Virtual medicine in urology: Is it here to stay?

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INTRODUCTION

Over the last three years, the virtual delivery of medicine has been sharply on the rise, as healthcare systems have scrambled to find ways to maintain patient care throughout the COVID-19 pandemic.[1] Prior to COVID-19, it is estimated that less than 0.5% of healthcare interactions were conducted virtually in North America.[2] An analysis of billing data in Ontario suggests that this figure rose up to 71.1% of primary care visits during the first five months of 2020.[3] As Canada adjusts to life in the post-peak COVID-19 period, the provinces are adopting varying amounts of virtual delivery of medicine. The maintenance of virtual delivery may be beneficial to maintain more equitable access to care for Canadians, which has historically been challenging owing to the geographical landscape and population distribution throughout the country.[4]

The purpose of this perspective article was to discuss the benefits and limitations of virtual platforms in urology, and to discuss potential ways to implement these platforms into urological practices today.

WHAT ARE THE BENEFITS AND LIMITATIONS OF VIRTUAL PLATFORMS IN UROLOGY?

Studies have shown that virtual platforms (i.e., video visits, phone calls, applications/internet-based treatments) have been largely effective in urology.[5-7] From the patient perspective, Locke et al conducted a survey of patients who received telemedicine consults in urology, and found that almost half had no preference for in-office vs. telephone visits.[8] Other studies have found that some patients preferred telemedicine owing to spending less time waiting to see practitioners, travelling to appointments, and eliminating the need to find transportation to attend appointments.[9-12] Despite not being face-to-face, the majority of patients voiced that they were able to adequately communicate their uncomplicated medical concerns by virtual means and have them understood or addressed by their physicians.[9]

Medical practitioners have also reported high satisfaction rates with the adoption of telemedicine. A survey of 144 urologists found that the majority are satisfied with their experience communicating with patients via telemedicine, performing uncomplicated examinations over videoconference or telephone, and would opt to continue using telemedicine in the future.[13] Many clinics have also reported a decrease in wait times to see practitioners, likely owing to the increased efficiency of virtual models of care.[10,12]

However, there are limitations to virtual medicine in urology that have been identified. Some patients regard face-to-face interactions as an important way to foster a trusting therapeutic relationship.[9,14] Furthermore, in some instances, it is essential for physicians to carry out detailed physical exams or diagnostic procedures, such as cystoscopy.[9,10] There are also logistical barriers to telemedicine; for example, upfront acquisition costs for clinics to become technologically capable of telemedicine, including acquiring technology that is compatible with existing databases and ensuring their compliance with local and provincial privacy laws.[10,15] Furthermore, some patients may not have access to a telemedicine-capable devices, adequate connectivity, or possess the technological literacy to participate in virtual care.[9,10,16] This is especially noted to be the case in older adults and marginalized populations, who tend to already have poorer health outcomes.[16]

HOW CAN WE SUCCESSFULLY IMPLEMENT VIRTUAL PLATFORMS IN UROLOGICAL PRACTICES TODAY?

Many urological encounters can be completed without an in-office visit, and some authors suggest that approximately two-thirds of all urological outpatient cases could be primarily managed with telemedi-

cine.[10,17] Telemedicine appears to be well-suited for followup care, including monitoring those with non-metastatic prostate cancer or following patients post-operatively for radical prostatectomy, stress urinary incontinence, or pelvic organ prolapse.[18,19] High patient satisfaction has also been reported with the use of telemedicine to diagnose and manage urinary incontinence, uncomplicated urolithiasis, and uncomplicated urinary tract infections.[19]

The range of conditions that can be appropriately managed by telehealth may improve with time, as the emergence of validated assessment tools or evolution of technology progresses.[18] Despite this, as with all patient encounters, clinical judgement must be exercised to evaluate the appropriateness of virtual care based upon patient factors, preferences, and the clinical scenario.[11,20] Encounters involving the assessment of an acutely unwell patient, the delivery of bad news, or where detailed physical examination is required, are likely to have greater benefit from in-person management.[18,20] Given the recent emergence of the widespread use of telemedicine, it must also be considered that the impact on long-term disease outcomes remains unknown.[18]

Further research to identify optimal delivery models of virtual care is needed, as well as ongoing analysis of both physician and patient satisfaction with virtual care. Early data suggests that patient satisfaction and outcomes are similar between telephone and video telemedicine visits.[21] Although video visits may be more prone to technical issues, they may lead to improved shared decision-making between provider and patient.[22] One emerging area of virtual care is the use of app-based treatments for patient guidance and self-management.[5-7] For certain patients, these can be used effectively for management, such as in the case of stress urinary incontinence.[5-7]

WHAT BARRIERS STILL EXIST FOR THE ONGOING ADOPTION OF TELEMEDICINE IN UROLOGY IN CANADA?

At the onset of the COVID-19 pandemic, regulatory bodies and professional associations throughout Canada published guidance to aid in the adoption of telemedicine. Such guidelines detailed information regarding the indications for virtual care, technological requirements, ethical and legal considerations, and recommendations for integration into clinical practice.[23] While these resources serve as a reference for practitioners looking to adopt virtual care, they undergo infrequent revisions. In a rapidly changing landscape, this can make it challenging for physicians to ensure their software is current with the latest security standards and regional privacy laws. Regulators and professional associations should continually revise and develop clear guidance for practitioners to ensure the ongoing efficiency of virtual care and protection of patient confidentiality[24] — an example being the *Verified Solutions List for Virtual Visits,* a regularly updated database by Ontario Health that identifies virtual solutions compliant with the latest provincial privacy standards.[25]

> “ A survey of 144 urologists found that most are satisfied with their experience communicating with patients via telemedicine and would opt to continue using it in the future. ”

Another barrier that requires addressing is the full integration of telemedicine into the already existing infrastructure.[24] A recent review noted that several provinces and territories have yet to create permanent fee schedules for virtual care or have placed limits on the volume of virtual services that practitioners may bill for.[26] Ideally, remuneration for virtual encounters should parallel those for in-person visits, and be without arbitrary caps, both of which will allow physicians to choose the most appropriate visit modality based upon each patients' circumstances.[26] With many clinics moving towards team-based care, fee schedules for virtual care should also allow for the delegation of tasks to other medical disciplines.[26]

Lastly, continued investment by the government and health authorities is required to integrate virtual care software into existing electronic medical record systems.[24] In order for telemedicine to be a solution for underserviced populations, these governing bodies need to ensure all communities in Canada have the connectivity required for equitable access.

CONCLUSIONS

Telemedicine is not likely to ever replace all face-to-face patient care; however, it will play a valuable role for Canadians and urologists alike as we move into the post-peak COVID-19 era. With the proper implementation and use of these tools, combined with continual evaluation of prospective outcomes and collaboration of the medical community to provide ongoing guidance, virtual care may be an effective tool to increase efficiency and accessibility of urological care, without sacrificing quality and patient satisfaction.

> “ Some suggest that approximately 2/3 of all urological outpatient cases could be primarily managed with telemedicine. ”

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