Ventura County Behavioral Health (VCBH)

Push Technology Program

Evaluation Report: November 2020
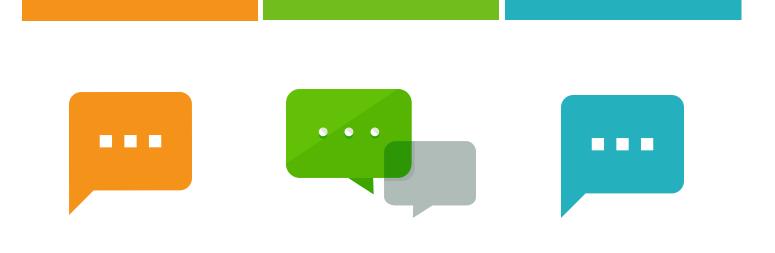
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I. PROGRAM OVERVIEW & BACKGROUND

Ventura County Behavioral Health (VCBH) developed the Push Technology Program ("Push Tech") to provide supportive services for individuals leaving psychiatric inpatient facilities and residential crisis stabilization units. The Push Tech Program is funded with Mental Health Services Act (MHSA) Innovations funding. The project aims to reduce psychiatric re-hospitalization rates by offering support to individuals who are exiting county inpatient psychiatric hospitals and residential crisis stabilization units.

The Push Tech Program invites patients to enroll in a text message support service during the critically important 90-day period immediately following discharge from a participating hospital. Patients who enroll receive periodic automated (or "push") text messages requesting their participation in simple mini-assessments of their current mood. These assessments, known as Ecological Momentary Interventions (EMIs), take place in real time and in the patient's natural setting. Each patient receives appropriate follow-up depending on their answers to the assessment questions. The text messages also include reminders for follow up appointments and rescheduling assistance. Clients in the Push Tech program may opt to include a support person, such as a parent, friend, or coach, in the text messaging support service. The support person receives texts assessing the mood of the patient as well as appointment reminders.

PROGRAM GOALS

Reduce the rate of re-hospitalization

Increase treatment engagement

Increase follow-up appointment adherence

Assess client satisfaction and the perceived value of EMI technology in mental health recovery

PROGRAM COMPONENTS

Text Message Check-ins

Participants are sent text message check-ins at regular intervals for 90 days after leaving a psychiatric facility. The text service begins with more frequent texts and becomes less frequent over time. The goal is to keep patients engaged in their treatment for the 90 days after discharge.

During the text check-ins, participants are asked to rate their mood using a 4-point scale (see Fig 1). Participants are also sent mental health and wellness tips and resources, such as links to local and national websites. Participants with consistently low mood ratings are offered linkage to 211. Additional services offered include:
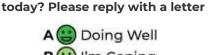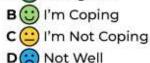
**Figure 1. Text Check-Ins
How would you rate your mood today? Please reply with a letter**

A 😀 Doing Well
B 🙂 I'm Coping
C 😐 I'm Not Coping
D 🙁 Not Well

Appointment Reminders
Participants have the option to sign up for appointment reminders.

Support Person Enrollment
Participants can ask a support person (i.e., a friend, parent, sibling, spouse, etc.) to enroll in the program with them. The support person receives similar check-ins texts asking them to rate the mood of their loved one, as well as tips, resources, and appointment reminders.

Enrollment Options
Patients can sign up for the service through self-enrollment or with the help of a clinician or social worker. Multiple forms of enrollment are available – paper forms, online, text message - for patients and staff to use.

PROGRAM IMPLEMENTATION & PARTICIPANT ENROLLMENT

The Push Tech project launched in public and private hospitals throughout Ventura County in Spring 2019. Sites participating in the program include:

Hillmont Psychiatric Center, Ventura County Medical Center
- Inpatient Unit (IPU)
- Crisis Residential Treatment (CRT)

Seneca
- Crisis Stabilization Unit (CSU)
- Crisis Residential Treatment (CRT)

Vista Del Mar

Figure 2. Timeline of New Participant Enrollment, by Quarter*

88	69	27	19	3
April - June 2019	July - Sept 2019	Oct - Dec 2019	Jan-Mar 2020	April - June 2020

*Enrollment timeline only includes program participants and does not include support person enrollment. Data on support person enrollment and engagement is included later on in the report.

II. DATA COLLECTION AND EVALUATION

A mixed methods approach including interviews with key stakeholders, surveys, and quantitative data analysis was developed to evaluate the extent to which the Push Tech Program in meeting its intended goals. The evaluation questions guiding the development of this report are presented below.

Process:
1. How many clients enrolled/participated in Push Tech?
2. How many clients had a support person also participating in Push Tech?
3. How often did clients respond to the EMI text messages?

Outcome:
4. Are clients satisfied with EMI technology?
5. Do clients find the Push Tech support valuable as part of their mental health recovery?
6. Does using mobile EMI increase treatment engagement (i.e., medication adherence and clinical appointments)?
7. Does using mobile EMI reduce the rate of re-hospitalizations?

Implementation:
8. What, if any, were challenges related to project implementation and how were they overcome?
9. What were the overall successes of the project?
10. Which hospitals had the highest enrollment rates?
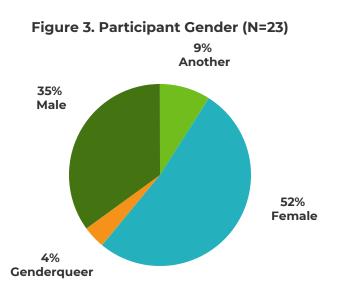
Table 1. Overview of Data Analyzed in Report

Data Source	Timeframe Included in the Report
Enrollment Forms - Participant & Support Persons	April 2019 - June 2020
EMI Text Data	April 2019 - June 2020
90-Day Survey - Participants & Support Persons	April 2019 - June 2020
6-Month Survey - Participants	April 2019 - June 2020

III. FINDINGS

Participants Reached

Demographic responses are obtained from participants in a follow up text message survey.

206
Total participants enrolled
April 2019 - June 30,2020

Figure 3. Participant Gender (N=23)

9%
Another

35%
Male

52%
Female

4%
Genderqueer

Figure 4. Participant Race (N=23)

Hispanic/Latino	43%
White	26%
Black or African American	9%
Asian	4%
More than one race	17%

Support Persons Reached

149
Support persons enrolled
April 2019 - June 30,2020

Figure 5. Support Person Gender (N=23)

45%
Female

55%
Male

Figure 6. Support Person Race (N=11)

Hispanic/Latino	45%
White	27%
Black or African American	9%
More than one race	18%

PARTICIPANT ENGAGEMENT

Participant engagement in the texting service can be used as a framework for understanding client outcomes and satisfaction with the service. As shown below in Figure 7, approximately three-quarters (77%) of participants responded to the regular check-in texts that were sent to them through the automated service. Many participants (42%) displayed high rates of engagement, responding to at least half of the text messages sent to them. See Figure 8 below for a detailed breakdown of participant engagement.
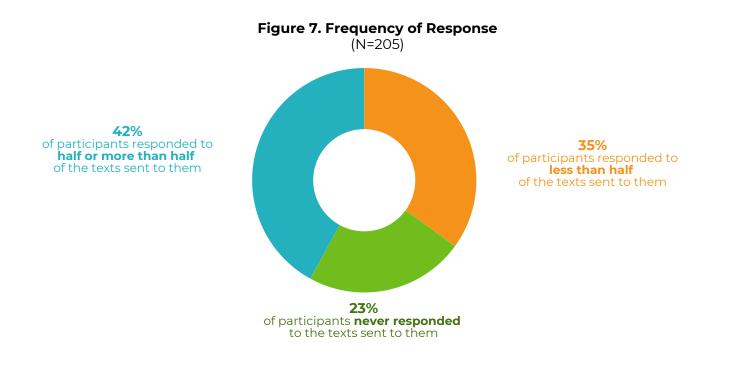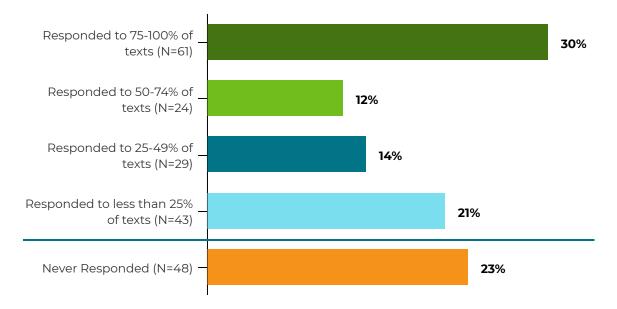
Figure 7. Frequency of Response
(N=205)

42%
of participants responded to
half or more than half
of the texts sent to them

35%
of participants responded to
less than half
of the texts sent to them

23%
of participants **never responded**
to the texts sent to them

Figure 8. Engagement in Texting
(N=205)

Responded to 75-100% of texts (N=61) — **30%**

Responded to 50-74% of texts (N=24) — **12%**

Responded to 25-49% of texts (N=29) — **14%**

Responded to less than 25% of texts (N=43) — **21%**

Never Responded (N=48) — **23%**

Of the 206 participants who enrolled in the program, 28 (i.e., 14%) participants **opted out** of the texting service at some point within the 90 day program window. Specific opt-out time points are not able to be determined.

PROGRAM IMPACT: PARTICIPANTS

Follow-up surveys were sent to participants by text message to assess for client satisfaction and outcomes.

The first survey was sent at the end of the texting service, 90 days after enrollment. A total of 169 participants were sent the 90-day follow-up survey; of those, 29% (N=49) of participants responded to at least one question. Responses may include feedback from a support person, answering on behalf of his or her loved one.

The second survey was sent six months after the participant enrolled in the program. A total of 162 participants were sent the 6-month follow-up survey; of those, 30% (N=49) of participants responded to at least one question. Responses may include feedback from a support person, answering on behalf of his or her loved one.

Client Outcomes	Client Satisfaction

RE- HOSPITALIZATION OR INVOLUNTARY HOLD
21% (N=10) reported voluntary rehospitalization or involuntary hold in the last 6 months.

MEDICATION ADHERENCE
When asked how often they took their medication as prescribed in the last 3 months, **90% (N=19)** said **always** or **usually**.

ENTERING A CRISIS STABILIZATION FACILITY
15% (N=6) reported entering a crisis stabilization facility in the last 6 months.

RECOMMEND SERVICE
73% (N=22) said they would **recommend** this service to a friend or family member.

HELPED MENTAL HEALTH
76% (N=26) said this service was **helpful** or **very helpful** to their mental health recovery.

SATISFIED WITH SERVICE
90% (N=37) said they were satisfied or very satisfied with this service.

FREQUENCY OF MESSAGES
68% (N=15) said frequency of texts was **"about right"**; 9% (N=2) said texts were too frequent and 23% (N=5) said texts were not frequent enough.

PROGRAM IMPACT: SUPPORT PERSONS

A 90-day follow up survey was sent to the 50 support persons who opted into Push Tech. A total of 18 responded to at least one question.

SATISFIED WITH SERVICE
100% (N=16) said they were satisfied or very satisfied with this service.

FREQUENCY OF MESSAGES
83% (N=15) said frequency of texts was **"about right"**; **6% (N=1)** said texts were **too frequent** and **11% (N=2)** said texts were **not frequent enough.**

HELPED MENTAL HEALTH
86% (N=13) said this service was **helpful** or **very helpful** for their loved ones mental health.

RECOMMEND SERVICE
93% (N=13) said they would **recommend** this service to a friend or family member.

PROGRAM IMPACT: OUTCOMES AMONG PARTICIPANTS WITH A SUPPORT PERSON

To better understand the role of having a support person engaged in the program, select outcomes were analyzed comparing persons with a support person enrolled in the program to those without a support person enrolled.
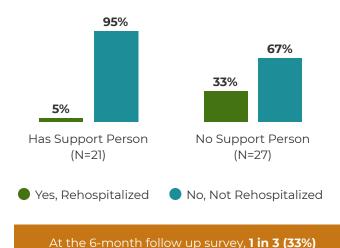
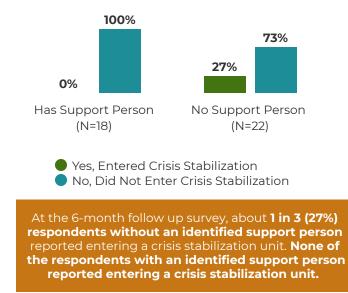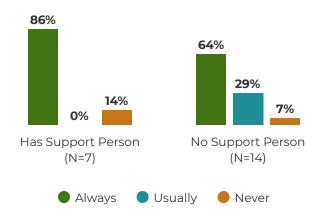## Figure 9. Re-Hospitalization or Involuntary Hold

- Yes, Rehospitalized
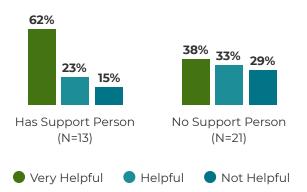- No, Not Rehospitalized

At the 6-month follow up survey, **1 in 3 (33%) respondents without an identified support person** reported re-hospitalization or involuntary hold compared to **5% in the group with an identified support person.**

Figure 10. Entered Crisis Stabilization Unit

- Yes, Entered Crisis Stabilization
- No, Did Not Enter Crisis Stabilization

At the 6-month follow up survey, about **1 in 3 (27%) respondents without an identified support person** reported entering a crisis stabilization unit. **None of the respondents with an identified support person reported entering a crisis stabilization unit.**

Figure 11. Medication Adherence

- Always
- Usually
- Never

At the 90-day follow up survey, **93% of respondents without an identified support person** and **86% of respondents with an identified support person** reported **always** or **usually taking their medications as prescribed.**

Figure 12. Program Helpful to Mental Health
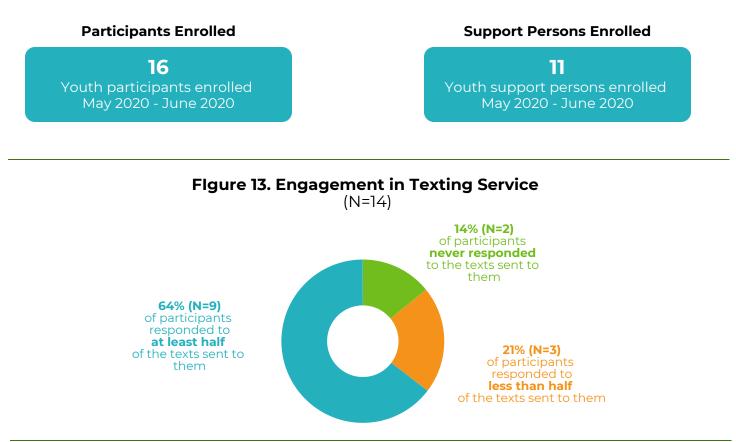

- Very Helpful
- Helpful
- Not Helpful

At the 90-day follow up survey, **71% of respondents without an identified support person** and **85% of respondents with an identified support person** reported the service as being **very helpful** or **helpful to their mental health recovery.**

YOUTH EXPANSION

In May 2020, Push Tech was expanded to include youth enrolled in VCBH services to provide them with a sense of connectedness and coping strategies during the COVID-19 pandemic. A separate analysis is provided below for the youth component.

Participants Enrolled

16
Youth participants enrolled
May 2020 - June 2020

Support Persons Enrolled

11
Youth support persons enrolled
May 2020 - June 2020

Figure 13. Engagement in Texting Service
(N=14)

14% (N=2)
of participants
never responded
to the texts sent to
them

64% (N=9)
of participants
responded to
at least half
of the texts sent to
them

21% (N=3)
of participants
responded to
less than half
of the texts sent to them

YOUTH PARTICIPANT OUTCOMES

A total of 13 participants were sent the 90-day follow-up survey; of those, 63% (N=8) participants responded to at least one question. Responses may include feedback from a support person, answering on behalf of his or her loved one.

MEDICATION ADHERENCE

When asked how often they took their medication as prescribed in the last 3 months, **100% (N=7)** said **always** or **usually**.

YOUTH PARTICIPANT SATISFACTION *

HELPED MENTAL HEALTH
75% (N=6) said this service was **helpful** or **very helpful** to their mental health recovery.

SATISFIED WITH SERVICE
100% (N=8) said they were satisfied or very satisfied with this service.

RECOMMEND SERVICE
100% (N=8) said they would **recommend** this service to a friend or family member.

FREQUENCY OF MESSAGES
63% (N=5) said frequency of texts was **"about right"** and **37% (N=3)** said texts were **not frequent enough.**

IV. IMPLEMENTATION SUCCESSES, CHALLENGES AND RECOMMENDATIONS

In February 2020 a series of key stakeholder interviews were conducted with directors, supervisors, and line staff at four of the participating sites to better understand program implementation, successes, and challenges. Below are key findings from the series of interviews. Please refer to the Summary of Key Stakeholder Interviews full report for additional details on the findings.

Enrollment Challenges

Primary difficulties with enrolling patients in Push Tech were due to either lack of staff resources (i.e., not enough staff or time to enroll patients), or patients not having an interest in the program. Additional challenges included:

Timing of enrollment. Discussing program enrollment at discharge can be overwhelming for patients.

The program was not appropriate for all patients, such as patients moving to a higher level of care, or patients with severe mental illness, including paranoia, contributing to a fear of providing personal information via text.

Lack of access to phones. Many patients do not have phones or do not have consistent cellular plans. Additionally, youth patients may have conflicts with parents/caregivers about independent phone usage.

Lessons Learned

Four factors were identified as contributing to successful patient enrollment. Expanding across the below identified areas of success could help support greater future enrollment.

Explaining the benefits to patients and parents/caregivers helped to encourage enrollment.

The online enrollment process was easier to use and faster than the paper form. Patients found the paper form visually difficult to follow.

Having assistance during enrollment also helped encourage some parents/caregivers and patients to join the program.

Brochures were helpful as an accessible and easy-to-read explanation of the study, giving participants an opportunity to sign up on their own time if desired.

Program Value

Across all interviews, stakeholders unanimously said Push Tech is a valuable program. Stakeholders identified it as particularly helpful for parents/caregivers who want to help their child, youth who are very comfortable using phones and technology to communicate, and patients who do not have family or social support. Stakeholders provided specific reasons for the program's value, including:

"Sometimes youth aren't willing to reach out to primary caregivers. This gives them someone to reach out to."

"So many people with mental illness are isolated and this project opens up communication between mental health providers and the mentally ill person."

"A lot of people who are mentally ill burn their bridges, so they become estranged and isolated. They are not able to communicate with family or friends. This can really help with that."