UNIVERSITY of DENVER
COLORADO EVALUATION AND ACTION LAB

User-Centered Design of an Intervention to Improve Understandings of Food Insecurity among Educators and Medical Staff

Project Aims

Based in Mesa County, Colorado, this project sought to improve strategies for connecting families facing food insecurity with resources in the community. Earlier project phases indicated that educators and medical staff could play a valuable role. Yet, they often lacked the knowledge and skills needed to communicate effectively with families about food access challenges and to support them in connecting with resources. We therefore aimed to design an intervention to improve understandings of food insecurity among educators and medical staff using a participatory approach called User-Centered Design (UCD).

User-Centered Design

Initially used in software development, UCD is a process in which the perspectives and needs of the end users of a project or intervention are determined during the design process and often the end users are active participants.[1] The diagram below illustrates the steps in the UCD process.

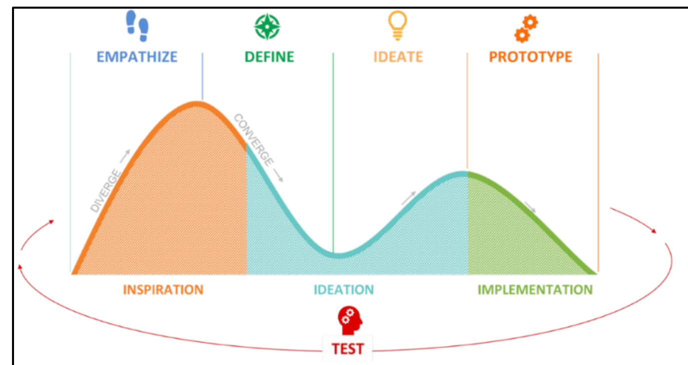

Figure 1. Diagram of the Steps in User-Centered Design (https://bit.ly/2zfYpSb)

Participants

We invited six individuals to participate in the UCD process. All lived and worked in Mesa County. Two were medical staff members, two worked in the education sector, and two worked for community organizations that provided food assistance.

Process

We held four virtual 90-minute group meetings via Zoom during August and September of 2020. Each meeting focused on one of the steps in the UCD process. During the first meeting we presented and discussed our earlier findings regarding the need for improved understanding of food insecurity among medical staff and educators. During the second meeting group members

[1] Maquire, M. (2001). Methods to Support Human-Centred Design. *International Journal of Human Computer Studies.* 55 (4),587-634

discussed what the components of an effective intervention should be, as well as factors such as the most appropriate format and time course (i.e. single time point or recurring). During the third meeting the group discussed and expanded on more specific ideas of what the intervention could look like, and suggested strategies for incorporating principles of effective communication (i.e. best "channels" for reaching educators and medical staff and "influencers" within these groups). Finally, during the fourth meeting the group reviewed an outline of content for the intervention, providing suggestions for revisions and additions and affirming that it aligned with their vision.

Results

Participants in the UCD group envisioned a one-time educational module that would take participants less than an hour to complete. They said that it should be available online so that participants could complete it at their own convenience (and while socially distancing). They recommended that it include a didactic presentation of information regarding the causes of food insecurity, resources available in the community, barriers that prevented families from accessing resources, and strategies for identifying families in need of support and helping them to connect with resources. They also recommended that it include links to an interactive online poverty simulator, as well as links for other resources that participants could access in the future.

We developed a script for a didactic video covering the information suggested by the UCD group. We invited people that the group had identified as "influencers" to appear in the video and present relevant portions of the information. For example, this included local physicians, the food and nutrition director for the Mesa County school district, a medical care manager, directors of social service organizations, and individuals with lived experience of food insecurity. Within the video we referenced links to the interactive online poverty simulator and to other useful resources for those who wanted to learn more about the topics mentioned. These links were also included below the video on the online platform that housed the module. This way, those accessing the educational module could watch the 40-minute video at a time convenient for them, and could pause it to explore the resources mentioned, or could access them after watching.

Next Steps

We are currently piloting the educational module with a group of roughly 40 medical staff and educators. Pilot participants answer survey questions immediately before and after accessing the module to assess the module's effects on knowledge and behavioral intentions. A survey sent to participants two weeks after they complete the module assesses behavior change. Additionally, we are collecting qualitative data regarding participants' experiences of the module and recommendations for improvement. We will use these assessments and this feedback to determine whether the educational module seems to be effective at improving understanding of food insecurity, and to make improvements. After that, we plan to make it available as a resource throughout Mesa County and other parts of Colorado, and to use it as a prototype for future interventions on similar topics.