

Bridging Gaps in Patient Access: Evaluating Chatbots as a Tool to Support Urologic Care and Address

Healthcare Disparities.



Amica Lertkitcharoenpon¹, Nathan VanderVeer-Harris², Rafael Aldaya Bourricaudy¹, Rohan Arora¹, Anjalika Chalamgari¹, Artenisa Kulla¹, Anirudh Venkatesh¹, Vincent G. Bird¹, ¹University of Florida College of Medicine, Department of Urology, Gainesville, FL
²Tulane University, New Orleans, LA.



INTRODUCTION

- Artificial intelligence-powered "ChatBots" hold promise for bridging healthcare access gaps by delivering personalized information on urology-related concerns. However, their adoption and perceived utility among patients remain largely unexplored.
- This study seeks to evaluate patient familiarity with ChatBots and identifies barriers to their adoption in the urology clinic within a regional academic medical center.

METHODS

- A survey conducted at the University of Florida Urology clinic collected demographic and socioeconomic data, alongside responses on familiarity with and use of Chatbot.
- The primary outcome was a binary response ("Yes" or "No") to the question: "Are you familiar with the term 'Chatbot'?" Statistical comparisons of responses were performed using Chi-Squared and Kruskal-Wallis tests (alpha = 0.05).
- Logistic regression was employed to assess familiarity odds on variables such as race-ethnicity, education, insurance status, technology comfort level, internet access, and income. Descriptive statistics summarized ChatBots use for urology-related inquiries.

Variable	Yes (n=150)	No (n=203)	p-value
Age (years) Median (IQR)	59 (27)	83 (19)	0.042
Gender (n, %)	Male: 106 (43), Female: 44 (41)	Male: 139 (57), Female: 64 (59)	0.744
Race/Ethnicity (n, %)	White: 115 (48) Black: 14 (28) Hispanic: 11 (28) Other: 10 (63)	White: 106 (52) Black: 36 (72) Hispanic: 13 (72) Other: 8 (38)	0.001
Education Level (n, %)	Less than HS: 9 (18) HS Grad: 39 (25) Trade/Tech: 15 (26) College: 56 (59) Postgrad: 31 (68)	Less than HS: 24 (18) HS Grad: 109 (74) Trade/Tech: 34 (74) College: 39 (41) Postgrad: 14 (31)	0.001
Internet Access (n, %)	Reliable: 138 (48) Limited: 11 (26) None: 1 (5)	Reliable: 151 (52) Limited: 32 (74) None: 20 (95)	< 0.001
Tech Comfort Level (n, %)	1: 2 (10) 2: 4 (13) 3: 27 (30) 4: 36 (42) 5: 81 (64)	1: 19 (80) 2: 26 (87) 3: 62 (70) 4: 46 (36) 5: 36 (36)	< 0.001
Insurance (n, %)	Commercial: 76 (52) Medicare: 31 (34) Advantage: 22 (51) Medicaid: 9 (30) Other: 12 (29)	Commercial: 67 (52) Medicare: 81 (66) Advantage: 21 (49) Medicaid: 21 (70) Other: 29 (71)	< 0.001
Income (n, %)	0-25k: 25 (32) 25-50k: 28 (38) 50-75k: 27 (43) 75-100k: 32 (43) >100k: 12 (43) Undisclosed: 23 (44)	0-25k: 54 (68) 25-50k: 38 (62) 50-75k: 23 (57) 75-100k: 25 (63) >100k: 12 (43) Undisclosed: 29 (56)	0.036
Home Language (n, %)	English: 140 (94) Spanish: 5 (16) Other: 5 (83)	English: 175 (65) Spanish: 27 (84) Other: 1 (17)	< 0.001

Table 1: Baseline Socio-demographic comparisons of participants answering "Yes" vs "No" to the survey question "Are you familiar with the term Chatbots?"

Results

- 42% of patients** were familiar with chatbots.
- Significant disparities were observed:
 - Race:** Black patients had significantly lower familiarity compared to White patients.
 - Education:** High school graduates were less familiar than college graduates.
 - Insurance Type:** Medicare recipients reported lower familiarity compared to those with commercial insurance.
- Utilization Findings:**
 - Among patients familiar with chatbots: 68% used them for symptom information.
 - 43% used them to explore treatment options.
 - 93% of users felt their questions were at least partially resolved.

Policy Implications for Urology Advocacy

- This work aligns with AUA's federal advocacy priorities, by emphasizes policies that promote equitable chatbot adoption and address systemic issues in urologic care:
- Patient Education:** Launch national campaigns to raise awareness about chatbot benefits and limitations in urologic health.
 - Equitable Access:** Advocate for funding and infrastructure to expand access in underserved communities.
 - Data Security:** Ensure robust protections for urologic health data in compliance with HIPAA.
 - Reliability Standards:** Develop guidelines to evaluate chatbot accuracy, prevent misinformation, and build patient trust.

CONCLUSIONS

- Chatbots have significant potential to improve patient access, reducing physician workload, and addressing disparities in urologic care. However, to fully realize these benefits, advocacy efforts must prioritize equitable implementation, patient education, and robust data protections.
- Through continued engagement with lawmakers, and healthcare stakeholders, the AUA can drive impactful policies that ensure chatbot technologies are accessible, secure, and effective for all patients. These efforts will strengthen the specialty of urology and enhance outcomes for both patients and

DISCUSSION

Opportunities in Urology Advocacy:

- By handling routine patient inquiries, chatbots allow urologists to focus on complex cases, directly addressing workforce shortages in urology.
- Chatbots additionally have the potential to bridge healthcare disparities, ensuring patients in underserved and rural areas have access to accurate and timely information about urologic conditions.

Challenges for Advocacy:

Patients in lower socioeconomic groups face barriers to accessing chatbot tools. Policies must also address the secure storage and use of sensitive urologic health data. Advocacy is essential to ensure chatbot responses are accurate and that patients understand their limitations.