

cliexa-OPTIONS Pilot Study

Prime Health, UCHealth Longmont, & cliexa

Executive Summary

Clinical feasibility of cliexa-OPTIONS App assessed during a 3-month pilot (June- October) informed the development of this report. Data was collected using a retrospective post-test design from a pediatric department located at **UC Health Longmont Clinic**.

Sample:

Pilot participants (N=5) clinicians implemented the OPTIONS App with (n=137) adolescents over the 3-month period.

The Results:

- 75% of physicians indicating significant improvements in the quality of their counseling and patient management
- 75% of physician's reported that using OPTIONS saves time
- OPTIONS was easily implemented within the clinic workflow
- OPTIONS facilitates early identification of high-risk patients
- 100% of clinicians would recommend the app to a colleague
- 100% of clinicians reported that training and on-boarding OPTIONS was easy
- 100% of the clinicians plan to continue using OPTIONS after the pilot

Options influenced my counseling by.....

"helping me ask tough questions."

"making it easier to start the conversation."

"allowing the patient to feel more confident in truthful answers."

"more information in the same or less time focuses my counseling."

"making it easier for my patients to discuss what is really going on with them."

I observed that adolescents....

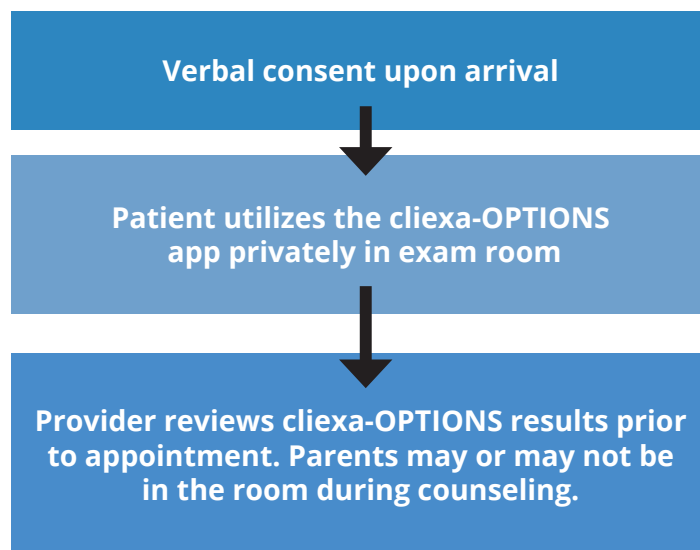
"Love technology, do not mind doing the app and are more honest and open."

"Were pretty open with the answers."

"Were more truthful using the app."

"seem to respond more honestly to a computer based survey than my own questioning."

Description of Basic Workflow



Basic Workflow

The workflow used most with this pilot implementation is described above. If a patient was sexually active, the parent was asked to wait in the waiting room or step out of the exam room for a confidential conversation. Providers encouraged patients not yet sexually active to continue to make healthy reproductive choices by postponing sexual activity. Physicians promoted open communication about sexual risk-taking between parents and their adolescent children. Sometimes, the providers met with parents privately before the appointment while the adolescent patient was completing the app in the exam room.

Recommendations and Next Steps

Clinicians requested that we add alcohol/drug/depression screening so that OPTIONS provides one assessment for all high-risk issues. Our plans include adding these measures in 18 – 24 months. Increasing the number of touch points with parents within the workflow facilitates trust and opportunities to build healthy communication and parenting skills reducing risky behaviors.

Additionally, the results of this pilot paired with the ongoing formative evaluation and statistical analysis will streamline the OPTIONS App assessment and calibrate it for use in the broadest populations. The refinement of the OPTIONS App supports the implementation of MyPLAN, the soon to be released mHealth follow-up. Adolescents scoring as high-risk may choose to complete their own MyPLAN follow-up confidentially on their mobile phones. Once completed, the results sent back to their physicians support patient centered care and continuation of services as required.

Introduction

The OPTIONS pilot was designed to assess clinical feasibility. Our partners included UC Health Longmont Clinic. Also, a non-clinical formative evaluation with our partner from Denver Health evaluates the perceived value and concerns of implementing the technology with key informants from the Denver Health system.

Pilot Objectives

1. Evaluate the clinical feasibility of using OPTIONS in various clinical workflows including but not limited to Family Practice, Pediatrics, and Nurse Midwives from UC Health Longmont Clinic.
2. Document the number of additional youth identified as high-risk using the app, compared to standard procedures (estimated 30-50% increase due to improved assessment methods) using clinician perceptions via retrospective post survey.
3. Assess the perceived value and concerns of clinicians regarding the use of OPTIONS and mHealth follow-up with stakeholders from an urban hospital system.

Clinical Pilot Sample

The final sample for the clinical pilot is N= 5 Physicians/Clinicians from pediatrics and a new nurse midwife practice who each serve 30 patients (ages 15 – 24 years) over three months. The new nurse midwife practice did not have enough patients to implement the app, and one clinician only answered one question. The hypotheses tested in this pilot are:

- H₁)** Physicians who use OPTIONS will report improved patient counseling and management
- H₂)** Physicians who use OPTIONS will report high levels of satisfaction with the training and on-boarding process
- H₃)** 90% of physicians who use OPTIONS will intend to continue using the technology after the pilot.

Findings

Objective 1, H1 Workflow feasibility for a pediatric department of N=4 clinicians (Completed July 31, 2017) clinic management, and quality results are described in Figures 1 - 6 on the following pages.

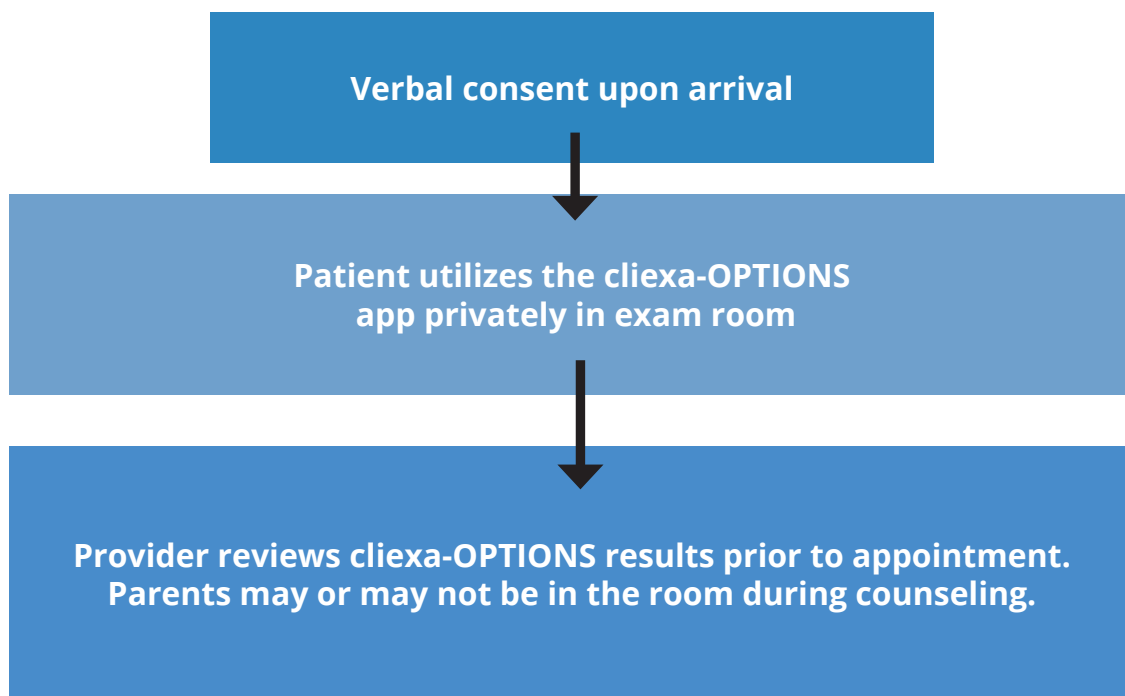


Figure 1: Workflow for Pediatric Department

Using cliexa-OPTIONS is beneficial to my patient/client care and management

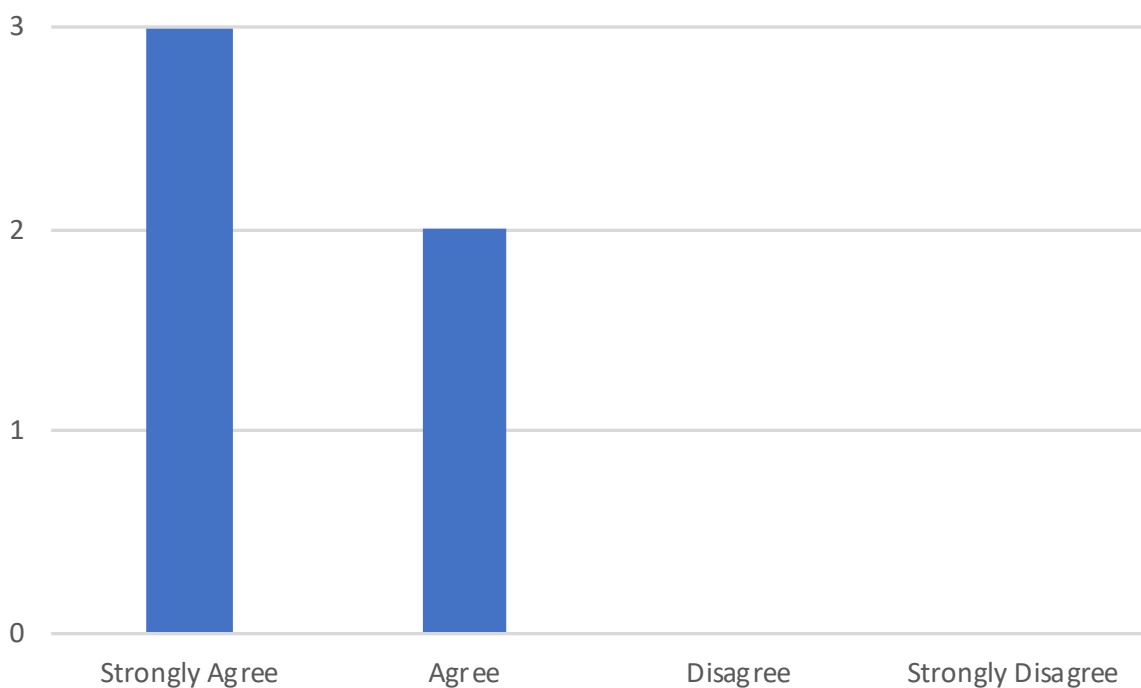


Figure 2: N=5

How much did the OPTIONS assessment improve the quality of your counseling between you and your patients?

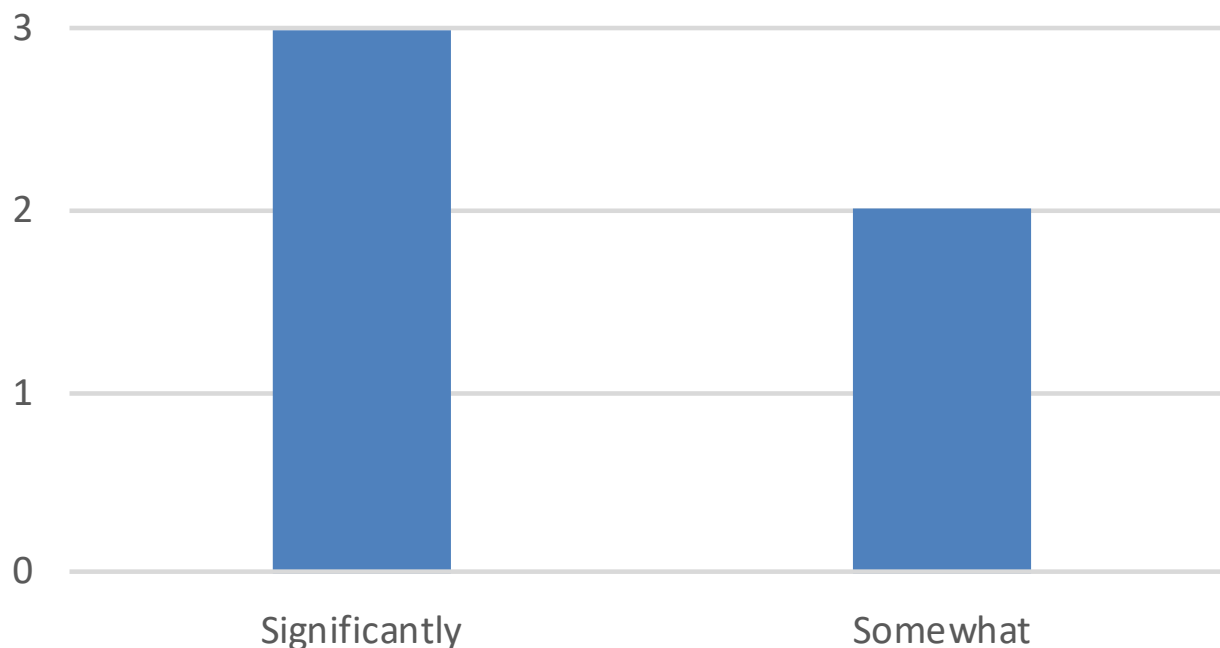


Figure 3: N = 137 patients

On average, BEFORE/AFTER using the cliexa-OPTIONS App, I completed a....

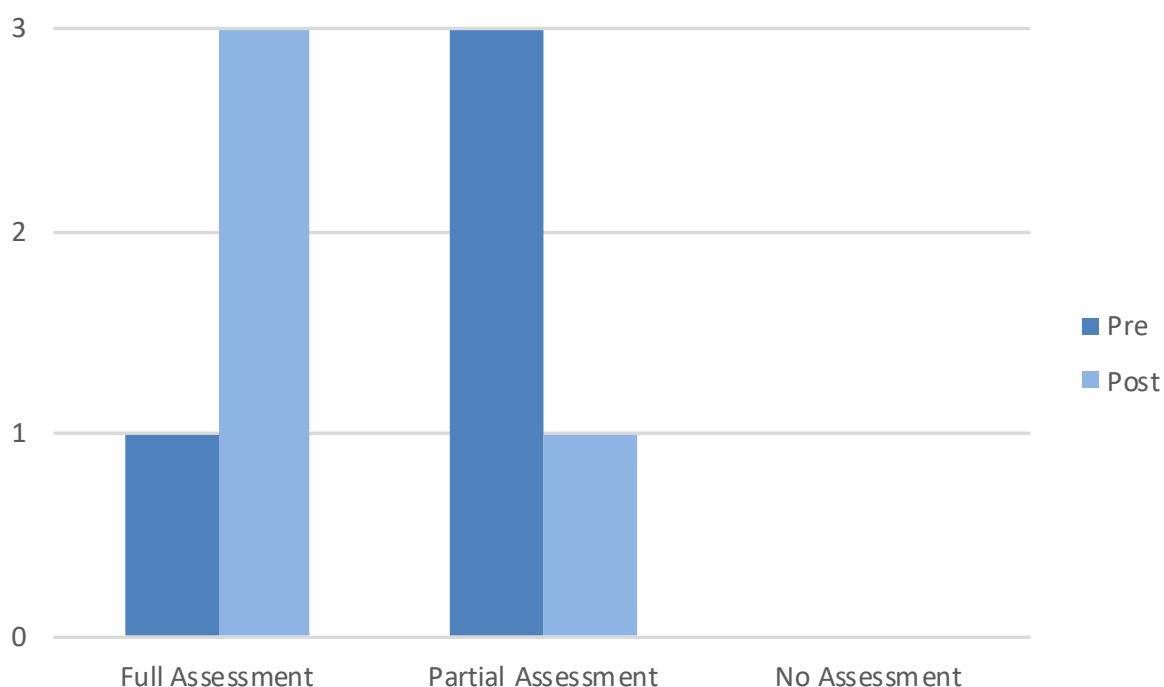


Figure 4: N = 137 patients

On average, BEFORE/AFTER using OPTIONS, the quality of my assessment of adolescent sexual risk was...

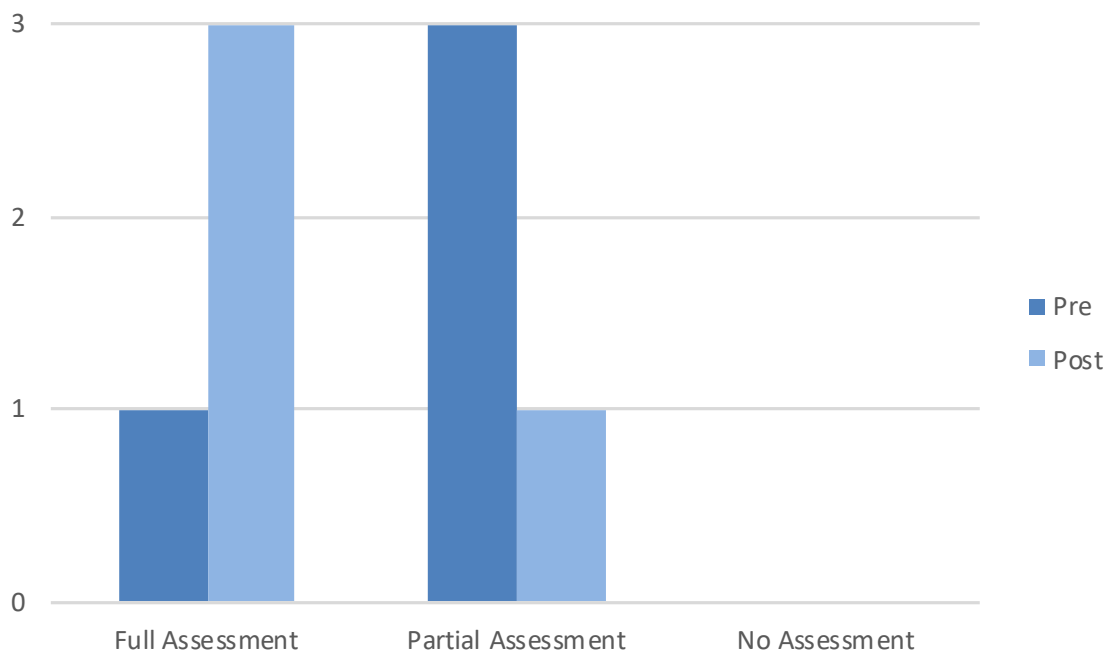


Figure 5: N = 137 patients

On average, in your daily workflow, do you feel the OPTIONS App saves you time?

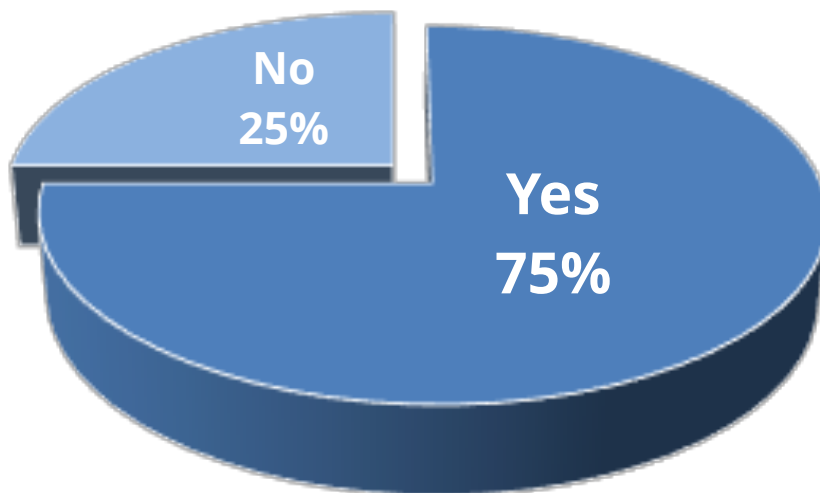


Figure 6: N = 137 patients

Overall, the physicians and clinicians who participated in the pilot reported that OPTIONS improved the quality of their counseling with patients was easily implemented into existing workflow. All of the clinicians said they would recommend OPTIONS to a colleague. Additionally, the following qualitative feedback received after the pilot demonstrates the value of using OPTIONS:

OPTIONS influenced my counseling by.....

"helping me ask tough questions."

"making it easier to start the conversation."

"allowing a patient to feel more confident in truthful answers."

"more information in the same or less time focuses my counseling."

"making it easier for my patients to discuss what is really going on with them."

I observed that adolescents....

"Love technology, do not mind doing the app and are more honest and open."

"Were pretty open with the answers."

"Were more truthful using the app."

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Findings

Objective 1 - H₂: Physicians who use OPTIONS will report high levels of satisfaction with the training and on-boarding process. Interim findings are described in Figures 7 - 8.

Learning to implement the cliexa-OPTIONS app into my practice was easy

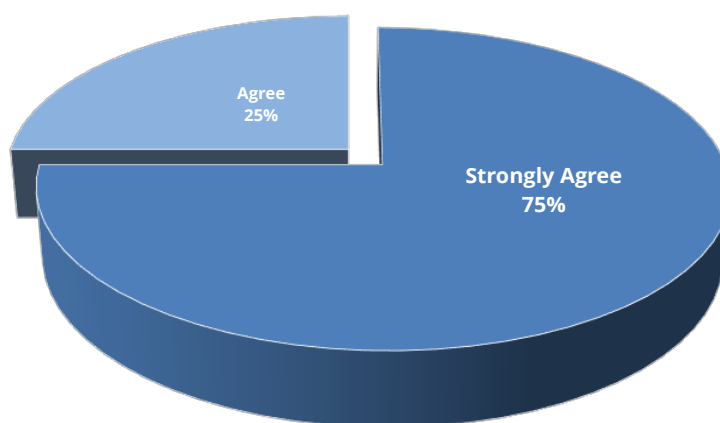


Figure 7: N = 4 clinicians



Using the cliexa-OPTIONS app to assess sexual risk is unpleasant

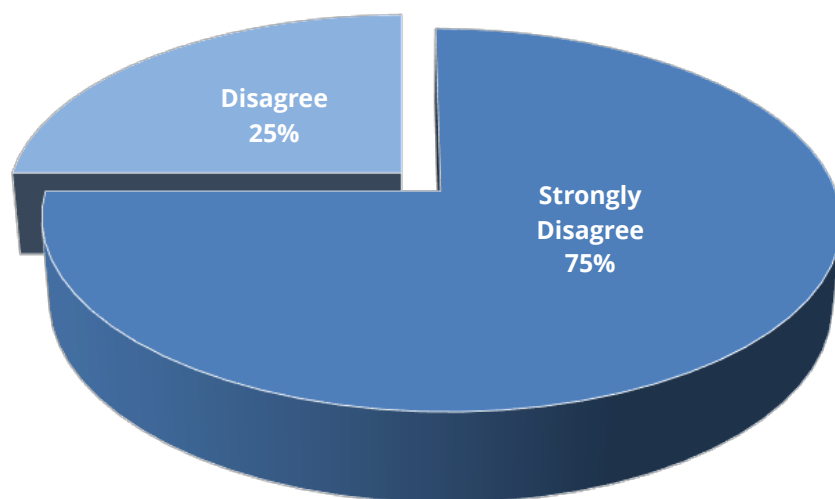


Figure 8: N = 4 clinicians

Findings

Objective 2, Document the number of additional youth identified as high-risk using the app, compared to standard procedures (estimated 30-50% increase youth identified as high-risk due to improved assessment methods) using clinician perceptions via retrospective post survey described in Figure 9.

About how many high-risk patients did you identify each month BEFORE and AFTER you implemented OPTIONS?

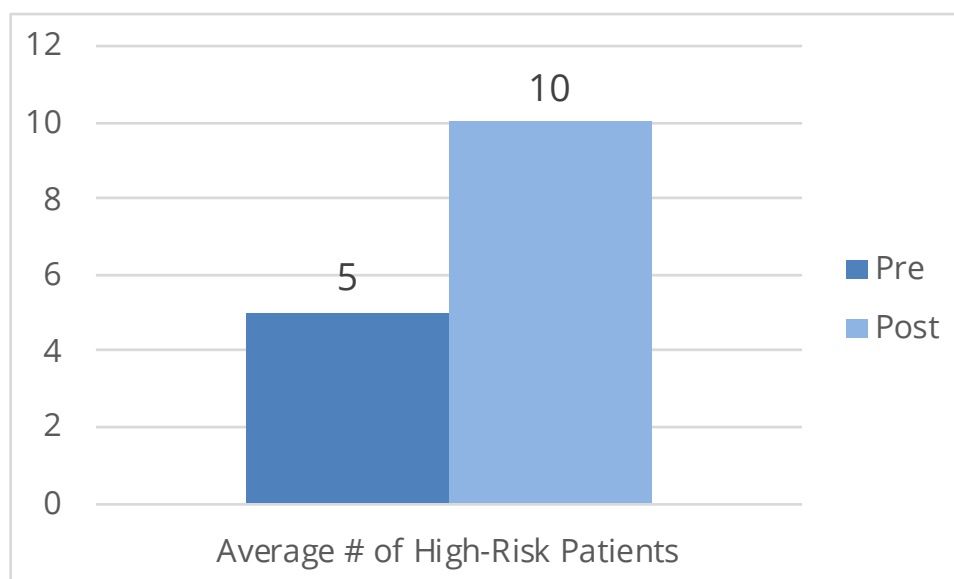


Figure 9: N = 4 clinicians

Findings

H₃) 90% of physicians who use the OPTIONS App will intend to continue using the technology after the pilot. Findings are described in Figure 10.

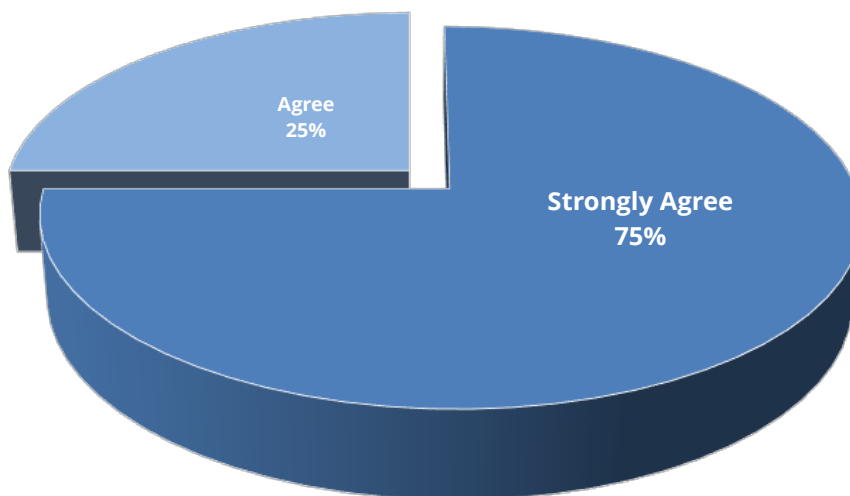


Figure 10: N = 4 clinicians

Findings

Objective 3, Assess the perceived value and concerns of clinicians regarding the use of OPTIONS and mHealth follow-up with stakeholders from an urban hospital system.

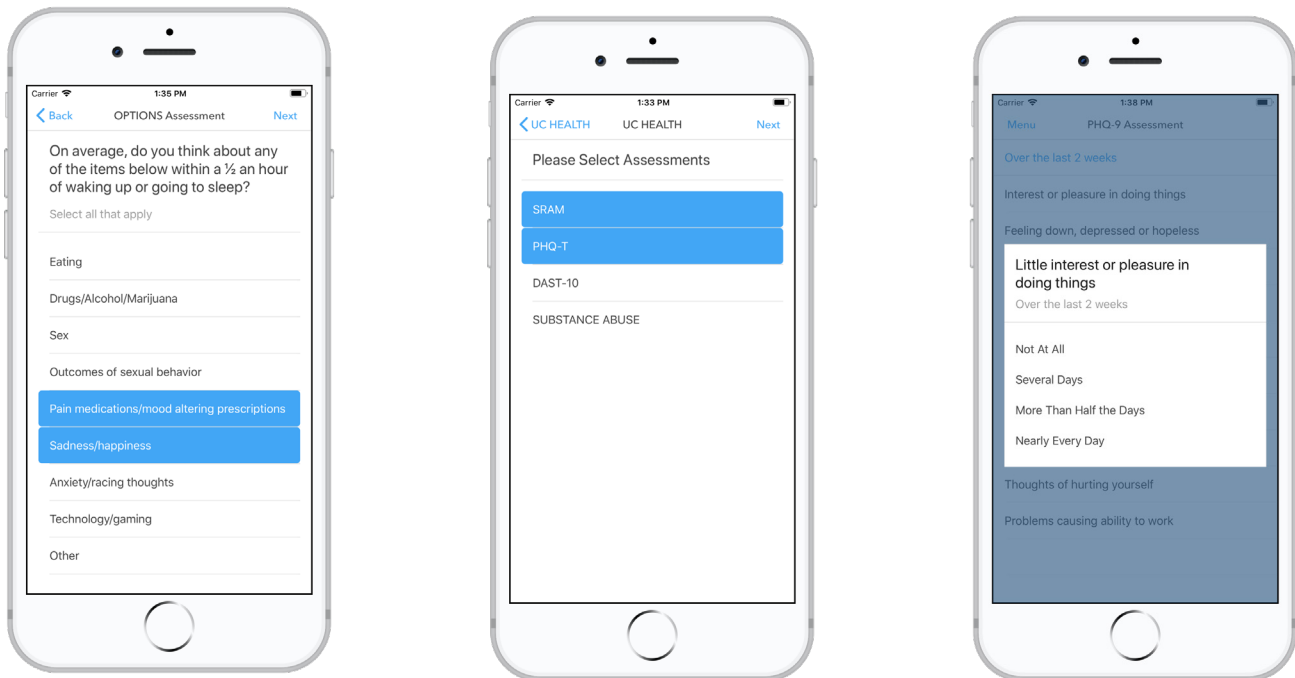
* Due to unforeseen circumstances, this component of the evaluation will be extended through June of 2018.*

Recommendations and Next Steps

Clinicians requested that we add alcohol/drug/depression screening so that OPTIONS provides one assessment for all high-risk issues. Results of the formative assessment with the Denver Health system will inform the planned review and analysis to reduce the number of items and calibrate the tool to reach the broadest populations. Refining OPTIONS measures is a continual process informed by our customers and through regular statistical analysis.

In addition, we are finalizing our digital mhealth follow-up for high-risk patients called MyPLAN. Patients who score as high-risk can choose to participate in the follow-up using their mobile phones. The results of this innovative digital health follow-up will be reported back to physicians. MyPLAN facilitates future data collection of reduced cost and improved patient outcomes.

cliexa-OPTIONS User Interface



Acknowledgements

We would like to thank the PRIME HEALTH organization for the opportunity to compete in the 2016 PRIME HEALTH Challenge. We also are grateful to Dr. Andy Steele and Dr. Susan Moore for their willingness to vote for us during the competition and for their ongoing support and research of our digital health technology. The formative results and feedback will continue to refine and improve the OPTIONS App. Lastly, we appreciate the Pediatric Department at UC Health Longmont Clinic for their willingness to participate in the pilot of the OPTIONS App.

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