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Economic Impact of Urological Conditions in Men and Women in Belize

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**Study Need and Importance:** The Lancet Commission on Global Surgery called for promotion of widespread access to safe and affordable surgical care worldwide, as many people lack such access globally. While we understand the clinical need for urological care, little is known about the microeconomic impacts of urological disease on patients in low- and middle-income countries (LMICs). To this end, we performed a survey-based study of the work time missed, impairment while at work, and overall impairment caused by urological diseases in Belize, where we provide urological care on an ongoing basis.

**What We Found:** Our study demonstrated that 87% of patients endorse a negative impact of their urological disease on their life and significant difficulty performing caretaking responsibilities. Eighty-eight percent state that cure of their urological disease would improve their ability to care for their family

and improve job performance, as shown in the Table. Of those who had to take time off work for urological health problems, urological disease resulted in a loss of a median of 55% of income.

**Limitations:** Our study is limited by the small sample size of patients and issues of enrollment related to the COVID-19 pandemic. This study was conducted in a single LMIC, Belize, which limits generalizability of the results to a global scale; however, many of the inherent issues related to urological care would translate across populations.

**Interpretation for Patient Care:** Urological diseases result in significant work impairment and lost income. In order to best serve the global community, efforts to improve access to urological surgery in LMICs are important and would promote benefits to patient’s quality of life but also economic health and ability to care for their families.

**Table.** Questionnaire Responses on Impact of Urological Disease on Work and Caregiving

	All Patients, No. (%) (N = 114)	No Financial Data, No. (%) (n = 53)	Financial Cohort, No. (%) (n = 61)	P Value <sup>a</sup>
Negative impact on life	100 (87.7)	45 (84.9)	55 (90.2)	.57
Problems caring for family	42 (37.2)	21 (39.6)	21 (34.4)	.71
Cause for negative impact				
Pain	77 (67.5)	37 (69.8)	40 (65.6)	.74
Embarrassment	38 (33.3)	19 (35.8)	19 (31.1)	.78
Time off work	36 (31.6)	9 (17.0)	27 (44.3)	.003
Time for doctor’s visits	53 (46.5)	20 (37.3)	33 (54.1)	.12
UD treatment would improve family care or job performance	101 (88.6)	47 (88.6)	54 (88.5)	1.00

Abbreviation: UD, urological disease.

<sup>a</sup> Compares financial and no financial data cohorts.

## Economic Impact of Urological Conditions in Men and Women in Belize

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### Abstract

**Introduction:** Urological disease is prevalent in low- and middle-income countries. Concurrently, the inability to maintain employment or provide family care contributes to poverty. We assessed the microeconomic impacts of urological disease in Belize.

**Methods:** We conducted a prospective survey-based assessment of patients evaluated during surgical trips by the charity Global Surgical Expedition. Patients completed a survey focusing on impact of urological disease on work and caretaker responsibilities, as well as its economic impact. The primary study outcome was income loss resulting from work impairment or work time missed related to urological disease. Income loss was calculated using the validated Work Productivity and Activity Impairment Questionnaire.

**Results:** A total of 114 patients completed surveys. Overall, 87.7% and 37.2% of respondents reported a negative impact of urological disease on job and caretaking responsibilities, respectively. Nine (7.9%) patients were unemployed secondary to their urological disease. Sixty-one (53.5%) patients provided financial data sufficient for analysis. In this cohort, median weekly income was \$250 Belize dollars (approximately \$125 United States Dollars), while median weekly cost for urological disease treatment was \$25 Belize dollars. Among the 21 (34.5%) patients who missed work due to urological disease, median weekly income loss was \$35.6 Belize dollars, representing 55% of their total income. A vast majority (88.6%) of patients reported that cure of urological disease would increase ability to work and/or care for family.

**Conclusions:** In Belize, urological disease results in significant impairment of work and caretaking responsibilities, as well as income loss. Efforts are necessary to provide urological surgeries in low- and middle-income countries as urological disease impacts not only quality of life, but also financial health.

**Key Words:** global health; population health; economics, medical

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Ethics Statement: This study was approved by the University of Virginia Institutional Review Board (IRB-SBS Protocol 2561). The study was also approved by a local ethics official for the participating site (Corozal Community Hospital, Northern Regional Health Care Administration).

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Global surgery has more recently become a significant global health priority in an effort to promote the widespread delivery of safe and affordable surgical care. In 2015, the Lancet Commission on Global Surgery (LCGS) was purposed to promote widespread access to safe and high-quality surgical care.<sup>1</sup> The LCGS report estimated that 5 billion people lack access to safe and affordable surgical care and that 143 million additional surgeries are needed to save lives and prevent disability due to surgical disease.<sup>1</sup> Not surprisingly, the LCGS also reported that the largest burden of unmet surgical disease existed in low- and middle-income countries (LMICs).

The LCGS identified core indicators to both help prioritize global surgery initiatives and track progress toward care delivery by 2030.<sup>1</sup> Notably, in addition to outcomes focused on care access and mortality, the core indicators also included focus on the financial impact of surgical care. More specifically, the LCGS called for the assessment of the risk of catastrophic expenditure from surgical care.<sup>2</sup>

This focus on the economic impact of surgical disease is important. Indeed, while vast literature is available to understand the impact of untreated surgical disease on morbidity, mortality, and disability in LMICs, less emphasis has been placed on its devastating economic consequences.<sup>3,4</sup> On a macroeconomic level, the LCGS estimated that LMIC economies will lose a cumulative \$12.3 trillion United States dollars (USD) related to unmet surgical disease over 15 years.<sup>1</sup> Country-specific macroeconomic estimates are limited although available data similarly demonstrates significant projected economic loss.<sup>5</sup>

Much less is known about the microeconomic impacts of surgical disease to individuals or households. Available literature more commonly focuses on acute surgical disease such as trauma.<sup>6,7</sup> Notably, the microeconomic impacts of surgical disease not only occur through direct mechanisms (cost of health care expenses), but also indirectly through primary (inability to work, loss of productivity) and secondary mechanisms (inability of caretaker to work) as well.

Urological disease (UD) is highly prevalent in LMICs. Further, a significant portion of the global surgery burden is urological, and related surgical care is shown to be an extremely cost-effective intervention.<sup>8-10</sup> Global Surgical Expedition (GSE) is a medical charity that provides surgical care internationally to populations in need. Since 2012, GSE has provided nearly 400 urological and urogynecologic surgeries in Belize and Rwanda to help treat surgical disease. Belize was selected as the study site given the observed prevalence of UD, the lack of urological surgical care access, and poverty level. Belize is a nation in Central America with an estimated population of 400,000 people and classified by the World Bank as a lower middle income country. According to the Statistical Institute of Belize, 5,731 operations were performed in total in 2018, none of which were urological

surgeries performed by domestic urologists. Economic data estimates that 13.9% of the population lives on less than 1.90 USD per day.<sup>11</sup> Based on poverty line thresholds, approximately 52% of persons are living in poverty (7,961 Belizean dollars [BZD] per year), with 9% living in critical poverty (2,682 BZD/y).<sup>12</sup> There are limited data to help understand the impact of UD on ability to work or to quantify resulting financial loss. The present study was conducted to help understand these indirect microeconomic impacts, with focus on UD in the lower middle-income country of Belize. We hypothesize that despite many being benign in nature, that UD result in significant impairment in ability to work, perform critical caretaking responsibilities, and therefore income.

## Methods

We assessed the microeconomic impact of UD in Belize. Patients were recruited during 3 consecutive visiting surgical trips (2019-2021) by GSE. This study was approved by the University of Virginia Institutional Review Board (IRB-SBS Protocol 2561) and patients were verbally consented for enrollment, consistent with the IRB protocol.

As part of GSE trips to Belize, prospective surgical candidates are initially seen during a large triage clinic held at trip initiation. Patients diagnosed with UD during this triage clinic were recruited to participate in the present survey study. Patients were excluded if presenting for nonurological complaint. Indeed, although GSE focuses on urological care, it is not uncommon for patients to present seeking evaluation for nonurological complaint.

The primary study outcome was income loss resulting from work impairment or work time missed related to the participant's UD. This outcome was determined utilizing the Work Productivity and Activity Impairment Questionnaire: Specific Health Problem (WPAI:SHP), which was incorporated in the study questionnaire (see Supplementary Appendix, <https://www.urologypracticejournal.com>).

The WPAI:SHP is a frequently used generic disease instrument that measures work productivity and impairment.<sup>13</sup> It provides quantitative measures of reduced productivity, both at work and during nonwork activities, and has been validated in multiple disease groups and previously used for urological conditions.<sup>13-15</sup> Results of the WPAI:SHP are expressed as a percentage of impairment, with greater percentages indicated greater impairment and less productivity. Results include (1) percentage of work time missed; (2) percentage impairment while working; (3) percentage of other activity impairment; and (4) overall percentage of work impairment due to a specific disease. Both the questionnaire and detailed scoring methods are available online.<sup>16</sup>

To determine the primary outcome of income loss due to UD, the overall work impairment due to UD (as determined by the WPAI:SHP) was multiplied by patient-reported weekly income in BZD.

Secondary outcomes included percent work time missed, impairment at work, and overall work impairment due to UD as measured by the WPAI:SHP. Additional secondary outcomes included items from the questionnaire focused on general negative impact of UD on work or caretaker responsibilities.

### Statistical Analyses

Descriptive statistics were calculated for UD type, questionnaire responses, and financial information with data presented as median (interquartile range [IQR]) or number (%), as appropriate. Cohort characteristics including UD type, household role, dependents, employment type, and questionnaire responses regarding impact of UD on work and caregiving were analyzed for the overall cohort as well as separately for patients who did and did not provide financial information.

Primary and secondary outcomes were analyzed for the overall cohort of patients providing sufficient financial data for analysis (financial cohort), as well as across specific subcohorts based on presenting UD diagnosis. These subcohorts included oncologic, female urology (urinary incontinence, pelvic organ prolapse [POP], overactive bladder), urolithiasis, and obstruction (benign prostatic hyperplasia [BPH] and urethral stricture disease).

Comparisons between cohorts were performed using  $\chi^2$ , Fisher's exact, Wilcoxon rank-sum, or Kruskal-Wallis test, as appropriate. Monetary figures are presented in BZD, with 1 USD to 2 BZD. All tests were performed with  $\alpha = .05$ .

## Results

Between 2019 and 2021, 114 patients completed the survey assessment. Cohort characteristics are presented in Table 1. The most common UD diagnoses included BPH/urethral stricture (28.1%) and POP (29.8%). A total of 56 (49.1%), 16 (14.0%), and 31 (27.2%) of respondents reported themselves as being head of household, a worker, or caregiver, respectively.

Questionnaire responses assessing the impact of UD on work or caretaking responsibilities are presented in Table 2. A vast majority (87.7%) of patients reported a negative impact of the UD, as related to time off work and time required for physician visits in 31.6% and 46.5% of patients, respectively. Nine (7.9%) patients were unemployed secondary to their UD. Notably, 88.6% of patients reported that

treatment of their UD would improve their ability to care for their family or perform their job.

Of 114 patients, 61 (53.5%) were working on a regular basis and able to provide sufficient financial data for analysis (financial cohort). Primary UD diagnoses and questionnaire responses for this cohort are also presented in Tables 1 and 2. Patients in the financial cohort were more likely to be head of household, reported more dependents, and were more likely to have BPH/urethral stricture disease as opposed to POP.

Tables 3 and 4 demonstrate the WPAI:SHP and financial analysis for the financial cohort. Participants reported median weekly income of \$250 BZD (approximately \$125 USD). Overall, median percent work impairment (missed work+impairment at work) due to UD was 41.7% (IQR 0%, 80%). Twenty-one (34.5%) patients reported missing work due their UD, with median 24.0 (IQR 16, 40) missed hours. Patients who reported missing work reported a median income loss of \$35.6 (IQR \$83, \$250) BZD weekly, representing a median 55.3% (IQR 33%, 100%) loss of their total income.

Comparison of the UD diagnosis subcohorts showed no differences in work and financial impairment, except for higher percent work impairment for urolithiasis and obstruction diagnoses compared to female urology (50% [IQR 0.0%, 100%] urolithiasis vs 47.5% [IQR 0.0%, 99%] obstruction vs 0.0% [IQR 0.0%, 59%] female urology,  $P = .04$ ). Oncologic diagnosis was not included in statistical comparison due to small numbers.

The weekly cost for UD treatment was \$20.0 (IQR \$0.0, \$77) BZD for the overall cohort, and for the financial cohort was \$25.0 (IQR \$5, \$75) BZD. For the financial cohort, median weekly cost of UD (lost income+treatment cost) was thus \$65 (IQR \$10, \$150) BZD, or 28% (IQR 1.9%, 70%) of weekly income.

## Discussion

There are several important study findings. Foremost, the overall median cost of UD was 28% of weekly income, representing a significant portion of respondents' income and underscoring the risk of financial devastation associated with UD in Belize. Furthermore, 35% of patients in the financial cohort reported missing work due to UD, with a resulting median 55% income loss. Generally, catastrophic health expenditure (CHE) represents health care payments exceeding a household's ability to pay.<sup>17</sup> A variety of thresholds for CHE have been proposed, including direct medical costs exceeding 10% of monthly household income.<sup>18</sup> Although CHE is commonly used as a metric based on direct out of pocket costs, it nonetheless serves

**Table 1.**  
Cohort Characteristics

	All Patients (N = 114)		No Financial Data (n = 53)		Financial Cohort (n = 61)		P Value <sup>a</sup>
Urological diagnosis, No. (%)							
BPH/stricture	32	(28.1)	9	(17.0)	23	(37.7)	.02
Urolithiasis	20	(17.5)	7	(13.2)	13	(21.3)	.37
OAB/UI	15	(13.2)	6	(11.3)	9	(14.8)	.79
POP	34	(29.8)	22	(41.5)	12	(29.7)	.02
Oncologic	9	(7.9)	6	(11.3)	3	(4.9)	.41
Bladder	2	(1.8)	2	(3.8)	0	(0.0)	
Renal	4	(3.6)	3	(5.7)	1	(1.6)	
Penile	1	(0.9)	0	(0.0)	1	(1.6)	
Other	2	(1.8)	1	(1.9)	1	(1.6)	
Other	4	(3.5)	3	(5.7)	1	(1.6)	.28
Household role, No. (%)							
Head	56	(49.1)	12	(22.6)	44	(72.1)	< .001
Caregiver	31	(27.2)	27	(50.9)	4	(6.6)	< .001
Worker	16	(14.0)	5	(9.4)	11	(18.0)	.30
Dependents, median (IQR)	2.0	(0.0, 4.0)	1.0	(0.0, 3.0)	3.0	(2.0, 4.0)	.01
Paid employment, No. (%) <sup>b</sup>							
Full-time	39	(34.2)	0	(0)	39	(63.9)	< .001
Part-time	9	(7.9)	3	(5.7)	6	(9.8)	.63
Day-to-day	20	(17.7)	7	(13.5)	13	(21.3)	.40

Abbreviations: BPH, benign prostatic hyperplasia; IQR, interquartile range; OAB/UI, overactive bladder and/or urinary incontinence; POP, pelvic organ prolapse.

<sup>a</sup>Compares financial and no financial data cohorts.

<sup>b</sup>Three in financial cohort did not indicate type of employment.

as a context to understand the significant consequences associated with the costs and income loss found in our study. This is underscored by previously described data estimating that 52% and 13% of persons live in poverty and critical poverty, respectively.<sup>11,12</sup>

Second, our study demonstrates the significant effects that UD can have on the ability to work and related productivity while at work. In addition to the significant portion of respondents citing the need to take time off work, nearly 90% reported that UD treatment would improve family care or job performance. This is underscored by the significant mean work impairment level observed in our cohort. These findings are consistent with the limited available literature assessing productivity effects in other cohorts. Hoffman et al reported a significant proportion of respondents reporting reduction in

work time (range 77%-99%) and work activity limitation (range 86%-99%) in cross-sectional study of microeconomic impact of cardiovascular disease across 4 LMICs.<sup>19</sup>

Finally, our data demonstrate the deleterious impact of UD to caretakers and the related potential economic impact. Indeed, 37% of respondents reported that UD resulted in problems caring for family. This finding is important and unique as available study on the microeconomic impact of surgical disease more commonly focuses on direct (payments for health services) or primary indirect (inability of individual with surgical disease to work) consequences. In contrast, study evaluating the secondary indirect economic effects of surgical disease is limited. Family members provide childcare in a significant proportion of LMIC households and the worldwide lack of childcare and economic implications are

**Table 2**  
Questionnaire Responses on Impact of Urological Disease on Work and Caregiving

	All Patients, No. (%) (N = 114)	No Financial Data, No. (%) (n = 53)	Financial Cohort, No. (%) (n = 61)	P Value <sup>a</sup>
Negative impact on life	100 (87.7)	45 (84.9)	55 (90.2)	.57
Problems caring for family	42 (37.2)	21 (39.6)	21 (34.4)	.71
Cause for negative impact				
Pain	77 (67.5)	37 (69.8)	40 (65.6)	.74
Embarrassment	38 (33.3)	19 (35.8)	19 (31.1)	.78
Time off work	36 (31.6)	9 (17.0)	27 (44.3)	.003
Time for doctor's visits	53 (46.5)	20 (37.3)	33 (54.1)	.12
UD treatment would improve family care or job performance	101 (88.6)	47 (88.6)	54 (88.5)	1.00

Abbreviation: UD, urological disease.

<sup>a</sup>Compares financial and no financial data cohorts.

**Table 3.**  
Work and Financial Impairment Related to Urological Disease

	All patients (N = 61)	
Missed any work, No. (%)	21	(34.5)
Work missed, median (IQR), h	0.0	(0.0, 16)
None		/
Missed work	24.0	(16, 40)
% Impairment at work, median (IQR)	45.0	(0.0, 80)
% Overall work impairment, median (IQR)	41.7	(0.0, 80)
Income, median (IQR), BZD	250.0	(200, 500)
Income loss, median (IQR), BZD	0.0	(0.0, 83)
None		/
Missed work	35.6	(83, 250)
% Income loss, median (IQR)	0.0	(0.0, 33)
None		/
Missed work	55.3	(33, 100)

Abbreviation: BZD, Belizean dollars; IQR, interquartile range.

well described.<sup>20</sup> In addition, numerous studies also show that family members in LMICs commonly serve as elderly caregivers (informal caretakers).<sup>21,22</sup> Combined, these data support that caretaker activities are crucial to the economic health of LMIC households as they allow other family members to work. As such, caretaker disability related to UD can have a significant economic impact. This impact is underscored by a study demonstrating that 18.9% of participants reported decreased work time by family members following participant hospitalization for cardiovascular disease.<sup>19</sup>

Subcohort analysis demonstrated median percent work impairment was higher among urolithiasis and obstruction cohorts compared to female urology cohort. Although not statistically significant, a greater proportion of obstruction patients missed work compared to other cohorts (43.5% vs 29%-33%). For the obstruction cohort, these differences likely relate to the ongoing indwelling catheter care needs of

this cohort. Given the absence of surgical access, the majority of patients evaluated with BPH or urethral stricture disease are managed with chronic urethral or suprapubic catheterization. Catheter changes take place only at specific clinics and patients must often travel from distant locations for this care, requiring recurrent days away from work. This finding also highlights an exciting opportunity in that initiatives to increase access to transurethral resection of the prostate or urethral reconstruction can have a significant microeconomic impact.

Our study has inherent limitations. Findings related to subcohort analysis are limited by patient number. Recruitment was limited by feasibility issues related to the COVID-19 pandemic. Similar to most international global surgery organizations, GSE suspended its on-site global surgery trips in 2020 as a result of the pandemic. GSE typically conducts 2 trips to Belize per year. These data were accrued during 3 trips: 2 prior to the COVID-19 pandemic and one since, which did impact how patients were seen and screened due to existing local precautions. Using guidance for reestablishing in-country global surgery initiatives, in fall 2021 GSE was able to complete its first in-country initiatives to Belize since the pandemic began.<sup>23,24</sup> As part of this effort, we were fortunate to achieve further patient recruitment allowing for overall analysis. However, given the subsequent developments related to the Omicron variant, GSE has once again suspended international travel. While surgery is not indicated for many urological conditions, the purpose of our study was to focus on the economic impact of a patient population for which surgery is indicated as treatment. This is congruent with the goals of the LCGS.<sup>1</sup>

Numerous areas for future research exist, including study to understand the surgical burden of UD in Belize and other

**Table 4.**  
Work and Financial Impairment Related to Urological Disease, by Disease<sup>a</sup>

	Urolithiasis (n = 13)	Oncologic (n = 3)	BPH/Stricture (n = 23)	POP/UI (n = 21)
Missed any work, No. (%)	4 (30.7)	1 (33.3)	10 (43.5)	6 (28.6)
Work missed, median (IQR), h	0.0 (0.0, 16)	0.0 (0.0, 20)	0.0 (0.0, 25.5)	0.0 (0.0, 2.0)
None	/	/	/	/
Missed work	29.0 (18, 48)	40.0 (NA)	37.5 (16, 41)	13.0 (5.8, 22.5)
% Impairment at work, median (IQR)	50.0 (0.0, 100)	0.0 (0.0, 50)	50 (15, 100)	0.0 (0.0, 50)
% Overall work impairment, median (IQR)	50.0 (0.0, 100)	0.0 (0.0, 50)	47.5 (0.0, 99)	0.0 (0.0, 59)
Income, median (IQR), BZD	250.0 (150, 500)	200.0 (200, 238)	375.0 (206, 531)	214.5 (175, 483)
Income loss, median (IQR), BZD	0.0 (0.0, 130)	0.0 (0.0, 138)	0.0 (0.0, 148)	0.0 (0.0, 34.5)
None	/	/	/	/
Missed work	158.3 (145, 213)	275.0 (NA)	185.0 (94, 250)	84.6 (71, 94)
% Income loss, median (IQR)	0.0 (0.0, 33)	0.0 (0.0, 50)	0.0 (0.0, 61)	0.0 (0.0, 6.9)
None	/	/	/	/
Missed work	100.0 (83, 100)	100.0 (NA)	80.9 (43, 100)	37.5 (22, 48)

Abbreviations: BPH, benign prostatic hyperplasia; BZD, Belizean dollars; IQR, interquartile range; POP, pelvic organ prolapse; Stricture, urethral stricture; UI, urinary incontinence (including overactive bladder).

<sup>a</sup>Work hours and income are weekly values. Missed work hours and income loss include subanalysis of the cohort of patients reporting having missed any work due to urological disease.

LMICs. In addition, study elucidating the direct economic impact of UD and cost-effectiveness of urological surgeries in LMICs is important. More importantly, our data highlight many clinical opportunities for the urological community to make significant contributions to the global surgery effort. This is critical, given the significant portion of the global surgical burden, ie, urological and the cost-effective nature of providing surgical care.<sup>10</sup> Importantly, our data demonstrate that these efforts not only serve to improve quality of life and reduce morbidity but can also have a significant economic impact to individuals affected by UD as well. Further study is needed to determine whether severity or extent of disease impacts financial toxicity disproportionately.

## Conclusion

In Belize, UD results in significant work impairment and work time missed. This impairment is associated with a significant level of potential lost income. In addition, UD resulted in problems caring for family in a significant portion of patients. Efforts to improve access to urological surgeries in LMICs are important as they promote benefits not only to quality of life and morbidity, but to economic health as well.

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## Editorial Commentary

A urologist counseling a patient about potential surgery is responsible for her patient's overall well-being, not just their urological disease. Thus, it is essential that comprehensive health, including financial wellness, is part of the decision-making process.

In this analysis, the authors demonstrate the profound economic impact, in the forms of lost wages and caregiver disability, on urological patients in Belize. The authors propose that increased access to surgical care could mitigate the chronic financial and caretaker burden of unresolved urological disease. As a treatment for urological disease, surgery is not benign and incurs its own inherent risks, including injury, pain, and need for additional procedures, to name a few.

Moreover, considerable research has demonstrated the financial impact of surgical care. Over 60% of all bankruptcies in the United States are due to medical debt.<sup>1</sup> Defined as the financial hardship experienced by a patient for disease-specific care, financial toxicity has been associated with decreased quality of life, compliance with medical care, and overall survival.<sup>2</sup> In patients with gastrointestinal malignancies, nearly 90% of uninsured patients and 10% of insured patients were at risk of financial toxicity following surgical care.<sup>2</sup>

We strongly agree that urologists should specifically address financial toxicity when considering treatment options.<sup>3</sup> Shared decision making is one such method which has proven effective in facilitating the treatment selection process between providers and patients for myriad medical conditions, including urological diseases. Shared decision making involves educating patients about their conditions and treatment options, understanding patient factors including

treatment and financial goals, and incorporating provider expertise to help patients achieve those goals in light of the available therapies. While not a solution to the cost of care, shared decision making can increase providers' awareness of their patients' financial concerns and help align providers with their patients as advocates for care that maximizes the overall well-being of each individual.

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