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Patient Satisfaction of Telemedicine Visits in an Advanced Prostate Cancer Clinic During the COVID-19 Pandemic

To The Editor: Telemedicine is the use of communication technologies to provide patient care remotely.¹ Before March 2020, telemedicine was

gaining attention in medicine, but widespread utilization was low. In March 2020, the global public health faced a crisis with the COVID-19 pandemic.² Cancer patients in particular were at a higher risk of becoming infected and having severe complications.³ Moreover, Montopoli et al⁴ reported that prostate cancer patients were at an increased risk of severe acute respiratory syndrome coronavirus 2 infection and constituted 28% of COVID-19—positive cancer patients, followed by kidney/bladder cancer (17%) and colorectal cancer (15%). As a result of COVID-19 and the risks it posed to both patients and providers, a global decrease in urology service volumes was observed. According to an international multicenter survey of 1004 urology service providers in April 2020, 37% of respondents reported outpatient clinic volume reductions of between 81% and 100% and delays of more than 8 weeks in 28% of outpatient clinics.⁵

Given the significant risks to patients in our advanced prostate cancer clinic, we rapidly implemented telemedicine in our practice to continue care of oncology patients without jeopardizing the patients' health. This use of telemedicine was ultimately consistent with guidelines released in 2020 on the management of prostate cancer during the COVID-19 pandemic, including avoiding in-person clinic visits.⁶⁻⁹ Herein, we report our patients' telemedicine experience in an advanced prostate cancer clinic during the COVID-19 pandemic.

Our advanced prostate cancer clinic at Mayo Clinic Rochester provides high-volume care to patients with advanced prostate cancer in a multidisciplinary approach that includes radiation therapy, surgery, and systemic treatments. The clinic serves approximately 5000 patients annually. We included advanced prostate cancer patients located in the United States who were seen by a single urologist

(Dr Eugene D. Kwon) through teleconsultation between April 1, 2020, and May 1, 2020, during the COVID-19 pandemic. Teleconsultation included phone visits and any form of video visits (Zoom, Skype, FaceTime, other).

During April 2020, there were 350 scheduled in-person visits. Following the announcement of the national stay-at-home order due to the COVID-19 pandemic, patients were contacted and offered telemedicine consultations; 103 (30%) patients agreed to transition their next visit to teleconsultation with their physician to avoid any interruption of their care. These patients represented our target population (n=103). After their teleconsultation, patients were contacted by phone about participation in the study. Of 103 patients, 52 (50.49%) patients electronically signed the consent form and were sent a unique link to the Research Electronic Data Capture system (REDCap). Study data were recorded and managed using this system.

We adopted a survey that has been used previously to assess telemedicine in radiation oncology.¹⁰ Some changes have been made to customize it to our study.

Patients' demographic and clinical characteristics are shown in [Table 1](#). Most of the patients denied any hearing or vision difficulty. Almost 60% (n=31) of patients presented with progressive disease and rising prostate-specific antigen (PSA) concentration; the remaining 40% (n=21) returned to follow up on their treatment plans. Patients reported the average cost to travel for their appointment to be 250 (125 to 350) US dollars. Most of the telemedicine consultations were done over the phone (n=41; 78.85%) because of the patient's accessibility, whereas the remaining (n=11; 21.15%) were done through Zoom video conference.

Before each virtual visit, patients were asked to undergo PSA testing

TABLE 1. Characteristics of Patients Responding to Our Telemedicine Survey (n=52)

Age (y)	70.40 (\pm 8.06)
Ethnicity	
White	49 (94.23)
Not Hispanic or Latino	2 (3.85)
Hispanic or Latino	1 (1.92)
Education level	
High-school diploma or less	4 (7.69)
College degree or less	42 (80.77)
Professional/doctorate degree	6 (11.54)
Marital status	
Married	47 (90.39)
Single	2 (3.85)
Widowed	1 (1.92)
Divorced	2 (3.85)
Occupation status	
Working	19 (36.54)
Retired	33 (63.46)
Previous experience with telemedicine	
Yes	35 (67.31)
No	17 (32.69)
Distance from Mayo Clinic (miles)	410 (226.3-802.5)
Will take a flight for their visits	
Yes	17 (32.69)
No	35 (67.31)
Will book a hotel for their visit	
Yes	37 (71.15)
No	15 (28.85)
Difficulty with hearing	
Yes	12 (23.08)
No	40 (76.92)
Difficulty with vision	
Yes	6 (11.54)
No	46 (88.46)

Values are reported as mean (\pm SD), number (%), or median (interquartile range).

with or without imaging for restaging purposes and localizing their disease relapse. Laboratory testing and imaging were completed either locally or

at Mayo Clinic. With respect to PSA, 19% (n=10) of the patients were not able to undergo PSA testing before their virtual visit. Of those who

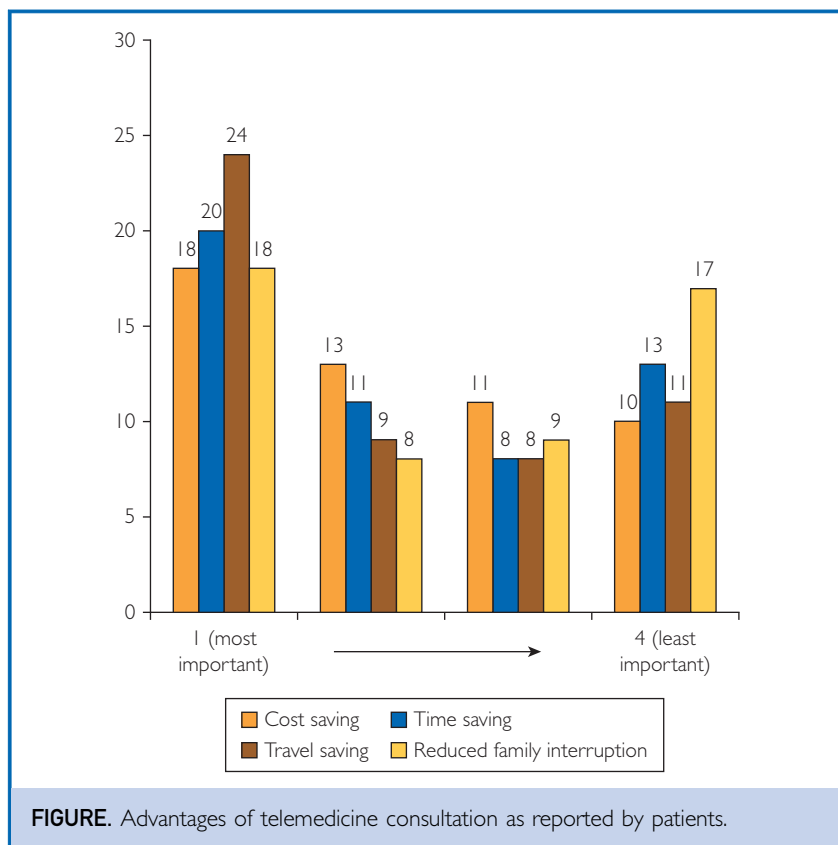
completed PSA testing, 38.46% (n=20) and 32.69% (n=17) underwent testing at either Mayo Clinic laboratories or locally, respectively. The remaining 9.62% (n=5) of patients underwent previsit PSA testing through mail-in kit testing. With respect to imaging, most patients (n=32; 61.54%) underwent previsit imaging at Mayo Clinic, whereas 32.08% (n=12) underwent previsit imaging locally, and only 15.39% (n=8) were not able to undergo any forms of imaging before their virtual visit. [Table 2](#) presents patients' satisfaction with their telemedicine consultation. The [Figure](#) illustrates patients' reported advantages of telemedicine consultations ranked from most important (1) to least important (4).

In our experience, the use of telemedicine was effective in patients with advanced prostate cancer. It served as a means of continuing the patients' care without endangering their health. [Table 2](#) demonstrates that most patients agreed that they were able to hear (and see) their physician clearly, their privacy and confidentiality were respected, they were able to ask questions easily, and they were able to establish rapport with their doctor. All patients verified that their physician had adequately explained their diagnosis and treatment options and spent sufficient time to understand their condition and concerns. Therefore, 94% of the patients shared that they would participate in a future

TABLE 2. Responses to Our Telemedicine Satisfaction Survey

Item No.	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
21	I could hear the doctor clearly.	0	0	2 (3.85)	14 (26.92)	36 (69.23)
22	I felt my privacy and confidentiality were respected.	0	0	2 (3.85)	15 (28.85)	35 (67.31)
23	I felt I could ask questions and seek clarification openly and easily with my doctor.	0	0	1 (1.92)	18 (34.62)	33 (63.46)
24	I found it easy to establish rapport with my doctor.	0	0	4 (7.69)	14 (26.92)	34 (65.39)
26	I felt my diagnosis and treatment options could be adequately explained.	0	0	4 (7.69)	18 (34.62)	30 (57.69)
27	I felt my doctor spent an adequate amount of time to understand my condition and concerns.	0	0	1 (1.92)	21 (40.39)	30 (57.69)
28	I would participate in a future teleconsultation if it were offered.	0	3 (5.77)	7 (13.46)	17 (32.69)	25 (48.08)

Values are reported as number (%).



teleconsultation if it was offered. Interestingly, all of the remaining 6% (n=3) who would not participate in a future teleconsultation had a phone consultation. Furthermore, in the general comment section, they mentioned they would prefer video consultation in the future and felt uncomfortable not being able to see their physician.

Patients reported that saving on travel (n=24) represented the most important advantage of having virtual consultations, followed by time savings (n=20) and cost savings and reduced family interruption (n=18 each; Figure). Therefore, in our experience, the use of telemedicine can provide uninterrupted care with a high level of patient satisfaction and with many potential advantages for the patient. The high level of patient satisfaction with telemedicine observed in our study is consistent with findings from a study by Leibar Tamayo et al¹¹ in

which 200 patients were surveyed on their telemedicine experience. Specifically, the median degree of satisfaction was 9 on a 10-point scale, with 10 being the highest level of satisfaction. Thus, our findings can be translatable to the routine setting in advanced prostate cancer practices and in accordance with published recommendations regarding the implementation and best practices of telemedicine in urology.^{12,13} Overall interest in and uptake of telemedicine among urologists have been observed as a result of the COVID-19 pandemic. A global survey of 620 urologists across 58 countries revealed that 81% of urologists who used telemedicine during the pandemic planned to continue doing so in the future, with 46% of all respondents reporting telemedicine use during the pandemic compared with only 16% before the pandemic. Notably, however, 68% of urologists

surveyed in this study stated that at least half of their patient appointments should preferably be conducted in person.¹⁴ With approximately 30% of the patients in our clinic agreeing to be seen through telemedicine, it is evident that many patients and providers still value and in some cases prefer in-person visits. Although studies are warranted to evaluate this within urology, patients may be unwilling to participate in telemedicine because of privacy concerns or the need for additional in-person tests or procedures. Similarly, urologists may prefer in-person visits because of the need for physical evaluations and tests or procedures in tandem with in-person appointments. Although we did not directly evaluate the barriers to telemedicine adoption, the global survey by Dubin et al¹⁴ found that urologists reported patients' lack of access to technology and patients' technologic proficiency were the most cited barriers to telemedicine use. This finding suggests that to facilitate increased telemedicine use in urology, a greater emphasis should be placed on patient education and resources for telemedicine. Further studies are required.

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