LATE BREAKER!

FHIR and Desire: Design thinking a web-based application to optimize sexual health decisions among adolescents and young adults

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BACKGROUND

- Half of all sexually transmitted infections (STIs) in the United States occur among adolescents and young adults (AYA) aged 15 to 24 years
- Nearly 95% of all teens report smartphone access; thereby access to the vehicles of digital healthcare interventions that could leverage electronic health records (EHRs)
- Innovative AYA-centered digital healthcare interventions are needed to optimize STI prevention and care

OBJECTIVES

The Optimizing the Decisions for Your Life (ODYL) Project applies design thinking techniques to co-design an ODYL app to better equip AYA to prevent STIs.

RESEARCH DESIGN

- 18 co-design sessions were conducted among 37 AYA aged 15 -25 years in Baltimore, MD from April-August 2025
- Figma, a web-based design tool was used to translate ideas into an interactive web/phone-based prototype
- Iterative feedback refined the desired look, feel, and functionality of the ODYL app
- All study activities were approved by the Johns Hopkins University School of Medicine Institutional Review Board; all participants provided informed consent

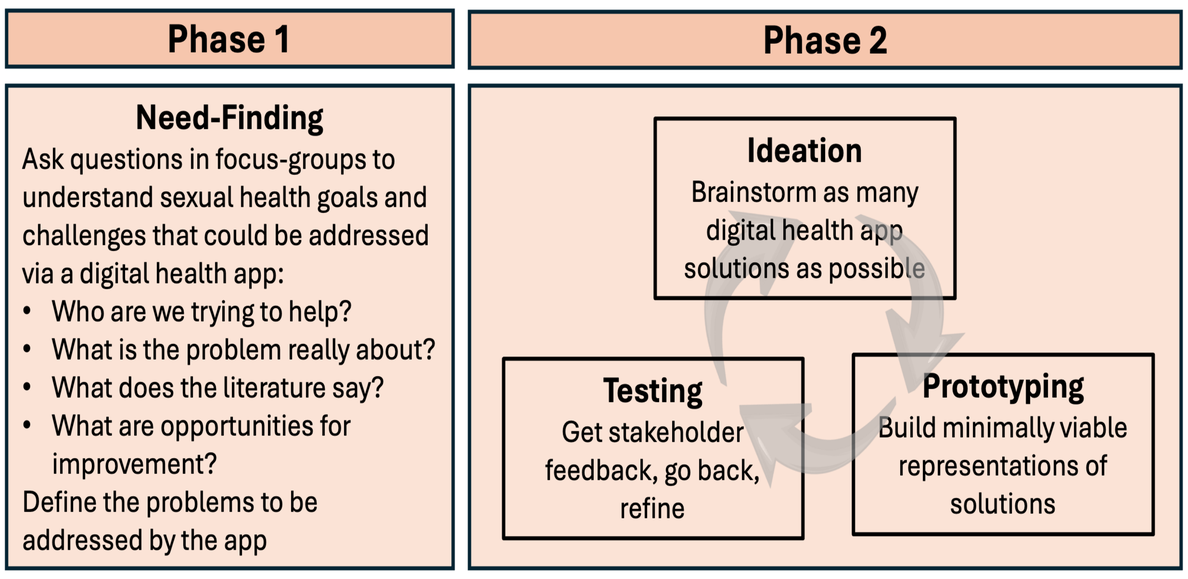

Figure 1. Overview of Phases 1 & 2 of the ODYL Project

RESULTS

- *Need Finding* sessions defined problems to be addressed by the ODYL app, *via*, Persona Development, 'How Might We?' Statements activities (Figure 2)
- Story-boarding activities (Figure 3) were conducted to facilitate *Prototyping* sessions

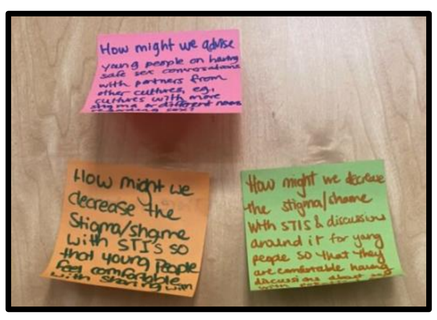

Figure 2. *Need-Finding*. Emergent 'How Might We' statements focused on barriers to sexual health communications with partners.

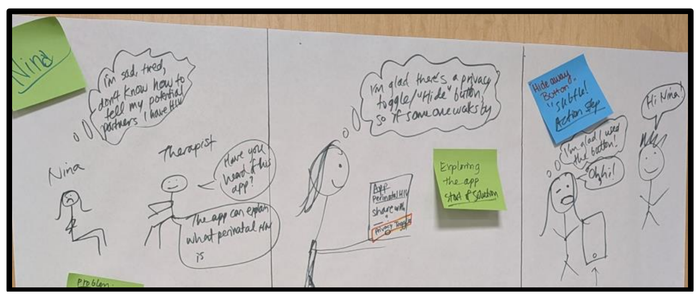

Figure 3. *Prototyping*. Storyboarding activity about a persona named Nina. Nina shares with her therapist that she struggles to tell potential partners about her HIV. Nina is referred to the ODYL app. She particularly likes a subtle privacy feature that locks the screen instantly when pressed.

KEY DESIRES

- Privacy and security; multi-factor authentication
- Integration with EHR patient portals
- Ability to interact with an artificial intelligence chatbot
- Ability to push personalized content to the user
- Features to increase access to STI testing
- Features to enhance sexual health communication experiences between partners
- Access to scientifically accurate sexual health information in culturally congruent plain language; including STI epidemiologic trends and STI facts
- An inclusive look and feel, with customizable wallpapers and color schemes, and use minimal clicks/taps to access various app components

RESULTS continued…

- Participants accessed and engaged with the ODYL app prototype on their phones and provided feedback on how to improve the interface

Figure 5. Interactive ODYL app prototype.

A. Face ID verification to open app. **B.** Home screen with access to the Calendar, Health Locator, Test Results, Health Support, and Points features. The lock icon is a feature to instantly lock the screen, and the cog icon accesses the ODYL app settings. **C.** The calendar features the ability to track sexual activity, log menstrual cycles, and set reminders. **D.** LUMI, ODYL app's interactive AI chatbot. LUMI answers questions and push engagement with the user based on user-generated data.

CONCLUSIONS | FUTURE PLANS

- AYA require a comprehensive sexual health app that will help optimize their sexual health decision-making
- The strong desire to connect the ODYL app with EHRs makes FHIR a necessity to meet their needs
- Beyond the ODYL app's look, feel, and functionality, user trust in the app's ability to protect their privacy is key to its adoption
- Building the ODYL app to meet salient expressed needs of AYA requires further resources and partnership with AYA
- **Next Steps:** Phase 3 will pilot test a higher fidelity ODYL app prototype with AYA patients at a large urban health center

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