Tiny Homes Are Huge for People Living With Serious Mental Illness

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Abstract

Purpose: A formative evaluation examined the acceptability and feasibility of tiny homes for people living with serious mental illness (SMI). **Methods:** The evaluation included four focus groups with people with SMI and service providers ($n = 28$) and eight overnight stays with people with SMI. **Results:** The analysis identified six recommendations for tailoring the design of the tiny homes and the community where the homes will be located to meet the needs of people living with SMI. The recommendations for the design of the tiny homes included maximize natural light and outdoor spaces, design flexible living spaces, and ensure accessibility. The recommendations for the design of the surrounding community included ensure privacy, build a community, and maximize residents' connectivity. **Conclusions:** This research serves as a starting point for interventions that aim to develop housing that is both affordable and tailored to the needs of people with SMI.

Keywords

field of practice, formative evaluation, homeless, mental health, outcome study, population

Safe and affordable housing is a pressing public health and public safety issue (Sharpe et al., 2018). This issue is particularly salient for people living with serious mental illness (SMI), many of whom rely on government programs such as Supplemental Security Income (SSI) to provide the financial support they need to live (Mechanic, 2008). SSI provides recipients with financial support of about US$9,000 a year(Social Security Administration, 2019b). This yearly income is nearly 30% below the federal poverty level for a single individual (US$12,490; U.S. Department of Health and Human Services, 2019).

The financial reality of a fixed income presents a significant barrier for individuals living with SMI to find and maintain housing. In 2017, the average monthly rent was US$982 nationally, whereas the average monthly income for SSI recipients was less than US$750 (Data Access and Dissemination Systems, n.d.; Social Security Administration, 2019a). The gap between average housing costs and income for people living with SMI continues to widen: as the price of housing rises, the average amount of government assistance provided to people living with SMI remains relatively static (Burnside & Floyd, 2019). As a result, many individuals living with SMI are being priced out of the housing market altogether.

The impact of high housing costs on the well-being of people living with SMI is wide-reaching. Safe and stable housing has a profound impact on an individual's health, well-being, and connection to the larger community (Aubry et al., 2015; Evans, 2003; Joint Center for Housing Studies of Harvard University [JCHSHU], 2018; Lubell et al., 2007). For example, between 20% and 25% of our nation's homeless population is comprised of people living with SMI (National Coalition for Homelessness, 2009). The cost of housing forces many of these individuals to sacrifice basic needs, such as food, and live in precarious housing situations that are not conducive to their health and safety (JCHSHU, 2018).

Researchers, policy makers, and practitioners have worked for years to develop services that support the community integration of people living with SMI. This work has resulted in the development of permanent supportive housing, a service model that has proven effective at providing the services and supports that people living with SMI need to live independently in their communities (Culhane et al., 2002; Nelson, 2010; Tsemberis et al., 2004). Permanent supportive housing helps reduce homelessness by integrating affordable housing, typically provided

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through long-term leases, with individualized supportive services that are both flexible and available any time of the day or night. This service represents an important advance in efforts to integrate people living with SMI into community-based settings and its success is at least partially a result of combining housing with services and supports. However, most individuals receiving permanent supportive housing services have to compete in the open marketplace for a very limited number of safe and affordable community-based housing options. This limited supply of adequate housing options limits the success of programs such as permanent supportive housing and forces people living with SMI, as well as the family and service providers working with them, to scramble to find accommodations in low-rent apartments, congregate living situations, or other limited low-cost housing options in the open marketplace.

An underexplored solution to the housing dilemma facing people living with SMI is to expand the stock of affordable housing available for their use (Shinn et al., 2001). The Tiny Homes movement spreading across our nation offers a new affordable housing structure that could help to expand the housing stock for people with SMI. Small or micro homes have existed for a long time, but the concept only gained widespread recognition with the Tiny House Movement of late 1990s, which popularized the use of very small homes—mostly on wheels—as a way to downsize the space individuals live in, reduce their carbon footprint, and simplify their lives. In recent years, the Tiny House Movement has gained further momentum through popular TV shows like *Tiny House Nation* and the media coverage that has followed in both television and newsprint. For example, one article in the *New York Times* traces the popularity of the Tiny House Movement to the recession of 2008 (Lasky, 2019). In October 2019, another *New York Times* article highlighted the ways charities nationwide are creating tiny home clusters for people in need, and conversely, the desirability of tiny homes for vacationers and adventure seekers (Kahn, 2019).

A growing number of organizations have recognized the potential for tiny homes to provide a new form of affordable housing for vulnerable and underserved populations such as veterans and homeless individuals (Shelterforce, n.d.). This article presents the results of one of the first evaluations of the feasibility and acceptability of using tiny homes to provide affordable housing for people living with SMI. This formative evaluation explored the acceptability of tiny homes as a form of housing for people living with SMI with a particular focus on usability because evaluating usability early in design processes has been shown to increase the adoption, sustainability, and successful outcomes of newly implemented services (Lyon & Bruns, 2019). We posed two evaluation questions: (1) Do consumers of mental health services and service providers see tiny homes as a viable housing option for people living with SMI? and (2) What recommendations do service providers and consumers have for ways to design tiny homes to meet the specific needs of people living with SMI?

Method

This article presents the results of a formative evaluation that elicited user feedback from consumers of mental health services, service providers, and other system stakeholders on the viability and feasibility of tiny homes as a form of housing for people with mental illness. Data were collected through four focus groups with providers and consumers of mental health services and through eight overnight stays at a model tiny home described below. An inductive qualitative coding strategy was used to analyze data collected from the focus groups and overnight stays. All data collection associated with this formative evaluation occurred between September 2016 and September 2017. This evaluation was reviewed by the institutional review board at the University of North Carolina at Chapel Hill.

Setting

The results of the formative evaluation presented here are part of the Tiny Homes Village (THV), a demonstration project aimed at developing a new affordable housing option for people with mental illness. The THV is being built through a public/private partnership, led by the School of Social Work at the University of North Carolina at Chapel Hill and Cross Disability Services, Inc. (XDS, Inc.). The School of Social Work is leading efforts to raise the money needed to build the THV. XDS, Inc. is a private nonprofit organization committed to developing affordable housing options for people living with SMI. XDS, Inc. will be the owner and operator of the THV and owns the land where the THV will be built. Once the THV is built, The Center for Excellence in Community Mental Health Services, a community mental health center, will be the lead service providers for residents of the THV. More details about the THV demonstration project can be found at http://tinyhomes.web.unc.edu/.

The THV demonstration project has four phases: (1) conceptual development, (2) design and permitting, (3) horizontal construction, and (4) vertical construction. The data presented in this article are associated with the conceptual development phase of this project which involved two activities: building a model tiny home and engaging an evaluation to elicit user feedback on how to design the tiny homes and surrounding community to meet the needs of people with mental illness. The model tiny home was built through a partnership with Habitat for Humanity of Chatham County and a number of other local organizations. Once the home was completed and permitted, the formative evaluation was completed. The results of this evaluation, which are presented below, are being used to design the THV.

Sample

Participants for the focus groups and overnight stays were recruited using a combination of availability and snowball sampling. Members of the research team worked with the staff of a local mental health center to identify and invite people to

participate in the focus groups and overnight stays. All participants were 18 years of age or older. A total of 28 individuals participated in four focus groups. Two focus groups were held with individuals with mental illness who were receiving services from the community mental health center associated with this project ($n = 8$; $n = 7$), and two were held with mental health service providers working in the county where the THV will be built and its two adjoining counties, and with local and state policy makers ($n = 6$; $n = 7$). Because a substantial number of participants worked or received services from agencies associated with this evaluation, researchers took steps to guard against deductive disclosure. For the focus groups, researchers did not collect any personally identifying information from participants other than gender. In the focus groups with service providers, 77% of participants were women and 23% were men. In the focus groups with consumers of mental health services, 67% of participants were women and 33% were men. All focus group participants received a US$25 gift card.

A total of eight consumers of mental health services at the local mental health agency participated in an overnight visit at the model tiny home. As noted above, all participants in the overnight stay were adults. Additionally, in order to participate in the overnight visit, participants had to be receiving services from the local community mental health center associated with this project and be identified by their treatment team as psychiatrically stable and able to live in an independent living setting. All participants in the overnight visit received a US$25 gift card for their participation. In total, 75% of participants in the overnight visit were men, and the average age of participants was 49 ($SD = 10.6$).

Data Collection

Focus groups. Focus groups were conducted to elicit feedback on the design of the model tiny home and the community where the homes would be located. Each focus group had two components: a tour of the model tiny home and a group discussion. The focus groups were run by two facilitators and the discussion was recorded by two note takers who independently took notes during the group discussion and then reviewed their notes for accuracy and collated them into a single record after each group.

Tour of the model home. Each focus group began with participants touring the 326 sq. ft model tiny home. Participants received five feedback forms at the beginning of this tour. Each form had boxes that had space for participants to list what they liked and what they would change about each of the five living spaces of the tiny home (kitchen, living room, bathroom, bedroom, and front porch). Participants were instructed to think about how they would use each room if they lived in the home while giving feedback. In order to avoid a sense of overcrowding, participants toured the rooms in pairs, moving counterclockwise through the model tiny home until they had provided feedback on all five living spaces. A facilitator was present during the tour to oversee the process. Participants' feedback forms were collected at the end of the tours. Information provided through the feedback forms was then transcribed verbatim and checked for accuracy by members of the research team.

Group discussion. After completing the tour, participants returned to a large private conference room in a building adjacent to the model tiny home and engaged in the group discussion component of the focus group. This discussion had two goals. The first was to elicit participants' perspectives on the viability of the tiny homes as a housing option for people living with SMI and their recommendations for tailoring the homes to suit the needs of people living with SMI. Then, during the second half of the discussion, participants were shown plans for the proposed design of the THV and then had discussions that elicited participants' feedback on this design and other recommendations they had for the community where the homes will be located. Focus groups lasted between 90 and 120 minutes.

Overnight visit. A total of eight overnight visits took place at the model tiny home. The goal of these visits was to provide individuals living with SMI the opportunity to stay in the home and engage in their typical daily activities. Each visit lasted approximately 24 hours so that individuals could complete a full day's activities in the home.

A number of steps were taken to help participants prepare for their visit. First, an individualized schedule was developed for each visit. Participants were given a packing list that outlined items they should bring for the visit. All linens, towels, and kitchen utensils were provided for each visit. The model tiny home was equipped with internet, a TV, a DVD player, and a telephone. Participants only needed to bring the clothes and personal items they needed for the duration of the visit. Each participant was also provided money for food during their visit and a list of suggested food items to purchase for the overnight visit. Transportation was arranged for each participant and included a stop at a grocery store to purchase food for the trip if needed.

To facilitate participants' full use of all appliances and amenities, the model tiny home was equipped with a binder of instructions explaining how to use all the appliances and equipment in the house. The binder also included a list of phone numbers participants could call if they needed help during the visit, as well as a copy of their visit schedule described above. When participants arrived at the tiny home for their overnight visit, a member of the research team met them, helped them get their belongings settled, and reviewed all the tiny home's features. The research team member also explained where participants could go to get more information and help if needed. Participants were also informed that they could end the visit at any time and were given a number to call if they desired to leave early. They were also notified that treatment staff would stop by to check-in on them during their visit and were provided the approximate times of the check-ins.

Measures

The overnight stays also included three data collection points: the initial interview, participant feedback forms, and exit interview. All interviews associated with the overnight stays were audio recorded, transcribed verbatim, and checked for accuracy by members of the research team.

Initial interview. A research team member conducted a brief interview with participants at the beginning of each overnight visit. During this interview, researchers collected sociodemographic information such as age and gender. They also used an open-ended question to ask participants to discuss any prior experiences with tiny homes.

Participant feedback form. During the initial interview, each participant received the five feedback forms created for the focus groups and were asked to complete the forms during their visit. Participants were instructed to think about the activities they engaged in each room during their visit when completing the feedback forms. Members of the research team transcribed the feedback forms verbatim and checked the transcriptions for accuracy.

Exit interview. A research team member met with participants at the end of each visit to collect the feedback forms and complete an exit interview. During this interview, participants were asked a series of open-ended questions that elicited feedback from each participant on the tiny home's viability as form of housing for people with SMI and their recommendations for the design of the tiny home and the community where the homes will be located. The questions included (1) Tell me about your overnight visit in the tiny home, (2) What recommendations do you have for things we can do to make the tiny home a better living environment for people with mental health issues, and (3) What do we need to include in the tiny home community to help people feel connected to the community? Participants' initial responses to each question were explored further with probes and follow-up questions that were derived from the interview context in order to gain a full understanding of participants' responses.

Analysis

The data used in this analysis were drawn from three sources: focus group discussions, feedback forms from the focus groups and overnight stays, and interviews that occurred at the end of the overnight stays. The research team used an inductive coding strategy to analyze data through a two-step process. At each step in the analytic process, data were analyzed by at least two coders who used consensual coding techniques to ensure consistency in the coding process (Hill et al., 2005).

In the first step of the analysis, two members of the research team used line by line open coding techniques (Emerson et al., 2011) to develop a list of descriptive codes that represented all design suggestions and recommendations. These descriptive codes were grouped into two categories: recommendations for the design of the tiny homes and recommendations for the design of the community where the tiny homes would be located.

Then, in the second step of the analysis, the research team used selective coding methods (Miles et al., 2014) to use the descriptive codes to create design recommendations for the two categories established in the first step of the analysis (i.e., design of the homes and design of the community). During this second step in the analysis, the coding team systematically compared and contrasted the descriptive codes developed in Step 1 with one and other in order to group the codes with similar content into larger analytic categories. Then, once all of the descriptive codes were grouped into larger analytic categories based on similarity of content, the research team examined the relationships both within and between these analytic categories of codes to develop recommendations for both the design of the tiny homes and their surrounding community. This step in the analysis continued until the final set of recommendations included all of the feedback identified in the descriptive codes (Miles et al., 2014).

Several techniques were used throughout the analysis to strengthen the rigor of this analysis. As noted above, data were triangulated by method and source, all transcripts and notes were checked for accuracy and data were coded by at least two coders at each step in the analysis (Padgett, 2017). Additionally, the trustworthiness and credibility of our findings were strengthened through the use of negative case analyses and peer debriefing which were used to challenge and strengthen our emerging analytic framework and analytic memos which were used throughout the analysis to develop a clear audit trail (Padgett, 2017).

Finally, the results of this analysis are reported in aggregate form in order to protect participants from the possibility of inadvertent identity disclosure. As a result, quotations in the results section will not be linked to pseudonyms or other individual identifiers. This was an important step in ensuring participants' confidentiality, as data in this analysis are drawn from an evaluation of a program in which many stakeholders and participants work with each other.

Results

Participants unanimously endorsed tiny homes as a viable form of housing for people living with SMI. Notably, while many suggested ways to ensure the design of tiny homes meet the needs of people living with SMI, no one expressed concerns about the feasibility of tiny homes as a form of housing for people living with SMI. In fact, many participants, particularly consumers of mental health services, noted that the model tiny home represented an improvement in living circumstances compared to where they were currently living. For example, one of the participants with lived experience of mental illness said, "You think this is tiny—you should see where I live now." Another participant described the tiny house as "not that tiny,"

and a third participant observed that "it's compact but everything that you need is right there in the house."

Our analyses identified six common recommendations for tailoring the design of the tiny homes and the village where the homes will be located to meet the needs of people living with SMI. The three recommendations concerning the design of the tiny homes were to maximize natural light and outdoor spaces, design flexible living spaces, and ensure accessibility. The other three recommendations addressed the design of the THV and included the following: ensure privacy, build a community, and maximize residents' connectivity. We discuss each recommendation in detail below.

Maximize Natural Light and Outdoor Spaces

Participants consistently identified the model tiny home's front porch and the natural light provided by its windows as important design elements. For example, one participant said, "I really appreciate how much light there was in there," and others noted that "windows help open up [the interior] and [made it] feel like more space" and that "windows make it [the tiny home] feel bigger." Participants even suggested further increasing the amount of natural light in the tiny home by installing sky lights and windows on both sides of the house.

Participants described the front porch with equal enthusiasm, noting how much they "love[d] the space the porch provided," and that the porch was "very large, big enough to entertain [and that they] could have a grill and table with seats" if they desired. One participant found it "great to have a place to sit outside for any reason. A great view of the woods and part of the garden. I love porches." Participants uniformly endorsed the inclusion of a front porch, with many seeing it as an extension of the house's living space. Most had suggestions for how to further maximize the usability of the porch, typically by including a roof or awning and screening-in at least part of the porch.

Design Flexible Living Spaces

The model tiny home included a bedroom, bathroom, and an open space that was divided into a kitchen and living room by a countertop bar. Many participants noted that they liked the fact that the tiny home had a bedroom that was separate from the other living space and that it included room for a full-size bed. Although participants generally appreciated having a kitchen for cooking meals, some noted that the kitchen should not be the "showcase" feature of the homes. Others felt it was important to have "space for entertaining 2–3 people in [the] living area," leading some participants to suggest reducing the size of the kitchen. As one participant put it, the homes "need more space for living . . . [so designers should] cut back on counters to make [the] living area more spacious."

Unlike their discussions of other spaces in the home, participants did not have clear consensus on how the kitchen and living room spaces should be designed and used. The potential for differences of opinions among eventual residents of the homes related to the kitchen and living room space was even noted by some participants, one of whom suggested addressing this issue by opening up the kitchen and living room to make more "flexible space." This point was seconded by another participant who noted that the "design could be more utilitarian to open up spaces for different users."

Ensure Accessibility

In their feedback, participants offered suggestions for improving the tiny home's physical accessibility and ease of use. Participants frequently noted that the home's doorways were not wheelchair-accessible and that the bathroom (despite a relatively large shower which many considered accessible) was not a wheelchair-accessible space. Almost all participants noted that they were glad all the rooms were on one floor. One participant thought it was "good there is no loft" because they were no longer able to climb into such spaces, and other participants also advised against including bedroom lofts in future homes in the village due to the health problems many people with SMI have and so that people could live in the homes as they aged. Participants also suggested improving the physical accessibility of the tiny home by building ramps up to the houses or ensuring the steps leading up to the entryway were not too steep.

Participants offered strategies for improving the home's ease of use. Whereas one motivation of the Tiny House Movement is to help people simplify their lives by including only essential items in their home, participants in this study recommended a number of things to add to the tiny homes to make daily activities easier. For example, most participants reported a need for more storage space in the tiny home and suggested including more pantry space in the kitchen and a medicine cabinet in the bathroom to store their medications. The only appliances in the model tiny home were a refrigerator, a stove, and an all-in-one washer and dryer. Participants recommended including additional appliances such as a dishwasher, microwave, garbage disposal, and even room for a covered trashcan. While most participants were glad to see that homes had access to a washer and dryer, almost all felt the all-in-one machine model was difficult to use, and few wanted the washer and dryers to be located in their bedroom—the only living space that had room for this appliance in the model tiny home.

Ensure Privacy

In discussing recommendations for the village's layout, a central concern of the participants was ensuring residents' privacy. "I have to do a lot to keep my sanity," explained one participant, who felt that seeing "other people's [viz. neighbors'] bad moods and problems [would hurt] my progress." Another participant said they did not want highly visible neighbors to "ensure that your bad day doesn't become my bad day." These concerns led to extensive discussions about the optimal layout of the community and placement of the homes in relation to one another. Recommended design strategies for promoting

privacy included leaving enough or "lots" of spaces between the houses, ensuring residents had enough space to feel alone, planting trees to create extra privacy, and erecting visual barriers between homes.

At the same time, participants noted the need to balance "privacy and community." Some participants even pointed out that increasing the homes' privacy will "lessen stress and create good neighbors." Others noted that building standalone homes that do not share walls "can ease paranoia and other symptoms of mental illness because residents do not have to share walls or hallways which limits noise." Several participants suggested building the homes in a circular formation to promote daily interactions between community residents. One participant inverted this design, suggesting that the houses should be arranged in the circle but that they should face outward. Two other participants suggested building the houses off in the woods at a distance from each other.

Clearly, when building a community for people living with SMI, privacy is a primary concern. While no consensus emerged among participants on this issue, their comments provoked key questions about the optimal layout of the THV: (1) How to position and face houses in relation to one another? and (2) How to optimize residents' privacy within the context of a community setting?

Build a Community

For the purpose of our analysis, we define a community as a group of people who live together and share a set of common goals and experiences. Many of the participants' recommendations for the THV focused on ensuring the village had the resources and amenities needed to turn the cluster of tiny homes into a community. In the words of one participant, "[It is important to do] anything to make it feel like we are doing more than just being mentally ill people sitting around and being taken care of by others." Participants strongly desired that the homes not resemble a "group home" and that the village look like a "neighborhood." As expressed by one representative participant, it was important to "create a community that feels like residents have their own space with opportunities to socialize."

A frequently recommended strategy for transforming the THV into a community was to ensure the village had community amenities that everyone could use. For example, most people suggested including a central communal space that members of the community could share. Some suggested calling this building a "clubhouse" or a "common house." Different participants suggesting using this communal building as a utility space with washers and dryers "like a normal apartment complex," as a kitchen and dining room for entertaining guests and community gatherings, as storage space for shared recreational equipment, and as a place to hold group activities like a monthly game night.

Participants also recommended that the THV include a number of other community-building features such as outside space for games, walking trails, a garden, an outdoor amphitheater, a bike path, exercise space, reflection space, and an outdoor picnic area with a barbeque station. Participants also noted the importance of providing adequate parking and ADA-accessible sidewalks. Some also suggested that residents be treated as "tenants" who pay rent like typical renters.

In addition to creating a shared physical infrastructure, a number of participants acknowledged that a shared set of rules and guidelines establishing how village residents will live together would foster a sense of community and prevent residents from "step[ping] on each other's toes." One participant even suggested the village form a Homeowners Association comprised of resident members.

Maximize Connectivity

As witnessed in their feedback, participants strongly supported the idea of building a village of tiny homes for people living with SMI. However, participants emphasized that residents of the village should not become isolated within it. For example, as one participant noted, "I don't want [the] place to feel stigmatized so [I need] to create connections with [people] outside [the] community." Another participant expressed a similar concern, insisting that

> you got to make sure that they [residents] stay . . . You don't want "em isolated down here and isolated and think—'Oh, I just live among people with mental illness." So they have to be out in the community as well. So that may be something that we encourage, you know, to get out. To go out there.

Participants believed it was important to build connections to the larger community into the daily operations of the THV. They identified three types of connectivity needed in the residents' daily lives in the THV. The first is physical connection to the larger community. One of the key recommendations in this area is to provide residents access to transportation. One participant noted the importance of transportation saying, "I think the big thing is probably like transportation." Another participant built on this sentiment saying "another thing is transportation make sure the buses come out here. Yeah. Make sure the buses come out here so like so you don't have to walk a mile (to the bus stop)." Participant recommendations included a number of different forms of transportation, such as a bus stop within walking distance of the village, adequate parking for residents and the guests at the village, and public transportation that is available during both peak and off-peak hours.

Participants also discussed the importance of virtual connectivity for residents, suggesting that the village should be equipped with fast internet and good cell phone connection. For example, participants said things like "Internet service. That's a big thing—today in this world you need internet." In addition, participants noted the important role that television plays in individuals' ability to stay connected to the larger society. For example, one participant noted, "TV watching is important to (people with mental illness) they need a comfortable space to do that." This perspective was supported by

recommendations that the village provide residents access to cable TV in their homes and in the common house.

Third, participants stressed the importance of social connectivity (viz. with each other, their family and friends, and the larger community). This sentiment is demonstrated in the statements like "we want to create a situation where others want to come to this community" and "so anything you can do to create connections with the outside community, with workshops—agriculture stuff, permaculture stuff, anything that makes it feel like we're doing more than just mentally ill people sitting around and being taken care of." To promote social connectivity, participants recommended inviting people from the larger community to come to the THV for activities such as yoga or events at the outdoor amphitheater. Others recommended community amenities such as a meditation garden, walking trails, and an outdoor pavilion for community events. Many residents also endorsed creating a spot in the tiny homes community such as "a community gathering house or a gazebo or a clubhouse" where residents could come together and talk, cook meals, engage in recreational activities with each other and outside guests, and hold events and activities that help residents get to "know each other."

Discussion

The results of this evaluation demonstrate that tiny homes have unexplored potential to expand the stock of affordable housing available to people living with SMI. Because these homes were not developed to work in conjunction with a particular service model, they have potential applicability in a variety of mental health services settings. Although participants in this study found tiny homes to be a viable form of housing for people living with SMI, it is important to note that participants considered the tiny homes an improvement in living circumstances for people living with SMI, in terms of both space and quality of living. Participants in this study did not express interest in using tiny homes to join the Tiny Home Movement and downsize or live "tiny." Rather, they saw the tiny homes as a way to increase and stabilize their living spaces and have access to appliances and amenities that foster privacy, feelings of home, and dignity. Individuals living with SMI want to live in well-designed, affordable homes equipped with modern-day conveniences. The fact that the homes are considered tiny may make them novel, but care providers' and future residents' interest in the tininess of these homes is related to their affordability. The potential affordability of tiny homes makes this type of housing an important addition to the stock of affordable housing available to people living with SMI.

Another notable aspect of the findings presented here is that many of the recommendations made by participants have the potential to mitigate symptoms of mental illness. For example, exposure to natural light and outdoor spaces, as well as access to walking trails and exercise equipment may help alleviate symptoms of depression and anxiety. Ensuring that the tiny homes are physically accessible for adults with SMI can address the negative effects that co-occurring health problems can have on the functional independence and well-being of people living with SMI. For people living with SMI, living in well-designed tiny home communities could provide a valuable contribution to their self-care regimen, health, and well-being.

Another prominent theme in participants' feedback was their desire for connection. This is a central point to consider when designing communities for people living with SMI, as research has demonstrated that people living with SMI experience high levels of social isolation even when living in community settings. This sense of social isolation is so pervasive that some researchers have described individuals living with SMI as being in the community but not connected to their community (Wong & Solomon, 2002). The results of this study show that the physical and virtual aspects of social connectedness require multiple infrastructures to be built into the fabric of the community and that these infrastructures must be determined early in the development process.

These recommendations bring an important aspect of this project to the forefront. Namely, that it proposes to build the tiny homes within the context of a community that is also designed to meet the needs of people with mental illness. In one sense, this village will look like communities for older adults, where residents of a community share a common set of issues and live in a community that is tailored to their particular needs. Like many communities for older adults, the community being built in this demonstration project will have the resources needed to ensure residents remain connected to people and resources both within and beyond the village. We recognize that the idea of building communities of homes with people with mental illness as the primary target population is not without controversy. However, in the current policy framework where housing resources are directed toward using scatter site housing, people with mental illness often end up concentrated in impoverished urban communities that further their social isolation and lack the resources needed to support their health and well-being (Metraux et al., 2007).

Leaders in the field of community inclusion for people with mental illness note that a community integration framework is built on opportunity, which should include choice across a number of domains, including housing (Salzer & Baron, 2014). In this framework, mandating participation in a particular form of housing is contrary to community integration principles. Rather, this framework promotes developing a variety of options within each domain and then supporting individual choice and self-determination in how people participate within each domain (Salzer & Baron, 2014). The results of this study suggest that building homes for people with mental illness within the context of a community designed to meet their needs could optimize the benefits for individuals in terms of their health, well-being, and social connection, and therefore warrants further exploration.

Furthermore, the goal of this project is consistent with Salzer and Baron's (2014) community participation framework in that our goal is to develop a new affordable housing option that expands people with mental illnesses choices in terms of housing by adding to the continuum of affordable community-based

housing options available to them. There is no one single housing option that will work for everyone. Community integration is optimized for people with mental illness when they can afford to live where they choose (Salzer et al., 2014). This project is proposing a new housing option that, if successful, can be become a new affordable option for people with mental illness, but not the only housing option.

Our findings also illustrate how home design can improve the health and well-being of people living with SMI. These findings are especially notable, given the fact that the evaluation was not focused on these issues. Rather, the inductive nature of our analysis allowed these recommendations to emerge from the data. In terms of our project, these recommendations have direct practical applications in terms of concrete steps that we can take to tailor the design and construction of the THV to actively support residents' health and well-being. These findings also point to a larger question of whether housing could be a primary intervention for the health and well-being of people living with SMI. The data presented here suggest that there are ways to build housing and communities for people with mental illness that could have measurable positive impacts on individuals' mental health, social isolation, community participation and inclusion, and decreased stigma associated with mental illness.

In many ways, using housing as a primary intervention for the health and wellness of people with mental illness is a natural extension of the work being done around the social determinants of health. Significant amounts of money are spent each year on housing for people with mental illness. Findings from this study suggest that the potential benefit of this spending could be increased dramatically if more attention were paid to the design and condition of the housing being provided. But more research is needed on the potential benefits of housing in terms of its potential impact on the health and well-being of people with mental illness before large-scale investments should be made. It is also important to engage a cost-benefit analysis of the potential savings that well-designed housing can have for people with mental illness in terms of health care, social services, and justice involvement.

Limitations

The research presented here is an exploratory study conducted during the conceptual development phase of the demonstration project. The evaluation was intended to elicit stakeholder feedback about the acceptability of tiny homes as a housing option for people living with SMI. There are many questions about the costs of the homes and sustainability of the project that cannot be answered with data collected from this early stage of this project. Additionally, the study elicited feedback from a small group of consumers and service providers who all worked and received services from one mental health system. A strength of the study design was that it elicited feedback from consumers of mental health services, service providers, and system stakeholders on the design of the tiny homes. However, the sample size for this study was modest and all of the participants worked and received services from one mental health system, which potentially reduced variations in participant feedback. The results from this study provide initial recommendations for ways of designing tiny home communities to meet the needs of people living with SMI. It is our hope that these findings will inspire others to engage in research that investigates ways in which tiny homes can provide both an affordable housing option for people living with SMI and a primary intervention for the health and well-being of people living with SMI. In order to gain an in-depth understanding of how to optimize living spaces to support the health and well-being of people with mental illness future research must include more prolonged examinations of individuals' engagement with these spaces.

Next Steps

The results presented here created the foundation for the design of a community that will include 15 tiny homes. Veterans will be given priority considerations for five homes. This THV will include a number of community amenities such as a clubhouse, walking trails, and outdoor pavilion. Once completed, the ongoing operation and maintenance of the village will be supported through residents' rent, which will cost about a third of their monthly income (approximately US$300/month). All of the residents of the THV will receive permanent supportive housing services, which will be paid for through third-party payers. When completed, the project will provide proof of concept that Tiny Homes can be used to build well-designed, tiny homes on a permanent foundation for US$50,000 a home. The cost of the homes was determined using the median cost for new construction by square foot for the region where the village is being built.

This THV is being built through a multistep process supported by public/private partnership where the local nonprofit has donated the land, and the university is leading efforts to raise money from a range of donors to fund the construction of the village. A growing number of new affordable housing projects (see squareonevillages.org as an example) are using public/private partnerships to fund the development of new affordable housing options (Spillman et al., 2016). Public funding for affordable housing is very limited and existing financing options require developers to pass the cost of construction onto residents, which perpetuates rents that are unaffordable to most people with mental illness. Additionally, recent investments in the social determents of health among health insurance programs offer a new potentially powerful funding opportunity to support replication efforts (Spillman et al., 2016).

This demonstration project is preparing to begin the third project stage of horizontal construction in 2020. Despite the progress that has been made on this project, there are many issues that remain undetermined. For example, the cost breakdown, final designs, and exact size of the tiny homes will be determined during the last two project phases. The THV team, which includes architects, engineers, construction

professionals, and mental health professionals, will work together to finalize home designs that balance questions of physical accessibility, livability, and sustainability with affordability.

This project provides a rare opportunity for a real-time evaluation of key decision points and costs associated with building the THV and factors that impact their affordability and livability. This evaluation will also document strategies that the THV team uses to ensure the affordability of the homes and post the results to the project's web site to support replication efforts. But the fact remains that this is just one project. More work is needed in this area, both in terms of developing new affordable housing options for people with mental illness and evaluating the costs, outcomes in terms of affordability and health and well-being of residents, sustainability, and replicability of demonstration projects like the one presented here.

Conclusion

The title of this article states that tiny homes are huge for people living with SMI because of the opportunities that these homes bring in terms of affordability, quality of living, and potential benefit to the health and well-being of people living with SMI. We do not suggest that tiny homes are the only or even the primary solution to the housing dilemma facing people living with SMI. Most of the participant recommendations recorded here show that people living with SMI have the same aspirations as everyone else: to live in well-designed homes and communities that support privacy, autonomy, and opportunities to engage in meaningful daily activities. Many of the design recommendations in this study would benefit people with a number of different chronic health problems. We emphasize this point because we are not proposing that tiny homes be used to build communities solely for people living with SMI. Rather, we believe that tiny homes have the potential to fill an important gap in the stock of affordable housing available to people living with SMI, as well as other individuals with chronic health problems living on fixed incomes. We also believe more research is needed on ways to improve the usability of all forms of housing for people living with SMI. Researchers, practitioners, policy makers, and consumers must collaboratively develop ways to create tiny homes that offer not only an affordable housing option but an inclusive and active community that improves the health and well-being of people living with SMI and other people with chronic health conditions living on fixed incomes.

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