use of public resources.

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