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Shared Decision Making in Urologic Practice: Results from the 2019 AUA Census

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Abstract

Objective: To establish the rates of self-reported SDM and decision aid use among practicing urologists. Additionally, we aim to determine the practice factors that influence SDM use.

Materials and Methods: This study uses data from the 2019 American Urological Association Annual Census SDM module. Urologists were presented with a rubric of seven preference sensitive clinical situations and asked to choose the elements of SDM that they regularly use for the diagnosis. Multivariable logistic regression models were fit to evaluate factors contributing to the use of SDM.

Results: 2219 urologists responded. Of these, 77% reported that they regularly use SDM in at least one preference sensitive clinical scenario. Between 40-58% regularly gave patients decision aids. Urologists who reported barriers to SDM had a decreased odds of reporting SDM (adjusted OR [aOR] 0.80 [95% CI 0.71-0.91]). Those practicing in academic settings (aOR 0.78 [95% CI 0.69-0.88]) were less likely than those in private practice to report SDM use. The number of patient visits per week was inversely associated with SDM use, with greater than 76 visits per week having decreased odds (aOR 0.65 [95% CI 0.57-0.74]).

Conclusion: In this sample of practicing urologists in the United States, the majority report regularly using SDM. However, rates of SDM varied by training, practice setting and clinical volume. Our findings highlight specific opportunities to improve in SDM in urology.

Keywords

Census; Decision Making; Shared; Urologic Disease; Communication; Patient-Centered Care

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Introduction:

Shared decision making (SDM) is a “process of communication in which clinicians and patients work together to make optimal healthcare decisions that align with what matters most to patients.” [1] This process is most pertinent when patients are asked to make a decision where evidence does not identify any one treatment option as better than another (preference-sensitive decisions). [1] Within urology, such decisions are ubiquitous, as evidenced by the fact that twelve of the twenty-nine current guideline statements published by the American Urological Association (AUA) reference SDM.[2]

However, while guidelines emphasize the importance of SDM in urology, the literature on this topic is limited and suggests the rates of urologists’ use of SDM is low (33%).[3] Despite increased focus and research on SDM, contemporary estimates of SDM in urology remain unknown. In order to guide efforts to improve access to SDM for urologic patients, we must first understand urologists’ current use of SDM and the factors that facilitate and hinder its uptake.

To address this gap in knowledge, we leveraged the 2019 American Urological Association Annual Census to establish the rates of self-reported SDM and decision aid use among practicing urologists. We also described urologists’ perceived barriers to SDM. Additionally, we assessed whether specific training, practice setting or patterns influence self-reported SDM or decision aid use. The results of this study will identify opportunities that facilitate patient centered care in urology.

Methods:

Data Source

We used data from the 2019 American Urological Association Annual Census for this study. The AUA Annual Census began in 2014 with a mission to collect meaningful data to bridge knowledge gaps in urology. The 2019 Annual Census was administered electronically to practicing urologists, advanced practice providers and trainees from May 2019 - September 2019. Token incentives (t-shirts, raffle items) are given to encourage participation. Identifiable information collected from the AUA Census is stored securely and is not reported or shared. For this study, only de-identified data was used.

The AUA Annual Census consists of core and supplemental questions. Core questions address patterns of practice and urologic workforce and are asked annually. Supplemental questions are focused on emerging topics and are only asked within a single year. In 2019, urologists were asked two supplemental questions on the topic of SDM.

Survey Questions

In order to assess our primary outcome measure, use of SDM among urologists in preference sensitive situations, we adapted from the Agency for Healthcare Research and Quality “SHARE” Approach Essential Steps of Shared Decision Making. [4] (Table 1) The SHARE approach involves 1) Seeking your patient’s participation 2) Helping your patient explore and compare treatment options 3) Assessing your patient’s values and preferences 4) Reach

a decision with your patient and 5) Evaluate your patient's decision. [4] (Table 1) SDM is most commonly recommended in scenarios when several treatment choices have equal outcomes, or preference sensitive decisions. Therefore, we asked our question within the context of selected seven common, preference sensitive, clinical situations. The clinical scenarios included prostate cancer, urinary incontinence, pediatric vesicoureteral reflux, benign prostatic hypertrophy, asymptomatic one centimeter renal stone, non-muscle invasive bladder cancer and erectile dysfunction.

Urologists were presented with a rubric of seven clinical situations and asked "Which approaches do you regularly use in your conversation with patients when making disease-specific treatment decisions? (Select all that apply)" Approaches included "I discuss all available treatment options"; "I discuss evidence based risks and benefits of each treatment;" "I ask patients to share their values and preferences;" "I ask patients whether they are prepared to make a decision;" "After making a decision, I arrange a time to follow-up on the decision;" "I give patients decision aids to review about their condition." Urologists could also select "I do not see such patients" if a clinical scenario was outside their regular practice. (Supplemental Figure)

For the secondary aim, to assess barriers to SDM, we drew response options from previously published studies. [5] Urologists were asked: "List the primary barrier to the routine use of SDM with patients in urology. (Select one only)" Response options included "I do not have any barriers to the routine use of SDM with patients in urology;" "My patients do not understand SDM;" "SDM may result in patient decisions that contradict my recommendations;" "SDM takes too much time;" "SDM usually does not apply to my patients' clinical situations;" "I do not have sufficient training in SDM." (Supplemental Figure)

The survey content was developed based on a conceptual framework that hypothesized that variation exists in the use of SDM among practicing urologists. We used standard techniques to assess validity of survey questions in an iterative process with input from survey methodologists at the University of Michigan, Center for Bioethics and Social Sciences in Medicine. The questions were then piloted internally among urologists and members of the AUA statistical services team.

Outcome Measures:

The primary outcome of this study was to evaluate whether practice patterns influence urologists' self-reported use of SDM during clinical scenarios. For the primary outcome, SDM was dichotomized a priori. Urologists who selected four or more of the five SDM steps on at least one of the clinical scenarios were counted as regular users of SDM. The secondary outcomes were to describe patterns of decision aid use, and barriers to SDM among practicing urologists.

In order to assess the robustness of our primary outcome, we performed sensitivity analysis by setting the threshold of dichotomizing at 3 or more and also all 6 on at least one diagnosis. Additional sensitivity analysis was performed to evaluate factors associated with responding yes to "I ask patients to share their values and preferences" on at least one

diagnosis, which is considered a central aspect of SDM. Finally, we performed subgroup analysis for each clinical scenario, to assess whether self-reported SDM varied based on the clinical diagnosis.

Statistical Analysis:

Results of the AUA Annual Census are weighted to be representative of urologists in America. In order to adjust for non-responses and resulting biases in the 2019 AUA Census sample, a standard post-stratification weighting technique was used. Gender, geographic location, certification status and years since initial certification were used to develop stratification cells for calculating sample weights. The resultant weighted sample was representative of practicing urologists in the United States based on the factors listed above.

Summary statistics were used to describe patterns of SDM use, decision aid use and barriers to SDM among urologists. For the primary outcome, multivariable logistic regression models were fit to evaluate factors contributing to the use of SDM. Covariates included: age, gender, race (white vs non-white), practice setting (private: solo, single urology, multispecialty, private hospital, managed care, academic: academic medical center, public: VA, military hospital, other public hospital), fellowship training (yes vs no), rurality (metropolitan vs non), perception of barrier to SDM (none vs. any) and patient visits per week (51-70, <50, 76-100, 101-125, 126+).

After the post-stratification weighting adjustment, the Census data were analyzed with IBM-SPSS Complex Samples 22.0. The level of significance was set at $p < 0.05$. The AUA Annual Census has institutional review board exempt status.

Results

A total of 2219 out of 13044 practicing urologists responded to the 2019 AUA Annual Census (17% response rate). Most respondents were Caucasian (80%), non-Hispanic (93%) men (90%) working in metropolitan (89%) private practice settings (63%), with mean age of 56 (SD 14) and 22 years of practice (SD 14). About 40% of respondents were fellowship trained, with the most common subspecialties being oncology (12%) and pediatrics (6%). On average, urologists worked 45 (SD 19) clinical hours weekly and saw 73 (SD 37) patients per week. The mean patient visit duration was 16 minutes (SD 7). (Table 2)

Overall, 77% of urologists reported that they regularly use SDM in at least one clinical scenario. For each clinical scenario, the proportion of urologists who regularly used SDM ranged between 51-74%. The highest rates were seen in prostate cancer (74%) and benign prostatic hyperplasia (72%) and the lowest in urinary incontinence (63%) and pediatric vesicoureteral reflux (50%). (Table 3)

When looking at the steps of SDM, there was variability between the proportions of urologists who reported regular use of each particular step. For example, the proportion of urologists who indicated that they discuss all available treatment options and risks and benefits of each treatment ranged between 69-91% depending on clinical scenario. Whereas, the proportion of urologists that regularly elicited patient preferences was notably lower,

ranging from 54-66%. Between 40-58% of urologists regularly gave patients decision aids, depending on the clinical scenario. (Table 3)

Overall, 84% of urologists felt that there were no barriers to the routine use of SDM. Among the 16% of urologists who did report a barrier, lack of time was the most common (8%), followed by the sentiments that patients do not understand SDM (5%). Only a minority of urologists felt that they did not have sufficient training in SDM (1%) or that SDM may result in decisions that contradict urologists' recommendation (1%) or may not apply to their patients' clinical situations (1%).

Urologists who reported barriers to SDM had a decreased odds of reporting SDM (adjusted OR [aOR] 0.80 [95% CI 0.71-0.91]), after adjusting for covariates. We also found that practice patterns and training influenced SDM use. Urologists practicing in academic settings (aOR 0.78 [95% CI 0.69-0.88]) were less likely than those in private practice to report SDM use. However fellowship trained urologists had increased odds of also reporting SDM use (aOR 1.16 [95% CI 1.04-1.29]). The number of patient visits per week was inversely associated with SDM use, with the greatest impact seen when there were more than 76 visits per week (aOR 0.65 [95% CI 0.57-0.74]). (Table 4)

When evaluating factors associated with decision aid use, we found similar results. Those who reported barriers to SDM had decreased odds of regularly using decision aids (aOR 0.89 [95% CI 0.79-1.00]). Those in academic and public hospital settings had decreased odds of using decision aids compared to those in private practice settings (aOR 0.61 [95% CI 0.55-0.68], aOR 0.82 [95% CI 0.70-0.95], respectively). Fellowship trained urologists had greater odds of decision aid use compared to non-fellowship trained urologists (aOR 1.29 [95% 1.17-1.42]). (Table 4)

The results of sensitivity analyses examining differing cut-points for SDM dichotomization were similar. Furthermore, the findings of the subgroup analyses (evaluating each condition separately) were similar to the comprehensive model. (Supplemental tables)

DISCUSSION

Results from the 2019 American Urological Association Annual Census show that the majority of urologists report regularly using SDM and about half regularly use decision aids. Practice setting and clinical volumes were associated with SDM and decision aid use. We found variation in the use of specific steps of SDM, with most urologists conveying informative steps but fewer asking for patient preferences. In line with these results, most urologists did not report barriers to SDM use. Overall, these results show that while SDM use among urologists is common, opportunities to increase the quality of this decisional style exist.

Prior studies have primarily focused on the use of decision aids among urologists. A 2011 survey of urologists on decision aid use for localized prostate cancer found that 33.7% of 711 urologists (response rate 46%) reported use of a decision aid. [3] In our study we found rates of SDM and decision aid use to be significantly higher. When focusing on results for prostate cancer, to compare directly to this prior study, 74% of urologists reported SDM use

and 64% reported decision aid use. Our results are more similar to the international literature. A 2016 survey of 434 German Urologists (response rate 7%) found that 84% reported SDM as their preferred style of medical decision making and 49% used decision aids. [6] The difference may be reflective of increased awareness of decision aids and SDM among urologists over time, with our results being more comparable to the more recent survey.

Seeking patient participation and helping patients explore treatment options that align with their preferences and values is a key aspect of shared decision making. Our finding that urologists often provide information about treatment options but less commonly ask patient preferences during SDM are consistent with prior literature. [7,8] In a study of audio recorded visits with men discussing treatments for localized prostate cancer (recordings occurred from 2008-2012), Holmes-Rovner et. al. found that while physicians routinely informed patients of risks and benefits of treatments they rarely engaged in preference driven decision making, even when decision aids were used. [8] The concept that clinicians feel that they are already performing shared decision making is a commonly cited barrier. [9,10] This sentiment may be rooted in a lack of understanding of shared decision making or confusion between shared decision making and informed consent. [9] Our findings underscore the concept “that clinicians may partly engage patients, but may not engage them enough,” by showing that critical aspects of SDM (patient engagement) are less regularly used. [9]

On multivariable analysis, we found that practice setting, patient volume and fellowship training were associated with odds of SDM use. Increasing the number of patient visits above 76 per week, decreased the odds of SDM use, perhaps due to decreased time spent per patient. Similarly, fellowship training may streamline SDM by clustering the scope of diagnoses seen by one provider. This is consistent with prior literature showing that fellowship trained physicians were more likely to elicit patient concerns. [11] However, it is unclear why academic urologists report decreased odds of SDM compared to urologists within private practice. One hypothesis could be that this is a product of referral patterns; patients who are referred to academic centers for treatment of an established diagnosis may represent a unique subset of patients. A qualitative study of private and academic surgeons’ views towards SDM supports this notion. [12] It found that surgeons believe that appropriateness of SDM depends on the patients’ disposition and the clinical scenario. [12]

We found that lack of time was perceived to be the primary barrier to shared decision making. Prior literature has found that this is a commonly held assumption, however quantitative evidence has shown that shared decision making does not lengthen visit time. [7,9,13,14] In studies that have addressed this question, the time that is required by shared decision making made up by a decrease in time for other activities. [9,14]

There is no standard approach to shared decision making and many paradigms involve use of decision aids and decision coaching to facilitate the process. [1,4,15,16] These adjuncts to be used either within the clinical encounter or before or after the encounter. [1,4,15,16] However, central to each approach is the concept of working together with patients and allowing space for patients to express their preferences and values. [15,16] National quality

improvement initiatives have outlined methods to incorporate shared decision making into regular practice. [1,10] These initiatives include several methods to evaluate implementation efforts, such as through the use of validated scales that measure decisional conflict (the level of comfort with a decision). [1,10]

It is important to interpret the results of this study within the context of its limitations. First, response bias is an important consideration. In this survey 2215 urologists responded out of the targeted 13044 urologists in America, a 17% response rate. While this response rate is low, the AUA Annual Census captures the most robust survey data on urologists available. In order to mitigate the fact that we were unable to directly compare demographics between non-responders and responders, the survey responses were weighted to reflect the demographics of the larger AUA membership. Another limitation to consider is that data here are self-reported and therefore are subject to recall bias. In order to mitigate this, we provided specific clinical scenarios and specific steps of SDM and asked urologists to report their 'regular approach.' Finally, survey data is subject to a ceiling effect, where respondents tend to cluster among the highest available scores (selecting all SDM steps), which may explain the higher rate of SDM. However, the response distribution in the census was not alarmingly skewed when looking across specific clinical scenarios.

These findings present actionable opportunities for measures that support and facilitate improved quality of SDM. Our results suggest that while most urologists report that they use SDM, gaps remain in crucial steps of SDM, such as asking about patient preferences and values. Our findings echo qualitative research that finds that surgeons support SDM but an ongoing need exists to increase patient partnership and engagement. [12] Taken together, we find that urologists may benefit from efforts that provide pragmatic methods to understand patient preferences during routine urologic visits.

CONCLUSION:

In conclusion, in this sample of practicing urologists in the US, the majority regularly use shared decision making for at least one preference sensitive clinical scenario. However, we found that self-reported SDM varied by training, practice setting and clinical volume. Our findings highlight specific opportunities for policymakers, practitioners and patients to improve in SDM in urology, specifically in the awareness of preference elicitation as a key step of SDM.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

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Table 1:

The Agency for Healthcare Research and Quality “SHARE” Approach Essential Steps of Shared Decision Making.

1) Seek your patient's participation Communicate that choice exists and invite your patient to be involved in decisions
2) Help your patient explore and compare treatment options Discuss the benefits and harms of each option
3) Assess your patient's values and preferences Take into account what matters most to your patient
4) Reach a decision with your patient Decide together on the best option and arrange for a follow-up appointment
5) Evaluate your patient's decision Plan to revisit the decision and monitor its implementation.

Modified from Anon: The SHARE Approach Essential Steps of Shared Decision Making. Available at: <https://www.ahrq.gov/health-literacy/curriculum-tools/shareddecisionmaking/tools/shareposter/index.html>, accessed February 20, 2020.

Table 2:

Demographic, Training and Practice Characteristics of Participants (N= 13,044) *

	mean	SD
Age	56	14.0
Years in Practice	22	14.4
Clinical Hours per week	45	19.4
Non-Clinical Hours per week	9	8.7
Patient visits per week	73	37.1
Minutes per patient per visit	16	7.0
	n	%
Gender - Male	11,758	90.1%
Ethnicity - Non Hispanic	12,181	93.4%
Race		
White	10,419	79.9%
Asian	1,438	11.0%
African American/Black	246	1.9%
Other/Not Reported	943	7.2%
Private Practice Setting		
Solo	1,222	9.4%
Single Urology Group	3,896	29.9%
Multispecialty Group	1,821	14.0%
Private Hospital	999	7.7%
Managed Care Organization	302	2.3%
Academic Medical Center Public Practice Setting	3,561	27.3%
Veteran Affairs	498	3.8%
Non-VA Military Hospital	143	1.1%
Other Publical Hospital	418	3.2%
Other Practice Setting	183	1.4%
Fellowship Trained Subspecialty	5,179	39.7%
General without Subspecialty	7,842	60.1%
Oncology	1,511	11.6%
Pediatrics	809	6.2%
FPMRS	649	5.0%
Endourology/Stone	609	4.7%
Robotic Surgery	511	3.9%
Others	1,112	8.5%
Major Inpatient Operative Procedures per month		
0	2254	17.3%
1 to 5	4,884	37.4%
6 to 10	3,237	24.8%
11+	2,668	20.5%

	mean	SD
Rurality Level - Metropolitan	11,635	89.2%
* Weighted n		

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Table 3:
Rate of urologists' self-reported use of specific aspects of shared decision making during disease specific treatment decision

	I discuss all available treatment options	I discuss evidence-based risks and benefits of each treatment	I ask patients to share their values and preferences	I ask patients whether they are prepared to make a decision	After making a shared decision, I arrange a time to follow-up on the decision	I give patients decision aids to review about their condition	Responded Yes to 4 or More SDM elements
Prostate Cancer (n=11201)**	89.90%	80.70%	71.00%	61.40%	67.00%	63.50%	73.80%
Urinary Incontinence (n=11065)**	87.30%	74.20%	66.20%	57.30%	55.20%	53.80%	63.20%
Vesicoureteral Reflux in Children (n=2315)**	83.60%	69.10%	54.10%	47.30%	50.40%	39.90%	50.50%
Benign Prostatic Hypertrophy (n=11359)**	89.30%	81.30%	71.80%	66.30%	62.00%	61.00%	71.60%
Asymptomatic 1 cm Kidney Stone (n=11706)**	91.10%	78.30%	65.70%	64.00%	56.70%	49.30%	66.30%
Non-Muscle Invasive Bladder Cancer (n=11155)**	90.20%	82.90%	64.70%	63.60%	59.70%	55.00%	67.60%
Erectile Dysfunction (n=10704)**	91.10%	76.00%	69.30%	63.80%	58.50%	57.70%	67.20%

* (%) in SDM elements correspond to urologists who "see such patients" and who selected that particular element.

** weighted n

Table 4:

Odds Ratios & 95% Confidence Intervals Factors contributing to shared decision making and decision aid use

	Responded Yes to 4 or More SDM elements on at least 1 diagnosis		Responded Yes to "I give patients decision aid" on at least 1 diagnosis	
	n	OR (95% CI)	n	OR (95% CI)
Perception of SDM Barriers (ref: no)	1,576	0.80 (0.71 to 0.91) *	1,456	0.89 (0.79 to 1.00) *
Practice Setting **				
Private	6,359	1.00 (ref)	6,198	1.00 (ref)
Academic	2,716	0.78 (0.69 to 0.88) *	2,279	0.61 (0.55 to 0.68) *
Public	867	1.10 (0.92 to 1.31)	762	0.82 (0.70 to 0.95) *
Fellowship trained (ref: no)	4,009	1.16 (1.04 to 1.29) *	3,519	1.29 (1.17 to 1.42) *
Rurality Level (ref: metropolitan)	1,047	0.97 (0.83 to 1.12)	1,075	1.15 (1.00 to 1.33)
Patient visits/week				
51-75	2,756	1.00 (ref)	2,547	1.00 (ref)
<=50	2,998	0.79 (0.70 to 0.90) *	2,648	0.72 (0.64 to 0.80) *
76-100	2,672	0.65 (0.57 to 0.74) *	2,584	0.79 (0.71 to 0.89) *
101-125	933	0.64 (0.54 to 0.76) *	909	0.81 (0.69 to 0.96) *
126+	666	0.64 (0.53 to 0.78) *	665	0.86 (0.71 to 1.03) *

* Adjusted for all covariates in table as well as Age, Race and Gender

** "Academic" includes Academic Medical Center, "Private" includes Solo, Single Urology, Multispecialty, Private Hospital, Managed Care; "Public" includes VA, Non-VA Military Hospital, Other Public Hospital