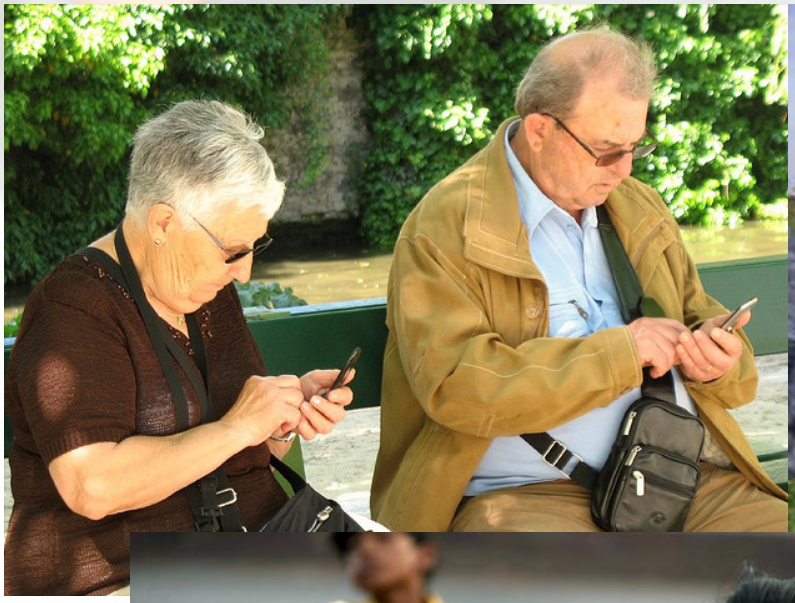


healthySMS.org: automated text messaging to improve mental health in low-income populations

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>6 Billion phones worldwide (BBC, 10/12)







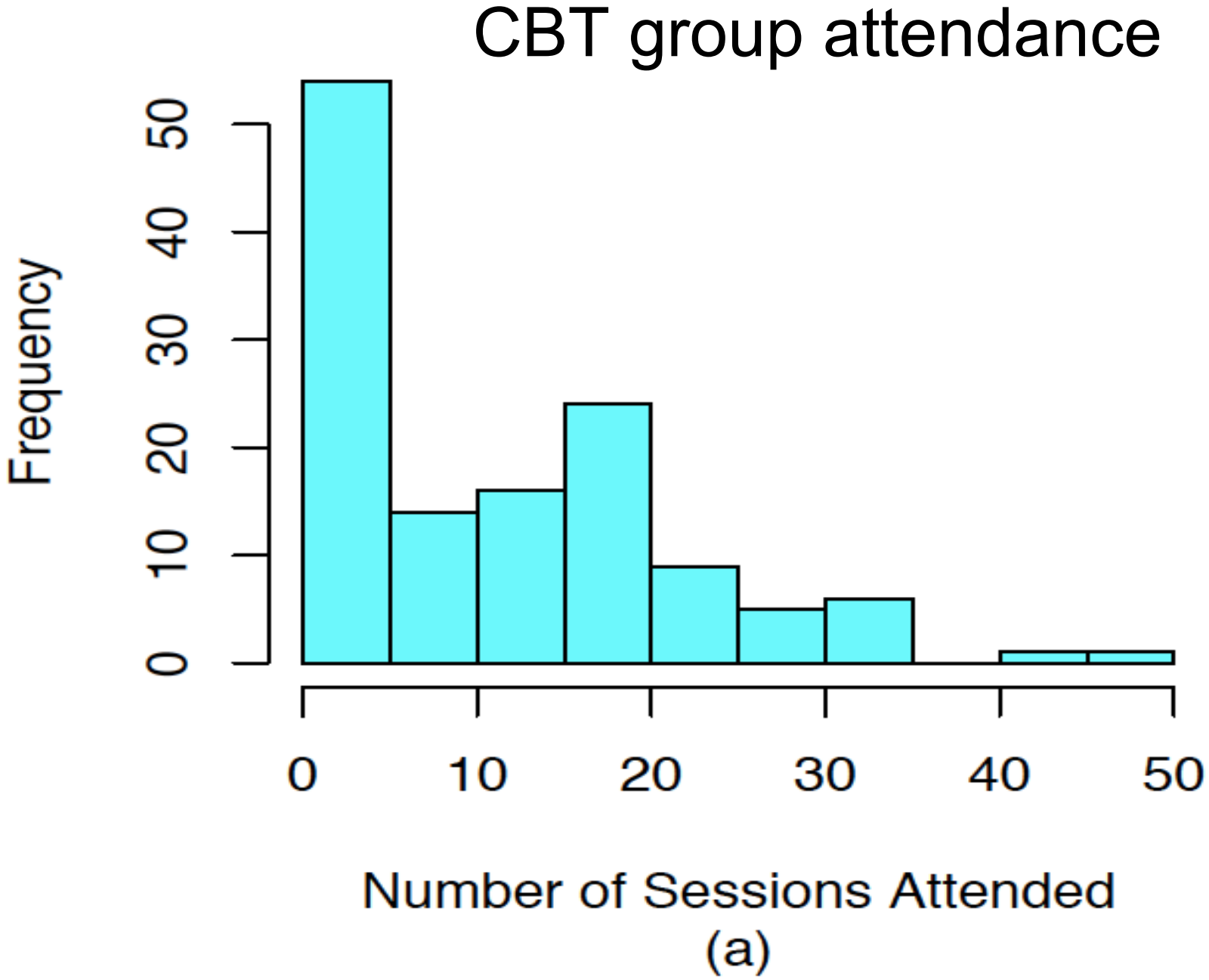


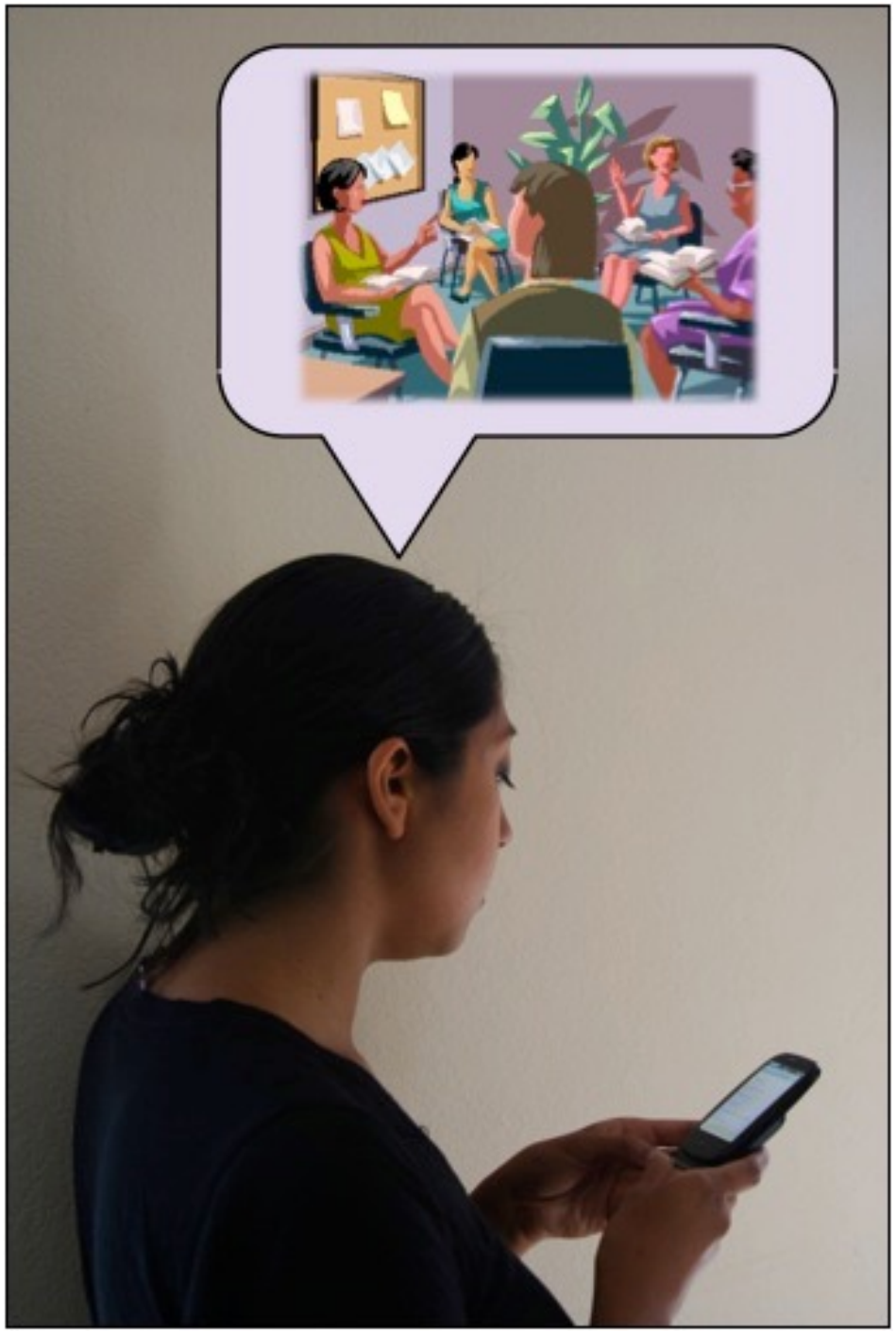
Challenges with Depression Tx

- Time limited
  - Especially in Community and Public sectors
- Low Homework adherence
  - 23% in our assessment (high estimate)
- Attendance
  - Low income populations attrition rates of 40-44%
- Medication Adherence
  - Variable

CBT for depression

- CBT = Cognitive Behavioral Therapy
  - Thoughts, emotions, and behavior change
  - Once a week,16 Weeks
- Group therapy format in Spanish
- At San Francisco General Hospital
  - Avg age ~51
  - ~70% text
  - ~90% own phone (we provide if not)


CBT group attendance
Frequency
0
10
20
30
40
50
0
10
20
30
40
50
Number of Sessions Attended
(a)



Goal:
Use SMS to Strengthen Treatment Effects

QUICK MOOD SCALE

Instructions

- Fill in the days of the week across the top of the scale. For example, if you start rating your moods for the week on a Wednesday, write "Wednesday" (or "W") on the first line, "Thursday" (or "Th") on the second line, etc.
- Keep the scale beside your bed. Before you go to bed, think about your mood for the day and circle a number that matches your mood.
- Try to use all the numbers, not just 1, 5, or 9.
- There is no right answer. Only you know how you have felt each day.
- If you want to track your mood over a period of time longer than a week, write down the number rating for your daily moods on a calendar.
- Try to remember about how many healthy activities you did each day and write the number at the bottom of each column.

Day of the Week	_____	_____	_____	_____	_____	_____	_____
Best mood	9	9	9	9	9	9	9
	8	8	8	8	8	8	8
	7	7	7	7	7	7	7
	6	6	6	6	6	6	6
OK/average mood	5	5	5	5	5	5	5
	4	4	4	4	4	4	4
	3	3	3	3	3	3	3
	2	2	2	2	2	2	2
Worst mood	1	1	1	1	1	1	1
How many healthy activities did you do each day?							

HealthySMS Components

- Daily at Random time between 9am-9pm
  - What is your mood right now on a scale of 1 to 9?
    - Random feedback
- Daily at 8pm
  - A question or a message regarding the theme of that week/ month
    - Ex. Did you notice any thoughts that improved your mood today?
    - Ex. Spending time with positive people can help improve mood.
- Reminders
  - Medication & Appointment
- Flexibility to add Content

https://healthysms.org/manage/groups/1/graph

HealthySMS

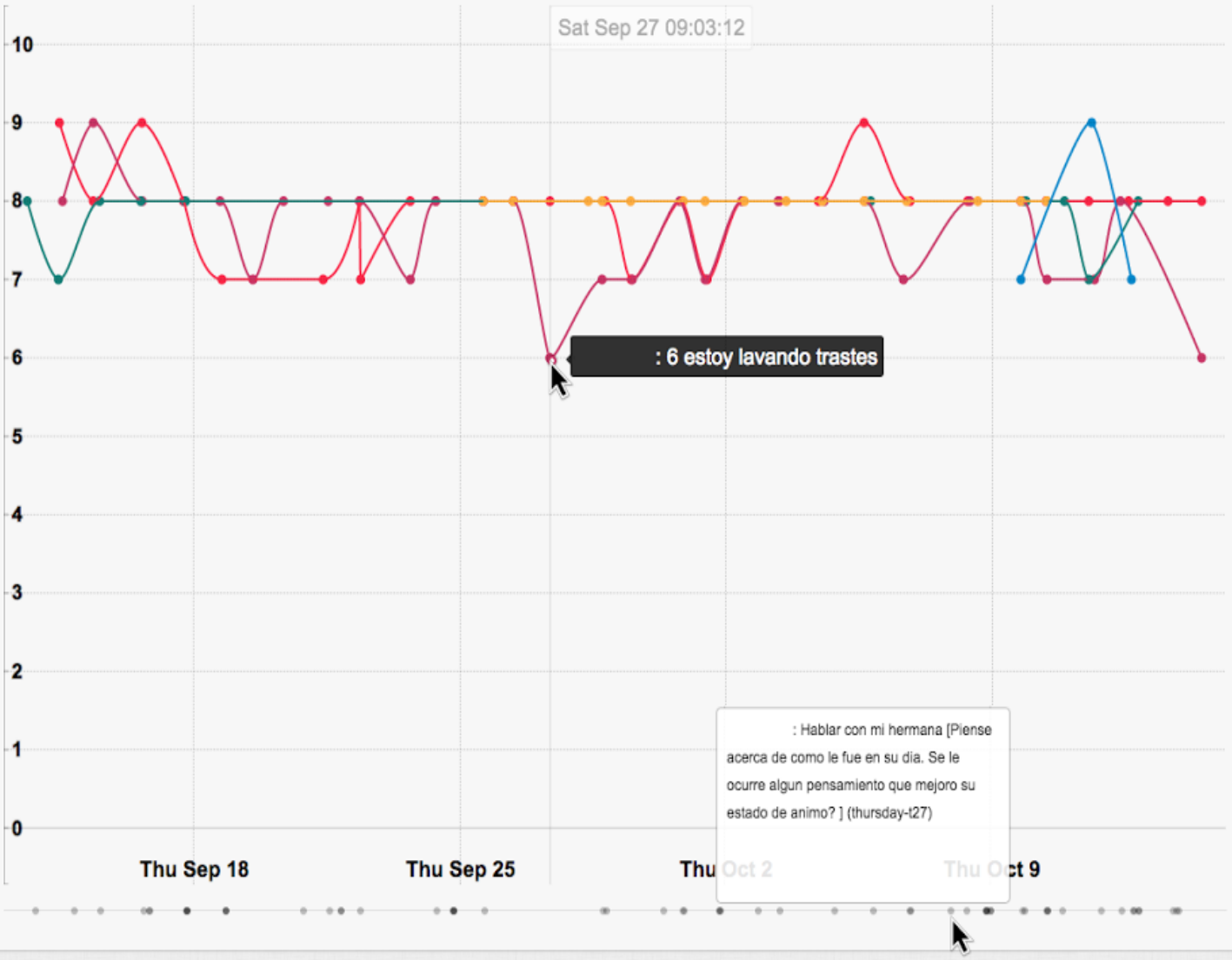
Groups
Users
Staff
Messages
Sequences
Message Banks
Alerts
Assessments
Qualtrics
Twilio
Reports

Thursday Group

mood | One Month

Members

Select All



How were messages helpful? (English)

- “They forced me to "check" in with myself”
- “Quick to respond to”
- “Trigger self examination”
- “They made me stop and think for a moment about how I was feeling and why I was having those feelings.”
- “Ability to actually look in the proverbial mirror.”
- “Sometimes I am so busy I hardly stop and think about how I feel. Now that I’m getting texts I stop and think everyday. When it stopped I missed it. My life is so crazy I need a reminder to think about how I feel.”

How were messages helpful? (Spanish)

- *"The messages helped motivate me to continue working to feel better"*
- *"When I was in difficult situation and I received a message, I felt much better. I felt cared for and supported. My mood even improved"*
- *"The most positive thing about receiving text messages is when one is in a difficult moment and a message arrives, I realize that someone cares for me and I don't feel alone"*
- *"The messages are refreshing and are very helpful. They make me feel that there are people that care about my health"*

Clinical Decision Support System

- Predicting behavior based on patterns in the data:
  - E.g., response latency, attendance, mood predict attendance.
  - Focus on those who are not likely to attend
  - Focus on those who are doing poorly
    - They are still engaged (higher response rate)

Thanks!

- Robert Wood Johnson New Connections
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- Center for Behavioral Intervention Technologies (CBITS) at Northwestern