Creating a Platform for Self-Directed Antiretroviral Medication and Appointment Adherence via Text, Phone and Email Messages for HPTN 078

Theresa Gambä, Jill Stanton, Anna LeViere, Erin Hughes, Armos Adler, Chris Foster, John Glorioso, William Graves, Kike King, Sally Shuhrat, Robert H. Remien* and Chris Boyer† on behalf of the HPTN 078 Study Team.

BACKGROUND

The HPTN 078 protocol team partnered with a technology company (MEMOTEXT) that had experience in medication adherence and the capacity to build a web-based system with the following capacity:

- Messages could be sent via text, email and pre-recorded phone calls
- Messages content, timing and frequency were determined by the users
- Message types included: medication adherence reminders, medication refill reminders, motivational messages, and appointment reminders for both study and non-study visits
- The content of messages was customizable; stock options were also available
- With every message, participants were reminded how to notify their CM for help.
- Participants were able to choose their own mode of transmission

METHODS

Participants were able to use the system to ask for assistance when they perceived a need to help achieve and maintain viral suppression. Participants were randomized to receive messages via three different methods:

- Text
- Phone
- Email

All message types and modes of transmission were utilized by the majority of participants. Participants chose stock messages, motivational messages (Figure 3), mode of transmission and message content. Only messages sent between enrollment and the month 12 study visit were included in this analysis.

RESULTS

The vast majority of the messages (90%) were sent via text message, with 9% being sent via phone and 1% via email (Figure 4). Most participants used the system for support in achieving and maintaining viral suppression. Participants used the system to request assistance for reasons such as need for medication adherence reminders, need for motivational messages, need for appointment reminders, or need for medication refill reminders.

The content of messages was customizable; stock options were also available. Participants were reminded how to notify their CM for help.

CONCLUSIONS

We were successful in building a web-based system to create, deliver and capture text, phone and email messages to support and encourage engagement in care and ART adherence. This system could easily be adapted for real-world implementation.

ACKNOWLEDGMENTS

We sincerely thank MEMOTEXT staff, study site staff and the study participants for their role in the creation and use of the HPTN 078 Communication Platform.

For more information, visit http://hptn.org and follow us:

Facebook: HIVPtS | Twitter: @HIVPtS | Youtube: HIVPtS

The HIV Prevention Trials Network is funded by the National Institute of Allergy and Infectious Diseases (UM1-AI068619, UM1-AI068613, UM1-AI0108617), with co-funding from the National Institute of Mental Health (NIMH), and the National Institute on Drug Abuse, all components of the U.S. National Institutes of Health. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH.

The technology and interface worked well

- 10,000 messages were successfully sent over 2.5 years
- All message types and modes of transmission were utilized
- The CMs found it easy to use the web interface
- Participants were able to use the system to ask for assistance

Options allowed for more participation

- One participant chose phone messages because he was legally blind
- One participant asked for daily adherence reminders because he had self-recognized need

Participants chose stock messages

- Although participants were able to customize the content of their messages, users overwhelmingly chose to use the stock messages supplied via the CP

Mixed understanding of how to contact CM

- Some participants did not understand how to respond to their messages correctly so that their CM would know they needed assistance

Lessons learned

- Lack of continuous phone access
- Many participants struggled with maintaining a working phone number
- Lack of minutes or fear that messages would use their minutes
- Participants did not understand how to respond to their messages
- Sites had limited resources to provide phones and/or minutes

Not all messages were received

- Participants with phone access issues, who were out of cell service range or whose phones were turned off could not receive their messages. The CP system could not detect when this occurred.

Fear that messages might reveal HIV status

- Some participants feared that others would see adherence or appointment messages and learn that they were HIV-positive

Not everyone wanted or needed this support

- Some participants felt that it wasn’t necessary to receive messages in order to remain engaged in care and adherence to their medication

Participants chose stock messages or refill reminders because they were already receiving these reminders from other sources (clinic, pharmacy).

Table 1: Request for Assistance

<table>
<thead>
<tr>
<th>Type of Request</th>
<th>Number of Messages</th>
<th>Number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Successful</td>
<td>41</td>
<td>20</td>
</tr>
<tr>
<td>Test</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>Email</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Phone</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Unsuccessful</td>
<td>23</td>
<td>13</td>
</tr>
</tbody>
</table>

Table 2: Message Volume

<table>
<thead>
<tr>
<th>Type of Transmission</th>
<th>Total Number of Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text</td>
<td>72</td>
</tr>
<tr>
<td>Phone</td>
<td>21</td>
</tr>
<tr>
<td>Email</td>
<td>21</td>
</tr>
</tbody>
</table>

Figure 1: Diagram of the HPTN 078 Communication Platform (CP)

Figure 2: CP Participation

Figure 3: Message Type

Figure 4: Message Type by Mode of Transmission

Figure 5: Message Volume

Figure 6: Participants Who Used the CP for Support (received over the CP (than just study reminders)

For more information, visit http://hptn.org and follow us:

Facebook: HIVPtS | Twitter: @HIVPtS | Youtube: HIVPtS

The HIV Prevention Trials Network is funded by the National Institute of Allergy and Infectious Diseases (UM1-AI068619, UM1-AI068613, UM1-AI0108617), with co-funding from the National Institute of Mental Health (NIMH), and the National Institute on Drug Abuse, all components of the U.S. National Institutes of Health. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH.

Presented at the 2019 National HIV Prevention Conference Atlanta, GA, USA, March 18-21, 2019

Abstract Number: 5915, Poster Number: CP66

Published on March 20, 2019