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Ensuring Evidence-Based Practice: A Study of Factors Associated with Nonutilization of American Urological Association Guidelines

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Abstract

Introduction: Evidence-based guidelines are published by AUA (American Urological Association) to improve the quality and consistency of urological care. The 2014 AUA Census reported a unique field regarding provider utilization of AUA Guidelines. We sought to identify factors associated with nonuse of AUA Guidelines to understand how education and dissemination of these guidelines might be improved.

Methods: Using 2014 AUA Census data providers were stratified based on self-reported use or nonuse of AUA Guidelines. Bivariate analyses and multivariable logistic regression analysis were performed to identify factors associated with nonuse. Post-stratification weights were applied to calculate national estimates with SAS®, version 9.4.

Results: The 2,202 survey respondents represented 11,680 practicing urologists. AUA guideline use was reported by 95.0% of the weighted population. There was no significant difference in utilization based on gender, race, country of origin, practice type or fellowship completion. After controlling for other variables urologists who reported practicing in a rural area were more likely to be nonusers (OR 1.06, 95% CI 1.03−1.09). Additionally, urologists who had been practicing longer were less likely to utilize guidelines compared with those earlier in the career (practicing 10 to 20 years OR 1.15, 95% CI 1.10−1.21 and more than 20 years OR 1.13, 95% CI 1.09−1.18, $p < 0.05$).

Conclusions: Despite continued publication and dissemination of AUA Guidelines about 5% of urologists do not utilize guidelines. Later career status and rural geography were associated with nonuse. These data may inform efforts to improve dissemination and education regarding evidence-based practice.

Key Words: urology, evidence-based practice, guideline, clinical competence, surveys and questionnaires

Abbreviations and Acronyms

AUAG = AUA Guidelines

U.S. = United States

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The use of clinical guidelines in medical decision making spans all specialties. Indeed, evidence has shown that guidelines can improve quality of care and processes associated with delivery of care.[1−3] Since 2003, AUA has issued guidelines on diverse topics ranging from priapism to asymptomatic microhematuria to castrate resistant prostate cancer. These guidelines, which are intended to improve quality and reduce variation in care practices, have been formulated by panels of experts, informed by published evidence and stratified into standards, recommendations and options based on the strength of supporting data. Promulgation of guidelines has dovetailed with the AUA goal of providing quality evidence-based education for its members.[4] As a first principle, the use of guidelines not as a cookbook but as a reference is desirable in clinical care from the patient, provider and payer standpoints.

The first annual AUA Census was recently published with a detailed profile of urological provider demographic, training, background and practice characteristics.[4] The census also queried respondents whether they use AUAG in clinical practice. This presented a novel opportunity to characterize providers who do and do not utilize guidelines to identify those who might be targets for further education and dissemination. In particular, we hypothesized that later career urologists or those with a nonU.S. nationality, who may have decreased exposure to AUAG, would be less likely to use these guidelines in their practice.

Methods

We analyzed the first annual AUA Census, which was administered by AUA between May and September 2014, by weighting results to represent the population of practicing urologists in the U.S. This study was considered exempt from our institutional review board. Details regarding survey administration and data collection were described by AUA. In brief, NPI (National Provider Identifier) numbers were used to identify practicing urologists or pediatric urologists. Data fields included geographic distribution, demographic characteristics, education and training, practice setting and other supplementary information. The census design included post-stratification weighting as detailed in the AUA Census report.[4] This allows for adjustment to reduce nonresponse bias and it provides the opportunity to generate national estimates.

The primary outcome measure was the response to Question GL1, "Do you utilize AUA guidelines in your clinical practice?" Possible answer choices included yes, no or "I am not aware of AUA guidelines." Covariates of interest included gender, country of origin, race, years practicing urology, geographic region, practice specialty, fellowship training, location setting of practice, type of employer, ownership in equipment and participation in major procedures. Notably, country of origin was not clarified in the survey description and it might be interpreted to represent birth country, training country or site of current practice.

Bivariate analyses were performed to examine any differences in the covariates comparing urologists who did to and did not report using guidelines. Two respondents who answered "I am not aware of AUA guidelines" were removed from our analysis.

The Fisher exact test was used to analyze categorical variables. We fit logistic regression models with guideline nonuse as the outcome variable. We assessed whether urologist age, years in practice and practice location (country of origin U.S. vs nonU.S.) were associated with nonuse while controlling for potential confounders, including age as defined by years in clinical practice, gender, race, fellowship training, practice setting and ownership in equipment. Survey weights were used to represent the national population of urologists. Significance was 2-sided and considered at $p < 0.05$. All analysis was performed with SAS, version 9.4.

Results

A final number of 2,202 respondents, representing 11,608 practicing urologists, were included in analysis. Of those respondents 11,099 (95.0%) reported using AUAG in clinical decision making. Table 1 shows the characteristics of all [T1] practitioners stratified by outcome. Significant differences were noted based on number of years in practice, geographic setting, location of practice, ownership in equipment and self-reported participation in major procedures ($p < 0.05$). Whereas 99% of urologists who had been practicing for 10 years or less reported using guidelines, only 91% of those practicing for longer than 20 years reported using guidelines. There were similar findings based on age in that 10% of urologists older than 65 years reported not using guidelines while 0% of those younger than 35 years reported not using them.

For the variable describing practice location 97% of urologists working at academic medical centers or private/public hospitals followed guidelines vs 90% of those in solo practice. Interestingly, a lower percent of urologists who reported owning equipment followed AAUG vs nonowners (94% vs 96%, $p = 0.049$). Finally, those who participated in major procedures also reported higher guideline use (96% vs 91%, $p = 0.001$).

On multivariable logistic regression analyses longer time in practice (more than 20 years OR 1.13, 95% CI 1.09−1.18 [EQ1] and 10 20 20 years OR 1.15, 95% CI 1.10−1.21) and practicing in a rural/micropolitan setting (OR 1.06, 95% CI