Reply

WE THANK DRs. YEUNG AND MOHAMMED FOR THEIR INTEREST IN the RxOUTMAP study.¹ In their letter, they express concern with the higher number of prescriptions written by pharmacists compared to physicians for patients with urinary tract infection (UTI) in the study. This is a fundamental misinterpretation of the RxOUTMAP study. In this study, patients either presented *de novo* with symptoms of uncomplicated UTI or with a prescription from a physician for treatment of uncomplicated UTI. We could not control the number of patients who presented in either manner, and the study population is by no means inclusive of all patients with uncomplicated UTI in the province during that period. There are multiple factors that likely led to higher numbers of pharmacist-initiated prescriptions in the RxOUTMAP study, including the greater accessibility of community pharmacists in many locations and the ability of pharmacists to treat common ailments in these communities for several years. In no way can these data be used to extrapolate a ratio of treatment initiations by pharmacists and physicians in the province during the study period.

Yeung and Mohammed go on to question the ability of the study pharmacists to detect UTI and speculate that not all patients actually had UTIs that required treatment. We would like to note that the likelihood of UTI is greater than 90% when patients have both dysuria and urinary frequency without vaginal symptoms,^{2,3} and in the RxOUTMAP study, all patients had at least 1 symptom, with dysuria, urinary frequency and urinary urgency reported by 84.3%, 91.1% and 79.6% of patients, respectively.¹ Yeung and Mohammed question our statement that treatment of UTI is usually still indicated when urinalysis, urine dipstick and/or urine culture are negative in the setting of symptoms that are strongly suggestive of uncomplicated UTI and suggest that we provided no reference for this statement. Although there was no reference tied to that specific

sentence in the study, the idea was continued in the sentence that followed, which provided 3 references that support the statement.²⁻⁴ Although we agree that pharmacists integrating physical examinations into their assessments is valuable, in the absence of red flag symptoms, comprehensive physical examinations often add little to patient care in the setting of patients with symptoms strongly suggestive of uncomplicated UTI. Therefore, we maintain that the assessment of patients in the study was appropriate for the patient presentation and included assessing for red flags and complicating factors that would prompt referral to a physician, if present.

We would also like to emphasize that the study was conducted with antimicrobial stewardship principles in mind. Prescribing by pharmacists was guideline-concordant in the majority of cases (95%), and in several instances, they modified physician prescriptions to more appropriate agents and/or durations.⁵

We maintain that in this study, the treatment of acute symptomatic UTI by community pharmacists was highly effective, safe, associated with improved access to care, consistent with preferred prescribing and associated with high levels of patient satisfaction. We are happy to contribute to the evidence base for the role of pharmacists in the provision of accessible primary care and look forward to future collaborations with our partners in primary care. It is important that physicians, pharmacists and other health care professionals continue to collaborate in determining the best care pathways for patients presenting with common complaints. ■

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