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A Qualitative Study of Client-Clinician Text Exchanges in a Mobile Health Intervention for Individuals with Psychotic Disorders and Substance Use

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Abstract

Objective—Mobile health (mHealth) approaches have the potential to transform prevention, wellness, and illness management for people with dual diagnosis consisting of co-occurring mental illness and substance use disorders by providing timely and cost-effective interventions in clients' natural environments. However, little is known about how clients interact with mHealth interventions to manage their illness. This qualitative study explored the content of mobile phone text messages between clients with dual diagnosis and a clinician who engaged them in daily assessment and intervention text exchanges.

Methods—Seventeen participants with psychotic disorders and substance use were enrolled in a 12-week single-arm trial of an mHealth intervention focusing on illness management. The clinician (i.e., mobile interventionist) sent daily text messages to participants' privately-owned mobile phones to assess their medication adherence and clinical status. The clinician provided other illness management and wellness suggestions flexibly, in response to participants' needs and preferences. In this qualitative study we conducted a thematic analysis of the client-clinician text exchanges that occurred over the course of the intervention.

Results—Seven major content themes in client-clinician text message exchanges were identified: mental health symptoms; mental health coping strategies; mental health treatment and management; lifestyle behaviors; social relationships and leisure activities; motivation and personal goal setting; and independent living. Participants were interested in discussing strategies for coping with mental health symptoms (e.g., cognitive restructuring, social support) and health behavior change (e.g., increased physical activity, dietary changes).

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Conclusions—Our findings suggest that client-centered text messaging has the potential to be an important component of illness management for people with dual diagnosis. This approach is able to offer coping strategies that are tailored to clients' needs and preferences in real time when help is needed.

Keywords

mobile health (mHealth); dual diagnosis; mobile phones; illness management; health promotion

People with serious mental illnesses and substance use disorders (i.e., dual diagnosis) frequently experience comorbid physical and mental health problems exacerbated by social and economic stressors (Crowley & Kirschner, 2015; Keaney et al., 2011; O'Connor et al., 2013). Even low levels of substance use among people with serious mental illness are associated with adverse consequences (Barrowclough et al., 2001). Despite the existence of evidence-based treatment for dual diagnosis, such as integrated dual diagnosis treatment (Drake et al., 2004), there remains a lack of widespread implementation of evidence-based practices for dual diagnosis in mental health settings (Drake, Bond, & Essock, 2009). Many people with dual diagnosis do not get the care they need to effectively manage their illness and move forward with recovery (Drake & Green, 2015; Hipolito, Carpenter-Song, & Whitley, 2011).

Mobile health (mHealth) interventions have the potential to transform the way mental health services for people with dual diagnosis are accessed, delivered, and managed with potentially fewer resources and greater personalization and client-centered care. The proliferation of mobile phones makes it possible to provide timely and cost-effective interventions to treat challenging conditions such as serious mental illness and substance use in real time (Ben-Zeev, 2014; Ben-Zeev, Drake, & Marsch, 2015). Approximately 72% of individuals with serious mental illness report owning a mobile phone (Ben-Zeev, Davis, Kaiser, Krzsos, & Drake, 2013), and emerging mHealth interventions that leverage mobile phones help people manage medications, cope with mental health symptoms, address problems with sleep, and improve social functioning (Ben-Zeev, Brenner, et al., 2014; Faurholt-Jepsen et al., 2014; Hidalgo-Mazzei et al., 2015). Mobile technologies present numerous opportunities to enhance clinical care and potentially provide an alternate way to deliver services to individuals with dual diagnosis.

Despite the rapid progress of research in the emerging field of mHealth, few studies of mobile health interventions for people with serious mental illness have gone beyond reporting feasibility of devices to exploring how clients interact with these interventions to manage their illness (Naslund, Marsch, McHugo, & Bartels, 2015). The effective management of psychiatric illness often requires patient-provider collaboration to identify problems, set goals, incorporate self-management strategies, and monitor progress (Mueser et al., 2006). It remains unclear what happens within the black box of emerging mHealth interventions targeting illness management (Tomlinson, Rotheram-Borus, Swartz, & Tsai, 2013).

In the current study we explored the content of mobile phone text message exchanges between clients with psychotic disorders and substance use and a clinician (i.e., mobile

interventionist) who were engaged in a 12-week mHealth intervention. The intervention targeted adherence to psychiatric medications while allowing for maximum flexibility in the range of therapeutic topics addressed in response to participants' stated needs and preferences. Comprehensive data pertaining to the acceptability, feasibility, and patient-rated satisfaction of the mobile intervention have been reported elsewhere (Ben-Zeev, Kaiser, & Krzos, 2014). The present study involves an effort to uncover the specific ways that clinicians and clients used a flexible mobile health intervention.

Methods

Study Design and Participants

The study design and participant recruitment procedures for the mobile intervention study have been reported in an earlier manuscript (Ben-Zeev, Kaiser, et al., 2014). Briefly, seventeen individuals with schizophrenia or schizoaffective disorder and past or present substance abuse were enrolled in a 12-week single-arm trial of a mobile phone text messaging intervention to provide remote medication monitoring and daily support. The project was conducted in partnership with a large psychiatric rehabilitation agency in Chicago. Individuals were enrolled if they were 18 years of age or older, owned a mobile device, and received psychotropic medications. Research staff provided a complete overview of the study to potential participants and answered questions. Written informed consent was obtained from all participants. The study was conducted in accordance with the Declaration of Helsinki and was approved and monitored by the Committee for Protection of Human Subjects at Dartmouth.

Mobile Intervention

The mobile intervention was designed to enhance clinical monitoring and to provide brief daily support to individuals via mobile phones. A clinical social worker supervised by a clinical psychologist served as the mobile interventionist (i.e., clinician). The clinician sent daily text messages to participants' privately-owned mobile phones between 9 a.m. and 5 p.m. on weekdays to assess their medication adherence, symptom status, and functioning. The clinician provided text message feedback and support and suggested coping strategies in response to participants' replies to prompts and questions. Participants received a maximum of three messages daily. If a text exchange reached the day's texting allotment, the mobile interventionist would pick up where the thread ended on the following day, creating a content-continuous yet asynchronous conversation.

The clinician started the daily text message exchange by first asking about the participant's medication adherence. Depending on the participant's response, the clinician would either follow-up by praising the participant for taking their medication (e.g., "Way to go! You're awesome!"), or by encouraging the participant to take their medication (e.g., "How about you take them now?), and offering problem-solving strategies to improve adherence (e.g., "One way you can remember is to set an alarm. Would that help?"). If no further follow-up was needed to support adherence, the clinician provided other illness management and wellness suggestions in response to participants' needs (e.g., "How did you sleep last

night?") and goals (e.g., "Did you go to church yesterday. If so, how did it go striking up a conversation?").

If the participant mentioned an acute health problem (e.g., "My tooth is getting loose") the clinician encouraged them to seek treatment from a health care provider. For a personal crisis (e.g., "I'm getting evicted"), the clinician offered suggestions and informed the participant's community treatment team. Two weeks before the end of the trial period the clinician reminded participants that the intervention would conclude soon and focused text exchanges on post-trial self-management (e.g., "I enjoyed texting with you! I hope you are able to find work as you seem to really enjoy it"). All text messages were recorded and time-/date-stamped by the clinician.

Procedure

Participants reviewed all potential risks during a comprehensive informed consent process with research staff before agreeing to participate. Research staff reviewed limits to confidentiality associated with text messaging using open mobile phone networks, and clarified the participant's responsibility in maintaining privacy (e.g., not giving the phone to others, using device lock features when it's not being used, erasing text messages from the device regularly). Research staff also trained participants on how to use their mobile device prior to meeting with the mobile interventionist, and participants were briefed on what information may be available if they shared the mobile device with others. Participants were informed that the mobile interventionist should not be viewed as a time-sensitive resource and that in some cases it might take up to 72 hours before they receive a response (e.g., on weekends). Participants were instructed to contact their regular treatment team (all participants were receiving community-based care) or to call 911 for any emergency situations (i.e., risk to self or others).

Text message exchanges took place on participants' privately-owned mobile phones. Participants were reimbursed for text messages and compensated for the time they spent completing study measures. The research assistant reviewed the participant's phone plan provider to determine their monthly reimbursement. Participants received a flat rate of $30 per month or a prepaid $35 refill card for three consecutive months. Participants were not paid for their participation in the intervention nor did they receive incentives for their response rate beyond the encouragement they received from the mobile interventionist as part of the treatment model. All text messages (incoming and outgoing) were stored on the mobile interventionist's study phone. All of the messages were copied verbatim into a secure database on a weekly basis. Files that contained individual participant text threads were de-identified. The texting transcriptions constituted the data for the present study.

Data Analysis

Analysis was based on the 3-month text message transcripts for 17 participants who completed the mHealth intervention. The data were analyzed and interpreted manually. We analyzed text message transcripts using thematic analysis, which is a method for identifying, analyzing, and reporting patterns within data (Braun & Clarke, 2006). Thematic analysis is used to summarize key features of a large body of data while offering an in depth description

of the data (Braun & Clarke, 2006). Instances of a theme are noted; however, more text representing a theme does not necessarily mean the theme itself is more important than others (Miles & Huberman, 1994). We selected this approach because we wanted to capture the recurring patterns within the dataset in relation to our exploratory research question.

Our team-based analytic approach included generating initial code categories, combining codes into potential themes, and reviewing, refining and finalizing themes (Braun & Clarke, 2006). The coding process involved searching for a set of predetermined codes based on the aims of the mHealth intervention (e.g., medication adherence), while remaining open to discovering novel or unexpected codes. The first author (KA) generated a preliminary codebook that included a brief definition of each code with guidelines for when and when not to use the code. Three members of the research team (KA, JN and LG) used the preliminary codebook to independently code the same initial sample of text message transcripts. The results of the team coding were compared for consistency of text segmentation and code application. As we coded the data set, we systematically re-evaluated the usefulness of the codes and the coders' ability to consistently apply the codes by conducting periodic reviews of coded data for inter-coder agreement. All inconsistencies were noted, discussed, and resolved. As new codes were identified and agreed upon by the team, they were added to the codebook.

The qualitative analysis involved sorting codes into potential themes representing broad patterns in the data (Braun & Clarke, 2006). The team discussed the relationship between codes and between themes to confirm that the themes accounted for all of the coded segments of text in the data set. Definitions and names for each theme were generated to provide a clear picture of what each theme was about.

Results

We identified a final set of 22 codes relating to seven themes in the client-clinician text message exchanges. Themes covered different aspects of prevention, wellness, and illness management for individuals with dual diagnosis. The themes were: mental health symptoms, mental health coping strategies, mental health treatment and management, lifestyle behaviors, social relationships and leisure activities, motivation and goal setting, and independent living. A summary of the themes and codes along with examples of client-clinician text message exchanges is presented in Table 1.

Mental Health Symptoms

The first theme was mental health symptoms, which included the subcategories of depression, anxiety, voices, and mood. Text message data were coded as depression or anxiety if the clinician or participant explicitly referred to a diagnosis or a clear symptom of either condition (e.g., "depressive symptoms," "depressed mood," "feeling nervous," "panic," "social anxiety"). Text messages that referred to a more general emotional state were coded as mood (e.g., "How has your mood been today?"). While moods were often described as less specific and intense than symptoms of depression or anxiety symptoms, they generally had either a positive or negative valence (e.g., "good" and "bad" moods).

Participants also shared their experiences hearing voices (i.e., auditory hallucinations), which appeared to interfere with their functioning and quality of life.

Mental Health Coping Strategies

The second theme was mental health coping strategies, which encompassed the sub-categories of personal coping skills, social support, religious coping, and self-care. Text messages representing this theme included personal skills for coping with mental health problems (e.g., cognitive-behavioral strategies), seeking out support from one's social network and support groups, using religion, spirituality, and faith-based approaches to coping, and taking time for rest and relaxation (i.e., self-care).

Mental Health Treatment and Management

The third theme represented mental health treatment and management and included the sub-categories of medication adherence, patient activation, and treatment engagement. Text coded as medication adherence referenced adherence to psychiatric medication and included inquiries by the clinician about whether participants were taking their medication, along with problems related to medication, and suggestions for ways to improve adherence. Text coded as patient activation included efforts by the clinician to encourage participants to raise questions and concerns about their health and health care with a provider. This included encouraging participants to prepare a written list of priority questions to ask during health care visits. Text coded as treatment engagement included efforts by the clinician to encourage participants to seek out and use available mental health services (e.g., support groups, case management) in response to concerns and problems participants shared related to their mental illness.

Lifestyle Behaviors

The fourth theme was lifestyle behaviors, which included the subcategories of eating, physical activity, and sleep. Text message exchanges about eating covered both healthy eating (e.g., "drink more water," "eat more fruits and vegetables") and unhealthy eating (e.g., hot dogs, potato chips). The physical activity code was applied to text messages about activity and exercise that was either intended for the purpose of improving fitness (e.g., running, sit-ups, brisk walking) or general movement of the body (e.g., gardening, doing housework). The sleep code was applied when text messages referred to any aspect of sleep, including sleep hygiene (e.g., bedtime routines), medication effects on sleep, health behaviors and sleep (e.g., drinking caffeinated beverages before bed), and sleeping problems (e.g., insomnia, nightmares, restless sleep).

Social Relationships and Leisure Activities

The fifth theme was social relationships and leisure activities. Social relationships were defined as any informal social relationship (e.g., friends, family members, roommates, other clients). This included past or future interactions or activities with one or more other people as well as thoughts or feelings about other people. The leisure activities code was applied when the text message was about activities that are relaxing, fun, or interesting (e.g., going

to a museum, watching a movie) and done either alone or with other people. Leisure activities could take place at home or in the community.

Motivation and Goal Setting

The sixth theme included text messages that were categorized as motivational or involved planning or goal setting. The clinician used motivational text messages to encourage participants to pursue health and recovery goals that were revealed during their text message exchanges. This included reminding participants of the reasons they wanted to change a health behavior (e.g., to feel better, be more attractive, make new friends). Planning involved the process of planning activities. Text messages that referenced goal setting had an observable or measurable end result to be achieved within a specific timeframe (e.g., “Can you set a goal of doing an activity outside today?”).

Independent Living

The seventh theme was independent living, which included the domains of housing, employment, and finance. Text message exchanges about housing and finances were usually initiated by participants and referred to concerns about housing and finances, whereas text messages about employment typically involved communicating a desire to get a job. The clinician attempted to help participants problem solve and referred them to more specialized support services as needed.

Discussion

Our qualitative study identified seven content themes in client-clinician text message exchanges in an mHealth intervention for individuals with dual diagnosis. The seven major themes were: mental health symptoms, mental health coping strategies; mental health treatment and management; lifestyle behaviors; social relationships and leisure activities; motivation and goal setting; and independent living. Participants were particularly interested in discussing their mental health symptoms and strategies for coping with them as well as health behavior changes. This exploratory study revealed that individuals with dual diagnosis are willing to use text messages to communicate with clinicians about a range of prevention, wellness, and illness management topics.

The complex, interconnected relationship between health, psychological, and social factors often requires attention to each domain to effectively manage dual diagnosis (Mueser & Gingerich, 2013). Recent calls for innovations in dual diagnosis research include mHealth interventions that are client-centered and enhance providers’ ability to manage disorders and promote recovery (Drake & Green, 2014). Interactive text messaging is a promising approach to addressing an array of health and illness self-management issues across medical populations (Jones, Lekhak, & Kaewluang, 2014). Recent research has demonstrated that personalized and interactive mHealth interventions targeting medication adherence, psychiatric symptoms, socialization, and sleep are feasible and potentially beneficial for individuals with serious mental illness (Ben-Zeev, Brenner, et al., 2014; Granholm, Ben-Zeev, Link, Bradshaw, & Holden, 2012). Our qualitative study extends this prior research by providing a description of client-clinician text message exchanges in an mHealth

intervention for individuals with dual diagnosis. This research illuminated topics that appeared important to clients and clinicians and are feasible targets for this new medium.

Mental health coping strategies were a common topic of client-clinician text message exchanges. The fact that the clinician suggested coping strategies via text messages did not appear to diminish their potential value to participants. Participants were willing to share their mental health symptoms and experiment with different coping strategies, including personal coping skills and seeking social support. When coping skills are taught in a clinical setting using role-play scenarios clients must then learn to translate them into real world situations. Mobile platforms could enable clients to apply coping skills in real time when and where they are needed most. Researchers have conducted preliminary tests on mHealth interventions that provide personalized coping strategies to decrease mental health symptoms (Granholm et al., 2012). With further development and validation, mobile technologies hold great promise as a medium for delivering personalized coping strategies in real time to individuals with dual diagnosis.

Lifestyle behaviors related to diet, physical activity, and sleep emerged as a primary topic of text message exchanges. To date there has been little research on the use of text messaging to support weight-related health behavior change, such as promoting healthy eating and exercise, among individuals with serious mental illness despite numerous studies demonstrating the feasibility and potential benefits of this approach in individuals without mental illness (Fjeldsoe, Marshall, & Miller, 2009). People with serious mental illness experience a dramatically reduced life expectancy (up to 30 years less than the general population) (Colton & Manderscheid, 2006; Walker, McGee, & Druss, 2015), primarily caused by cardiovascular disease associated with obesity and smoking (Druss, Zhao, Von Esenwein, Morrato, & Marcus, 2011). Obesity rates are nearly twice as high in people with serious mental illness compared to the general population; approximately 60% of individuals with serious mental illness are classified as obese (Scott & Happell, 2011). While antipsychotic medications can contribute to weight gain (Manu et al., 2015), lifestyle behaviors such poor diet and lack of exercise are a major cause of obesity in people with and without mental illness and can be modified to improve health (Laursen, Nordentoft, & Mortensen, 2014). Many individuals with serious mental illness want to change their health behaviors (Aschbrenner et al., 2015), and there is evidence that lifestyle interventions lead to modest weight loss in people with serious mental illness, even among those taking antipsychotic medications (Bartels et al., 2013; Bartels et al., 2015; Daumit et al., 2013; Green et al., 2015).

There have been few interventions specifically targeting sleep among people with serious mental illness despite evidence that this population experiences poor sleep habits (Breslau, Roth, Rosenthal, & Andreski, 1996; Ford & Kamerow, 1989; Sánchez-Ortuño & Edinger, 2012). There is strong evidence that poor sleep hygiene contributes to increased risk of obesity and serious medical conditions such as heart disease and diabetes, as well as poor mental health and cognitive functioning (Irish, Kline, Gunn, Buysse, & Hall, 2015). This emphasizes that sleep is an important target to include in mHealth interventions addressing illness management in people with dual diagnosis (Ben-Zeev, Brenner, et al., 2014).

Our findings suggest that mHealth interventions involving client-clinician text message exchanges are acceptable for promoting a range of health behaviors among participants with dual diagnosis. For example, text message exchanges may help to facilitate uptake of interventions aimed at incorporating healthy eating, increased physical activity, and better sleep habits into daily routines. The potential of personalized text messages to support engagement in health behavior change may be particularly significant among individuals with dual diagnosis who may face additional perceived barriers to change related to a history of substance use (Nidecker, Bennett, Gjonbalaj-Marovic, Rachbeisel, & Bellack, 2009). Clinicians could use text messages to support health behavior change among individuals with dual diagnosis by providing tips and strategies for healthy behaviors and motivational messages to encourage progress.

The primary purpose of this exploratory study was to gain insight into topics that appeared important to clients and clinicians and therefore potential targets of future client-centered mHealth interventions for individuals with dual diagnosis. There are several limitations that warrant consideration. First, the sample size was small, involving volunteers who self-selected for the mHealth intervention study. In addition, the small sample size did not allow for determining if themes vary by type and severity of mental health or substance use problem. Second, study participants were actively engaged in dual diagnosis treatment and the observed themes do not necessarily apply to persons who are experiencing more acute symptoms or functional challenges. Third, the text-messages were primarily guided by the interests and concerns of participants, and thus may have underrepresented active challenges related to substance use. Smoking and substance use were discussed in a few instances but did not emerge as primary codes or themes across cases. It is possible that these and other topics would be of interest to clients in an mHealth intervention but did not emerge as themes in this study because they were unaware that the clinician could provide support for these areas. Finally, consistent with an exploratory qualitative study, the observed results illustrate common themes, but determining the effectiveness of this approach in improving outcomes will require a larger study.

Despite the limitations of this descriptive study, there are numerous strengths. For example, a major strength of this study was that participants used their own mobile phones to text with the clinician, highlighting that participants can be reached and engaged through a familiar and personal medium. This also suggests that an mHealth intervention involving text messaging may be potentially scalable and sustainable across a larger group of people with dual diagnosis who have access to mobile phones. The intervention initially targeted medication adherence but evolved over time to address a range of topics in response to participants' needs and preferences for support. As the rapidly growing field of research on mHealth interventions produces new approaches to targeting illness management, health promotion, and recovery in individuals with dual diagnosis, it will be important to involve participants and other stakeholders in the development of new technologies to ensure they are client-centered.

Our findings suggest that a range of topics critical to effective illness management and key to lifestyle change among individuals with psychotic disorders and substance use could potentially be addressed through text messaging-based interventions tailored to this

population. This mHealth approach to supporting illness management, health promotion, and recovery has the potential to improve services for people with dual diagnosis with fewer resources and greater personalization and client-centered care. Further exploratory research will help illuminate the ways in which mHealth interventions help individuals with dual diagnosis cope with illness-related challenges and improve their health and wellbeing.

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Table 1

Primary content themes and sub-categories of client-clinician text message exchanges

Major Theme	Sub-categories	Selected Excerpts from Client-Clinician Text Message Exchanges
Mental Health Symptoms	Depression	**Clinician:** "*Sorry to hear you got weak, tired and depressed yesterday. Do you remember what happened right before you starting feeling that way?*" **Client:** *"It can come suddenly with no trigger total loss of energy feeling hopeless little better now dread it happening again."*
	Anxiety	**Clinician:** *"How was it shopping? Did you have any anxiety being out in crowds?"* **Client:** *"I was nervous but I tried to keep my eye on what I was going to purchase and I was determined to get what I wanted."* **Clinician:** *Way to go!! You're awesome! Sounds like you really stayed focused and used your coping skills. I hope this gives you confidence to keep pushing through each time.*
	Moods	**Clinician:** *"How is your mood today?"* **Client:** *"Good, I'm doing excellent today."* **Clinician:** *"Great! So glad to hear. It can help to ask: "what has helped me be in this good mood?"*
	Voices	**Clinician:** *"How have your voices been this week? Anything I can help you with? Remember, voices come and go, but the impact they have on your life is in your hands."* **Client:** *"You are right about the voices I still hear the voices but I cant let the voices control my life."*
Mental Health Coping Strategies	Coping skills	**Clinician:** *"I know you can think of one thing in the past that you accomplished and are proud of!! Give it some thought and write me back. It could be anything!"* **Client:** *"I was thinking real crazy thoughts, and one day I tell myself "look…You have to stop thinking this way, or else something bad is going to happen." So I took it one day at a time and I stopped thinking about the crazy stuff?"* **Clinician:** *"That's super duper awesome!! You really took the power back and took charge of your life!"*
	Social support	**Clinician:** *"Avoiding people that make you mad is a great strategy! I wonder if there's someone else you could talk to during those times you're mad? Someone you trust?"* **Client**: *"Nobody I keep my madness to myself only staff no one I know right now."* **Clinician:** *"Keeping your madness to yourself sounds difficult and lonely. It can really help to have someone to talk to. Who in your life have you found it easy to talk with?"*
	Religious coping	**Clinician:** *"Sorry to hear you're having a panic attack. Please use your breathing techniques. What else helps?"* **Client:** *"Prayer."* **Clinician:** *"That sounds like that could be helpful. What's your favorite prayer?"*
	Self-care	**Clinician:** *"Take care of yourself! Rest is very important. What do you like to do to rest?"* **Client:** *"It is a matter of not doing anything laying down I still need a lot of down time but it is slowly improving."*
Mental Health Treatment and Management	Medication adherence	**Clinician:** *"Hey buddy! Hope your day is going well. You mentioned that sometimes you worry that you forgot to take your medications. Did you take them last night?"* **Client:** *"Hi... Yes every night i worry that i might forget to take'em. But i always take'em no matter what! But yes i took them."* **Clinician:** *"Great! What about the idea of marking down somewhere that you took them? Either on a calendar or somewhere else. So if you worry you can go back and look."*
	Patient Activation	**Clinician:** *"How comfortable do you feel asking your doctor question about your treatment and medications?"* **Client:** *"I feel perfectly comfortable asking about my treatment."* **Clinician:** *"Perfect! Your relationship with your doc is really important. It matters that you trust them and feel open talking to them. You are the expert on your own life!"*
	Treatment Engagement	**Clinician:** *"Good afternoon! Did you go to the groups yet at South? I'm looking forward to hearing how it went!"* **Client:** *"Yeah I went. And I was very very nervous. Those group leaders scare me with their aggressiveness. I couldn't wait to leave. I was so nervous. Now I have to take 2 buses to get home."* **Clinician:** *"Sounds like it didn't go so well. They say you should try everything several times before you make up your mind about it. Will you give it a few more tries?"*
Lifestyle Behaviors	Eating	**Clinician:** *"Hi! Did you have a chance to review your food diary for the past week? Is there anything you learned about yourself from looking at it?"* **Client:** *"I eat a lot of food of junk."* **Clinician:** *"That's a big thing you learned! Good for you for noticing that and being willing to admit it! We all have things we need to change about our diet. How could you reduce your junk food eating?"*
	Physical Activity	**Clinician:** *"Hi! What kind of exercising are you going to do today? Maybe go to the exercise room in your building?"* **Client:** *"I did some walking and got on the bus to the fish market."* **Clinician**: *"It's great how much walking you do! Don't forget to also stretch. Stretching keeps joints healthy and flexible. All you need is 5–10 minutes a day."* **Client:** *"I walked for ten minutes."* **Clinician:** *"Way to go!*

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Major Theme	Sub-categories	Selected Excerpts from Client-Clinician Text Message Exchanges
		Remember to walk fast enough to increase your heart rate and breathing and work up a sweat. This helps to burn calories and manage diabetes."
	Sleep	**Client:** *"I always sleep a couple of hours a night. I am used to it."* **Clinician:** *"Do you drink coffee, pop, or tea at night?"* **Client:** *"Yes, I drink diet cherry Pepsi, diet orange, and diet Mountain Dew."* **Clinician:** *"If you can, try not to drink them at night. They can make it hard to fall asleep because they have caffeine."* **Client:** *"What beverage do you suggest I drink at night?"* **Clinician:** *"Good question! Chamomile tea or warm milk are both great!"* **Client:** *"OK. I will try them, especially the tea."*
Social Relationships and Leisure Activities	Social relationships	**Client:** "*I am just starting recently to identify with people again before I was hopelessly lost in drug psychosis I have a ways to go."* **Clinician:** *"I really think's great and is a sign that you're getting better. Identifying and connecting with people is so important!"*
	Leisure activities	**Clinician:** *"What's your activity goal for the day?"* **Client:** *"Watching TV. And do some reading."* **Clinician:** *"Oh cool! What are you reading?"* **Client:** *"Several books."*
Motivation and Goal Setting	Motivation	**Clinician:** "Way to go! How are you feeling today? What's your mood?" **Client:** "I feel good today I am going to play my guitar today." **Clinician:** **"***That sounds great! You deserve to feel good with the way you've been so brave and strong this week. Keep at it girl!"*
	Planning	***Clinician:*** *"What is something you will do for yourself today, even if only for a few minutes?"* ***Client:*** *"I am going shopping today."* ***Clinician:*** *"Great enjoy your shopping trip! I will check in with you again on Monday."*
	Goal Setting	**Clinician:** *"I know you enjoy walks and it's beautiful out today. Will you take a walk today?"* ***Client:*** *"I'll take a walk for 45 minutes."* **Clinician:** *"Excellent! It makes it easier to reach goals when you make them as specific as possible. What time will you go today and where will you walk to?"*
Independent Living	Housing	**Client:** *"I cut my hair and I messed it up so I am going to get my hair cut after group. I might be getting my own apartment."* **Clinician:** *"Wow! That's one of your goals! I'm so excited for you. Can you tell me more about the apartment?"*
	Finances	**Client:** *"I don't have any food stamps for the month of October. I don't know what to do. I just submitted my form today. I went to the food stamps office. What else I can do?"* **Clinician:** *"Hi. I'm sorry about your food stamps. This is something to talk to John about, but it sounds like you're doing what you can."*
	Employment	**Clinician:** *"Have you thought about working to make more money so you can buy your healthy food?* **Client**: *"I honestly cant work…At least I can find the right job for me??"* **Clinician:** *"The right job is out there for you. I know it! Is work something you're interested in trying to find?"* **Client:** "*Yes it is but I need the right job for me??"* **Clinician:** *"Hi! I want to hear more about what kind of job you'd like. What kinds of jobs interest you?"*