User-Centered Design of a Texas WIC ChatBot: Formative Investigation

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Abstract

Introduction

- The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) serves people at nutritional risk, including:
    - Low income pregnant, postpartum, and breastfeeding women
    - Children from infancy to the age of 5
- WIC provides:
    - Vouchers for healthful foods
    - Health care referrals
    - Nutrition education counseling
- Enrollment has been declining.
- Most WIC participants use smartphones, and many choose to take their nutrition education classes from WIC online.
- While there is information regarding eligibility on the Texas WIC website, there is currently no way for potential participants to ask questions about eligibility and make appointments.
- We collaborated with Texas WIC to obtain USDA funding to investigate developing a ChatBot to meet this gap.

Objective

- To develop a WIC ChatBot prototype based on input from stakeholders and potential users.

Methods

- Compliant with the university IRB.
- Employ User-centered Design to the process of developing the WIC ChatBot prototype (Figure 1).
- The first step, reported here, involves concept generation based on results of online group interviews and focus groups with:
    - Stakeholders in Texas WIC and cooperating states and territories: 1 focus group; 2 group interviews; n=7
    - Texas WIC clinic directors: 1 group interview; 3 focus groups; n=13
    - Texas WIC staff: 1 group interview; 3 focus groups; n=12
- Participants were recruited via email and phone calls.

References

1. Designing a WIC App to Improve Health Behaviors: A Latent Class Analysis
2. User-centered Design of a Texas WIC App: A Focus Group Investigation
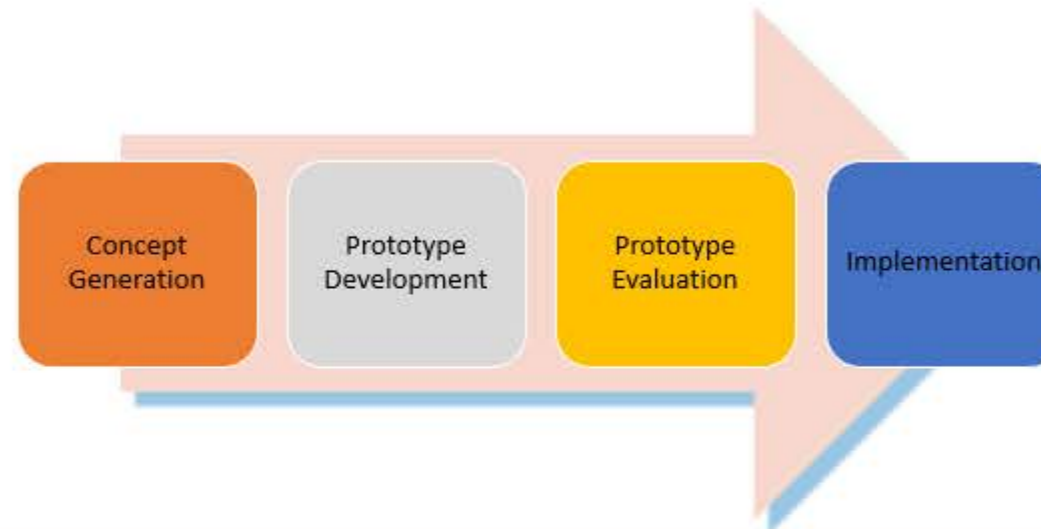
Figure 1. User-centered Design of ChatBot

Concept Generation — Prototype Development — Prototype Evaluation — Implementation

Figure 2. Themes and Quotes about the ChatBot

May increase clinic efficiency by:
a) Reducing the amount of clinic calls
b) Beginning registration online
c) Scheduling appointments online

"In the very beginning, where they're not needing a staff member directly to answer the phone, to answer basic questions about income guidelines or even scheduling the first appointment."

May inform about:
a) Documents needed for clinic visits
b) Location of nearest clinic
c) Eligibility information

"The only other place I could see a ChatBot being useful...would be after [the client's] certified, if they're needing direction to perhaps online education that would get them their nutrition education credit"

May provide a special experience by:
a) Keeping up with the times; WIC utilizing technology
b) Valuing the client's time
c) Keeping clients engaged between visits

"[The ChatBot] is attempting to emulate a person who is communicating that they're happy that the participant is in front of them...that they're eager to help them, without it being over the top"

May decrease clinic efficiency by:
a) Overbooking appointments
b) Not syncing with agency's booking system

"There's so many different questions and so many ways to approach client questions that if it's an automated chatbot, it might just make things more difficult"
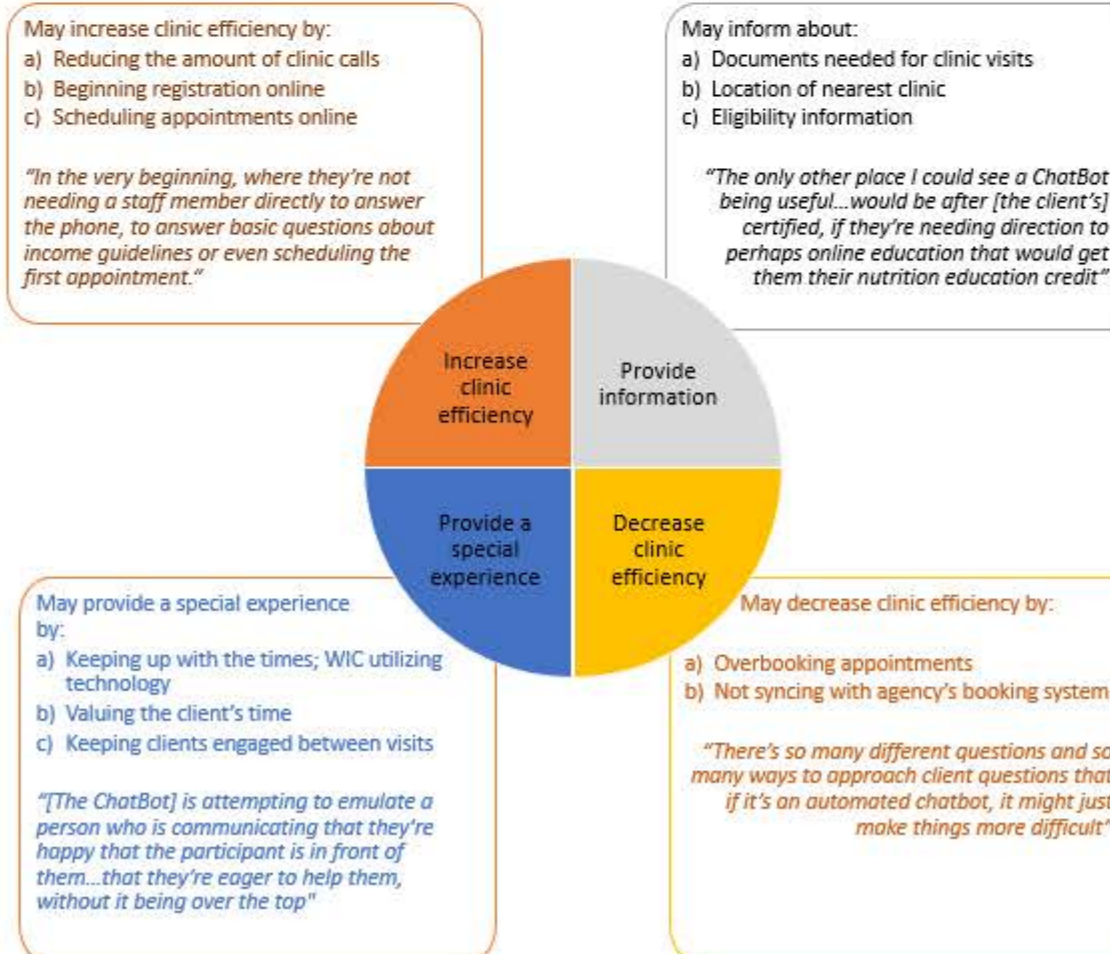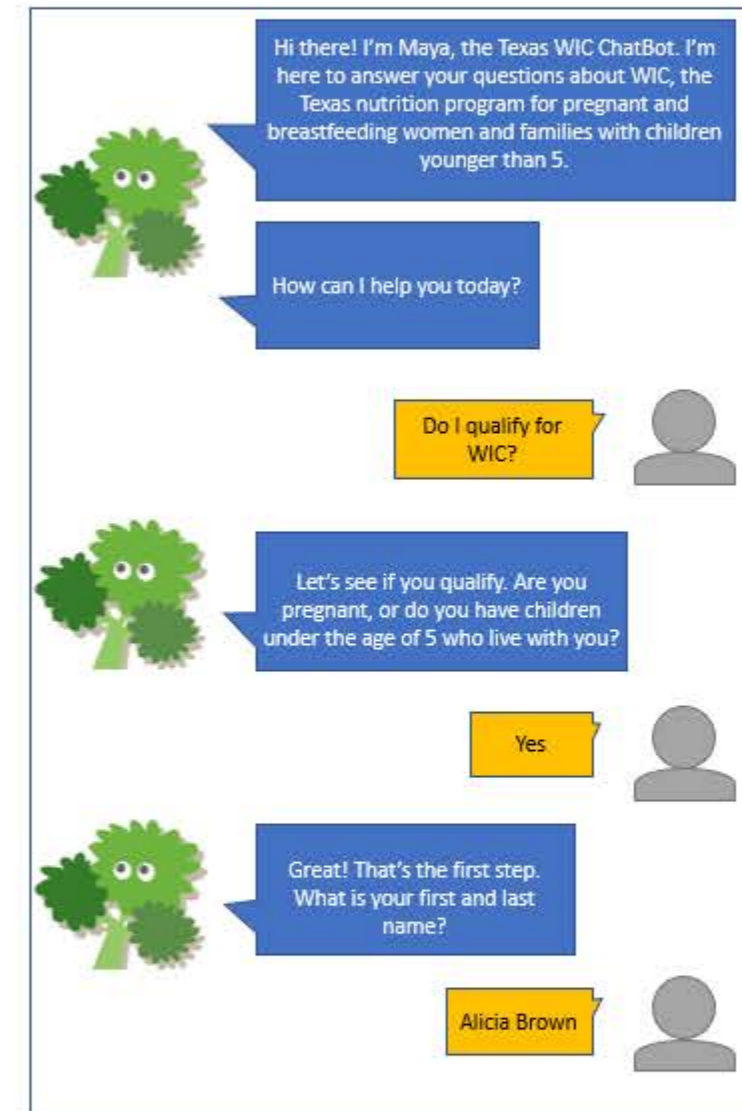
Figure 3. ChatBot Personality

What We Know So Far

- Participants were enthusiastic.
- A WIC ChatBot was described as a facilitator to increase clinic efficiency. Participants were excited about the potential ability to direct clients to information, reduce clinic calls, and help with the new client registration.
- A ChatBot may help provide information to clients such as clinic information, basic nutrition education, and a description of WIC client benefit package.
- Participants were most concerned about areas that the ChatBot would create more work for WIC staff
- Persona should be friendly and personable but also consider age, region, language, and stress level of individuals.