Leveraging Artificial Intelligence-Generated Patient Portal Messages to Support PrEP Engagement Among Cisgender Black and Latino Men Who Have Sex with Men: A Mixed-Methods Pilot Acceptability Study

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Background: Generative artificial intelligence (AI)-integrated electronic medical record systems (EMR) offer providers opportunities to efficiently engage, support, and monitor pre-exposure prophylaxis (PrEP) persistence among cisgender Black and Latino men who have sex with men (MSM) via patient portals. In prior research, MSM overwhelmingly rated PrEP communications as a top-valued feature for using patient portals; however, there is limited insight into how to implement portal-delivered PrEP communications effectively. This study explored opportunities to improve patient portal-delivered PrEP communications with Black and Latino MSM (BLMSM) and evaluated the acceptability of AI-generated portal messages for addressing common PrEP barriers.

Methods: Qualitative interviews were conducted (September-November 2025) with 13 PrEP-using adult BLMSM and 4 frontline PrEP providers (physicians and care coordinators) recruited online in the United States. Participants shared their experiences, preferences, and challenges using portals for PrEP communications. ChatGPT was trained on anonymized thematic summaries derived from qualitative interviews to generate provider-initiated message templates addressing common PrEP barriers (e.g., appointment scheduling, costs, side effects, stigma). Interviewees completed an acceptability survey assessing template clarity, relevance, appropriateness, and usefulness.

Results: The median age of BLMSM was 28 (range: 22-46). Interviews highlighted several themes: (1) valuing portals for efficient access to records and messaging; (2) preferences for clear, empathetic, and affirming PrEP communication that leverages shared decision-making; and (3) barriers to communicating about PrEP via portals (e.g., HIV-related stigma and messages being routed to unknown providers). In acceptability surveys, nearly all BLMSM rated the AI-generated portal message as clear, culturally respectful, realistic, motivating, and confidence-building for accessing and sustaining PrEP use. Providers rated the template as highly relevant for BLMSM from multiple-marginalized backgrounds and easy to integrate into clinical workflows, while recommending a need for proactive trust-building, message simplification, explicit cost information, and options to tailor content to clinic resources and patient context.

Conclusions: This study demonstrates high acceptability of AI-generated portal message templates for frontlines providers to efficiently and proactively address BLMSM's key PrEP engagement barriers. Study findings advance strategies to implement scalable, stigma-reducing, and AI-supportive PrEP interventions within EMR systems. Future studies should test the implementation of the study's templates to explore their adoption, adaptation, and patient effectiveness.