Using data science for user-centric design in food stamp signups

The Supplemental Nutrition Assistance Program (SNAP), more commonly known as food stamps, is a national government program run through the Food and Nutrition Service (FNS) of the U.S. Department of Agriculture (USDA). The program reached 40 million people in 2018, lifting millions of the working poor out of poverty and food insecurity.

While SNAP reaches 85% of eligible individuals nationally, this is not the case in every state. **In California, 28% of individuals eligible for SNAP (roughly 1.7 million people) are not receiving benefits — the largest population of any U.S. state.** This number rose in June 2019, when the California program — CalFresh — expanded to serve many seniors and disabled adults.

The application process can be a major barrier preventing eligible individuals from receiving benefits, especially those without access to the internet. While it varies by state, in California, individuals are required to submit up to seven different documents to CalFresh to confirm they're eligible, and then must complete an interview with CalFresh.

mRelief is a Chicago-based nonprofit working to increase access to SNAP benefits by digitizing parts of the application process and making it faster, easier, and less daunting. Specifically, mRelief provides:

- Text message or mobile/web-based questionnaire that empowers clients to understand if they meet the basic food stamp eligibility requirements.

- An end-to-end process on text message or mobile/web-based for application, scheduling, document coordination and understanding ultimate outcomes.

- Additional guidance and support for the food stamp application process such as free rides through Lyft, DoorDash credit.

Improving the SNAP process in California
In LA County, 600,000 individuals deemed likely eligible for SNAP were not receiving benefits. mRelief hypothesized that a clearer explanation of the application, text message reminders and process flexibility would decrease drop-off between individuals who complete their screener and those who progress in the application process.

To test this hypothesis, mRelief partnered with **Civis Analytics** to quantify the impact of two specific improvements to the application process in LA County: the ability to schedule a call with the CalFresh office and reminders for individuals who fail to schedule or complete calls.

Methodology

mRelief and Civis used a randomized controlled trial (considered the gold standard of scientific research) to see how each new feature affected the rate of application calls to the CalFresh office compared to the existing process. From January to April 2019, potential applicants saw either one of the new features or the pre-existing landing page with no additional features.

Respondents in the "call scheduling" treatment group saw the following changes:

- Individuals had the option to schedule a call for a later date when they would receive a call routing them to the CalFresh office.

- mRelief also redesigned the landing page to provide additional information on the application process which aimed to reduce the psychological barriers associated with applying.

User Video 1:
Phone Anxiety
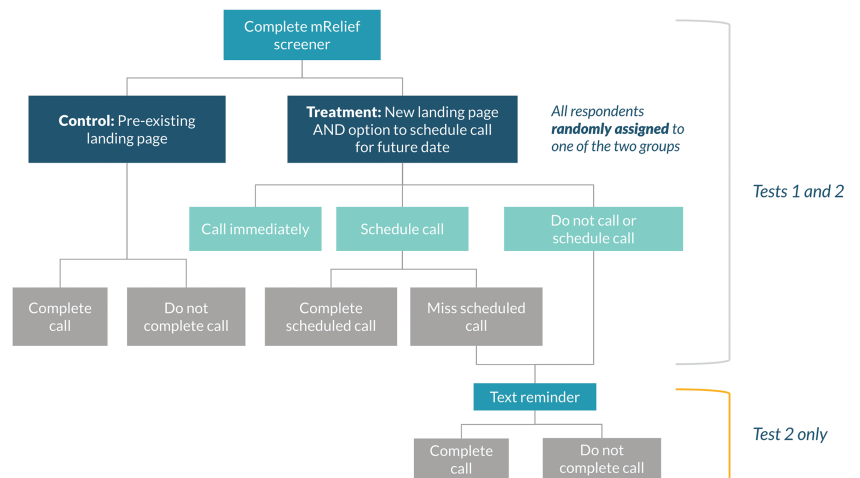
User Video 2:
Scheduled Call
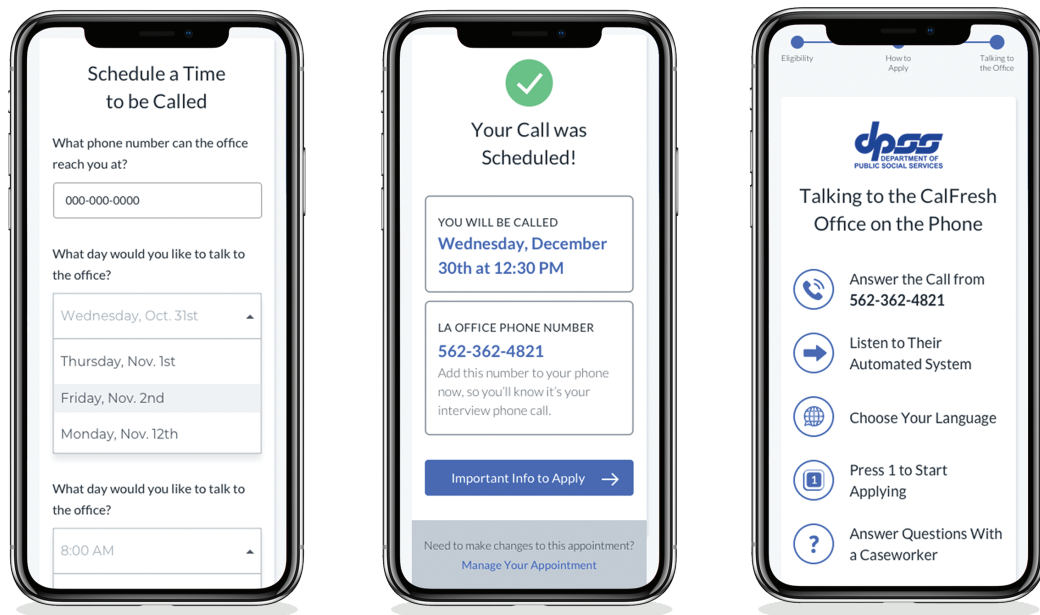
Respondents in the "reminders" treatment group saw the above changes, but also got text-messages after completing the screener:

- Those that hadn't called (or scheduled a call) to CalFresh got a reminder the next day.

- Those who scheduled -- but missed -- a call immediately got a text reminder to call the office.

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Once mRelief collected the data from each test, Civis ran a statistical model that calculated the impact of each treatment compared to the control group, while accounting for respondent characteristics such as household size and language spoken.

Findings

- Offering the option to schedule a call increased LA County SNAP applications by **18%.**

- Text message reminders provide a small boost, but not one that is significant above and beyond the impact of scheduling.

Complete mRelief screener

Control: Pre-existing landing page

Treatment: New landing page AND option to schedule call for future date

*All respondents **randomly assigned** to one of the two groups*

Tests 1 and 2

Call immediately | Schedule call | Do not call or schedule call

Complete call | Do not complete call | Complete scheduled call | Miss scheduled call

Text reminder

Complete call | Do not complete call

Test 2 only

The findings from this test indicate that improvements to the application process can greatly improve the number of SNAP applications.

The impact of both interventions was larger for English-language speakers, despite English-language speakers also having a higher baseline rate for making a call:

- Offering call scheduling increased the completed call rate for English speakers by 20%, compared to 9% for Spanish speakers.

- Text reminders increased the completed call rate for English speakers by 15%, compared to 12% for Spanish speakers.

TALKED TO THE OFFICE

The shaded areas represent the margin of error, or the likely range of outcomes

The dashed line represents the **control baseline** that the ATE is compared against.

The baseline is the rate at which the control group called the office.

+18%

Average Treatment Effect (ATE) is the incremental gain over the control group.

An ATE can be positive or negative. Backlash is a negative impact of a treatment.

10%   20%   30%

TREATMENT 1: SCHEDULING

Shaded areas represent 80% credible interval.

+15%

10%   20%   30%

TREATMENT 2: SCHEDULING AND REMINDERS