Trajectories of Recovery among Formerly Homeless Adults with Serious Mental Illness

Deborah K. Padgett
New York University - Silver School of Social Work New York, New York dkp1@nyu.edu

Bikki Tran Smith
New York University 20 Cooper Square Rm 227, New York, New York 10003

Mimi Choy Brown
New York University - Silver School of Social Work New York, New York

Emmy Tiderington
Rutgers University - Social Work New Brunswick, New Jersey

Micaela Mercado
Silver School of Social Work at New York University - McSilver Institute for Poverty Policy and Research 41 E 11th St, New York, New York 10003

Abstract

Objective—Mental health recovery is possible for many individuals, but those with co-occurring disorders and homelessness face additional challenges. Though a non-linear course is assumed, few studies have analyzed recovery over time. This mixed methods study examined recovery trajectories of 38 participants with DSM Axis I diagnoses over 18 months after enrolling in supportive housing programs.

Methods—Qualitative interview data were quantified through consensual ratings to generate a recovery score for four waves of data collection based upon eight recovery domains culled from the literature. Case study analyses were conducted of participants whose scores varied by one standard deviation or more between baseline and 18 months to identify which domains were important.

Results—The majority (n=23) had no significant change in recovery, with eight having a positive and seven a negative trajectory. Case studies of these 15 participants showed domains that contributed to change (and numbers affected) were: significant other relationships (n=9), meaningful activities (n=9), mental health (n=7), family relationships (n=6), physical health (n=5), housing satisfaction (n=5), employment (n=2) and substance use (n=1). Except for mental health and substance use (only negative), domains were positive and negative in influence. Domains were intertwined in individuals’ lives, e.g., variation in social relationships was linked to changes in meaningful activities.

Conclusions—This report showed little change in recovery over time for most and a decline in mental health for a small minority. Importantly, it underscores the importance of social...
relationships and meaningful activities among individuals with serious mental illness who experience complex challenges.

Research has shown that mental health recovery is possible for many affected individuals (1^5) yet those with complex problems such as substance abuse and homelessness face additional challenges. Moreover, few studies have examined changes in mental health recovery over time even though a non-linear course is assumed (6). In a two-year study of recovery in a well-insured predominantly white population, Green et al. identified four trajectories of recovery among individuals diagnosed with mental illness – two stable (high and low levels of recovery) and two fluctuating (trending higher and lower) (7). Bobes and colleagues (8) found that mental health recovery was associated with illness-related factors previously found in other studies, including shorter duration of untreated psychosis (9), better premorbid adjustment (10^13) and use of antipsychotic pharmacotherapy (11^14^15).

Recovery has been defined as “a vision, a philosophy, a process, an attitude, a life orientation, an outcome and a set of outcomes.” (16). A primary difficulty in defining and measuring recovery is its idiosyncratic and subjective nature. In a narrative systematic review (17), 97 studies were identified and analyzed to produce a three-part conceptualization of the phenomenon of recovery. These three dimensions were: characteristics of the journey (e.g., unique, non-linear, active); recovery processes (connectedness, hope, identity, meaning and empowerment, or CHIME); and recovery stages of change (based upon the trans-theoretical model) (18).

An operational view of recovery was adopted by Whitley and Drake (19) as they outlined five types: clinical recovery (reduction in symptoms and in substance dependence), existential recovery (hope, empowerment, spirituality), functional recovery (employment, education and housing), physical recovery (health and well-being), and social recovery (social connections to family, friends and wider community). These dimensions are more directly linked to the challenges of recovery among persons with co-existing morbidities and other problems, the population of interest in our study. Thus, we drew on Whitley and Drake’s recovery dimensions to address the following research questions:

1) Are there changes in participants' recovery trajectories over time?

2) What is the lived experience of recovery over time?

In this mixed-methods study, a sample of formerly homeless study participants was followed over an 18-month period after entering supportive housing. Our overall goal was to understand the patterned ways that recovery changed over time as well as individual experiences. Persons with serious mental illness who also have histories of homelessness and substance abuse have received less attention in the burgeoning literature on mental health recovery and changes over time have seldom been documented.

**Methods**

**Participants and Procedures**

The study sample was part of a prospective (18-month follow-up) qualitative study conducted from 2011 to 2014. Participants were recruited as they entered two supportive...
housing programs in New York City. Written informed consent was obtained from participants prior to enrollment; 53 participants were enrolled during the accrual period. Eligible individuals had to meet the following inclusion criteria: history of homelessness and substance abuse, newly housed in the program (less than a month at time of initial interview), DSM Axis-1 diagnosis, and 18 years of age or older.

One participant was withdrawn from the study due to cognitive impairment and fourteen were lost to follow-up due to relapse or incarceration; there were no significant differences in average age, gender or ethnic composition in this group compared to the 72 percent who were retained in the study (n=38). Data from the 38 participants were included in this analysis (33 completed all 4 waves of interviews at baseline, 6, 12 and 18 months and the remaining 5 had completed the baseline plus 18-month and either the 6- or 12-month interview).

In the qualitative interviews, participants were asked to speak about their experiences across eight domains of recovery adapted from Whitley & Drake (19). These included mental health, physical health, work/employment, family relationships, substance use, significant other (friend/partner) relationships, housing satisfaction and engagement in meaningful activities. Interviews lasted 90 minutes on average and were audio-recorded and transcribed verbatim. Participants were provided $30 cash plus a round-trip subway voucher. All study procedures were approved by the authors' affiliated human subjects committee.

Data Analysis

Recovery Ratings and Change over Time

Qualitative interview data were quantified to generate a recovery score for each participant at each wave of data collection. This ‘quantitizing’ technique was used in order to make systematic comparisons across cases (20). The original reviewer and a second team member independently completed ratings of each transcript across the eight common recovery domains. Each domain was rated on a scale from 1 to 3 for low, mixed and high recovery, respectively and participants were given an overall recovery score ranging from 8 to 24 for each of the four waves. Ratings of transcripts (N=147; approximately 4500 pages of text, 30 pages per transcript on average) resulted in 1,176 observations and 147 scores. Consensus was used to resolve any discrepancies between the raters. We graphically plotted these scores with trend lines and calculated the trend in the trajectories as being positive or negative (defined as an increase or decrease of more than 1 standard deviation from the mean score at baseline versus 18 months) or no-change.

Qualitative Analyses using Case Studies

Following a sequential mixed methods design, the trajectories were used to guide qualitative data analyses of domains associated with positive and negative trajectories. Individual trajectories that showed upward or downward movement were identified for additional analyses of the individual domains and their contribution to (or hindrance of) recovery. Our approach echoed earlier work by Singer and colleagues in which individual trajectories are kept intact (person-centered) as much as possible despite being dependent upon quantitative
measures (variable-centered) (21). Following Stake’s guidelines on case study analysis (22), sources of data were assembled for each case, including all interview transcripts and interviewer observation forms (filled out after each interview). One research team member independently read all of the documents while linking the narratives to changes in the trajectory. Another team member independently reviewed the case files and consensus was reached on how positive or negative changes were voiced by the participants.

Results
Quantitative Findings
A majority of the participants were male (82%), African American (84%) and between 22 and 63 years of age with an average age of 42.7 years. Table 1 displays the distributions for each category of change (positive, negative, no-change). As shown, the majority (n=23) had no change in recovery, with 8 having a positive trajectory and 7 a negative trajectory. Table 2 shows the mean recovery scores at each wave. There were only modest differences with a slight drop at the 12-month wave.

Using our criterion of more than one standard deviation in change, a 15×8 matrix was constructed with the participants who met the criterion (n=15) arranged in the rows and the domains arrayed across the columns. A valence-positive, negative or no-change-was noted in each cell.

Case Studies of Recovery Domains over Time
In rank order beginning with the most frequent, the domains that contributed to change in the overall recovery score and the numbers of individuals affected were: significant other relationships (n=9), meaningful activities (n=9), mental health (n=7), family relationships (n=6), physical health (n=5), housing satisfaction (n=5), employment (n=2) and substance use (n=1). The lack of salience for the last two of these reflects the absence of work opportunities for persons with psychiatric disabilities and the relatively stable state of substance use recovery in participants’ lives. A note on the context of this latter observation: one of the supportive housing programs mandated abstinence but several participants in both programs reported occasional use of marijuana--only one significantly increased in substance use during the study.

The top two contributors to recovery operated in both positive and negative ways. Thus, ‘significant other relationships’ change affected six participants positively (finding a romantic partner or close friend) and three participants negatively. Engaging in meaningful activities increased for six and decreased for three participants. Participants who experienced a positive change in ‘significant other relationships’ (N=5) or ‘family relationships’ (N=2) also showed a positive change in meaningful activities engagement. ‘Mental health’ was only negatively influential, adversely affecting the recovery of seven individuals. Valences for the ‘family relationships’ domain were evenly split between positive and negative. Housing satisfaction was a negative influence for four of the five participants and physical health was negative for three and positive for two participants. With regard to housing satisfaction, this...
negative influence was attributed to financial problems experienced by one of the programs leading to fears of eviction among four participants in the study.

For 13 of the 15 participants, the valence of domains matched their overall recovery trajectory valence. Only two had a mix of both positive and negative change across the domains. For both, ‘mental health’ was negative and ‘family relationships’ and/or ‘significant other relationships’ and ‘meaningful activities’ was positive.

In returning to the person-centered aspects of individual trajectories, we used the case study analyses to trace the contexts of these domains. Not surprisingly, these were intertwined in individuals’ lives. For example, Darren (all names are pseudonyms) became close friends with a client and her boyfriend at a resource center he attended. This friendship paved the way for engagement in meaningful activities together, where before he had kept to himself and stayed in his apartment. In describing this relationship, he stated:

We talk, we get along…I go visit them…they'll cook for me, you know…we watch TV. She does a lot of talking about different things, just going on in her life, or what she has to do or sometimes she asks me questions about me and I answer her the best of my knowledge. I call her sometimes for advice and she calls me up for advice sometimes.

Similarly, Fay became friends with some of her neighbors and reconnected with her sisters. These relationships also contributed to an increase in participation in meaningful activities. She described “going to the movies with my friends or clubs…Manhattan [clubs] with my sister…we have fun…me and my sisters are getting along now.”

Conversely, relationship troubles contributed to a reduction in meaningful activities. Yolanda used to see her now-adult children on a routine basis. However, she noted, “my family’s really not giving me that much support nowadays. They really have given up on me.” During the study, she came to spend more time alone in her apartment.

I don't have any activities…All activity is really just focused in this apartment…My children stopped coming here to see me…They used to come see me every—very often. For some reason they just backed up…I really wish they were part of my life, so much involved in my life.

New friendships and activities were not always positive. Anthony became involved with a woman who was using drugs and would accompany her to a local park where drug dealing as well as substance use was common.

I was down here at [local park]…I went along with it at first, but then, things that she did I didn't want…She's out there at all hours in the night trying to get drugs… I'm trying to tell her, “You cannot be doing this every day because sooner or later that's going to catch up to you.”

During one evening at the park an altercation broke out and Anthony was concerned about getting caught up in it. He elaborated:

…they was getting loud. They was also drinking. The police rolled up…asked us politely to all please take a walk …I don't know because I was not trying to get
wound up into this situation and stuff because I've got my own problems...since I came into [supportive housing agency], I have not messed up. I'm about it to be three years clean, straight.

Anthony explained that it was not until he met a more positive female friend that he “started hanging out with her instead of coming down...to the [local] park `cause all the nonsense that goes on.” Developing multiple social relationships enabled participants like Anthony to be more selective about the people they chose to associate with and the activities that they took part in.

Mental deterioration was attributed to isolation, depression and stigma rather than psychotic symptoms. Sylvester checked himself into a hospital psychiatric ward saying he felt extremely depressed and lonely. Though desiring relationships with others, he thought that his medications would provoke stigma and further isolate him.

I'm tired of all these pills. If you went into my apartment, into my room, it's the whole dresser...I can't put them away, I don't know where to put them. I got to put them somewhere I am trying to see if I can get some company. Get some guts and see if I can find a friend. But....too many bottles...I don't want them to see them say, 'why you taking all these pills. What's wrong with you?' .

For Judith, the increasing toll of diabetic complications was further exacerbated by partner abuse and a decline in mental health, leading to heavier use of marijuana.

I'm struggling with my health. Physically and mentally. So that's two things right now that are so far against me...I got a therapist and a clinic that doesn't even really want to talk to me or hear me. I don't have no family here. It's supposed to be him [husband]...not only am I lonely, I feel alone....and then when he's here, all he does is badmouth me. Calling me names.

Discussion

In this mixed methods study we used longitudinal interview data to generate quantitative and qualitative assessments of recovery in a vulnerable population of formerly homeless men and women diagnosed with serious mental illness. Our analyses and findings followed a sequential design in which the quantitative results were used to identify a sub-sample for further case study analyses iteratively examined using a matrix of domains arrayed by cases. Each case was examined holistically to understand the interplay of positive and negative changes.

In returning to our research questions, we note that there was modest change in recovery affecting a minority of participants (15 of 38) and for only 8 of these participants was the change in a positive direction. The domains most likely to positively affect recovery—having a close friend or partner and engaging in meaningful activities—had a correspondingly negative effect on recovery when they declined. The frequency to which family and significant other relationships contributed to change in participants' lives further points to the salience of social relationships in recovery. Meanwhile, some domains—

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employment and substance use in particular—showed minimal impact on recovery (positive or negative).

As noted by Singer et al. (21), the `thinning down' of life histories necessitated by the desire to make comparisons—and the subsequent reliance on quantitative measures—diverts attention from inter-connections and dynamic change. Our approach reduced recovery to eight domains in order to compare across cases over 18 months' time but the individuals in our study also led complex lives that transcended these domains.

As with many individuals with a diagnosis of serious mental illness, recovery is a `work in progress' (1–3). Moreover, the combined impact of homelessness, mental illness and substance abuse is unlikely to be reversed in a short time. As noted by Henwood et al. (23) recovery is not a simple matter of satisfying basic needs before proceeding to other life goals. Our findings point to the central role of social relationships and the pursuit of meaningful activities such as going to the movies, a library, or the local park in contributing to a positive recovery trajectory for participants. For the participants with a negative trajectory, the undertow of poor mental health took its toll. Yet even here, their attributions focused more on social isolation and betrayal by family and friends than an increase in psychotic symptoms.

The recent push toward recovery-oriented services and person-centered care planning (24) highlights the importance of individual trajectories. We were struck by the continued unemployment in our study sample. More positive was the steady control over substance use (the latter one of few domains over which participants felt they had agency or control). While family relationships could be fulfilling, they could also be problematic. Previous research has shown severe depletion of social networks in this population (25) and assistance in restoring social relationships must take this into account. Finally, we note that physical problems (in addition to mental problems) hindered recovery by reducing mobility and quality of life.

**Strengths and Limitations of the Study**

We acknowledge that the `quantitizing' process, while independently rated and consensual, could be subject to ratings error. Such post-hoc ratings do have the advantage of drawing upon in-depth knowledge of the study participants on which to base ratings. With regard to the domains of recovery, these were consonant with mainstream definitions, but they fell short in assessing hope and future aspirations (18) as these were difficult to reliably capture from the data. We also acknowledge that our sample may have been biased toward `better scenario' cases given the reasons for attrition (substance abuse relapse and incarceration).

This study has strengths including the use of strategies for rigor (26) such as prolonged engagement with participants, peer debriefing and independent ratings of recovery followed by consensus building. Our aim was to draw on subjective reports in the service of objective indices then return to participants’ accounts via case study analyses to contextualize their meaning. The qualitative case study analyses were not used to corroborate but to expand on the quantitative findings, a common strategy in mixed methods designs (27). A final strength
is the longitudinal design. Studies of changes in recovery over time using mixed methods are relatively rare, and when conducted with this particular population, rarer still.

**Conclusion**

For individuals struggling with mental illness, homelessness and substance abuse, the roadblocks to recovery can be daunting. Our study showed salient contributors to recovery over time (improvements in social relationships, meaningful activities and maintenance of substance abuse recovery) as well as their interconnectedness. Recovery-oriented research and services can be improved by going beyond the alleviation of psychiatric symptoms to address consumers' perceptions as well as non-clinical aspects of their lives. Moreover, the interconnectedness of different domains of recovery affects an individual's recovery journey in patterned yet unpredictable ways.

**Acknowledgments**

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Table 1

Distributions for change in total recovery scores

<table>
<thead>
<tr>
<th>Category of change</th>
<th>N</th>
<th>%</th>
</tr>
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<tbody>
<tr>
<td>No change</td>
<td>23</td>
<td>61</td>
</tr>
<tr>
<td>Positive</td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td>Negative</td>
<td>8</td>
<td>21</td>
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## Table 2

Mean total recovery scores over time

<table>
<thead>
<tr>
<th>Total recovery score time of rating</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>38</td>
<td>16.55</td>
<td>2.18</td>
</tr>
<tr>
<td>6 Months</td>
<td>34</td>
<td>16.38</td>
<td>1.92</td>
</tr>
<tr>
<td>12 Months</td>
<td>37</td>
<td>15.92</td>
<td>2.54</td>
</tr>
<tr>
<td>18 Months</td>
<td>38</td>
<td>16.32</td>
<td>3.09</td>
</tr>
</tbody>
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