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Patient Portals and Digital Health Equity: A Patient Perspective Survey in an Internal Medicine Safety-Net Setting

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Abstract

Purpose: Patient portals are important digital health tools, however, disparities in use persist among underserved populations. This study aimed to survey perceptions related to Epic MyChart among a diverse, underserved community at a safety-net institution. *Methods:* In-person internally developed survey administration at internal medicine clinics in 2024 captured data on demographics, MyChart awareness, usage frequency, perceived barriers, perceived benefits, and proxy support. *Results:* Of 200 respondents, most identified as Black (47.5%) and Hispanic/Latino (34.5%). While 35.2% reported using the portal very often (more than 12 times per year), 22.0% indicated infrequent use (1 to 6 times per year) and 26.1% reported never using. Common barriers included preferences for in-person communication (36.6%), forgetting credentials (36.6%), difficulty logging in (17.7%), and other technical or literacy challenges (12.2%). Despite barriers, a majority of respondents expressed openness to using digital tools (71.0%) and belief that tools like MyChart and virtual communication could help them manage their health more effectively (70.5%). *Conclusion:* Despite barriers to use, patients at a safety-net institution demonstrate interest in digital tools. Tailored strategies addressing system design and informational challenges may improve equitable portal engagement.

Keywords: Patient portals; Survey; Digital health technology; Public health.

Introduction

Patient portals are an integral component of digital health strategies aimed at enhancing patient-centered care [1,2]. These platforms facilitate direct communication with healthcare providers, provide access to medical records and support appointment scheduling and telehealth services [3,4]. Despite their prospects, patient portal activation and engagement remain suboptimal, with persistent disparities across demographic and socioeconomic groups [5-11]. Given patient portals' critical front door role in democratizing access to a wide range of digital health functions, disparities in portal use may directly limit patients' ability to communicate with care teams, track their health and coordinate timely access to services, potentially contributing to downstream differences in care engagement and health outcomes.

A growing body of literature has identified the "digital divide" as a key constraint to equitable use of digital health tools, emphasizing disparities rooted in systemic barriers that impact internet access, digital literacy and language proficiency, as opposed to resulting from specific healthcare needs alone [3,6,12,13]. While prior studies have examined the influence of race, income and education on portal use, findings at times have been disparate. In general, patients with lower incomes, without college degrees and/or on Medicaid have been shown to be significantly less likely to use portals compared to their counterparts [14-16]. Some research has suggested that lack of motivation to enroll may be an important factor, and many have relied on quantitative study designs which have provided useful insights but might be further augmented by the nuances available from direct patient feedback [5-7,9,11,17-19].

Internal assessments at our institution have revealed disparities in digital health engagement, particularly among Black, Latino and non-English-speaking patients. A previous internal quality improvement report found that Spanish- and Somali-speaking patients were significantly less likely to report a willingness or ability to use Epic MyChart for e-visits [20]. Additionally, patients with limited English proficiency faced more barriers to telehealth, often relying on in-person or emergency care [21]. Taken together with prior literature on the digital divide, these findings underscore how varying adoption of patient portals could inadvertently exacerbate existing inequities, while also highlighting a need to implement more culturally and linguistically inclusive strategies to promote adoption. This challenge is further complicated by the distinction between portal activation - that is, registration and acquisition of login credentials - and utilization, which reflects sustained, meaningful use over time, particularly among communities already facing barriers related to language, literacy and internet access. While prior studies offer valuable insights into general portal usage, they often overlook the unique challenges faced by underserved populations. For instance, qualitative research at Federally Qualified Health Centers reveal fundamental barriers - such as difficulties with reading, typing and digital literacy - that are rarely reported in larger studies based at academic medical centers [22]. This contrast highlights a need for research focused specifically on portal adoption within underserved communities, including their perceptions on the role of these digital health tools.

To investigate these gaps, we conducted an expanded patient survey within a large, underserved urban health system to assess perceived usability, barriers to access and preferences regarding patient portal use. By capturing real-time, personalized feedback, our study aims to inform more inclusive digital health strategies that better reflect the unique needs of a socioeconomically disadvantaged population. Our study complements electronic health record (EHR)-based studies of portal use by means of clinic-based, patient-reported characterization of barriers, preferences and support needs.

Materials and Methods

Study Setting

This study was conducted at Hennepin Healthcare, a safety-net health system in Minneapolis, Minnesota, serving a racially and socioeconomically diverse patient population, including low-income, uninsured and other vulnerable groups. Approximately 75% of Hennepin Healthcare patients are covered by Medicaid or Medicare, 75% identify as racial and ethnic minority individuals, 29% are non-English speaking, and 54% have at least one chronic health condition. Approximately 20% and 25% of Hennepin Healthcare patients experience housing and food insecurity, respectively. Surveys were administered over six clinic days (three in June 2024 and three in July 2024) at two Internal Medicine clinics that collectively serve over 46,000 patients. These clinics constitute a reasonably representative sample of the broader Hennepin Healthcare patient population. Hennepin Healthcare uses Epic MyChart as its patient portal platform.

Survey Design and Administration

A 13-item paper survey was internally developed to assess patient experience with MyChart and other digital health tools (Appendix). Survey domains included demographics, awareness and usage of MyChart, perceived barriers to portal use, access to proxy assistance, and perceptions of digital tools for health management. Survey items were adapted from previously validated instruments in the digital health literature and peer-reviewed studies examining patient portal engagement, barriers to use and digital confidence [23-27]. Building on foundational frameworks like eHEALS [23], our survey was modified to more closely align with the specific transactional features and mobile delivery options of the MyChart portal rather than general internet use [28]. Additionally, the modified survey attempted to differentiate technical navigation skills from baseline health literacy, as both variables can be conflated as mutually reinforcing challenges within safety-net populations [28]. Items were reviewed for content validity and revised over an iterative process by study authors, system leadership and population health staff, and pilot tested in partnership with patients and patient representatives to ensure clarity, cultural relevance and alignment with local digital health initiatives. Aside from iterative content revisions, there was no substantial survey redesign required. Age categories were selected before analysis to preserve sufficient counts within each category for descriptive reporting. The overall study was conducted in partnership with the internal Digital Equity Xperts (DEX) program which is itself a partnership with Teen HOPE. The DEX program is a dedicated internal team of digital and patient navigators at Hennepin Healthcare with the goal of educating and supporting patients and community members on topics of digital literacy and access. The survey was written at a fifth-grade reading level and made available in both English and Spanish, including forward translation assistance by hospital translation services. Paper surveys were offered in person consecutively during the beginning of clinic visits by one of the study authors and clinic medical assistants. As the clinics selected already represented a high prevalence of chronic disease burden (mainly hypertension, depression and diabetes), there was not additional eligibility criteria. Participants were offered a $5 gift card upon survey completion. Surveys with fewer than 90% item completion or declined by patients were excluded from analysis. Based on estimated clinical scheduling, the intention was to obtain at least 96 surveys per clinic to achieve a 95% confidence interval. All responses were de-identified and entered into a secure database for analysis.

Data Analysis

Descriptive statistics were used to summarize participant demographics and survey responses. Inferential testing and extensive subgroup analyses were not planned given the study's exploratory design and anticipated constraints of modest convenience sample size and relatively uniform demographics. All study procedures were reviewed and deemed quality improvement, not human subjects research by the Hennepin Healthcare Institutional Review Board.

Results

Demographics

A total of 200 individuals completed the survey that was included for study analysis (Table 1). No surveys were excluded due to item completion and one had been withheld due to patient declination. Respondents were primarily aged 55–64 years (29.5%), 45–54 years (21.0%) and 25–34 years (19.5%). The racial/ethnic composition included Black or African American (47.5%), Hispanic/Latino (34.5%) and White (11.5%).

Table 1. Cohort demographics.

Characteristic	Category	Number (n)	Percent (%)
Age Group (years)	18–24	24	12.0
	25–34	39	19.5
	35–44	30	15.0
	45–54	42	21.0
	55–64	59	29.5
	65–100	6	3.0
Race/Ethnicity	Black or African American	95	47.5
	Hispanic/Latino	69	34.5
	White	23	11.5
	Other/Not reported	13	6.5

Awareness and Usage of MyChart

Of the 199 respondents to this section, most (83.0%) reported being familiar with MyChart; however, usage varied (Figure 1): 35.2% reported frequent use (more than 12 times per year), 9.0% reported rare use (1 to 2 times per year) and 26.1% reported not using it at all.

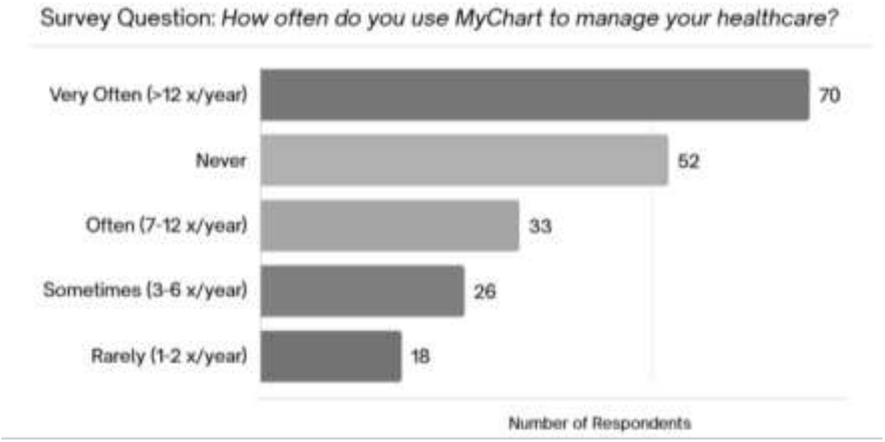

Figure 1. Patient engagement with MyChart and digital health tools.

Preference-Related Factors and Barriers to Using MyChart

Of the 164 respondents to this section self-indicating a pattern of MyChart non-use, the most commonly reported barrier (Figure 2) was a preference for in-person communication with healthcare providers (36.6%). Additional access barriers included forgetting usernames and/or passwords (36.6%), difficulty logging in (17.7%), finding the process too complicated (14.6%), and concerns about privacy and security (6.7%).

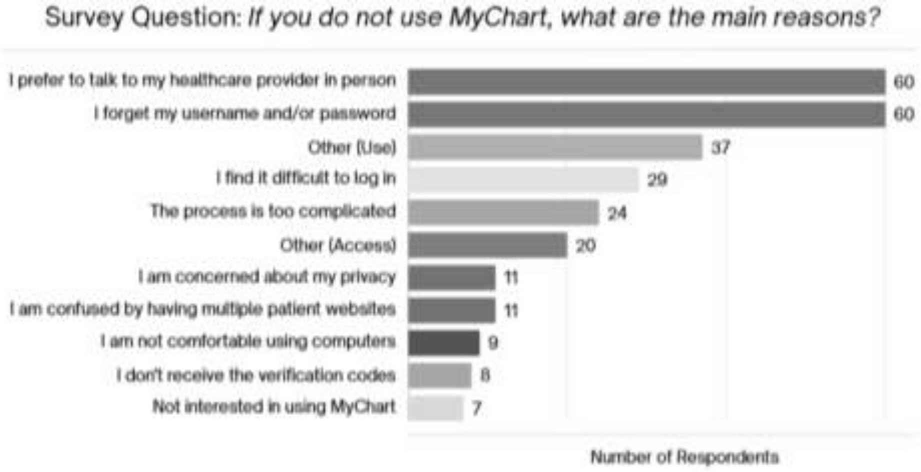

Figure 2. Patient barriers to MyChart use and access.

Internet Access and Confidence

Of the 198 respondents to this section, the majority (Figure 3) reported accessing the internet via smartphones (89.4%), followed by laptops or computers (36.4%). Of the 196 respondents to the section, most felt confident using digital tools: 63.8% reported high confidence, while 27.0% reported moderate confidence (Figure 4).

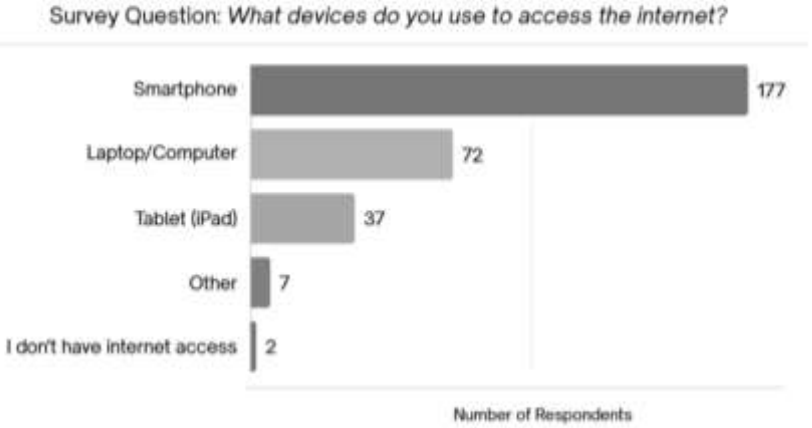

Figure 3. Patient internet access.

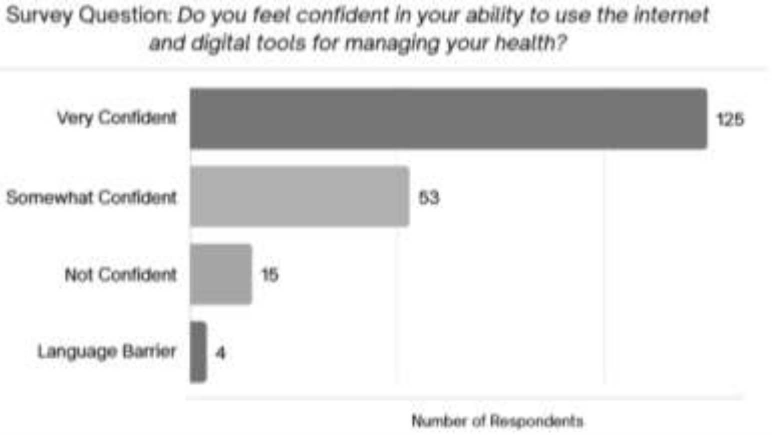

Figure 4. Patient digital confidence.

Interest in Digital Health Tools

Of the 200 respondents to this section, a majority (71.0%) expressed openness to using digital tools such as phone calls, video chats and messaging to manage their health instead of always visiting the doctor's office (Figure 5). Similarly, 70.5% (n = 141) believed that tools like MyChart and virtual communication could help them manage their health more effectively. Additionally, 12.5% (n = 25) were open but wanted to learn more, and 27.0% (n = 54) either needed more information or were unsure how the tools work. While most respondents (76.0%, n = 151) understood how digital tools can help doctors monitor their health remotely, 24.5% (n = 49) reported not being sure.

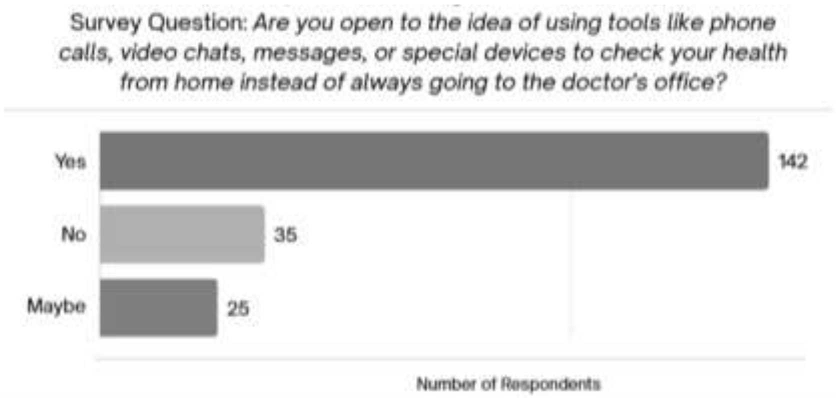

Figure 5. Patient openness to digital tools.

Help and Assistance

During survey administration, 8.5% (n = 17) of respondents required assistance completing the survey due to literacy gaps and difficulties in reading. About 55.0% (n = 110) of respondents reported having someone at home who could assist them with digital health tools, while 33.0% (n = 66) did not and 12.0% (n = 24) only did sometimes. Additionally, of the 179 respondents for the section, 40.8% indicated that learning how to use MyChart would help them use it more often (Figure 6).

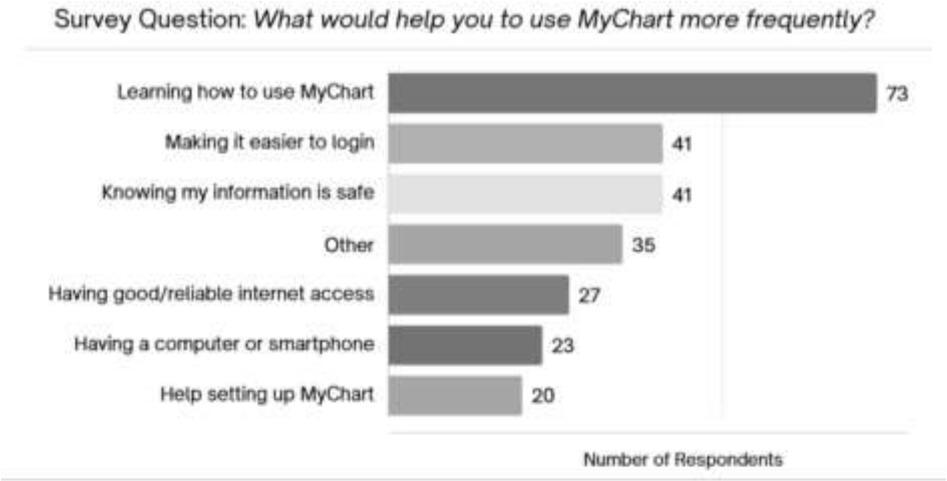

Figure 6. Patient feedback on how to improve MyChart ease of use.

Discussion

Our study explored perceived usability, preferences and barriers to patient portal use within a surveyed community of underserved patients. In addition to retrospective studies based on EHR data, our survey allowed for direct, personalized feedback of challenges encountered. While the majority of respondents recognized the value of digital health tools such as MyChart and reported high confidence and openness to digital health tools, many indicated barriers reflecting a mix of mainly patient preference and system design challenges. Taken together, these results suggest that existing challenges, while persistent, may represent opportunities to address informational and system design gaps, and offer an optimistic outlook on intrinsic patient interest in digital health tools among this population.

Although patient portals offer a wide array of beneficial features, including appointment scheduling, secure messaging, and test result access, their adoption remains uneven across demographic groups.[22] Concerns persist that such discrepant utilization of these tools could inadvertently exacerbate health disparities resulting in the "digital divide" [13,29,30]. This holds particular relevance for our and many institutions' patient populations. As digital health becomes increasingly requisite, a parallel framework, analogous to social determinants of health and referred to as digital determinants of health, recognizes the importance of unique technological considerations which may impact overall health outcomes independent from more traditional socioeconomic factors [29]. These digital determinants of health have been conceptualized at the individual and socioecological level more broadly [29]. Although higher socioecological digital determinants of health, such as technology policy, influence participants' underlying experiences on some level, our study afforded insight into the more proximal and individual-level determinants within these contexts. Several concepts have been proposed for determinants at this level, including digital literacy, or the skills required for digital access and navigation; digital self-efficacy, which refers to the growth mindset integral to overcoming domain-specific issues that arise; community infrastructure; technology access; attitudes towards digital tool use; and many others [29].

Our study touched upon many of these concepts. Overall, our findings suggest that patients are not inherently resistant to portal use; rather, preferences are expressed attributable to personal choice, but also indicate unmet support gaps related to access, knowledge and usability. Prior research has hypothesized the role of mismatched incentives between broader aspects shaping portal use, such as Meaningful Use metrics, and the priorities among safety-net patients [31]. Driven primarily by federal requirements, it has been suggested that portal implementations may have prioritized aspects such as enrollment numbers and message routing rather than end user perceived relevance, tool usability, design and accessibility [24]. Indeed, one respondent's feedback was they would use MyChart more "If I understood how to use it, what to do with it, and what it does." Prior studies have similarly found that patients often underutilize available portal functionalities simply due to lack of awareness [8,30,32]. Tellingly, although a significant number of patients expressed a preference for in-person communication over digital tools, most, in fact, did not. Nearly three-quarters of the same respondents expressed interest in using digital tools to manage their health and believed those tools could help them do so more effectively. While a preference for in-person care is not necessarily a barrier to engagement with or curiosity about digital tools - and may be informative of patient values and expectations - it certainly can influence motivation to adopt digital tools intended to complement, rather than replace, in-person healthcare activities. Preferences for in-person communication are explicable, however introduce considerations related to time, transportation and other logistical coordination. The widespread interest in digital health tools demonstrated in our study - particularly those that could mitigate such challenges associated with in-person visits - signals an openness to digital engagement rather than inherent reluctance or perpetual inability, and overall suggests that a self-efficacy mindset may be less of a limiting factor than digital literacy.

Relevantly, a large proportion of our respondents relied primarily on smartphones for internet access and, by extension, digital tools. While crucial for modernizing certain components of digital tools, issues such as password and two-factor authentication impediments common to smartphones may inadvertently contribute to diminished usability for the end users who are frequently identified as those who could benefit most from such health innovations [33]. Indeed, some respondents' feedback on this point included "My New Phone won't let me in" and "I always forget my password and have to change it." This suggests that limited digital literacy, compounded by access issues, remains a substantial barrier to equitable use of digital health platforms. Incorporating other strategies, such as biometric authentication and password-less login options, may help mitigate one such challenge [34].

Our study results indicate a gap between awareness and sustained engagement, which is analogous to the distinction between portal activation and meaningful utilization. Several studies have sought to address low patient portal engagement by implementing targeted educational and outreach initiatives. For example, the MyChart Genius and other patient navigator projects deployed trained volunteers in a clinic setting to assist patients with portal sign-up and navigation, leading to increased activation and early improvements in engagement [32.35]. Other common strategies have included multilingual education materials, in-clinic portal tutorials, simplified log-in protocols, and staff-supported enrollment during check-in [4,10,32]. These interventions are especially relevant for populations facing literacy, language or socioeconomic barriers and have shown promise in reducing digital health disparities [7,8,30]. While these endeavors are encouraging, a systematic review of over one hundred studies found that only eighteen focused on interventions specific to vulnerable populations, thus underscoring the need for continued research and action in this area [36].

Specific barriers elicited by our survey included limited awareness of portal functions, digital health literacy gaps, smartphone-only internet access, and password and log-in challenges. Our suggested next steps to these involve enhancing mobile app familiarity, adopting more user-friendly authentication strategies and implementing in-clinic education strategies, such as multilingual signage, peer ambassadors and staff-supported onboarding during visits. Collectively, takeaways from our study emphasize the importance of operating from the assumption that interest and motivation are likely more present than may be immediately apparent in spite of perceived socioeconomic challenges. Furthermore, organizational strategies should prioritize removing barriers to access and usability rather than attempting to convince patients to engage. With the right interventions and framework, untapped interest and curiosity can be transformed into meaningful engagement.

This study has several limitations. While the sample reflects the demographics of our clinic population, the modest sample size may limit the generalizability of our findings. Additional variables, such as language proficiency, educational level and income would further contextualize study findings, however were not readily implementable within our project timeline and have been examined elsewhere in literature. Additionally, the use of a paper-based survey administered in clinical settings may have introduced response bias, as participants might have felt inclined to participate due to the incentive (a gift card) or the presence of clinic staff. The gift card may have played a significant role in recruitment of patients to the study. Finally, the cross-sectional nature of the survey precludes causal inferences on the relationships between digital health literacy and portal usage. Our findings are descriptive and should be interpreted as evidence of correlations rather than true determinants.

In conclusion, although awareness of and interest in patient portals is high, barriers to use remain, especially regarding usability, digital literacy and technical challenges. Interventions should focus on reducing such barriers rather than assuming lack of motivation among underserved patients. Tailored strategies addressing these factors may improve equitable portal engagement among underserved populations, shifting the framing from lack of interest to modifiable design.

Conclusions

Despite barriers to use, patients at a safety-net institution demonstrate interest in digital tools. Tailored strategies addressing system design and informational challenges may improve equitable portal engagement.

List of Abbreviations: Not applicable.

Author Contributions: KH: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Validation, Writing - original draft, Writing - review & editing. BL: Methodology, Validation, Writing - original draft, Writing - review & editing. RJ: Conceptualization, Project administration, Supervision, Validation, Writing - original draft, Writing - review & editing.

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Ethics Statement: All study procedures were reviewed and deemed not human subjects research by the Hennepin Healthcare Institutional Review Board.

Data Availability Statement: Not applicable.

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Conflict of Interest: The authors declare no conflict of interest.

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