Peer Review File

Article Information: https://dx.doi.org/10.21037/mhealth-23-57

Reviewer #1

1. Line 113: "To date, few, if any, couples-based DHIs designed to address HIV prevention and care continuum outcomes have demonstrated effectiveness in real world contexts. [Please name some of the existing solutions/DHI apps, if it is ethically okay to do so, to properly situate this paper/work]

Reply: We have included references to existing digital health interventions designed to address HIV prevention and care with couples.

"To date, few, if any, couples-based DHIs designed to address HIV prevention and care continuum outcomes have demonstrated effectiveness in real world contexts or have achieved widespread use (e.g., 2GETHER, ReACH2Gether, Stronger Together), highlighting the urgent need to investigate what and how determinants of implementation are impacting the state of couples-based DHIs."

2. Line 123: cite source of information/fact, if not references 17 and 18 in line 130.

Reply: These two references are from the same study but use the date to answer different research questions. Nonetheless, we have moved the references to align with the supported statements. The references for this information are as follows:

"Prior research has identified that the first year of romantic-sexual partnerships may present partners with heightened vulnerabilities to HIV (17). One study found considerable variation of when sexual minority men and their partners engage in condomless anal sex (CAS), share their HIV serostatus, and form a sexual agreement – often, all happening within the first three months and definitively within the first 12 months (18). Sometimes conversations and decisions about HIV serostatus and sexual agreements happened within the same day or after CAS occurred between the couple (18)."

3. Lines 199 – 203: It might be useful for the purpose of this study to have a link, image, to the "Our Plan" DHI application, if it is already in use, or the demo app.

Reply: We are still evaluating Our Plan in an RCT and therefore access to the DHI or demo app is currently unavailable.

4. If it does not expose specific organisations/people to vulnerabilities, it might be useful to highlight the broad geographic areas of the US the organizations/individuals interviewed were selected from, in the "sample characteristics" section. This gives some texture to the study. Mentioning that the interviews were done across 13 US states (in sample characteristics) is good but adding areas will improve context. Although the interview quotes state this information, it is better it also appears under the "sample characteristics" section of the paper.

Reply: We have added additional details on the geographical areas under sample characteristics.

"The final sample consisted of 40 participants who represented ASOs and CBOs in 13 states serving populations in EHE jurisdictions. Specifically, participants resided in Alabama (n=3), California (n=4), Florida (n=2), Illinois (n=2), Indiana (n=2), Michigan (n=11), Missouri (n=4), Nevada (n=1), North Carolina (n=1), Pennsylvania (n=1), Rhode Island (n=1), Texas (n=2), and Washington, DC (n=6)."

5. A note on how the DHI application manages privacy of messages between participants, and also how backend privacy is/would be managed and organized. Some of this was discussed in lines 203 – 204, 463 – 470, 740 - 743, but given it is a major concern because of the sensitive information being shared, this needs to be expanded, and perhaps situated earlier in the paper. If the DHI application will be used internationally, a note on how cross-border data privacy policies will resolved, e.g., the EU's GDPR. If there is a privacy plan like suggested from line 736, it should be discussed earlier in the paper, because it is a major theme.

Reply: Thank you for these helpful comments. At the moment, there are no plans to offer Our Plan in the EU. We must establish efficacy, which we are currently evaluating through an RCT. In addition, we added text in the Introduction to describe what data security features were used to host, maintain, and access the DHI.

New lines 128-133 now state, "To help ensure the protection of participant data, Our Plan was deployed on Microsoft Azure using secure servers with end-to-end encryption protocols. Access to Our Plan was fortified using multi-factor authentication paired with robust password expiration policies. In addition, the web development staff continuously monitored the DHI to ensure HIPAA compliance and data integrity."

Text was also added and reorganized in the Discussion from lines 714-726. The changes include,

"…The videos showcasing Our Plan did not include two important aspects about it: 1) the data security features that were used to host and access it, and 2) the informed consent and onboarding process that each partner / couple had undergone before experiencing the intervention within the DHI.

As noted in the Introduction, Our Plan used several data security features for both types of end users (participants/clients, admin/research team members), as well as protocols to ensure HIPAA compliance. For brevity purposes, the videos did not showcase these details about Our Plan and as a result, potential implementors would not have known about these features. It is recommended that these important data security features of a DHI be highlighted to potential implementors, including how the features work and what purpose they serve.

Regarding clients' safety, the consent process entails…"

Line 134: "Our Plan also provides partners with access to community resources and information about local HIV prevention-care services through a geolocator resource finder" –

The authors should specify if this geolocation capability can also be used to potentially track users, and how this is mitigated.

Reply: The geolocator resource finder does not track users.

6. This paper acknowledges structural vulnerabilities among some potential users of the DHI such as device/Internet restrictions. If there is US data on how minority/poor communities are impacted by digital connectivity, please include.

Reply: We have revised the Discussion and added US data on limited digital connectivity among racial/ethnic minority and power communities.

"From their perspective, many of their clients experience significant structural vulnerabilities, and may not have the technology literacy or data plans necessary to use a DHI such as Our Plan. In the U.S., it has been estimated that approximately 21 million people do not have fixed broadband internet access and rely on mobile devices for online access (31), which significantly limits digital connectivity (32). For example evidence suggests that 25% of Latinx and 23% of Black individuals are solely reliant on smartphones for internet access compared to 12% of white individuals (33). And while many people living in poverty have some form of internet access (34), individuals with lower income levels are more likely to solely rely on smartphones compared to those with higher income-levels who also have access to broadband internet connections (35). Notably, these patterns occur at the neighborhood level whereby evidence suggest that neighborhoods with low-level incomes have the lowest internet subscription rates(36) and nearly half of low-income households rely on limited cellphone data plans or public wifi hotspots for online access (37). While DHI have the potential to increase access to health services by seemingly addressing a host of social determinants of health in low-income and rural communities, disparities in digital connectivity represent a fundamental challenge to the ensuring that the benefits of DHI like Our Plan are equitably distributed and accessed among communities that might benefit from it most. The COVID-19 pandemic confirmed research about digital divides among populations experiencing structural vulnerabilities among organizations that them as well (38). Though many organizations had adopted DHIs, specifically telehealth, to maintain continuity of care-services during the COVID-19 pandemic, research has noted that many of the organizations who serve communities most heavily impacted by the HIV epidemic have their own set of challenges for digital access, often lacking technological literacy and resources (i.e., digital connectivity) to effectively use DHIs (38)."

7. Although the paper is good for publication subject to minor revisions, methodologically-wise, the research project could be strengthened. The research methodology used qualitative interviews to elicit responses from individuals. In addition to these single interviews, having a focus group discussion with a cohort of these people together will produce another set of illuminating data and insights which will enrich the project.

Reply: We appreciate the Reviewer's desire for triangulation using multiple methods. We intentionally chose individual interviews rather than focus groups to learn more details from each potential implementers' perspectives and ensure that they had privacy in their

responses. We have noted that focus groups may be useful for future evaluations of Our Plan.

"We chose individual interviews to learn about potential implementers unique perspectives about Our Plan within their organizational context. Future evaluation research may consider using focus groups to generate a shared understanding of implementation determinants of Our Plan."

8.The authors should specify if there are accessibility features in the DHI to improve experiences for people with disabilities.

Reply: The current version of Our Plan was not designed with specific accessibility features; however, the next iteration will have these accessibility features to improve the experiences of people with disabilities, which will include considerations for color and audio. We have noted this in the limitation section:

Reviewer #2

1. Please indicate the full names of HIV, STI, and AIDS in the Abstract. Please also check through your article to ensure all the abbreviated terms have been explained when first appearing both in the Abstract and the main text.

Response: We have added full names for HIV, STI, and AIDS in the Abstract and main text.

2. The Declaration of Helsinki and the ethical statement are needed for both the Methods section and the Footnote. Please supplement.

Suggested wording: "The study was conducted in accordance with the Declaration of Helsinki (as revised in 2013)."

Response: We have added this statement to the Ethical Statement of the Methods section.