

# Decreasing abandonment of calls to the 988 Suicide & Crisis Lifeline



*An updated caller experience resulted in more people being connected to a 988 counselor*

## Key findings

An updated caller experience for the 988 Suicide & Crisis Lifeline connected more callers to 988 counselors by phone. Callers exposed to the updated caller experience were connected faster than those exposed to the original integrated voice response (IVR) system.

## Agency priority

Strengthening crisis care and suicide prevention infrastructure – including improving the efficacy of the 988 Suicide & Crisis Lifeline (“988”) – is a high priority for SAMHSA, situated within the HHS. The American Rescue Plan invested \$282 million to support transition to 988 as a replacement for the 10-digit National Suicide Prevention Lifeline.

Suicide is the second leading cause of death among 12-17 year olds and fifth leading cause of death among adults aged 18-64 years.<sup>1</sup> Callers to suicide or crisis hotlines who talk to someone report significant decreases in suicidality by the end of the call and reductions in hopelessness in the weeks after calling. More than 10% of callers reported that talking to someone at the crisis lifeline prevented them from harming or killing themselves.<sup>2</sup>

SAMHSA seeks to increase the proportion of callers to 988 who connect to care. In the four months before the study, about 1.8 million calls were made to 988. About 44% of these calls were abandoned before the call was routed to a local call center; 11% of remaining calls were abandoned while waiting to be connected to a counselor.

## Program change description

SAMHSA and OES, along with the national

administrator of the 988 system, made changes to the IVR system and messages that callers hear when calling 988.<sup>3</sup> When calling 988, the IVR plays an automated message with menu options callers can select. When a call is routed from the IVR system to a local call center, a caller hears recorded messages and music while the 988 system finds an available counselor.

The intervention changed the message script and voice recording during the initial IVR (before a call is routed to a local call center) and the script, voice recording, and music that callers hear while waiting to be connected to a counselor. Evidence suggests that transparency can improve trust<sup>4</sup>, and that calming music can help reduce anxiety.<sup>5</sup> Changes to the caller experience focused on shorter-duration messages, a more conversational-sounding voice, increased process transparency, and more calming music. The updated IVR message was about 10 seconds shorter than the original IVR.

## Evaluation design

The program change was evaluated with a cluster randomized trial. SAMHSA and the national administrator of the 988 system deployed the updated (treatment) version of the caller experience alongside the existing (control) version on August 3, 2023. Calls to 988 were assigned to the updated or existing version based on a randomization over the 10,000 possible sequences of last four digits in the callers’ phone numbers.

The 988 Suicide & Crisis Lifeline received a total of 456,156 calls during the study period, of which 393,789 calls from 200,253 unique phone numbers were included in the analysis.<sup>6</sup> 196,659 calls were

<sup>1</sup> Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System, Mortality 2018-2021 on CDC WONDER Online Database, released in 2021. Accessed at <http://wonder.cdc.gov/ucd-icd10-expanded.html> on Mar 16, 2023.

<sup>2</sup> Gould, Madelyn S., John Kalafat, Jimmie Lou Harris Munfakh, and Margorie Kleinman. 2007. An evaluation of crisis hotline outcomes part 2: suicidal callers. *Suicide and Life-Threatening Behavior* 37(3): 338-352.

<sup>3</sup> People can also reach 988 by texting 988 on their phone or through a web-based chat (at 988lifeline.org).

<sup>4</sup> Buell, Ryan W., Ethan Porter, Michael I. Norton. 2021. Surfacing the submerged state: operational transparency increases trust in and engagement with government. *Manufacturing and Service Operations Management* 23(4): 745-1004.

<sup>5</sup> Elliott, David, Remco Polman, Richard McGregor. 2011. Relaxing Music for Anxiety Control. *Journal of Music Therapy* 48(3): 264-288.

<sup>6</sup> 62,367 calls selected “1” for the Veterans Crisis Line during the study period. Call outcomes for these calls cannot be observed in the 988 data and are not included in the main analysis.

from phone numbers randomly assigned to hear the existing version of the IVR and 197,130 calls were from phone numbers randomly assigned to hear the updated version of the IVR.

## Analysis of existing data

Records of calls and texts to 988 are collected by the national administrator of the 988 system. These data indicate when the call or text was initiated, any IVR menu selections (e.g., “2” for Spanish), whether the call was routed to a local call center, duration of the call, whether the call or text was connected to a counselor, and duration of the call after being connected to a counselor.<sup>7</sup> The data do not indicate the content of conversations and no information was used for the study that could identify individual callers. We analyzed the outcomes of calls and texts to 988 over four weeks beginning the first full day after implementation of the intervention IVR, from August 4–31, 2023.

## Results

Compared with the existing caller experience, the updated caller experience increased the likelihood of being routed to a call center by 1.0 percentage point ( $p = 0.001$ , 95% CI [0.4,1.5]). The updated 988 caller experience increased the likelihood of calls being connected to a counselor by 0.7 percentage points ( $p = .017$ , 95% CI [0.1,1.3]). Both of these differences were statistically significant.

Callers may connect to a counselor by calling back or texting 988 after an initial call. Callers exposed to the updated caller experience were 0.5 percentage points ( $p = 0.13$ , 95% CI [-0.15,1.1]) more likely to connect by phone within 24 hours of an initial call; this difference was not statistically significant. Looking at connections by either phone or text, callers exposed to the updated caller experience were 0.48 percentage points ( $p = .15$ , 95% CI [-0.17,1.1]) more likely to connect by phone or text within 24 hours of an initial call; this difference was also not statistically significant.

Exploratory analyses suggest that the updated IVR decreased the time callers wait to be connected to care. Among calls that were connected, those

<sup>7</sup> Connection to a counselor indicates that a call that has been routed to a local call center or backup network and answered by a live counselor to talk.

exposed to the updated IVR connected 9 seconds faster than calls exposed to the existing IVR.

We also explored the likelihood of choosing any of the IVR menu options. Results suggest that callers who hear the updated caller experience were about 4 percentage points more likely to press “1” for the Veterans Crisis Line (VCL), which is operated for Veterans and people calling about Veterans. This effect represents an additional 8,700 calls routed to the VCL during the study period.

## Implications

During the four-week study the updated IVR resulted in about 1,400 additional calls to the 988 Suicide & Crisis Lifeline being answered by a counselor. This effect implies that if all calls to 988 are exposed to the updated IVR over a 12-month period, reaching about 5.9 million calls, an additional 36,000 calls would be connected to a counselor. SAMHSA has implemented the updated caller experience for all callers.

The results suggest that the updated IVR increased the volume of calls routed to the Veterans Crisis Line, some of which may have been from non-Veteran callers who pressed “1” without realizing that option is reserved for Veterans. Clarifying the script about pressing “1” for the VCL may help callers discern which option is most appropriate for their situation and avoid non-Veteran calls being routed to the VCL.

**Figure 1.** The updated IVR increased the percent of calls to 988 that were connected with a counselor. ( $N = 393,789$ )

