Fostering independence:

Transitioning residents with severe mental illness to independent living

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De overgang van mensen met ernstig psychiatrische aandoeningen naar zelfstandig wonen

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Chapter one

Introduction

This thesis focuses on people with severe mental illness (SMI) who often have a multitude of problems in various areas of life due to their illness. Many individuals with SMI struggle to have meaningful relationships, encounter difficulties maintaining employment, and have problems with living independently. Nowadays, recovery from SMI comprises a treatment and support package that includes a medical approach (e.g. antipsychotic medication) but also psychological and social support. Recovery from SMI is only possible with sufficient attention to the non-medical needs of individuals, such as housing, meaningful activities, and being part of a community. This thesis focuses on one particular aspect of recovery, namely community and supported housing facilities for people with SMI. Community housing programs include supported housing (SH) and supported independent living (SIL) facilities. In SIL, individuals live in a community residence or their own residence, while receiving support on an as-needed basis, for example 1-6 hours per week. The goal of community housing programs is to promote recovery from mental health issues and facilitate participation in society.[1]

Given that the support provided is aimed at enabling individuals to lead an independent and meaningful life, community housing programs play a crucial role in the rehabilitation of people with SMI. In this thesis, we attempt to learn more about potential barriers and facilitators of a successful transition towards independent living in individuals with SMI, as well as which characteristics of the SH environment may contribute to or hinder the rehabilitation of people with SMI.

Since the 1950s, there has been an increasing awareness that rather than staying in psychiatric hospitals for years, people with SMI should be supported in their own environment. Living in the community promotes social integration, and facilitates rehabilitation.[2] Mental hospitals across Western Europe have been closed or reduced in size accordingly. This deinstitutionalization process has varied across countries, depending on the political and economic system, geographical characteristics, national culture, and the organization of the mental healthcare system itself.[3] Box 1 provides a historical overview of the development of community-based mental health services in the Netherlands, particularly focusing on the evolution of residential care programs for people with SMI.[3–12]

Box 1. A brief history of community housing programs in The Netherlands from 1920-2018.

In the 1920s, the Netherlands pioneered community-based mental health services, establishing clinics in the community and gradually replacing asylums with a social psychiatric service system.[4]

In the 1970s, the government initiated a policy promoting smaller, regional psychiatric services and discouraging the use of large mental hospitals.[5] The Dutch Association for Community Mental Healthcare was established, aiming to provide care to everyone in need and prevent hospitalization. At the same time, mental hospitals improved their care: they started to increase their outpatient and day-patient care and renovated their inpatient facilities.[6]

In 1983, the concept of Regional Institutes for Residential Care (RIRCs) was introduced, advocating flexible housing facilities separate from mental hospitals and community mental health teams. Existing housing programs were merged into regional RIRCs.

Throughout the 1980s and 1990s, the number of residential places in RIRCs increased, reaching around 5,000 by 1999. In 1988 there were 59 RIRCs in total.[7]

In the late 20th and early 21st centuries, there was a movement towards the integration of mental healthcare services, driven by the introduction of the Health Care Insurance Act and the Social Support Act.[8] This resulted in many RIRCs merging with local mental hospitals and community mental health teams to form large regional mental healthcare institutions.[9]

RIRCs evolved into a distinctive sector, offering supported housing (24/7 support in a community residence) and supported independent living (support on an as-needed basis) to people with SMI.[10]

Between 2006 and 2009, the number of RIRC service users significantly increased, indicating a shift towards community-based care. However, this increase did not lead to a decrease in mental hospital beds, resulting in a phenomenon known as ‘re-institutionalization’. The same processes were seen in other Western European countries such as the UK.[3]

In 2016, it was estimated that around 16,500 people with SMI were living in supported housing, although there was a slight decrease since 2013. The group of people with SMI and comorbid physical health problems grew substantially.[11]

The number of people living in supported housing remained stable in 2017, but there was an increase in the number of supported housing places in 2018.The use of outpatient facilities remained stable between 2015 and 2018, but there was an increase in outreaching mental health care services from 2017 to 2018.[12]

Overall, the summary highlights the historical progression of community-based mental health services in the Netherlands, the establishment of residential care programs, and the ongoing challenges and changes in the provision of care for people with SMI.

Between 2002 and 2012, the number of places for SH tripled.[10] The Trimbos Institute provides research, policy, and practice-based advice for professionals on mental health and addiction issues across the life span, and across the promotion, prevention, treatment, and recovery spectrum. The Trimbos Institute estimates that there were about 16,500 people in SH in 2016.[11] The number of people with SMI living in supported housing has slightly decreased since 2013, although the number of people with complex mental health problems and co-occurring problems (such as substance abuse) has increased.

In addition to the increased complexity of the community housing population, there has been a stagnation in the transition from SH to more independent ways of living. The reasons for this stagnation were found in the scarcity of affordable rental homes, which makes the transfer to a residential neighborhood more difficult,[11] as well as the increase in size of the target group. Due to the reduced number of beds in psychiatric hospitals, individuals who require more extensive care are now transferred to SH instead of staying in hospital. This group requires more time and support to make the step to more independent ways of living and spend longer in community housing programs. Indeed, in turn this leads to longer waiting lists for SH facilities[13]. Importantly, in the long term, a large proportion of people with SMI fully or partially recover and move on to a more independent type of living.[10,14]

To date, little is know about the facilitators and barriers for making a positive transition towards more independent types of living. In this thesis, factors contributing to positive transition are explored. The results of this thesis might provide insights into factors promoting independent living for people with SMI, as well as contributing to the better organization of recovery-oriented mental health care facilities.

Aim and outline of this thesis

The Netherlands has a rich history of various ways of supporting people with SMI, including through SH. From a historical perspective, many SH projects have been initiated due to changing government regulation, as well as financial incentives. However, none of the decisions made have been based on scientific evidence. In fact, there is a huge research gap in this area, whereby in particular it is essential to know more about the potential barriers and facilitators of successful transition towards independent living in people with SMI, as well as which characteristics of the SH environment may contribute to or hinder the rehabilitation of people with SMI. In the current thesis, we aim to address these research gaps accordingly.

Outline of this thesis

The research questions in this thesis are formulated in the context of the following background knowledge and considerations:

- In the Netherlands, transitions to outpatient care are currently in full development by the Dutch Association of Mental Health and Addiction Care (GGZ), including within the community housing programs. As a result of this development, it is necessary to identify the care needs and expectations of people with SMI. It may be the case that people on the waiting list for SH have care needs and expectations that possibly match other forms of support, such as SIL or another form of outpatient support. Tsai and colleagues (2010) considered that the people interviewed in their study often did not realize that there were other support possibilities available in terms of housing.[15]
- Municipalities would like people with SMI to live independently as soon as possible.[12] This requires a more recovery supportive approach from Dutch regional institutes for residential care (RIRCs) towards their

clients, as well as increased knowledge about predictors of transition. Moreover, a better idea of factors that influence the rehabilitation of people with severe mental illness is needed to continue to provide the appropriate type of support towards people with SMI and pre-empt the expectations from the municipality.

- According to a cross sectional survey in Dutch RIRCs, one-third of people living in SH only suffer from mild dysfunction, which indicates that this group could make the move to supervised independent living.[10] Nonetheless, they prefer to stay within SH facilities. Therefore, more insight into the care needs and expectations of people with SMI who are living in SH and those who are on a waiting list for SH is necessary.
- There is insufficient scientific knowledge about the clinical predictors of the transition of people with mental illness and factors influencing the rehabilitation of people with SMI.

Main research question:

Which factors are associated with making a transition from supported housing to more independent ways of living for people with SMI?

This research question will be answered in four sub-questions (figure 1) of this thesis:

Figure 1.0: Thesis scheme

Research background
In the introduction (chapter 1) of this thesis, a historical overview of SH in the Netherlands is provided. This is important information about the background and setting of the studies described in this thesis.

In addition, we conducted a scoping review to examine the rehabilitation effectiveness of SH for people with SMI (chapter 2). We reviewed the existing literature on SH to 1) explore existing studies on SH, e.g. studies reporting on predictors of positive outcomes; 2) identify research gaps in this area; and 3) provide an international perspective. The primary objective of the scoping review was to explore the contribution of SH for people with SMI with respect to individual recovery. The second objective was compare the contributions of different approaches used within SH for people with SMI living in the community or in SH facilities.

Allocation of care and assessment
Under new administration, the Dutch government decided in 2012 that people with SMI living within SH should live more independently and that one-third of all beds in psychiatric residential care should be eliminated within three years. Consequently, it was decided that starting from January 2015, persons with a lower care package (who were allocated <10.5 hours of care) were no longer allowed to live in 24-hour supervised accommodation, such as SH. Nonetheless, the majority of individuals with SMI prefer living in SH facilities.[13] In **chapter 3**, we explore the expectations of individuals with SMI who were on a waiting list for SH. In addition, we explore whether individuals felt adequately informed about SH. Surveys were conducted with 38 individuals with SMI who were on a waiting list for SH, and their care need inventories were studied.

Therapeutic relationship
Case managers play a crucial role in rehabilitation programs for people with SMI. The relationship between the case manager's personality and the well-being /condition of the person with SMI has previously been studied, although no studies have examined the specific relationship between the case manager's personality and the functional outcome of people with SMI. In **chapter 4** of this thesis, we explore the association between functional outcomes of people with SMI and personality traits of the case manager, exploring the following sub-question: Which personality traits of case managers significantly contribute to better functional outcomes of persons with SMI living in community housing

programs? For this study, questionnaires were completed by case managers working in community housing programs.

Predictors of transition of people with severe mental illness

Previous studies have identified several predictors of a positive transition towards more independent forms of living.[16] A positive transition was associated with a better income situation, as well as a larger social network.[16] Beyond this, little is known about the factors associated with a transition towards independent living of individuals with SMI. This research gap is addressed in **chapters 5 and 6**, where we analyse which variables predict a transition of persons with SMI from an SH setting to a more independent way of living. In **chapter 5**, the Utrecht Psychiatric Case Register is used to obtain the necessary data for the analysis. During this cohort study, 1,569 individuals with SMI living in SH in the Utrecht region were included. In **chapter 6**, questionnaires completed by the case managers of the individuals with SMI living in SH in the Utrecht region were used to obtain the necessary data for analysis. Outcomes were quality of life, functional outcomes, and the relationship between the individual with SMI and their case manager.

In chapter 7, the findings of all studies described in this thesis are summarized, and implications, limitations, and directions for future research are discussed.

Chapter two

Supported housing for people with severe mental illness: a scoping review

Authors
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Abstract

Background

Exploring supported housing for people with severe mental illness (SMI) in relation to individual recovery.

Methods

Studies were retrieved through systematic searches in the PubMed Central, PsycInfo, ScienceDirect and Web of Science databases.

Results

The literature suggests that supported housing contributes to stable housing and a better quality of life, reduces homelessness and improves mental health outcomes. Models such as Housing First, Double Trouble in Recovery and Group-Intensive Peer Support also contribute to community integration.

Conclusions

The results of this scoping review suggest that supported housing promotes recovery in SMI by providing daily support, contact with other people with mental illness, and contributes to community integration. Nevertheless, further research is needed, including how people with SMI living in supported housing could make the transition towards a more independent way of living.

Keywords: supported housing, severe mental illness, effective models, psychiatry, review

Introduction

In the mid-20th century, mental health care started moving away from large residential hospital settings towards housing people with severe mental illness (SMI) in the community. Since the introduction of community care legislation in many countries across the world, there has been a significant reduction in the number of people with SMI who spend extended periods in long-stay hospitals. People with SMI were increasingly allocated to community housing programs or residential facilities in a community settings, such as supported housing.[13,17] Supported housing includes permanent and supervised housing in residential areas. There are various types of supported housing for people with SMI, such as hostels, group homes, therapeutic communities and supported independent living.

The provision of suitable accommodation and/or housing is crucial in facilitating the rehabilitation and recovery of people with SMI, besides regular mental health treatment.[18] Supported housing may reduce the risk of dependency on professionals and prevent unnecessary exclusion from the community.[18]

Thus far, reviews have focused on the type of housing or the effectiveness of housing models. In 2009, Leff et al. conducted a meta-analysis describing the effectiveness of housing models for people with SMI. In their meta-analyses, they explored 44 housing alternatives in 30 studies, categorized as 1) residential care and treatment, 2) residential continuum, 3) permanent supported housing, and 4) non-model housing (regular treatment for people with SMI). They concluded that all models had a significantly greater housing stability than regular treatment (non-model housing), also finding that this effect was greatest for permanent supported housing (effect size=.63, $p<.05$).[19] The meta-analysis provided quantitative evidence that compared with regular treatment, housing models contribute to stable housing and favorable mental health outcomes. Another result of the study was that residents were very satisfied with supported housing. In addition, the results described in the meta-analysis were consistent with the theory that different housing models achieve different results for different subgroups of people.[19]

According to the review by Bond and Campbell (2008), supported housing contributes to reduced homelessness and hospitalization.[20] In their review, Corrigan and McCracken (2005) compared in the 'place first, then train' and

'train first, then place' models. They concluded that 'place first-then train' approaches can help people with SMI to attain many of their housing goals without increasing the frequency of relapse.[21]

The present study aims to review the existing literature to provide more information regarding supported housing interventions for people with SMI. To explore a wide variety of studies on the contribution of supported housing, the inclusion criteria were broad to not only include randomized or quasi-randomized trails but also cross-sectional and longitudinal studies, and qualitative studies.

Methods

Literature search and identification of the evidence

The PubMed, PsycInfo, Web of Knowledge and ScienceDirect databases were systematically searched in July 2012 using a comparable search strategy, with adapted index terms per database. These databases were selected as the most relevant databases to screen. The search queries included combinations of the following terms: "supported housing," "sheltered housing," "supported living," and "sheltered living. To identify the intended client group, the following search terms were used: "severe mental illness," "SMI," "psychiatric disorder," "persistent mental illness," "chronic mental illness" and "psychiatric disability." Because this review was intended to identify relevant effects of supported housing, the following search terms were included: "effect," "decrease," "increase," "psychiatric hospital," "psychiatric bed," "compulsory admission," "mental hospital," "hospitalization," "clinical bed," "reduction," "recidivism," and "rehabilitation." Synonyms, conjugations, and pleural forms of the search words were also included, and both UK and US English versions of words were used. Filters were set (if possible) to only include peer-reviewed articles written in English. Articles were included if the search terms were used in the title and/or abstract or for indexing in the database. The search strategy was designed by two researchers and separately reviewed by a third (see the Appendix for an example of the search string for PubMed).

Articles retrieved were exported to Reference Manager and duplicates were removed. Subsequently, all remaining records were screened for potential relevance based on their title and abstract. After independent screening by two of

the authors, discrepancies were discussed until consensus was reached between all authors. If the title and abstract did not provide sufficient information, full-text articles were assessed for eligibility. Both qualitative and quantitative studies were included, as long as they adhered to the inclusion criteria.

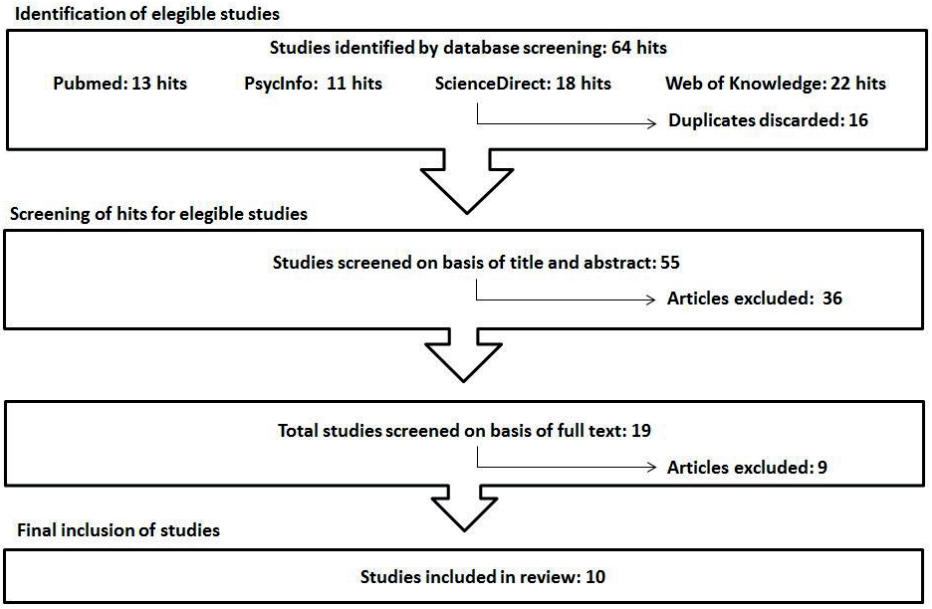
Inclusion criteria

Publications were included when the following criteria were met: (a) the study included information on supported/sheltered housing for people with SMI, and reported on effects of housing; (b) the paper was written in English; (c) the study was published in a peer-reviewed journal; and (d) only full papers including original data were included (not systematic reviews, meta-analyses, reviews, not abstracts, editorials, or commentaries).

Data extraction and synthesis

Two authors (M.L and V.B.) independently extracted the following data from the included studies: (1) general study characteristics (authors, year, title); (2) study design; (3) type of data collected; (4) number of participants and their general characteristics; (5) research question(s) and hypothesis/es; (6) instruments and variables used to answer the research question(s); (7) duration of the study and follow-up; (8) main study findings; (9) main study discussion points; and (10) room for other comments of reviewers. Both authors classified all included studies according to the levels of evidence for therapeutic studies developed by the Centre for Evidence-Based Medicine (EBM levels) for treatment studies (for further details, see Table 1).[22] Disagreements were resolved by discussion between the two review authors, and if necessary by a third independent researcher (see flowchart 1 for details of the full review inclusion process).

Flowchart 1: Flowchart of the review inclusion process



Results

Overall, ten studies were included, of which four had a qualitative and six a quantitative design. The ten studies comprised one randomized controlled trial (EBM level 1b), two prospective longitudinal studies (EBM level 2b), four cross-sectional studies (EBM level 3b), a case vignette study, one qualitative longitudinal focus group study (EBM level 4) and one study with qualitative interviews (EBM level 5).

Six studies were from the US, two from the UK, one from Sweden and one from the Netherlands. The included studies showed considerable diversity regarding the number of participants, varying from 9 to 414 participants. The oldest study was published in 1995 and the most recent study was published in 2012. Table 1 shows the characteristics of the ten original studies. The search identified multiple articles that examined supported housing interventions, exploring factors influencing outcomes. In addition, multiple articles were identified that focused on distinct approaches or models with respect to supported housing. The results section is structured accordingly.

Supported housing for people with SMI in general

Seven articles were found supported housing in general: one study with an EBM level 2b,[23] four EBM level 3b studies,[24–27] one EBM level 4 study,[28] and one study with an EBM level 5.[29] For each topic, the included studies were ranked according to their EBM.

Degree of influence in choice of housing (EBM level 2b)

We found a prospective longitudinal study about the level of housing choice and the relationship of choice to community success in supported housing projects.[23] Based on their results, the authors concluded that the degree of influence of the individual with SMI on the type of supported housing is an important success factor for community integration.[23] In their longitudinal study, 115 people with SMI received services from ten supported housing projects. The study assessed the degree of influence that the individual with SMI has on the decision concerning which type of supported housing they choose (named 'housing choice' by the authors), and its association with successful community integration. An instrument to assess housing choice was developed for this study. The longitudinal analysis demonstrated positive yet weak relationships between housing choice and community success variables of housing satisfaction, residential stability and psychological well-being.[23] The authors of this study concluded that service providers had a strong degree of influence over the housing choice of people with SMI, whereas people with SMI had very little influence.

Neighborhood variables (EBM level 3b)

One study examined the influence of environmental factors associated with supported housing. Wright and Kloos (2007) described the effects of perceived housing environment on selected well-being outcomes of people with serious mental illness living in supported housing programs. In this cross-sectional study, self-report data were retreived from 249 participants living in ten different cities and 34 different housing sites across a southeastern state of the United States.[27] The study showed that individuals' perceptions of their living was associated with well-being outcomes. Neighborhood aspects such as the amount of traffic, the availability of street lamps and sidewalks, area accessibility and the availability of services (such as shops) were reported to be important for well-being.[27]

Table 1: Characteristics of all included studies per study design.

Nr	First author	Research design	Study objective	Year	Topic	Type of sh	Sample size	Country	Results	**Level of evidence[2]
1	Gulcur	RCT	This study tests components of Wong and Solomon's (2002, Mental Health Services Research, 4(2), 13–28) model of community integration, identifying both the dimensions and predictors of integration. It evaluates community integration among people with psychiatric disabilities assigned randomly to receive either independent scatter-site apartments with the Housing First approach (experimental) or services as usual (control).	2007	Housing models	1	225	US	Regression analysis suggested that choice and independent scatter-site housing were predictors of psychological and social integration respectively. Psychiatric hospitalization, symptomatology and participation in substance use treatment were also found to influence aspects of integration.	1b
2	Depla	Cross-sectional study	Supported living in residential homes for the elderly is an innovative, age appropriate residential program for older people with chronic mental disorders. The program involves 1) accommodation	2005	General	2	178	Netherlands	After adjustment for patient characteristics, the supported-living participants experienced a significantly lower quality of life than the hospital patients, as indicated by two of the three PGCMS	3b

			in ordinary "elder care" homes; and 2) provision of on-site mental health care by professionals from the local psychiatric hospital. The authors asked whether the program succeeds in improving the patients' quality of life without compromising their mental stability.						subscales and by the MANSA. Disparities were greatest in the subgroup of patients with psychotic disorders. No significant differences in mental stability were found between the two conditions.
3	Lambri	Cross-sectional study	This study was exploratory in nature and sought to collect information from a random sample of those with SMI residing in different housing types in Haringey. The authors aimed to examine differences between the self-assessed needs of residents and those determined by their caseworkers. Additionally, they sought to determine which variables (if any) predicted quality of life, irrespective of housing type.	2012	General	3	220	UK	People in "low-support" and "high-support" housing had similar symptom scores, although low support had significantly lower quality of life. Quality of life was positively predicted by self-reported mental health score and negatively predicted by unmet-need score in whole sample and in medium-support residents. Residents' and care workers' assessments of need considerably differed.	3b

4	Priebe	Cross-sectional study	This study aimed to assess housing services for people with mental disorders of working age in England and identify who is living in different types of housing services, what care or support they receive, and what costs are generated by care in and outside of the housing service.	2009	General	4	414	UK	Most patients receive support with activities of daily living and are involved in some sort of occupational activities. 52% have a care co-ordinator in a community mental health team. Care provision and costs differed significantly between care homes, supported housing services and floating support services.	3b
5	Wright	Cross-sectional study	This study examines the effects of perceived housing environment on selected well-being outcomes of a seriously mentally ill population in supported housing programs.	2007	General	4	249	US	Results show that neighborhood level variables, especially those relating to the social environment, are the most influential predictors for understanding variance in well-being, with apartment level variables also contributing to understanding of housing environment effects. The census tract level predictors did not contribute a	3b

									significant amount of explanation of the variance in well-being outcomes.	
6	Carpenter-Song	Qualitative long. focus group study	To identify features of the contextual environment of recovery communities that contribute to recovery from the perspective of recovery community residents.	2012	General	5	8 groups	US	Thematic analysis yielded three contextual domains through which study participants articulate the RC contributing to their recovery: (a) service environment, (b) physical environment, and (c) social environment.	4
7	Tsai	Case Vignettes study	A Group-Intensive Peer Support (GIPS) model of case management for supported housing initiatives is proposed. The principles behind the model and initial experiences with its implementation are described.	2011	Housing models	6	80	US	Groups helped maintain frequent contact with clients, minimized staff travel time, and fostered client information-sharing, peer support, and community adaptation. Case vignettes from three different phases of GIPS are used to illustrate the potential benefit for both client well-being and more efficient use of staff time. GIPS is a	4

									conceptually promising alternative approach that may be of special value in large multisite programs because it promotes peer support, staff efficiency, and client social reintegration.	
8	Högberg	Qualitative interviews	The aim of this study was to describe psychiatric nurses' experiences of different types of supported dwelling for people with long-term mental illness, and their views on what they consider to be important principles to provide for in order to facilitate their social integration into the community.	2006	General	4	9	Sweden	A qualitative content analysis revealed 'attempting to uphold the principle, respect for the patient's right to self-determination' as the main theme, which was linked to three sub-themes: the nurses' view on their moral responsibility; the nurses' views on social norms that patients must follow in order to be accepted by their neighbors; and the nurses' views on supported dwelling of good quality. The nurses perceived that personal contact between the neighbor and the mentally ill person was one essential way to reduce fear of the	5

									mentally ill person. They viewed themselves as a link between the mentally ill person and other neighbors.	
9	Magura	Prospective longitudinal study	The authors examined the associations between attendance at self-help meetings, adherence to psychiatric medication regimens, and mental health outcomes among members of a 12-step self-help organization specifically designed for people with both chronic mental illness and a substance use disorder.	2002	Housing models	7	40	US	Consistent attendance at DTR meetings was associated with better adherence to medication regimens after baseline variables that were independently associated with adherence were controlled for. Three baseline variables were associated with adherence: living in supported housing, having fewer stressful life events, and having a lower severity of psychiatric symptoms. In addition, better adherence was associated with a lower severity of symptoms at one year and no psychiatric hospitalization during the follow-up period.	2b

10	Srebnik	Prospective longitudinal study	This study assessed the level of housing choice and the relationship of choice to community success in supported housing demonstration projects in five states.	1995	General	8	115	US	Assessment of level of choice about housing revealed very limited housing options and a high degree of influence from service providers over housing choice. Despite few options, most respondents liked their housing option(s) and felt they had enough information to make a good housing decision. The relationship of choice to community success over time demonstrated that choice was positively related to housing satisfaction, residential stability, and psychological well-being.	2b

Legend
SH=Supported housing
Supported housing type: 1: independent scatter-site apartments, 2: supported living in residential homes, 3: residential housing with a low or high level of support, 4: different housing sites, 5: recovery-orientated supported independent housing, 6: permanent supported housing (including HUDVASH program), 7: daily treatment programs, 8: apartments or houses with support services.
[2]Levels of evidence for therapeutic studies: 1b: individual RCT (with narrow confidence intervals), 2b: individual cohort study (including low quality RCT, e.g. <80% follow-up), 4: case series (and poor quality cohort and case-control study, 5: expert opinion without explicit critical appraisal or based on physiology bench research or “first principles.”

Quality of life (EBM level 3b)

Lambri et al. (2012) examined the differences in quality of life between people with SMI living in high- and low-support accommodation. Quality of life was measured using the Lancashire Quality of Life Profile. Participants in high-support accommodation had the highest total quality of life score as well as the largest number of high scores, whereas the total quality of life score was lowest in low-supported residents. A multiple regression analysis performed in the same study shows that quality of life was predicted by lower user-determined unmet needs (b=-0.27) and a higer SF-36 (short form, which assesses eight health concepts) mental score (b=.0.016).[25] The authors of the study further concluded that although the housing needs of people with SMI were broadly met, those in low-support accommodation fared least well.[25]

Priebe et al. (2009) concluded in their cross-sectional study that increased transparency and clarity is required about what care different types of housing services provide, so that people with SMI and referring clinicians know what to expect from such services. They suggested that quality standards and their potential link to funding (i.e. funding contingent on certain standards being met) might require some control and inevitable bureaucracy but should also help to ensure that all people with SMI in housing services receive appropriate care.[26]

Depla et al. (2005) compared 96 elderly people (age >65) with SMI in supported housing programs with those in psychiatric hospitals to examine whether the program succeeds in improving the quality of life of people with SMI. The authors hypothesized that supported housing programs would improve quality of life and maintain mental stability. In contrast to their expectations, people with SMI in supported housing experienced a significantly lower quality of life than those in psychiatric hospitals, with strongest disparities in the subgroup of people with psychotic disorders. Elderly people with SMI living in supported housing had more negative attitudes towards growing older, experienced more loneliness and reported lower life satisfaction than elderly people with SMI living in psychiatric hospitals. No significant differences in mental stability were found between the two conditions.[24]

Recovery communities (EBM level 4)

In order to gain more insights into how recovery communities contribute to recovery for people with SMI, Carpenter-Song et al. (2012) conducted a two-year longitudinal focus group study comprising eight focus groups with the same people. They examined the impact of recovery-orientated supported housing (recovery communities) on the individual recovery process in people with SMI. In the study, focus groups were conducted with recovery community residents at four-month intervals to inquire into day-to-day life in the communities. People with SMI overwhelmingly expressed that recovery communities played a positive role in their recovery processes. The study identified three features of the contextual environment of recovery communities contributing to participants' subjective sense of recovery: 1) from the perspective of the participants, the association of recovery communities with a reputable mental health care institution held significant importance; 2) participants perceived recovery communities as realms of safety and security; and 3) participants expressed the importance of the social environment in the context of living with psychiatric disabilities. Participants described feeling known by and "in tune" with fellow residents in the recovery community. Recovery communities seemed to do more than simply link people with SMI to clinical services, with residents emphasizing the importance of the recovery community as a place of safety and security. The positive interdependence that exists among people with SMI living in recovery communities seemed to strengthen their recovery processes and facilitated peer support, allowing residents to talk about mental illness and substance abuse.[28]

Contact with neighbors (EBM level 5)

The importance of embedding support housing facilities within a neighborhood was also apparent in a study by Högberg et al. (2006). The results of their qualitative study with nine nurses revealed that personal contact between neighbors and residents with SMI was an essential way to reduce fear of the mentally ill individual. The nurses felt that this contributed to social integration of people with SMI into the community. The nurses viewed themselves as a link between residents with SMI and the neighbors.[29]

The nurses recommended that there should be different kinds of supported housing facilities for people with different kinds of needs, and that it is important for staff to simply be present and offersupport when needed.

Supportive approaches (models) used in supported housing for people with SMI

Within supported housing, different supportive approaches (models) are used as guidelines for treating people with SMI.

Three articles about this topic were found: one study with EBM level 1b,[30] one study with EBM level 2b[31] and a EBM level 4 study.[32] For each topic, the included studies were ranked according to their EBM level.

Table 2: Supported housing models

Model	Developed by	Explanation	Year	Reviewed by
Housing first	**Tanya Tull**	Housing First is an approach that centers on providing homeless people with housing quickly and then providing services as needed. What differentiates a Housing First approach from other strategies is that there is an immediate and primary focus on helping individuals and families quickly access and sustain permanent housing. A Housing First approach rests on the belief that helping people access and sustain permanent, affordable housing should be the central goal of our work with people experiencing homelessness. By providing housing assistance, case management and supportive services responsive to individual or family needs (time-limited or long-term) after an individual or family is housed, communities can significantly reduce the time people experience homelessness and prevent further episodes of homelessness. A central tenet of the Housing First approach is that social services to enhance individual and family well-being can be more effective when people are in their own home.	1988	Gulcur et al., 2007
Gips	**The HUD-VASH program at the connecticut Healthcare system**	The Group-Intensive Peer Support (GIPS) model challenges assumptions about client's need for intensive individual case management and strives for peer engagement and social reintegration along with independent housing. According to Tsai et al. (2011) GIPS is the first formalized alternative model of group case management for permanent supported housing programs. All clients are expected to attend group meetings after individual screenings and intakes.	April 2010	Tsai et al., 2011
Dtr	**Howard S. Vogel**	Double Trouble in Recovery (DTR) is a mutual aid, self-help program for adults ages 18-55 who have been dually diagnosed with mental illness and a substance use disorder. In a mutual aid program, people help each other address a common problem, usually in a group led by consumer facilitators rather than by professional treatment or service providers. DTR is adapted from the Twelve Steps of Alcoholics Anonymous. DTR meetings follow the traditional 12-step format, which includes group member introductions, a presentation by a speaker with experiences similar to those of the meeting attendees, and time for all attendees to share their experiences with the group. Meetings typically last 60-90 minutes. DTR encourages members to discuss their addiction, mental illness, psychotropic medications, and experiences with formal treatment without the stigma they might encounter in traditional 12-step programs, which have a single focus. DTR groups are structured to create an environment in which people with an active addiction and psychiatric diagnosis can identify with other members and explore their dual recovery needs.	Sice 1990	Magura et al., 2002

An overview of the treatment models used in supported housing, their background and function is shown in Table 2.

Housing First (EBM level 1b)

Our results yielded several papers describing models focused on providing stable housing to people with SMI first, before starting any kind of treatment, hence the name 'Housing First.' The Housing First model emphasizes independent housing, consumer choice, and empowerment. We found one randomized controlled trial conducted after 2006 exploring outcomes (specifically 'community integration') of people with SMI who lived in Housing First accomodation.[30] In this study, adults with SMI were assigned randomly to receive either independent so-called 'scatter-site apartments' (scatter-site housing allows residents to live independently in the community, while having access to care coordination and social and medical services) with the Housing First approach (intervention arm), or housing services as usual (control arm). The Housing First approach provided apartments without prerequisites for treatment and regardless of the severity of mental illness. The results suggested that living choice and independent scatter-site housing (in this study, employing the Housing First approach) were predictors of better psychosocial integration.[30] Psychiatric hospitalization, symptomatology and participation in substance abuse treatment also influenced aspects of integration. Hospitalization in a psychiatric facility prior to housing enrollment was associated with greater subsequent psychological integration. Participation in substance use treatment services had complex effects on integration: while it positively influenced physical integration, it showed a trend towards negatively affected social integration. This might be explained by the inclusion of participation in self-help organizations in the measure of physical integration. Many participants attended self-help groups related to substance use treatment, which could enhance formal organization involvement but potentially reduce informal socializing with community members. Alternatively, engagement in substance abuse treatment could lead to individuals disconnecting from substance-using peers, thus reducing their social network size. Contrary to previous research, the data in this study did not support a link between stigma and reduced community integration, although stigma might interact with unexplored factors.[30]

Group meetings (EBM level 2b and 4)

Magura et al. (2002) examined the association between the frequency of attendance at self-help group meetings and adherence to psychiatric medication regimens among members of Double Trouble in Recovery (DTR), a twelve-step self-help program specifically designed for persons who have chronic mental illness and a substance use disorder. DTR is a mutual aid fellowship adapted from the twelve-step Alcoholics Anonymous program of recovery. It specifically embraces persons who have a dual diagnosis of a mental and substance use disorder (see Table 2). A sample of members (N=240) of the DTR were interviewed at baseline and one year later. Although the article did not focus on supported housing, the authors mentioned that living in supported housing was associated with better adherence to a psychiatric medication regimen, which in turn was associated with a lower severity of symptoms at one year, and fewer psychiatric hospitalizations during the follow-up period.[31]

Tsai et al. (2011) described a Group-Intensive Peer Support model of case management for supported housing. GIPS is a 21-step program that provides peer education and staff support through case manager-led group meetings (see Table 2). The basic outline of GIPS is that psychoeducation, assistance with practical needs, peer support, and participation in community activities may be best provided in a group format rather than through individual, community-based intensive case management. Clients are assigned individual case managers, and intensive individual case management is provided as needed.[32] However, case manager-led group meetings of active peers are the default mode of case management support. The GIPS model offers an alternative approach to Housing First that may use case manager time more efficiently, builds on the strength of mutual peer support, and more directly promotes continuity of care, social integration, and client recovery. According to Tsai et al. (2011), the groups helped to maintain frequent contact with people with SMI, minimized staff travel time and helped to increase quality of life. The results suggest that GIPS may be a viable form of case management in supported housing programs, with the advantage of improving social integration.[32]

Discussion

In this scoping review exploring supported housing interventions for people with SMI, we found that supported housing may directly or indirectly contribute

to the community integration and participation of individuals with SMI. We also found that the following factors are associated with better outcomes of supported housing interventions: 1) the association of recovery communities with reputable mental health care, 2) feelings of safety and security within supported housing and the surrounding community, 3) the degree of influence in the choice of housing, and 4) social integration within the community or peer support from other people with SMI. These findings align with previous studies calling attention to the importance of having a place to call home.[28] In addition, recovery-orientated supported housing may provide constructive social interaction, social opportunities, integration and supportive meaningful relationships.[28]

One obvious but important notion is that supported housing seems to contribute to reduced homelessness and hospitalization in people with SMI, reflecting a huge problem and contributing to poor outcomes,[19] as described elsewhere.[20]

Different results were found regarding the contribution of supported housing on quality of life. Depla et al. (2005) concluded that supported housing in residential homes for elderly people is an attractive model because older mentally ill people would no longer be set apart from society, although unfortunately this does not guarantee a better quality of life.[24]

Our results also suggested that transparency and clarity about the specific support package offered by housing facilities is important, so that people with SMI and referring clinicians know what to expect from such services. The implementation of certain quality standards may help to improve the quality of supported housing facilities, and may help to ensure that all people with SMI in housing services receive appropriate care.

Regarding the different models or approaches used within supported housing, the literature shows that the various housing models all contributed to reduced homelessness and/or clinical admissions, as well as favorable mental health outcomes. It was beyond the scope of this review to make direct comparisons between the different models.

Models such as Housing First, DTR and GIPS model have been shown to have a positive contribution to community integration. Designing housing programs to maximize the potential for residents' integration is one of the implications of the

study by Gulcur et al. (2007). The Housing First model – with its emphasis on independent housing – may therefore be particularly well suited for enhancing community integration.

One of the models identified in our review was GIPS, a promising approach to enhance recovery for people with SMI.[32] Future research – specifically observational cohort studies and RCTs – should be conducted, examining specific effects of GIPS on recovery, community integration, and quality of life. In several studies, it was stated that having a choice of housing is important for people with SMI. From the results, it appears that people with SMI often have little housing choice and that their choice is often determined by others, such as service providers. The results suggest that more choice for people with SMI is associated with better psychosocial integration.[30] Based on these findings, health care workers and providers should offer housing choices for people with SMI and encourage them to make their own choice.

This scoping review covers an important topic within mental health care and included both quantitative and qualitative research. One major limitation is that this review is dated, as many other studies have been published on this topic since 2011. To address this, we have reviewed the literature published between 2011 en 2020 in the general discussion of this thesis. This study focused on the contribution of supported housing for people with SMI in general. Specific subgroups within mental health care – such as people with substance abuse and/or psychotic illness – may have more specific needs than those found and described in this study. Ideally, future studies about the contribution of supported housing should take into account diagnostic categories. Another limitation of the current study was the lack of reporting on other factors that may contribute to recovery, such as social or cultural differences, having health care insurance, and the specific country/state in which people with SMI live.

This scoping review explored how supported housing contributes to individual recovery in people with SMI. The results suggest that supported housing promotes recovery by providing daily support, contact with other people with mental health challenges, and through community integration. Nevertheless, further research is needed, including how people with SMI living in supported housing could make the transition towards a more independent way of living.

Appendix

Example of the PubMed search string:

("supported housing"[tiab] OR "sheltered housing"[tiab] OR "supported living"[tiab] OR "sheltered living"[tiab] OR "community housing"[tiab])

AND ("SMI"[tiab] OR "severe mental illness"[tiab] OR "psychiatric disorder"[tiab] OR "persistent mental illness"[tiab] OR "chronic mental illness"[tiab] OR "psychiatric disabilities"[tiab])

AND ("effect"[tiab] OR "decrease"[tiab] OR "increase"[tiab] OR "psychiatric hospital"[tiab] OR "psychiatric bed"[tiab] OR "compulsory admission"[tiab] OR "mental hospital"[tiab] OR "hospitalization"[tiab] OR "clinical bed"[tiab] OR "reduction"[tiab] OR "recidivism"[tiab] OR "rehabilitation"[tiab] OR "cost"[tiab])

Chapter three

Care needs, expectations and information provision at the start of supported housing

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Abstract

Background

The aim of this study was to gain more insights into the care needs and expectations of people with severe mental illness (SMI) who are on a waiting list for supported housing. Information provision about supported housing was also registered.

Methods

38 people with SMI participated in a survey, which was conducted via telephone by a healthcare professional.

Results

The most frequently mentioned expectations and care needs of people with SMI on a waiting list for supported housing were: 1) obtaining work/daytime activities, and 2) improving psychosocial functioning and learning to manage one's own finances. Obtaining a job or daily activity was the most frequently mentioned expectation among the participants. In addition, more than half of the participants thought that they were insufficiently informed about supported housing or other social housing programs, and would have liked to know more about supported housing and other forms of support, such as supported independent living.

Conclusions

This study highlights the significance of employment and meaningful activities for individuals with SMI awaiting supported housing and indicates a lack of awareness among individuals with SMI regarding available support options. We suggest implementing shared decision-making approaches to empower them in making life choices, thereby enhancing the prospects of successful recovery and rehabilitation.

Keywords: supported housing, survey, care needs, expectations, recovery supportive care

Introduction

In Europe, people with severe mental illness (SMI) are increasingly dependent on community housing programs such as supported housing and supported independent living.[17] People with SMI have a long-term mental disorder leading to serious impairments in social and/or societal functioning that requires care and/or treatment.[12,33] In supported housing, people live in a residential setting with 24-hour supervision and support. In supported independent living, supervision is provided while living in one's own home. The Netherlands has 24 regional institutions for supported housing (community housing programs) that offer supported housing and supported independent living to people with SMI.

In the Netherlands, many people with SMI who used to stay long term in psychiatric hospitals have transitioned to outpatient care, including within community housing programs. As a result of this development, the care needs and expectations of people with SMI may change and need to be identified. In addition, people on the waiting list for supported housing may have care needs and expectations that require other forms of support than supported housing, such as supported independent living or another form of outpatient support. Here, we aim to explore the expectations and care needs of people with SMI on a waiting list for supported housing.

Method

The aim of this study was to gain insights into the care needs and expectations formulated by people with SMI. The study also explored the extent to which people were informed of supported housing and whether other options of supervised living were discussed. The target population were people with SMI who were on a waiting list for supported housing provided by Lister, one of the 24 community housing programs in the Netherlands, which offers supported housing and supported independent living in six municipalities in the Netherlands in and around the city of Utrecht.
All people with SMI – hereafter referred to as participants – who were on Lister's waiting list between March and December 2012 for more than six months participated in the study. All participants provided verbal informed consent.

Given our expectation of a low response rate within this target population, we elected to conduct the survey via telephone administration.
The survey was administered via telephone during the period between October 2012 and March 2013 by the waiting list counselor (W.B.), who worked for Lister.

The following six topics were addressed in the survey: 1) current living situation, 2) current support (such as support in daytime activities), 3) the primary factors for registering supported housing, 4) expectations of supported housing, 5) received and desired information on supported housing and other housing facilities, and 6) desired support.
Additional socio-demographic data of the participants (age, gender, diagnosis, duration of indication issued and additional reasons for admission) was collected from Lister's electronic client dossier (ECD).

Analysis of the interviews
Two independent researchers (M.L. and M.B.) evaluated the open-ended questions in the survey and categorized the responses through coding. The researchers then compared, merged, and – when needed – arrived at a consensus. Themes were established through utilizing a thematic analysis approach.[34] From this process, the themes that emerged have been incorporated into the research findings.

Results

A total of 38 people with SMI who were on the waiting list were considered for this study, and they all agreed to participate. At the time of the telephone survey administration, thirteen of the 38 participants lived in a psychiatric hospital, four of them lived independently, nineteen participants lived with their parents and two participants lived with family and/or friends.

The average age of the participants was 32 years (sd. 13.9) and over 75% of the participants were men (see Table 1). All participants had diagnosis according to the DSM-IV. The most common diagnosis was an autism-related disorder (*N*=20, 53%). The average duration of the care allocation was 4 years and 8 months (sd. 3.9). The most frequently mentioned types of 'current support' for participants were support with obtaining meaningful activities (employment

Table 1: Socio-demographic characteristics

Characteristics	Number of participants (N=38)
Current living conditions	
Independent (alone)	4
Parents' home	19
With other family members / friends	2
Living in a clinical setting	13
Gender	
Male	29
Female	9
Average age	32.13 (sd. 13.98)
Presence of DSM Axis I diagnosis	
Autism	20
Psychotic disorder	12
Mood disorder	3
ADHD	3
Presence of DSM Axis II diagnosis	10
Personality disorder	5
Postponed diagnosis	5
Admission community housing programs: type of location	
Specific community housing program location	20
Random community housing programs location	18
Current areas of support	
No support at present	4
Carrying out the daily tasks	12
Learning to employ one's talents	5
Social integration	2
Resuming a daily routine	7
Improving psychosocial functioning	26
Support in self-sufficiency, use of medication and health	5
Learning to manage one's own finances	20
Improving on social contacts	11
Obtaining work / daytime activities	29
Learning to cope with unexpected situations	12

or other daytime activities, [*N*=29]), support with improving mental health (*N*=26), and support with financial management' (*N*=20).

Care needs and expectations of the participants

Reasons to apply for the supported housing program

Over half of the participants (*N*=24) were referred to supported housing by a mental health professional, e.g. a psychiatrist, general practitioner or community psychiatric nurse. Fourteen of the participants were registered by family members. Psychiatric or psychosocial issues were the most frequent mentioned reasons for the registration, followed by care needs in daily life and problems with independent living.

Support

During the interview, participants were asked in what areas they would like to receive support. Thirty of the people interviewed indicated that they wanted support in obtaining work or daytime activities once admitted. Moreover, improving psychological functioning (*N*=25) and learning to manage one's own finances (*N*=25) were frequently mentioned by participants (see Table 2 for an overview of the desired areas of support).

Table 2: Overview of reasons for registration and desired areas of support

Reasons for registration supported housing	N	Desired areas of support of the participants	N
Psychiatric or psychosocial issues	29	Obtaining work/daytime activities	30
Care needs in daily life	25	Improving psychosocial functioning	25
Lack of self-sufficiency	20	Learning to manage one's own finances	25
Carrying out the daily tasks	17	Learning to carry out the daily tasks	16
Fear to live independently	9	Learning to cope with unexpected situations	13
Learning to manage one's own finances	7	Improving the interaction with others	10
Interim phase between clinical admission and independent living	7	Daily life	9
		Improving on social contacts	6
		Support in self-sufficiency, use of medication and health	5

Being informed about supported housing

All participants indicated that they had received general information about supported housing. Participants who had been registered for specific locations within supported housing (i.e. locations aimed at supporting people with an autism-related disorder) were informed about these specific characteristics. Participants who had been registered for any location within the community housing program without further specification only received general information about supported housing. In such cases, the available locations within supported housing were not discussed. Furthermore, these participants reported that no information was provided about other support options on offer, such as supported independent living.

In all cases, information about the community housing program was provided by community housing program staff. Seventy-five percent of all participants had also received verbal information about supported housing from their practitioner. Despite this, 50% of the participants indicated that they would have liked to receive more information about supported housing. They indicated that they did not quite know what to expect from supported housing and they would have liked to hear about other available options regarding supported housing (including supported independent living of outpatient care).

"Even though I received information about supported housing, I would have liked to have had more information about other support possibilities."

Discussion

This study was conducted to gain more insights into the care needs and expectations of people with SMI who are on a waiting list for a form of supported housing. Furthermore, we also investigated the extent to which individuals with SMI felt sufficiently informed about supported housing options and other forms of housing support.

The most frequently mentioned expectations and care needs of people with SMI on a waiting list for supported housing were obtaining work and/or daytime activities, and improving psychosocial functioning and learning to manage one's own finances. Among these, 'obtaining work/daytime activities' was most frequently mentioned. The notion that this is indeed important has been

shown in research, as job opportunities or other daily activities help people with SMI in maintaining and improving their health and social functioning.[35]

Our results suggest that participants received some information about supported housing, but they would have liked to have received more. In particular, the results suggest that participants had no idea of what to expect from supported housing. Furthermore, the findings indicate that participants lacked information about available support options and were not involved in choosing the type of supported housing. This finding aligns with a previous study reporting that individuals in similar circumstances did not fully grasp the support options available.[15]

This is the first study to explore the care needs of people with SMI with respect to supported housing in a relatively large sample. Moreover, all participants willingly took part, which is noteworthy considering the well-known difficulties associated with involving people with SMI in research.[7] One limitation of this study is its geographical focus on a specific region in the Netherlands, which may restrict the generalizability of the results both to other areas within the country and internationally. Additionally, because social and healthcare systems differ between countries, the findings of this study may not be applicable to other nations.

Finally, it is important to note that twenty out of the 38 participants in this study (53%) had autism spectrum disorder. This factor could potentially influence the care needs and expectations expressed by the participants.

Practical implications

Our results suggest that people with SMI who are on a waiting list for supported housing would have liked to receive in-depth information about available types of supported housing, locations, and additional forms of support. Our results suggest that some information is currently provided, although this could be improved, e.g. by visual tools (for example, a leaflet or website) and offering available information on multiple occasions and in various ways. In addition, our results suggest that prior to supported housing, it is important to first clarify all care needs of the individual with SMI, which could assist them to form realistic expectations. The next step is to examine whether the care needs fit the care that has been assigned, or whether another form of support might be better suited. This study shows that people who are on the waiting list for supported

housing indicate that they primarily need support socially. A strong social network is crucial as it positively influences the rehabilitation of people with SMI. Research has demonstrated that there is a greater risk of hospitalization when a proper social network is lacking.[10] It is therefore crucial to identify the desires and preferences regarding social contacts and networks at an early stage. An immediate start can be made with activities to improve the social network of people with SMI. However, the wishes and needs of the person with SMI regarding their social network should be taken into account. It is not always easy to create, find and maintain a social network for people with autism or psychotic-related conditions, nor is there always a need to expand their social network. However, it is crucial to initially engage with the individual at the onset of support to ascertain their specific needs regarding their social network. This involves determining how this network can be tailored or enhanced in alignment with the individual's preferences and requirements.

This study has shown that obtaining work and daytime activities is an important care need for people on the waiting list for supported housing. However, community housing programs are mainly aimed at providing accommodation and the associated (instrumental) activities of daily living. Nonetheless, a community housing program should also offer support in finding a suitable daytime activity for a resident. Individual placement and support is a suitable method to support people with SMI, as an intervention originating from the United States based on the idea that any client can work in a regular job if they want to. Long-term training in advance ('train then place') is not required. Participants are first quickly placed in the chosen position, to then be trained for the specific work skills ('place then train').[37] For people with SMI, individual placement and support has also since proven to be a successful methodology in the Netherlands in terms of obtaining and maintaining paid employment. The findings of Michon et al. (2014) demonstrate that 44% of the clients of the individual placement and support group had a regular paid job against 25% of the control group after 30 months.[38] The individual placement and support methodology might also be appropriate to be used within community housing programs.

Moreover, this study has shown that more than 50% of the participants indicated that they had been insufficiently informed about supported housing. Consequently, they might not always have been fully aware of what living in supported housing exactly entails and what they may expect from it. The importance of providing sufficient information to people with SMI and their family members

of what support and counseling means within supported housing is crucial. An introductory visit can offer them more specific information about supported housing, which could help to adjust their expectations about a specific form of housing. Moreover, it is important to check whether they are aware of other forms of support, such as supported independent living. Sharing information about the different possibilities of (housing) support with people who register at supported housing as well as their families is essential for shared decision-making, a process of collaboration that allows clients to make decisions about the care to be received together with a practitioner (or other care provider) and their family, exploring together the wishes, dreams and goals of the clients in the area of housing, working and living within society. In this way, people with SMI are part of the decision-making process about which care will be provided and where.

This also aligns with demand-oriented work, where care professionals play a pivotal role. By empathizing with the individual's perspective, it becomes evident what type of care they seek. These preferences can then be matched with the range of housing and support options. This approach could potentially reduce the number of individuals eligible for supported housing. In conclusion, our study highlights the significance of employment and meaningful activities for individuals with SMI awaiting supported housing. Introducing evidence-based practices such as individual placement and support within community housing programs could facilitate this process. Moreover, our findings indicate a lack of awareness among individuals with SMI regarding available support options. We suggest the implementation of shared decision-making approaches to empower them in making life choices, thereby enhancing the prospects of successful recovery and rehabilitation.

Chapter four

Community housing: Functional outcome of severe mental illness is associated with the personality traits of the case manager

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Abstract

Background

The purpose of this paper was to explore associations between case managers' personality traits and functional outcome of people with severe mental illness (SMI) living in community housing programs (CHPs).

Methods

Functional outcome was assessed by the extent of self-reliance, measured with the Dutch Self-Sufficiency Matrix. The personality of the case manager was measured with the NEO Five-Factor Inventory.

Results

Higher conscientiousness of case managers was associated with an increased self-reliance over a period of two years in people with SMI living in CHPs (OR.2.800 $\rho = 0.04$).

Conclusions

Higher conscientiousness of case managers was associated with better functional outcome of people with SMI living in supported housing, with females having the greatest benefit. This study suggests that conscientious care planning may be an important aspect of successful recovery. To the best of our knowledge, this study is the first to examine associations between the case manager's personality traits and functional outcome of people with SMI.

Keywords: personality traits, community housing, self-reliance, functional outcome, people with severe mental illness, personality case manager

Introduction

In Europe, people with severe mental illness (SMI) are often allocated to community housing programs (CHPs) such as supported housing and supervised independent living.[17] Supported housing includes permanent staff supervision in residential facilities, where people with the same psychiatric diagnosis and/or psychosocial disability live together, receiving behavioral interventions within the residential facility. Supervised independent living includes home-based support for those who are able to live in their own home and visit clinical interventions.

The main goal of these types of residential care is to promote recovery, daily living, participation in society, independence and self-reliance and improve the person's social position rather than only treating psychiatric symptoms, thus aiming for the highest possible levels of (independent) social and vocational functioning as well as the best possible quality of life.[10] An essential aspect of psychiatric rehabilitation is to become self-reliant,[39] defined as the extent to which an adult realizes an acceptable level of functioning in important areas of life.[40] Ortega and Alegria (2002) described self-reliance as a coping strategy related to service use and increasing a person's resources.[41] In their paper, they found that self-reliance was a significant predictor related to mental healthcare utilization outcomes.

Case managers play a crucial role in rehabilitation programs for people with SMI, and their main job is to provide and co-ordinate the necessary care and promote self-reliance.[42,43] Research has shown that personality traits of case managers may affect their work.[44–48] Conscientiousness has been associated with the effectiveness and efficiency of work teams and organizations, therefore contributing to the overall productivity of the organization.[45] Conscientious case managers have been shown to have problem-solving coping mechanisms with strong attention regulation, which allows them to overcome unexpected obstacles more easily, and they are more likely to set goals and be committed to them.[49,50] Moreover, another study concluded that more agreeable case managers are more likely to care and take over tasks of individuals.[45] The personality of the case manager could potentially also have an impact on the functional outcome of people with SMI. To our knowledge, no previous studies have examined the relationship between the case manager's personality traits and functional outcome of people with SMI. This study explored the

relationship between personality traits of case managers and self-reliance (i.e. functional outcome) of people with SMI living in CHPs. We hypothesized that a conscientious personality trait of the case manager is associated with better self-reliance in people with SMI.

Method

Study population

In the Netherlands, CHPs are facilitated within regional institutes for residential care (RIRCs). All people with SMI living in CHPs within an RIRC and receiving a maximum of twelve hours of individual care (such as promoting daily living, improving participation in society, improving independence, increasing self-reliance and improving the person's social position) per week were invited to participate in the present study. A total of 199 subjects agreed to participate and informed consent was obtained. Subsequently, their case managers were also invited to participate in this study. No change of case managers occurred during the follow-up period. In April 2012 and April 2014, the case managers were asked to complete a questionnaire about the self-reliance of the included people with SMI. Case managers returned both questionnaires for 81 people with SMI (40.7%). Subsequently, these case managers (N=47) were asked to complete a personality questionnaire in January 2014. All 47 case managers completed the personality questionnaire (100%).

Data collection

Functional outcome of people with severe mental illness. Functional outcome was measured by the Dutch Self-Sufficiency Matrix (SSM-D), an adaptation of the American Self-Sufficiency Matrix (SSM).[40] The SSM-D measures self-reliance, termed as the extent to which an adult realizes an acceptable level of functioning in important areas of life, with or without help and support. The SSM-D contains the following eleven domains: income, employment, shelter/housing, family relations, mental health, physical health, substance abuse, life skills, support network, community involvement and legal. The SSM-D uses a five-point Likert scale format: (1) acute problems, (2) not self-sufficient, (3) vulnerable, (4) stable self-reliance and (5) fully self-sufficient. The SSM has sufficient internal reliability (α: 0.78–0.81). The SSM-D measures a single underlying construct and has good internal consistency.[40]

Personality of case manager. The personality of the case manager was measured with the NEO Five-Factor Inventory (NEO-FFI). The 60-item NEO-FFI was developed to provide a concise measure of the five basic personality factors. For each scale, twelve items were selected from the pool of 180 NEO Personality Inventory (NEO-PI) items.[51] All items have a five-point Likert scale. The NEO-FFI has been translated into several different languages and shows validity and utility in a number of different contexts. Moreover, it is one of the most widely used measures of the five-factor model.[52] The NEO-FFI measures five personality traits: neuroticism, extraversion, openness, agreeableness and conscientiousness.[45] A description of the five traits can be found in the addendum.

No internal institutional review board was necessary (protocol number 12-392/C). Data were only obtained with the consent of the individual with SMI. All people with SMI were informed about the study and the use of personal information, and signed an informed consent form. The case managers provided all data to reduce the burden on people with SMI. The study did not influence the support that the people with SMI received. The ethical review committee of the University Medical Centre Utrecht agreed with these arguments.

Statistical analysis

Data were analyzed using the Statistical Package for Social Sciences version 20.0 (SPSS). For each personality trait (NEO-FFI), sum scores of all corresponding questions were used, after which these scores were converted into stanines from "very low" to "very high," in accordance with the official scoring as described in the NEO-FFI manual. The total score of the SSM-D was computed by calculating an average score over the entire questionnaire. Subsequently, we categorized the total score into two groups: high score on self-reliance (4 or 5) and low score on self-reliance (<4). Finally, increased self-reliance was calculated as the total score on self-reliance of the second measurement minus the total score on self-reliance of the first measurement. This outcome was also dichotomized (1 = increased self-reliance and 2 = self-reliance remained unchanged or declined). The gender of both the case manager and the individual with SMI were included as covariates.

First, the included variables were tested for multicollinearity using Spearman correlation coefficients. Simultaneously, the correlation between the included characteristics and personality treats was tested. Second, the association

between each personality trait in relation to the functional outcome – namely increased self-reliance – was examined. A univariate logistic regression analysis was therefore performed with all five personality traits. We also wanted to investigate whether the characteristics and personality traits – when tested together – had any influence on the outcome. Therefore, a multivariate cox regression survival analysis was performed. Only variables with a p-value <0.20 in the univariate model were selected for the multivariate analysis. A first multivariate logistic regression backward (LR) analysis was performed to determine which selected variables were associated with a high score on self-reliance at baseline. Subsequently, all independent variables were tested in the multivariate backward (LR) analysis to examine which personality traits contribute to increased self-reliance. Variables with a p <0.05 were relevant for the multiple logistic regression analysis.

Results

Characteristics of people with severe mental illness

Socio-demographic characteristics and mean scores on the eleven domains of self-reliance are shown in Table I. The majority of the participants (people with SMI) (N=81) were male (74.1%). Almost 80% of the study sample had a care package level 3 (9.5-12 h of support per week). Income from social benefits was the most common form of income (85.3%). Most people living in the RIRC-U were primarily diagnosed with a psychotic disorder (49.4%), followed by an autism spectrum disorder (21%) (Table 1).

Multicollinearity and correlation

First, the variables were tested for multicollinearity. The correlation coefficient matrix (Table 2) shows no correlations of 0.75 or higher among the variables. The possibility of multicollinearity can therefore be excluded.

Summary statistical analysis at baseline

Univariate logistic regression analysis. The univariate logistic regression revealed that if a case manager displayed a higher level of extraversion at baseline (2012), this was associated with higher self-reliance of the individual with SMI (OR 5.9105 p = 0.02). In addition, a higher level of agreeableness in the case manager was associated with a higher self-reliance score of the individual with SMI (OR 14.4 p = 0.01).

Table 1: Socio-demographic characteristics, Axis 1 diagnosis and functional outcome score

Characteristics	Categories	Overall study population (N=81)	
Gender	Male	74.1 %	
	Female	25.9 %	
Mean age (SD)	Male	38.90 (12.89)	
	Female	37.19 (16.66)	
Hours of care received per week	3.5 – 5.5 hrs	3.8 %	
	8.5 – 10.5 hrs	16.5 %	
	9.5 – 12 hrs	79.7 %	
Income	Benefit (dole)	85.3 %	
	Salary from paid job	4.9 %	
	Study grant	4.9 %	
	Retirement	4.9 %	
Psychiatric diagnosis	Psychotic disorders	49.4 %	
	Mood disorders[1]	7.4 %	
	Anxiety disorders[2]	4.9 %	
	ASD	21 %	
	Other disorders[3]	7.4 %	
	Unknown	9.9 %	
		2012 (M-0*)	2014 (M-1*)
Mean self-reliance (functional outcome) (SD)	Income	3.53 (.97)	3.57 (1.00)
	Employment	3.01 (.90)	2.93 (.76)
	Shelter/housing	3.62 (.68)	3.67 (.71)
	Family relations	3.70 (.79)	3.64(.80)
	Mental health	3.10 (.94)	3.09 (.93)
	Physical health	4.14 (.86)	4.04 (.90)
	Substance abuse	4.41 (.99)	4.40 (.97)
	Life skills	3.64 (.82)	3.64 (.85)
	Social network	3.36 (.95)	3.40 (.91)
	Community involvement	3.43 (.89)	3.43 (.88)
	Legal	4.70 (.60)	4.73 (.62)
	Total score	3.69 (.44)	3.68 (.44)

Legend:

* M-0 = baseline measurement (2012), M-1 = second measurement (2014)

ASD= Autism spectrum disorders; SD= Standard deviation

[1]Depressive, mood and bipolar disorders; [2]Traumatic and obsessive compulsive disorders; [3]Somatoform disorders, mental retardation and ADHD.

Table 2: Spearman correlation matrix for personality traits, self-sufficiency, gender and age

	1	2	3	4	5	6	7	8	9	10	11
1. Neuroticism	-										
2. Extraversion	-.235*	-									
3. Openness	-.319**	.092	-								
4. Agreeableness	-.242*	.715**	.230*	-							
5. Conscientiousness	.058	.171	.008	.272*	-						
6. Self-sufficiency	-.230*	.207	-.068	.282*	-.090	-					
7. Change in self-sufficiency	-.064	-.076	.138	-.043	.236*	.357**	-				
7. Age individual SMI	.209	-.351**	-.202	-.259*	-.098	-.069	-.023	-			
8. Gender individual SMI	-.152	-.093	.035	-.108	-.014	.148	.265*	-.081	-		
9. Gender case manager	-.491**	-.098	-.060	-.188	.193	-134	.164	-.032	.189	-	
10. Age case manager	.331**	-.106	-.035	.009	-.316**	-.192	-.128	.162	.063	-.63**	-

Legend:
SMI= severe mental illness
**Correlation is significant at the .01 level (two-tailed)
* Correlation is significant at the .05 level (two-tailed)

Multivariate logistic regression analysis (backward method). The agreeableness of a case manager was associated with increased self-reliance of the individual with SMI living in CHPs at baseline (OR 18.96 p = 0.00). Extraversion of a case manager was no longer significant.

Summary statistical analysis of a positive change in self-reliance

Univariate logistic regression analysis. The univariate logistic regression revealed that increased self-reliance of people with SMI was most likely when the case manager has a high level of conscientiousness (OR 0.2.59 p = 0.05). Moreover, self-reliance increased more often in women with SMI than in men (OR 3.012, p = 0.03). In addition to the previously mentioned variables, the case manager's gender was also selected for the multivariate analysis (p = 0.20) (Table 3).

Table 3: Univariate logistic regression analysis on positive change in functional outcome(N=81)

Predictors	Categories	B	df	p	OR(Exp(B))
Big Five Personality case worker*	neuroticism	-0.751	1	.29	0.472
	extraversion	-0.217	1	.67	0.805
	openness	-0.570	1	.21	0.565
	conscientiousness	0.952	1	.05**	2.590
	agreeableness	-0.060	1	.90	0.942
Gender case manager	Female	0.748	1	.12*	2.112
Gender individual with SMI	Female	1.105	1	.03**	3.018

Legend:
CHP= Community housing program;
* Reference category. Reference category for *Big Five Personality* = low score on neuroticism, extraversion, openness, agreeableness, conscientiousness. Reference category for gender (both individual with SMI and case manager) = male.
* p <.20, relevant for the multiple logistic regression analysis; **Statistical significant (p<.05), relevant for the multiple logistic regression analysis;

Multivariate logistic regression analysis (backward method). The results of the multivariate analysis showed that conscientiousness of case managers was associated with increased self-reliance of the individual with SMI living in CHPs (OR 2.80 p = 0.04). The gender of the case manager was no longer significant, but self-reliance increased more often in female participants living in CHPs than in male participants (OR 3.25 p = 0.03).

Discussion

This study has shown that personality traits of case managers – specifically conscientiousness – are associated with increased self-reliance of people with SMI living in supported housing.

Conscientiousness is related to dependability and volition, and the typical behaviors associated with this include being hardworking, achievement oriented, perseverant, careful and responsible.[45] People with high levels of conscientiousness are more likely to set goals and be committed to them.[53] One

possible explanation for finding a significant relationship between the increase in self-reliance in people with SMI and the extent of conscientiousness of the case manager is that a conscientious case manager might be more focused on self-reliance (and functional outcomes), while an agreeable case manager is more likely to accommodate the individual and take over daily living tasks, rather than promoting independence.[45] Furthermore, Kumar et al. (2009) showed that conscientiousness was associated with effectiveness and efficiency of work. Conscientious case managers have been shown to use problem-solving coping mechanisms with strong attention regulation.[49,50] However, other factors that may have an influence on the relationship between the case manager and people with SMI (and functional outcome of people with SMI) should not be neglected; for example, the therapeutic relationship between a case manager and people with SMI, educational levels of case managers, cooperation between mental health care workers, continuity of care or rehabilitation methods used.[54–56]

In addition, we found that women had better self-reliance after the two-year follow-up period than men with SMI. This outcome is in line with the results of a study of Grossman et al. (2008), who found that women with schizophrenia spectrum disorder generally showed better functioning over time, had more frequent periods of good functioning and periods of recovery, and fewer and shorter periods of hospitalizations. Possible reasons could include genetic factors, difference in brain structure, lower rates of substance abuse, greater social expectations and pressure concerning vocational expectations for men, as well as differences in social support systems.[57]

Strengths and limitations of the study

This study mainly focused on the case manager's personality. The strengths of this study are that the analyses were adjusted for the age and gender of both the case manager as well as the individual with SMI. Furthermore, socio-demographic characteristics of the people with SMI of the present study were consistent with findings of previous studies: people living in CHPs were frequently male,[10,26] and most people living in a CHP were diagnosed with a psychotic disorder.[26,29,58] Another strength of the study is that both of the questionnaires used in this study were externally validated. One limitation of this study is that while the case managers completed both the NEO-FFI and the SSM-D, they filled in the questionnaires at different times (the SSM-D was completed in April 2012 and April 2014, and the NEO-FFI was completed in January 2014). Another limitation is that dichotomization of measures may

have resulted in loss of information; nevertheless, we considered this the most suitable option in light of the small sample size. Another limitation is that apart from the case manager's personality, other factors may influence the degree of self-reliance of people with SMI, such as employment, social network, housing, neighborhood, psychiatric symptoms and substance abuse.[16,59–61] These factors were not included in our study, and represent a suggestion for future research.

Implications of the study

This present longitudinal study examined the relationship between the personality of the case manager and a specific functional outcome – namely self-reliance – in people with SMI living in CHPs. Our results demonstrate the importance of including the health care worker's personality in theoretical, empirical and clinical models of the recovery process. Moreover, our findings could be used in training the case managers as our findings suggest that conscientious care planning may be a key factor in the recovery process. Training case managers how to work in a person-centered, goal setting methodical approach may facilitate recovery in people with SMI. This type of training is already available in some regions, and we suggest that this should be widely implemented. At the same time, more research is needed to explore whether our findings are replicated in new samples, and how these findings may be used in the training of (mental) health care workers.

Conclusion

In a sample of people with SMI living in supported housing, conscientiousness of case managers was associated with increased self-reliance, particularly in women with SMI. When these findings are replicated, they could be used in training programs for mental health care professionals working with people with SMI.

Addendum

Addendum 1: Big 5 personality traits[1]

Traits	Description
Extraversion	Extraversion refers to the level of sensory stimulation with which one is comfortable. The behavioral tendencies used to measure this factor include being sociable, gregarious, assertive, talkative, and active.
Agreeableness	Agreeableness refers to the number of sources from which one takes one's norms for right behavior. The behavioral tendencies typically associated with this factor include being courteous, flexible, trusting, good-natured, cooperative, forgiving, soft-hearted, and tolerant.
Conscientiousness	Conscientiousness refers to the number of goals on which one is focused. It is related to dependability and volition and the typical behaviors associated with it include being hardworking, achievement-oriented, perseverant, careful, and responsible.
Neuroticism	Neuroticism refers to the number and strength of stimuli required to elicit negative emotions in a person. Typical behaviors associated with this factor include being anxious, depressed, angry, embarrassed, emotional, worried, and insecure.
Openness	Openness to experience refers the number of interests to which one is attracted and the depth to which those interests are pursued. The behavioral tendencies typically associated with Openness to Experience include being imaginative, cultured, curious, original, broad-minded, intelligent and having a need for variety, aesthetic sensitivity, and unconventional values.

[1] Reference: Kumar, K., Bakhshi, A., & Rani, E. (2009). Linking the big five personality domains to organizational citizenship behavior. *International journal of Psychological studies*, 1(2), P73.

Chapter five

Predictors of successful transitioning of people with severe mental illness towards independent living

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Abstract

Background

Little is known and published about predictors of successful transition of people with mental illness towards independent living. This study aims to analyze which variables predict the transition of people with severe mental illness (SMI) from supported housing within Dutch CHPs to more independent ways of living (both within or outside a CHP).

Method

Data of 1,569 participants were analyzed using a Cox regression analysis.

Results

People with a personality disorder, current alcohol misuse or who received outpatient care prior to admission in CHPs had the highest probability of moving into a more independent way of living. People who received clinical inpatient care prior to admission in CHPs, people with admission in supported housing and people with a history of substance dependency had the highest probability of transferring to more supervised residential care or clinical relapse.

Conclusions

This study shows that people with SMI have a good chance of transitioning towards more independent forms of housing. Patients with positive baseline characteristics (already living in supported independent living [SIL] as opposed to being an inpatient in a psychiatric hospital) had a higher chance of a positive transition than participants who were inpatients at the start of the study.

Keywords: community housing program, people with severe mental illness, positive transition, recovery

Introduction

In the mid-20th century, psychiatry underwent a global development in the field of housing for people with serious mental illness. In order to promote rehabilitation, long-term inpatients were transferred from hospitals to residential facilities in a community setting. In the Netherlands, this process of deinstitutionalization started around 1950-1960.[62] In 1984, the Dutch government established regional institutions for supported housing (CHPs) to bridge the gap between mental healthcare and society.[6,62]

The Netherlands has two forms of CHPs: supported housing (SH) and supported independent living (SIL). In SH, people with similar psychiatric diagnoses and/or psychosocial disabilities live together in a residential facility, with permanent staff supervision and support. SIL is aimed at people who live in their own home and receive outpatient mental health care. SIL comprises outreach support services in the community.[63] Both types of residential support share the fact that they are not focused on the treatment of psychiatric symptoms, but rather facilitating daily life, participation in society, independence, self-sufficiency and personal empowerment.[13] The capacity of all Dutch CHPs has increased in recent years.[13] Between 2006 and 2009, the number of available places in SH facilities increased by 40%, from 5,752 to 8,061. The number of available SIL facilities increased by 43%, from 6,935 to 9,943.[64]

According to a cross-sectional survey in CHPs, one-third of the people living in SH suffer from mild functional impairments, indicating that this group could make the transition towards SIL.[13,62] Thus far, only one study has investigated factors associated with successful transition towards more independent forms of living, finding that higher income and a more extensive social network were associated with successful transitioning towards independent living.[16] By contrast, a history of substance misuse and neighborhood-related problems were associated with transitioning to a more intensively supervised form of SH.[16] Apart from this study, little is known and published about factors associated with the transitioning of people with SMI towards more independent ways of living. Therefore, this study aimed to analyse patient and social characteristics associated with successful transition towards a more independent lifestyle in people with SMI.

Method

Research population

The setting of this study was a SH program in Utrecht (CHP-U). In 2009, it was the fifth largest CHP in the country. Between 2006 and 2009, it expanded from 314 to 517 SH availabilities (65% growth) and the SIL capacity increased from 468 to 649 (39% growth).

The study took place in the period between January 1, 2008 and December 31, 2012. A total number of 1,569 people living in CHP-U between January 2008 and December 2012 were selected for this study. To be selected, participants had to have DSM IV axis 1 diagnosis and no CHP support for at least one year prior to being included in the study. Participants were included in the study in the period between January 1, 2008 and 2010 and followed until December 31, 2012.

Data

Data for this study were obtained through the Utrecht Psychiatric Case Register (PCR).[65] This epidemiological database contains information about everyone who received treatment in a mental health facility in the Utrecht region, including data on demographics, diagnosis and treatment. This information was collected annually from the administrative systems of all respective mental healthcare institutions. These institutions make use of the PCR database for both scientific and policy purposes. Because data in this database were anonymized, no formal approval was needed by the local ethics committee. The database was first prepared for analysis, comprising deduplication and data cleaning. We used the following variables for this study: type of supported housing (CHP) received at the start (SH, SIL), gender, age, country of birth, type of treatment received one month prior to entering supported housing (none, clinical [meaning a clinical admission in a 24-hour treatment setting], outpatient [outpatient care without clinical admission]), prior history of substance dependency, current alcohol misuse, current drug misuse, psychiatric diagnosis (Diagnostic and Statistical Manual of Mental Disorders [DSM] IV axis 1) and diagnosis of personality disorders (DSM IV axis 2).[66]

Statistical analysis

Differences in transition rates between the SH and SIL group were calculated using a chi-squared test. In the Cox regression analyses, the primary outcome variable was duration until transition to more independent living. This positive

transition was defined as the transfer to a less intensive form of supported living (e.g. moving from SH to SIL, or from an inpatient facility to SH), with a duration of the new housing form of at least six months. The observation period was January 1, 2008 until December 31, 2012. The model only included the duration until their first transition in case of multiple transitions within the observation period of the same individual.

We also considered people without a transition in this period, or if there was a 'negative transition,' i.e. a transition towards a CHP with more supervision; for example, a transition from a SIL to a SH setting, a relapse to a clinical institution, or to homelessness.

Kaplan Meier's survival curves were used to check whether the proportional hazards assumption of the Cox model was met. We then studied the association between each individual predictor separately for the period leading up to a positive transition in a univariate Cox model. In addition, a multivariate Cox regression survival analysis was used to explore the individual influence of predictors. Only variables with p-value <0.20 were selected for the multivariate analysis. All variables within the multivariate model with a p-value <05 were considered to be statistically significant, kept in the model and considered independent predictors. Variables with $p > 0.05$ were removed from the model. The same analyses were carried out for the predictors of a negative transition. The Statistical Package for Social Sciences version 20.0 (SPSS) was used to perform the Cox regression survival analyses.

Results

Socio-demographic characteristics

In both groups (SH and SIL), the majority of participants were male and Dutch. Almost one-quarter of participants had a prior history of substance dependency and current drug misuse. A complete overview of the socio-demographic characteristics is provided in table 1.

Table 1 Socio-demographic characteristics

Characteristics	% Total research population (N= 1,596)	Per type CHP received at the start % SH (N= 718)	% SIL (N=878)
Percentage male*	60.9	73	51.1
Average age (SD)			
Male	37.56 (12.5)	35.42 (2.4)	40.04 (12.1)
Female	38.34 (12.8)	35.78 (13.6)	39.50(12.3)
Age in yrs.**			
<20	3.5	6	1.5
20-39	50.9	55.2	48.0
40-59	41	36	45.7
60-79	3.8	2.7	4.7
80-92	0.1	0.1	0.1
*Country of birth****			
Western[1]	71.4	71	71.6
Non-western[2]	12.5	13.5	11.7
Other[3]	16.1	15.5	16.6
Prior history of substance dependency	23.9	28.6	20
Current alcohol misuse	18.7	18	19.4
Current drug misuse[4]	24.9	30.6	20.2
Psychiatric diagnosis)			
Psychotic disorders	25.4	33.3	19
Mood disorders[5]	20.6	14.5	25.5
Anxiety disorders[6]	14.1	8.9	18.3
ASD	11.8	13.1	10.7
Other disorders[7]	9.1	9.1	9.2
Personality disorders	57.1	61.6	53.5

ASD= Autistic spectrum disorders; CHP = Community housing program; SD= Standard deviation; SH=Supported housing; SIL=Supported independent living.

[1]The Netherlands; [2]Suriname, Morocco, Turkey, Cape Verde and the Netherlands Antilles; [3]country unknown; [4]amfetamines, cannabis, cocaine, opium, sedatives, polydrug use and other drugs. [5]depressive disorders, mood disorders and bipolar disorders; [6]trauma-related disorders and obsessive-compulsive disorders; [7]somatoform disorders, mental retardation and ADHD.

*Missing 0.3%; **Missing 0.7%; ***Missing 9.6%.

Table 2 Treatment characteristics and transition figures

Characteristics	Total research population (N= 1,569)	Per type CHP received SH (N= 718)	SIL (N= 878)	X^2	Df	p
Type of CHP received at the start						
SH[1]	45%	-	-	-		
SIL	55%	-	-	-		
Type of psychiatric treatment one month prior to relocation to a CHP						
None	38.5%	30.4%	45.1%	112.0	2	.00
Inpatient	15.7%	26%	7.3%			
Outpatient[2]	45.8%	43.6%	47.6%			
Transition of care						
Positive[3]	52.5%	23%	76.4%	788.7	2	.00
None or negative transition[4]	31%	66.8%	1.8%			
Unknown	16.5%	10.2%	21.6%			
Type of treatment received 1 month after event or follow-up period						
Clinical relapse	3.0%	4.7%	1.6%	853.9	7	00
Living fully independent with outpatient treatment[5]	12.2%	11.3%	13.0%			
(Remaining in) SIL	0.0%	0.0%	0.2%			
Transition unknown	16.5%	10.2%	21.6%			
Transition to (or less supervised housing in) SIL[5]	39.3%	11.1%	62.3%			
No transition, remain in SH	27.9%	62%	0.0%			
Facilities offering daytime activities for people with SMI [5]	0.9%	0.6%	1.1%			
Crisis care*	0.1%	0.1%	0%			
Average follow-up time, in weeks (SD)	92.29 (67.7)	97.83 (70.8)	87.7(64.7)			.00

Abbreviations: refer to TABLE 1.

[1]24-hour care; [2]Fully independent living with outpatient care; [3]Transition to a more independent way of living, for example from supported housing to supported independent living or to fully independent living; [4]No transition or transition to less independent housing, for example a relapse to a clinical institution or transition from supported independent living to supported housing; [5]Censuring date: December 2012; [6]Defined as positive transition.

*Only one participant received crisis care.

Healthcare characteristics and transition figures

Table 2 provides an overview of the healthcare characteristics and transition rates of the research group. Participants in SIL had much higher positive transition rates (76.4%) than participants in SH (23%).

Summary statistical analysis

Univariate Cox regression survival analyses

Univariate Cox regression survival analyses showed that receiving SIL prior to SH at the outset proved a significant predictor of positive transition (HR 3.93, reference category = SH, p = .00). The same was true for each of the following individual predictors: age (>20 - <40 HR 2.00, p= .01, >40 - <60 HR 1.97 p=.01, >60 <94 HR 3.04, reference category = <20 years, p=.00); diagnosis of mood disorder (HR 1.32, reference category = psychotic disorder; p = .00); and diagnosis personality disorder (HR:1.30; reference category = no diagnosis of a personality disorder; p = .00,). In addition to the aforementioned variables, the following four variables were also selected for the multivariate analysis (p < .20): gender, outpatient care prior to admission in a CHP, history of drug misuse, and current alcohol misuse. The remaining predictors as shown in table 3 were all neither significant nor relevant to be included in the multivariate model and were therefore excluded from further analysis.

Table 3 Univariate Cox regression survival analysis (N=1,569)

Predictors	B	df	P	HR
Type of CHP received at the start*	1.370	1	.00**	3.934
Gender*	.104	1	.14*	1.109
Age	.006	1	.02**	1.006
Age groups				
<20 years of age*	-	3	.00**	-
20 and 39 years of age	.694	1	.01**	2.002
40 and 59 years of age	.679	1	.01**	1.972
60 and 93 years of age	1.113	1	.00**	3.043
Country of birth				
Western[1]	-.022	1	.78	.979
Non-western[2]*	.006	1	.96	1.006
Type of treatment prior to relocation to CHP				
None*		2	.00**	
Clinical	-.354	1	.00**	.702
Outpatient[3]	.122	1	.10*	1.130
Prior history of substance dependency*	-.126	1	.11*	.882
Current drug misuse[4]	.024	1	.77	1.024
Current alcohol misuse	.115	1	.18*	1.121
Psychiatric diagnosis (As 1)				
Psychotic disorders*	.280	4	.03**	
Mood disorders[5]	.217	1	.00**	1.324
Anxiety disorders[6]	-.076	1	.10*	1.242
ASD	.118	1	.57	.927
Other disorders[7]		1	.50	1.125
Personality disorder (As 2) *	.265	1	.00**	1.304

HR=Hazards ratio; ASD= Autistic spectrum disorders; other abbreviations: refer to table 1.
[1]The Netherlands; [2]Suriname, Morocco, Turkey, Cape Verde and the Netherlands Antilles; [3]fully independent living with outpatient care; [4]amfetamines, cannabis, cocaine, opium, sedatives, polydrug use and other drugs. [5]depressive disorders, mood disorders and bipolar disorders; [6]traumatic disorders and obsessive-compulsive disorders; [7]somatoform disorders, mental retardation and ADHD.
[ⱡ]Reference category. Reference category for type of CHP received= SH, Gender= female, Country of birth= non-Western, prior history of substance dependency= no prior history of a substance dependency, personality disorder= no personality disorder.
* p <.20, relevant for the multiple logistical regression analysis; **Statistically significant (p <.05).

Multivariate analysis

We performed a multivariate Cox regression survival analysis (backward) for a positive transition in which all independent variables are corrected for each other (Table 4). The variables that significantly predicted a positive transition were: outpatient care received prior to admission in CHPs (HR 1.26, reference category = no treatment received, p = .01); current alcohol misuse (HR 1.49, reference category = no current alcohol misuse, p = .00); and having a personality disorder (HR 1.30, reference category = no diagnosis of a personality disorder, p = .00). Once corrected, the other variables – such as age and gender – no longer proved significant.

Table 4 Multivariate Cox regression survival analysis (N=1,569) backward (LR) method for positive Transition

	Simultaneously corrected for all variables			
Predictors	**B**	**df**	**P**	**HR (95% CI)**
Type of treatment prior to relocation to CHP				
None*		2	.00**	
Clinical	-.341	1	.02**	.711
Outpatient[1]	.228	1	.01**	1.256
Prior history of substance dependency*	-.293	1	.04**	.746
Current alcohol misuse*	.401	1	.00**	1.493
Personality disorder (As 2) *	.265	1	.00**	1.304

Abbreviations: refer to table 1.

[1]Fully independent living with outpatient care.

* Reference category. Reference category for gender= female, prior history of substance dependency= no prior history of substance dependency, current alcohol misuse=no current alcohol misuse, personality disorder (as 2)= no personality disorder.

**Statistically significant (p <.05).

The predictors 'gender' 'age' and 'psychiatric diagnoses' were excluded during the backward method.

The same analyses were carried out to examine whether there were any variables that could predict a negative transfer, i.e. towards a less independent way of living. The results of the multivariate Cox regression survival analysis (backward) (Table 5) corresponded to the results found in the predictors for a positive transition. People receiving clinical care prior to admission in a CHP showed a higher probability of a transfer towards a less independent way of living than those people who did not receive any such care prior to

their admission in a CHP (HR 5.55, reference category = clinical or outpatient treatment, p=.00). People living in an SIL had a smaller chance of transferring towards a less independent way of living than people living in an SH (HR .487, reference category =SH, p = .03). Having 'a prior history of drug misuse' predicts a significantly higher chance of transferring towards a less independent way of living (HR 3.05, reference category = no prior history of drug misuse, p = .00).

Table 5 Multivariate Cox regression survival analysis (N=1,569) backward (LR) method Transfer to less independent living

	Simultaneously corrected for all variables			
Predictors	**B**	**df**	**P**	**HR (95% CI)**
Type of treatment prior to admission to CHP				
None*		2	.00**	
Clinical	1.714	1	.00**	5.55
Outpatient[1]	.873	1	.08*	2.39
Type of CHP received at the start*	-.734	1	.03**	.48
Prior history of substance dependency*	1.115	1	.00**	3.05

CHP = Community housing program; HR = Hazards ratio;
[1]Fully independent living with outpatient care;
* Reference category. Reference category for: gender= male, current alcohol misuse=no current alcohol misuse, personality disorder (as 2)=no personality disorder, type of treatment received at the start=supported housing, current drug misuse=no current drug misuse, history of substance dependency= no prior history of a substance dependency.
*Statistically significant (p <.05).
The predictors 'gender' 'age' and 'psychiatric as 1 diagnoses,' 'current drug misuse,' 'current alcohol misuse' and 'personality disorder' were excluded during the backward method.

Discussion

The focus of this study was to analyse which variables predict the transition of people with SMI to a more or less independent living situation in or outside the CHP-U.

To summarize, the results from the multivariate Cox regression survival model – whereby all independent variables had been corrected for one another – showed that people with a personality disorder and people who only received outpatient care prior to the relocation to a CHP were those most likely to then relocate to a more independent form of living. Contrary to our expectations, current alcohol misuse was no obstacle for transitioning towards a more independent form of

living. By contrast, people with a prior history of substance dependency were less likely to make a positive transition.

A higher probability of a positive transition in people with a personality disorder or current alcohol misuse could possibly be explained by the fact that the symptoms that hinder functioning in the case of a personality disorder and alcohol misuse can be influenced relatively well or relatively often show spontaneous recovery. It may be the case that people only dealing with a current alcohol misuse have gained more skills (in the past), which they can thus apply. The term 'push out' may also apply here: alcohol consumption is not tolerated within the CHP, which may serve as an extra stimulus for recovery. Although we have no direct explanation for this outcome at this stage of our study, the abovementioned hypothetical explanations are suggestions for further research.

Furthermore, the chances of making a positive transition were lower for people receiving clinical care prior to their admission in a CHP and people with a prior history of substance dependency, while having a higher chance of a transfer towards a less independent form of living.

One strength of this study is the large sample size (N=1,596) and representative research group. The Utrecht PCR – used to obtain the data for this analysis – is an administrative database that systematically collects data, resulting in more reliable information representing the whole population. Limitations of this study include the descriptive nature of the data, with basic demographic information but lacking information on diagnosis and/or treatment history. Therefore, we were unable to evaluate effects of these characteristics on transition. Moreover, this study only made use of the data available from the CHP-U, thus excluding all other CHPs in the Netherlands. Our results may be only applicable for this region, and may not generalizate to other areas or countries with different health systems. Furthermore, a possible limitation is that past substance disorders may not have been registered fully in the system, meaning that the true proportion of people with a history of substance disorders may be higher than our data suggests.

We recommend that future studies follow cohorts of patients with SMI longitudinally and in multiple areas (i.e. not only in Utrecht) to explore in detail the predictors of transitioning towards independent living. In addition, we recommend that the wishes and expectations of people with SMI should

be taken into account in studies; for example by qualitative research methods exploring the experiences of service users.

In summary, this study shows that people with SMI have a good chance of transitioning towards more independent forms of housing. Patients with positive baseline characteristics (already living in SIL as opposed to being an inpatient in a psychiatric hospital) had a higher chance of a positive transition than participants who were inpatients at the start of the study.

This study has several clinical and practical implications. First, we recommend early treatment of substance misuse as this may have long-term negative consequences not only on psychiatric outcomes but also independent living outcomes. Second, we recommend that health professionals working in mental health care and housing facilities need to closely collaborate to provide optimal conditions for people with SMI to transition towards more independent living. This is particularly relevant for people with more risk factors for stagnation or negative transition, such as being an inpatient in a mental health facility, or having a prior history of substance abuse. Third, we recommend that policy-makers closely collaborate with mental health professionals about optimizing recovery conditions for people with SMI. Specific training mental health professionals to increase their rehabilitation skills and or to engaging peer supporters may contribute to optimal recovery conditions.

For successful recovery, it is essential that health care is not only focused on psychiatric outcomes but also facilitating people with SMI in transitioning towards independent living. More research is needed to identify barriers and facilitators of recovery, and what is needed to improve outcomes for people with SMI, Finally, the results of this study justify the recommendation for more research into the group that does not sufficiently recover, in which reasons for their difficult recovery and research into new interventions to enable this recovery may be research topics.

Chapter six

Supported housing and factors associated with the transition to a more independent living situation

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Abstract

Background
This prospective study examined which factors influence whether people with a severe mental illness (SMI) make the transition from supported housing to a more independent living situation.

Method
Between 2012 and 2014, questionnaires were completed by people with SMI who lived in supported housing in the Utrecht region and their case managers.

Results
People with SMI who reported feeling unsafe in their current home situation were significantly more likely to make a positive transition to independent living. A change of case manager during the follow-up was associated with a reduced chance of transition to a more independent way of living.

Conclusions
This study shows that feeling safe and the continuality of case managers are important factors in making the transition from supported housing to a more independent way of living.

Keywords: supported housing, people with severe mental illness, positive transition, independent living situation

Introduction

Various forms of help are available for people with severe mental illness (SMI). Community housing programs offers people with SMI the possibility to live in a supported environment. The goal of community housing programs is to stimulate the independence and self-sufficiency of people with SMI. Community housing programs can be divided into supported housing (SH) and supported independent living (SIL). In the latter case, people live in a group home or their own home and receive support there. In SH, people live in a group home with permanent assistance. Compared with a clinical setting, SH seems to be better suited for people with SMI with respect to functioning as a whole, social integration,[11,17,19] and quality of life.[19,67]

Between 2002 and 2012, the number of places for SH tripled.[13] The Trimbos Institute estimates that there were about 16,500 people in SH in 2016.[11] The number of SH clients with SMI has slightly decreased since 2013, although the number of people with a relatively serious referral has increased. In the Utrecht region, this corresponds with the mental health policy to reduce the number of beds in psychiatric hospitals in recent years.[26] There was no further decrease in SH in 2017.[12]

A possible reason for this seems to be stagnation in the transition from SH to independent living or SIL.[13,26] The reasons for this stagnation are found in the scarcity of acquiring cheap rental homes, which makes the transfer to a residential neighborhood more difficult,[11] as well as the increase in size of the target group. Due to reduction of hospital beds, people with SMI who require more extensive care are transferred to SH, whereby this group requires more time and support to make the step to SIL. As a result, the waiting lists for SH are also growing.[13] However, it is known that in the long term half of people with a serious mental condition completely or partially recover and then move to a form of independent living.[10,33] Nonetheless, it is unclear which factors play a role in making such a positive transition. Previous research has shown that people with SMI who make the transition to independent living have a higher income and a wider social network compared with those who move to a SH program with more supervision or become homeless.[16,63] People with SMI who transfer to a SH program with more supervision often contend with a history of drug abuse and experience more neighbor-related problems.[16] Aside from the aforementioned studies, no studies could be found in the 2012-2020

period on the topic of changes in the living situation of people with SMI in SH and SIL.

The research question of this present study on SH is: What factors influence the transition from people with SMI (hereafter: residents) to a more independent form of living? Our hypotheses are based on the results of previous studies on the effects of SH:[16,41–43] (1) people with a good quality of life and those with a higher degree of self-sufficiency move more quickly to a form of independent living; and (2) a stable and good working relationship with the case manager contributes to the successful transition to a more independent form of living.

Participants and methods

Research population

This study was conducted at Lister, an organization with several community housing programs in the Utrecht area. This longitudinal cohort study was carried out in the period between June 2012 and June 2014 in fourteen different SH locations operated by Lister. At the beginning of this research, all residents were approached with a care package echelon (CPE) 1 to 3 (referring to an accommodation provision with support up to thirteen hours per week beyond daily care) with a psychiatric diagnosis. Residents requiring 24-hour care were not included in this study.

Data collection

Questionnaires were conducted each year, and the residents could choose to receive the questionnaire by e-mail or post. Only data with a complete follow-up were included in the analysis. A complete follow-up was defined as either a response in 2012 and 2014 or a form of transition from SH to another form of living during this research period.

Definition of transition

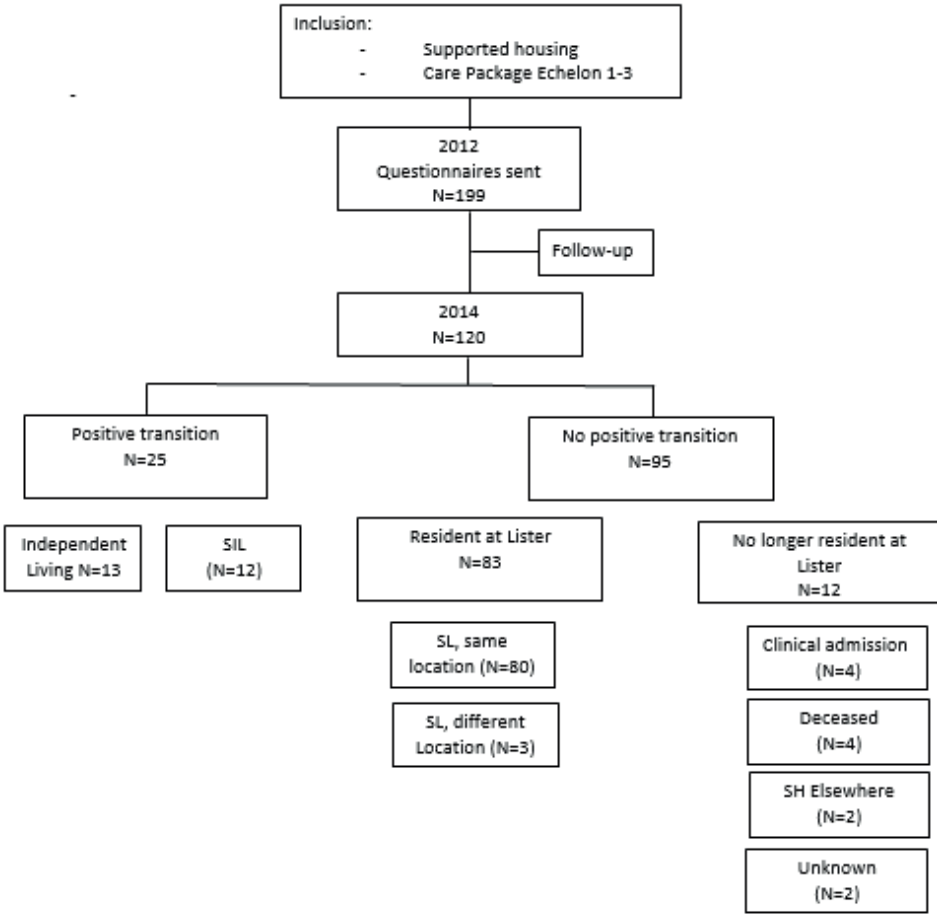
In this study, a positive transition was defined as undergoing the transition from SH to a more independent form of living. Two dichotomous transition results (transition or no transition, also presented in figure 1) were thus distinguished: 1) a positive transition (event), in which the transition was made to a more independent living situation, such as from SH (24-hour care) to SIL, within or outside Lister, a transition to ambulant care (independent living with care

outside Lister, e.g. outpatient care), or completely independent living; and 2) no transition, in which either no transition was made towards the end of the observation period (June 2012 to June 2014), or when a transition was made to a form of supported housing with more assistance or homelessness, such as a return to a clinical institution or transition from an SIL to an SH setting.

Measuring instruments

Social demographic details were acquired via the questionnaires, such as the quantity of care, wishes concerning the type of residence, future prospects, social contacts, experiences with case managers, and the number of case managers during the follow-up period:

Figure 1: Inclusion and tansition figures from the questionnaires sent to the case managers



- Self-sufficiency was measured by the Dutch version of the Self-Sufficiency Matrix (SSM). This scale shows a high internal consistency and validity with HoNOS and CANSAS scales,[40] and an average score was calculated for the 11 SSM subscores.
- Socio-demographic details of the residents, questions about their current living situation, the structure of the housing situation (alone, with someone else, or in a group), and estimates regarding the need for present and future assistance were requested from the case manager.
- The quality of life and quality of care received were measured by the Manchester Short Assessment of Quality of Life (MANSA) and the Recovery Promoting Relationships Scale (RPRS). In this study, the total MANSA score was recoded in three groups: "unsatisfied" (scores 1, 2, and 3), "neutral" (score 4) and "satisfied" (scores 5, 6, and 7). The RPRS was developed to measure the competences of social workers who have a specific influence on the healing process of people with severe psychiatric illness that extend beyond simply managing the psychiatric symptoms.[68] This scale has a high internal consistency and acceptable test-retest values.[69] A rough score can be calculated for each index/subscale and converted into scaled scores with concordance tables in the RPRS manual.[68] In this study, both scaled index/subscale scores and total scores were used.
- Continuity regarding the case manager was divided into 1 (yes, a change in case manager took place) and 0 (the case manager remained the same).

Statistical analysis

In order to predict the chance of making a positive transition, a logistic regression analysis was performed using Statistical Package for Social Sciences (SPSS), version 20.0.

Logistic regression was used to analyze the relationship between wether or not a positive transition was made, as well as participant characteristics (as measured with the questionnaires described below). First, multicollinearity of all variables was tested by means of a Spearman correlation matrix. Multicollinearity refers to inter-association or inter-relation between two or more independent variables. Factors with a correlation coefficient of >.8 were viewed as multicollinear[70] and thus were not included in the regression model. A logistical regression was carried out using the remaining variables, whereby all variables were added in one step (forced entry). All factors were adjusted for

age and gender. All variables in the model with a p-value of <.05 were viewed as statistically significant.

Results

Transition results

Complete follow-up data of 120 residents was collected (60% of the total number of 199 questionnaires that were sent out).

Socio-demographic characteristics

The average age of the participants (N=120) was 37 years (± 12.9) and 70.8% of the 120 residents were men. The most common DSM IV-TR classification was psychotic disorders (50%). Most residents had a CPE3 referral (78.3%). The highest educational level was a secondary school diploma (56.6%). Most participants received social benefits (83.3%). The socio-demographic characteristics can be found in table 1.

Transition towards independent living

Of the 120 residents, 25 (30%) experienced a positive transition (for more transition information, see figure 1). The positive transition group was further divided into a group that made the transition from SH to independent living (N=13) and a group that made the transition from SH to SIL (N=12). Over 77% of residents reported that they were allocated a different case manager during the research period. Four residents reported that they were hospitalized for mental health problems during the study. Given the small number of negative transitions, this last group was not included in the analyses.

Relations between clinical characteristics and positive transition

The first analysis (table 2) showed that after adjustment for age and gender, residents reporting a desire to live independently in the future were more likely to make a positive transition (p=.02). The opposite was also the case, i.e. residents reporting no desire to live independently were less likely to make a positive transition (OR 0.16 p=0.04). The average SSM score (a higher SSM score) was significantly associated with a positive transition (OR 2.876 p=.04). The supplementary questions on case manager continuity (OR 0.11 p=0.04) and the feeling of safety (OR 2.684 p=0.09) were included in the final analysis.

Table 1: Socio-demographic characteristics – Answers from the case managers

Characteristics	Categories	% result (N=120)
Gender	Man	70.8
Average age	Woman	29.2 36.99 ± 12.9**
DSM axis 1	ASD Psychotic disorders Mood disorders Anxiety disorders Other Unknown	15 50 10 5 8.3 11.7
Duration of current supervision of case manager (change in case manager)	< 1 year 1 year 2 years 3 years 4 years ≥ 5 years	45.8 16.7 15 10.8 5.8 5.8
Current living situation	SL	100
Period of living in SH situation	<1 year 1 year 2 years 3 years 4 years 5 years >5 years	19.2 10.8 13.3 5 18.3 5 28.3
Care package echelon	CPE1 CPE2 CPE3 Unknown	3.3 16.7 78.3 1.7
Highest level of education achieved	Primary Secondary Intemediate vocational Higher professional University Unknown	15 56.7 5.0 6.7 2.5 14.2
Source of income***	Salaried employee Self-employed Benefits Pension Other	10 0 83.3 3.3 12.5

Legend:
ASD = Autism spectrum disorder; ADHD = Attention deficit hyperactivity disorder; SH = Supported housing; CPE = Care package echelon * = Results reported as % of the 120 care consumers included, unless otherwise indicated; ** = Results reported in years; *** = Several possible answers

Table 2: Multivariate analysis (N=120)

Adjusted for age and gender					
Variable	**Categories**	**B**	**df**	**p**	**OR (Exp (B))**
Desire to live independently in the future[1]	Yes*		2	**0.02****	
	No	-1.830	1	**0.04****	0.160
Average score on SSM[2]		1.056	1	**0.04****	2.876
Diagnosis of anxiety disorders[1]	No*				
	Yes	1.378	1	0.11	3.965
Type of residence considered to be suitable[1]	Independent living*		2	0.11	
	SIL	-1.308	1	0.10*	0.270
	SH	-1.726	1	**0.04****	0.178
Chance of living independently in the future[1]	Yes*				
	No	-1.249	1	0.19	0.287
How long do you expect to remain in your current living situation?[3]	< 1 year*		3	**0.04****	
	< 5 years	-1.146	1	0.13	0.318
	Probably always	-1.873	1	0.11	0.154
	Don't know	-2.906	1	**0.01****	0.055
My case manager stimulates me to live in a more independent situation in the future[3]	No*				
	Yes	1.889	1	**0.03****	6.611
Change in case manager during the past three years[3]	No*				
	Yes	-2.211	1	**0.04****	0.110
Do you feel safe in your current residence?[3]	Always*				
	Not always	0.987	1	0.09*	2.684

Legend:
SH = Supported living; SIL = Supported independent living; SSM = Self-sufficiency Matrix
*= Reference category;
* ρ <.10, relevant for the multivariate logistic regression analysis; **Statistically significant (ρ <.05).
[1] Question added to the general questionnaire for the case managers.
[2] Self-Sufficiency Matrix.
[3] Question added to the general questionnaire for the residents; of this N=70.

When all independent variables were simultaneously included, only case manager continuity (p=0.04) and people with SMI who no longer feld safe in their current home were more likely to make a positive transition (p=0.09), i.e. more continuity and greater feelings of unsafety were associated with more positive transitions.

Discussion

This study explored which variables predicted the positive transition to a more independent living situation for people with SMI living in a form of SH. Our hypotheses were that people with a good quality of life and those with a higher degree of self-sufficiency would have a better change of making positive transition, and that a good working relationship with the case manager would contribute to a positive transition. Our results show that people with SMI who no longer felt safe in their current home and the continuity of the case manager were associated with more positive transitions.

For years, continuity in care has been seen as an important but often unfulfilled aspect of mental health care[55,71] that is specifically related to better social functioning[72] and a lower chance of admission to a psychiatric hospital.[73] Our findings are consistent with previous studies demonstrating the importance of continuity of care staff.

Our second finding was that people with SMI who no longer feel safe in their current home were more likely to make a positive transition than those who felt safe. A possible explanation is that dissatisfaction with the current living situation (not feeling safe due to group dynamics or a feeling that one is no longer welcome in SH) resulted in higher motivation for living independently, albeit this motivation has a negative connotation. This is in line with a study by Yanos et al. (2004), who described that a proportion of people with SMI living in a residential setting reported feeling unsafe due to the behavior of their housemates.[74] The feeling of a lack of safety as described in the situation above is a 'push' factor urging people to move on, rather than a positive motivator. It is extremely concerning that people living in SH feel unsafe in their accommodation and everything should be done to increase safety in supported housing environments. It is known that people in inpatient facilities are at risk of violence (including sexual violence), and this is particularly problematic for vulnerable groups, including women.[75]

We did not find that better quality of life was related to a positive transition. The relation with the care worker – measured by RPRS – did not affect whether the transition was positive, unlike the continuity in case manager, whereby more continuity was associated with more positive transitions. It is likely that a case manager who assists a resident over a longer period has a better rapport and builds a stronger working alliance with them, as well as being better able to meet their needs. Our results suggest that SH facilities need to make staff retention a priority to improve outcomes for people with SMI.

Strengths and limitations

One strength of this study is that we succeeded in engaging a research population that is known to be difficult to engage in research.[76] Another strength is the duration of follow-up (three years) and the proportion of responders after three years (60%), which is high for people with SMI. One limitation of the study is that we only looked at the perspectives of residents and case managers, whereas positive transition may have been hampered by the limited availability of supported accommodation. Future studies would ideally take into account resident characteristics as well as systemic factors, including the availability of supported accommodation.

Conclusion

In this study in people with SMI, we found that increased continuity of case managemant was associatied with successful transitions towards independent living, and that feeling unsafe led residents to transition to independent living. We recommend that organizations offering supported accommodation invest in staff retention to improve outcomes for people with SMI. We also recommend that safety in SH facilities is prioritized. Our results support the importance of providing supported accommodation that is safe and has continuity of staff to aid people with SMI in their journey towards recovery.

Chapter seven

General discussion

The overall aim of the research described in this thesis was to examine the transition of people with severe mental illness (SMI) from community housing programs towards more independent ways of living. In this section, I outline the key discoveries, place them within the broader context of existing knowledge, and offer insights into potential avenues for future investigation.

Rehabilitation is the key objective of community housing programs – also known as supported housing (SH) – for people with SMI. The concept of rehabilitation has been long established in mental health care. Psychiatric rehabilitation can be defined as creating opportunities for individuals with psychiatric disabilities to engage in work, participate in society, and enjoy social interactions, all at their own pace. This is achieved through planned experiences in a supportive, respectful, and realistic environment.[77] The focus of psychiatric rehabilitation is to help individuals to develop or enhance their skills, obtain necessary resources and support, and work towards their goals.

In the mid-20th century, there was a global shift in psychiatry from large residential mental health institutions towards accommodating people with SMI in community-based settings – such as SH – as a means to promote rehabilitation. This shift also occurred in the Netherlands. However, a cross-sectional survey in the Dutch Regional Institutes for Residential Care revealed that there is limited understanding of who truly requires SH (as some individuals with only mild dysfunction may be able to live independently) and who can successfully transition to more independent living.[10]

This thesis aims to increase our understanding of facilitators and barriers of SH for people with SMI. The thesis is divided into four parts (chapters 2-6), aimed at addressing the main research question: "Which factors are associated with the transition of people with SMI who live in supported housing facilities?" The second chapter – a review of the literature – explores the contribution of SH for people with SMI with respect to individual recovery. The third chapter describes the care needs and expectations of people with SMI who were on a waiting list for SH, as well as whether these individuals were adequately informed about SH. The fourth chapter examines the relationship between the functional outcomes of people with SMI and the personality traits of their case managers. The final two chapters of this thesis investigate variables that may predict the transition of people with SMI from SH to more independent living arrangements.

In the general discussion section, the main findings of the thesis are presented, followed by an exploration of the strengths and limitations of the studies conducted. The discussion then places the findings in a broader scientific context, as well as considering clinical and practical implications.

Main findings of this thesis

In **chapter 1** of this thesis, we provide a social context about community housing programs. In the Dutch mental healthcare landscape of the late-20th and early-21st century, two distinct movements emerged, namely the deinstitutionalization and integration of mental healthcare services.[8] The latter was a result of the introduction of the Health Care Insurance Act (Zorgverzekeringswet) and the Social Support Act (Wet Maatschappelijke Ondersteuning, WMO). Over time, residential institutes for residential care (RIRCs) have evolved into a separate mental health sector, offering residential care programs such as SH and supported independent living (SIL).

Until December 2014, care for people with SMI was funded through the Exceptional Medical Expenses Act (AWBZ). However, starting from January 2015, the Dutch government opted to finance support provided "at home" through the Social Support Act (WMO) or the Long-Term Care Act (WLZ). Health insurance policies only cover care provided by psychiatric hospitals when there is a medical necessity.

Chapter 2 of this thesis provides an overview of the overall efficacy and impact of SH initiatives. Additionally, it delves into understanding the varying effectiveness of diverse SH models. Previous systematic reviews conducted by Chilvers et al. in 2002 and 2006 focused on randomized or quasi-randomized controlled trials, but no studies met their inclusion criteria.[18] By expanding the inclusion criteria with cross-sectional and longitudinal studies, qualitative studies, and randomized controlled trials, a total of ten studies (published between 1995 and 2012) were found to explore the contribution of SH. We found that SH may contribute directly or indirectly to the community integration and participation of individuals with SMI. We also found that the following factors are associated with better outcomes of SH interventions: 1) the association of recovery communities with reputable mental health care, 2) feelings of safety and security within SH and the surrounding community, 3)

the degree of influence in choice of housing, and 4) social integration within the community or peer support from other people with SMI. The positive impact of SH on stable housing is supported by a previous review by Bond and Campbell (2008), where housing provision was found to reduce homelessness and hospitalization.[20]

Regarding the different models or approaches used within SH, literature shows that all housing models contributed to fewer instances of homelessness or relapse into clinical admission, as well as favorable mental health outcomes. Although it was beyond the scope of this review to make direct comparisons between the different models, it can be stated that models such as Housing First, Double Trouble in Recovery and Group-Intensive Peer Support model have been shown to have a positive contribution to community integration.[21,30]

One major limitation of the results described in chapter 2 is that all data are from the period before the end of 2011. In box 1 below, an overview of the ten studies[78–87] found in the period from 2012 is 2020 is provided. The same search terms were used as in the original study, and the study selection procedure remains the same as written in the study presented in chapter 2.

The main purpose of **chapter 3** was to gain more insights into the care needs and expectations of people with SMI who are currently on a waiting list for SH. Moreover, the following question was evaluated: Are people with SMI sufficiently informed about SH? Obtaining a job or daily activities, improving psychological functioning, and managing their own finances were the most frequently mentioned expectations and desired care needs of individuals with SMI who are on a waiting list for SH. At the time of the study, there were people on the waiting list who believed that they only needed help with improving their social contacts. Although all people with SMI reportedly received some information about SH, fewer than half of them believed that they were sufficiently informed. They indicated that they did not know what to expect from SH, and what kind of other housing options were available. The level of knowledge regarding SH can significantly influence the expectations of individuals with SMI.

Research in other (medical) fields has shown that the personality traits of case managers could affect their efficiency of work.[44–48] In **chapter 4**, we examined the association between case managers' personality traits and the increased self-

reliance of people with SMI living in community housing programs. According to the literature, conscientiousness is related to dependability and volition, and the typical behaviors associated with it include being hardworking, achievement-oriented, perseverant, careful, and responsible.[45,88] In a sample of people with SMI living in SH, we found that the conscientiousness of case managers was associated with more self-reliance, particularly in women with SMI. When these findings are replicated, they could be used in training programs for mental health care professionals working with people with SMI.

In **chapter 5** of this thesis, we examined predictors of transition of people with SMI from Dutch community housing programs to a more independent way of living using a dataset derived from the Case Registry Utrecht (N=1,569). People with a personality disorder and people who only received outpatient care prior to the relocation to a community housing program were those most likely to relocate to a more independent form of living. Contrary to our expectations, current alcohol misuse was no obstacle for transitioning towards a more independent form of living. By contrast, people with a prior history of other substance dependency were less likely to make a positive transition.

In **chapter 6**, we further explored predictors for a positive transition to more independent living. We examined 120 people living in SH and found that the continuity of the case manager and feeling unsafe in their living situation were associated with a positive transition towards more independent way of living. Thus, in addition to a professional and positive relationship, it appears that continuity of care is important for the optimal rehabilitation of people with a serious mental illness who live in SH. Continuity of care has been identified for years as an important but often unfulfilled aspect of mental health care[55,71] associated with better outcomes such as social functioning[72] and lower hospital admission rates.[71,73] Moreover, we found that feeling unsafe in SH was associated with more positive transitions, independent of the continuity of the case manager. Dissatisfaction with the living situation (not feeling safe due to group dynamics or clinical symptoms such as paranoid ideas) may possibly result in moving to a more independent form of living. Indeed, Yanos et al. (2004) showed from interviews with people with SMI living in residential settings that a subgroup felt unsafe due to the behavior of their housemates, which could possibly be a 'negative' motivation to move on faster.[74] To address this problem, it is vital that safety in housing facilities is prioritized.

Box 1: Additional search performed in the period from November 2012 to December 2020

Part one: Supported housing for people with SMI in general

In our original study (Chapter 2), we described 'housing first.' In our additional search, a study was found examining the effectiveness of 'housing first' permanent supported accommodation, as well as improved housing stability, continuity of care and number of mental health admissions for persons experiencing chronic homelessness with psychosis. It concluded that the accommodation of chronic homeless persons with psychosis in a 'housing first' permanent supported accommodation leads to increased housing stability and optimism, improved continuity of care, and reduced psychiatric admissions.[78]

Aubry et al. (2020) performed a systematic review, meta-analysis, and narrative synthesis to investigate the effectiveness and cost-effectiveness of permanent supportive housing and income interventions on the health and social well-being of individuals who are homeless in high-income countries. Permanent supportive housing interventions increased long-term (six-year) housing stability for participants with moderate and high support needs when compared with usual care. Nevertheless, permanent supportive housing had no measurable effect on the severity of psychiatric symptoms, substance use, income, or employment outcomes when compared with usual social services.[79]

Harrison et al. (2020) performed a systematic review and meta-analysis of quality of life outcomes for persons with serious mental illness living in three types of supported accommodation (high support, supported housing and floating outreach).

They concluded that there is evidence that satisfaction with living conditions differs across supported accommodation types: living condition outcomes were better for people living in supported housing and floating outreach compared to high-support accommodation, with a medium effect size difference for living condition outcomes between supported housing and floating outreach. This indicates that living conditions are better for people

living in floating outreach. Social functioning outcomes were significantly better for people living in supported housing compared to high support, with well-being outcomes not being significantly different between the three types of supported accommodation. The authors suggest that there is a need to focus on improving social functioning and well-being outcomes for persons with serious mental illness across supported accommodation types.[80]

Wartmann et al. (2019) investigated the needs of psychiatric patients in relation to the housing conditions with an additional focus on social inclusion and participation. They concluded that persons living in a supported housing facility reported having fewer unmet needs. However, no differences regarding social inclusion and participation were found.[81]

Suggestions for further research have also been made. Parker et al. (2019) concluded that there is qualitative evidence suggesting that consumers value the support provided by community rehabilitation units, but there is an absence of methodologically sound quantitative research about the consumer outcomes achieved by these services. Given the ongoing and increasing investment in these facilities within the Australian context, there is an urgent need for high-quality research examining their efficiency and effectiveness.[82] Continuing on this latest recommendation, McPherson et al. (2018) recommend improved reporting standards and the prioritization of experimental studies that compare outcomes across different service models.[83]

Part two: Supportive approaches (models) used in supported housing for people with SMI

The findings of a meta-synthesis highlighted that supported housing residents face challenges in protecting their privacy and being lonely when on their own. Individualized support approaches need to attend to personal preferences for social participation and their varied meanings and significance.

Further research is required to better understand how individualized forms of support may enable supported housing residents to connect with family, friends and community in their preferred ways.[84]

In a qualitative review about the management of severe mental illness in general (not particularly in supported housing) and in another qualitative study, the importance of being aware of how social support networks hinder or contribute to discovery or housing status is underlined.[85,86]

Finally, a prospective cohort study among rehabilitation service users in England described that recovery orientation of the service, persons' activity and social skills were factors associated with successful discharge. The provision of recovery-oriented practice that promotes persons' social skills and activities may further enhance the effectiveness of these services.[8]

Strengths and limitations of the thesis

One strength of this thesis is that multiple methods were used to investigate various aspects of step-down facilities and community housing for people with SMI. These methods included a review, and quantitative (longitudinal observational) and qualitative designs. A second strength is that we used the Psychiatric Case Register (PCR) Utrecht as described in chapter 5 (factors predicting rehabilitation). This dataset entails a large and representative study sample (N=1,596) of individuals receiving care in the context of SH. A third strength is that we carried out a prospective observational study with a large cohort (N=120) of people with SMI living in SH, using various rating scales with high validity and reliability. It is known that involving people with SMI in research is extremely challenging.[36] This is a result of multiple factors, such as the fact that many people with SMI experience psychotic symptoms, particularly paranoid ideation, and this often includes health professionals. Moreover, some people experiencing active mental problems may be unable to consent to participate in research, and many people with SMI have relatively little stability, further reducing participation in research projects. Therefore, it is an enormous achievement to follow 120 people with SMI over time.

This thesis also has a number of limitations. First, we acknowledge that the data described in this thesis is dated, namely data were derived between 2012 and 2014, whereas this thesis is published in 2024. Therefore, the generalizability of the results to the present day and age may be limited. Since data collection, there have been changes in the governance and funding of community housing and mental health services, such as the process of decentralization of SH in the

Netherlands. As a result of this process, an increasing number of people with SMI are residing in their own homes (with support professionals providing assistance within their residences). Therefore, recommendations based on the results of the research described in this thesis may have limited relevance for the current context.

However, specific elements of the research described in this thesis transcend time and systems, in particular the findings on the working alliance between residents and care workers, the importance of shared decision-making, and specific factors contributing to better outcomes in SH trajectories. It is noted that recent studies highlight the challenges associated with trials comparing the effectiveness of SH.[87] Therefore, on balance we consider that publishing this thesis is still relevant as it may guide future research and policies.

Another limitation is that the data used in this thesis was derived from one region in the Netherlands (Utrecht). Although several locations of the Residential Institute for Residential Care Utrecht were involved in the study – which increases the chances of generalizability of the data – future research should also involve SH facilities in other regions of the Netherlands to gain a more comprehensive picture of care needs and factors related to achieving the rehabilitation goals of people with SMI, irrespective of regional differences. Nevertheless, the characteristics of the people with SMI who participated in this study were generally consistent with both the national and international literature (chapters 5 and 6). Moreover, the prospective study described in chapter 6 had a 35% drop-out rate over a three-year period, which could be explained by the fact that these people no longer received support from the Residential Institute for Residential Care Utrecht. Moreover, due to the absence of sufficient available independent living spaces, the transition rate might have been lower than achievable. Furthermore, the PCR Utrecht was used to obtain routinely collected data. The dataset was relatively large, although the available factors that could be used to answer the research question were limited. Consequently, we were unable to include factors that previous research had found to be predictors of (positive) transition.

Recommendations for future studies

While current research about people with SMI living in community housing programs is limited, this thesis shows that various factors influence the proper allocation of people with SMI to SH and increase the degree of self-reliance of people with SMI. Moreover, factors were found that predict the transition of people with SMI from a SH setting to a more independent way of living. Based on the findings described in this thesis, the following recommendations for future research are made below.

Firstly, further longitudinal follow-up studies are recommended into factors related to a positive transition to more independent living. This present longitudinal study examined the relationship between the personality of the case manager and a specific functional outcome – namely self-reliance – in people with SMI living in community housing programs (CHPs). We suggest that more research is needed to explore whether our findings are replicated in new samples, as well as how these findings may be used in the training of (mental) health care workers.

It is known that people in inpatient facilities are at risk of violence (including sexual violence) and this is particularly problematic for vulnerable groups, including women.[75] More research into how we can make housing facilities such as community housing programs safer for their residents or how to prevent incidents of violence is recommended.

The survey described in chapter 3 was exploratory in nature. A logical next step is to explore patients' perspectives on their care needs and expectations of community housing programs by using qualitative methods such as focus groups and in-depth interviews. Furthermore, exploring experiences of formerly community housing residents may help to identify barriers and facilitators associated with positive outcomes of SH programs. A recent study has explored experiences of people with SMI who lived in community housing projects using an ethnographic fieldwork approach.[90] The authors conclude that effective support for people with psychiatric disabilities in the community is person-centered and contributes to recovery and community participation. The authors also mention that even when support is organized according to these aims, people may have negative experiences. This may be related to focusing too much on the personal care plan and personal responsibilities of the

individual, or having to move multiple times as part of becoming independent. The authors suggest that this 'support burden' is addressed to improve services for people with SMI.[90]

Clinical and practical implications of the thesis

This thesis has explored the question concerning which factors are associated with making a transition from SH to more independent ways of living and found several related factors. Although more research is needed, some findings might already be a first step towards guidelines for clinical practice.

Implications within Lister

First, Lister evaluates more precisely whether support can be provided on an outpatient basis and discusses various options of support with the person with SMI and their referrer. This improves the information provided to individuals regarding SH and other living facilities, particularly considering the high demand for housing in the region. Second, Lister has implemented the practice of creating a "first support plan" during intake sessions, in which the actual care questions are already formulated in concrete terms to manage expectations.

Furthermore, Lister has introduced 'Individual Placement & Support,' an evidence-based method[38] that guides people with SMI to paid work or education, and employed multiple 'Individual Placement & Support' trainers to assist people with SMI with finding and maintaining employment. Lister has also prioritized addressing the day-to-day needs of people with SMI and offers a personalized rehabilitation package. For example, they now arrange daycare services and job opportunities from external providers, meeting the individual needs of clients. Additionally, Lister has established voluntary contracts for clients performing individual work-related daycare or group-based work-related activation, for which they receive a fee. Lister has introduced skilled rehabilitation coaches who are able to work systematically with clients to improve autonomy and independence. Moreover, training is offered to employees to enhance their systematic and goal-oriented approaches. Lister prioritizes continuity of care and attempts to offer positive working conditions to enhance staff retention. In conclusion, the outcomes of this thesis have influenced Lister's policy goals, which have been incorporated

into their multi-year vision for 2016-2020, with a focus on improving the quality of care and outcomes of people with SMI.

Shared decision-making

In this thesis, it was concluded that people with SMI on the waiting list for SH were not always sufficiently informed about the content of SH and what to expect of SH. More information about the purpose and content of SH has to be supplied for the benefit of the person with SMI. It is also important to investigate whether people with SMI are aware of a supervised independent living programs and what it entails. People with SMI who are enlisted for SH might prefer supervised independent living if sufficiently informed. Based on the findings in chapter 3, we recommend that shared decision-making[91] is used in conversations between people with SMI and health professionals about housing decisions, as a collaborative process that allows people with SMI and their providers to make health care decisions together, taking into account the best scientific evidence available. Part of the shared decision-making process should be that information about SH is provided, and that the expectations of people with SMI and their families are explored.

Conscientiousness of mental health case managers

If further research supports the notino that the degree of conscientiousness is an important factor for making more progress in people with SMI, this could be included in the competency profile of case managers and the assessment of new employees. In the future, more attention should be paid to profiling employees and increasing their ability to work methodically and purposefully. Education and training for case managers focused on increasing self-reliance of people with SMI is also strongly recommended.

Taking into account the specific care needs of people with SMI

People with a personality disorder or those who received ambulant care prior to admission in a community housing program had the highest probability of moving into a more independent way of living. People who received clinical care prior to admission in a community housing program, people in SH and people with a history of substance dependency had the highest probability of transferring to a less independent way of living or clinical relapse.

In other words, people with SMI with more complex mental health problems had more difficulties moving towards independent living. This should be taken into account when choosing a particular type of supervised housing. Moreover, there is a pressing need to prioritize the enhancement of integration between mental health care and addiction services.

Feelings of unsafety within community housing programs

The results described in chapter 6 showed that people who feel unsafe within their current living situation were more likely to make a transition towards a more independent living situation. In an article by Yanos et al. (2004), interviews conducted among people with SMI living in a residential setting show that some feel unsafe due to the behavior of their housemates.[74] The feeling of a lack of safety as described in our study might be a 'push' factor urging people to move on, rather than a positive motivator. It is extremely concerning that people living in SH feel unsafe in their accommodation and everything should be done to increase safety in SH environments. It is known that people with inpatient facilities are at risk of violence (including sexual violence), which is particularly problematic for vulnerable groups, including women.[75] It is important to ensure a safe and motivating living environment in which people with SMI receive the support that they need to make a transition to a more independent form of living with positive motivation.

Continuity of case managers

In addition to an effective, professional and stimulating relationship, the continuity of case managers (and counseling) proved to be important for encouraging the independency of people with a serious mental disorder who live in SH. Staff retention is a major problem for mental health institutions, and a high turnover of staff has a negative effect on the care and outcomes of people with SMI.[92] Better working conditions and more career options are necessary for mental health care staff to provide optimal care for people with SMI.

Other lessons learned

It may be worthwhile to explore the availability of alternative forms of community-based support for individuals who transition from outpatient care to SH or already reside independently. In this thesis, we have shown that certain

clinical characteristics influence whether or not a transition towards a more independent living situation is made. During writing this thesis, the eligibility of a person with SMI for SH or supervised independent living was assigned by the Exceptional Medical Expenses Act (EMEA). This process is fully described in the supplement of the introduction section of this thesis. Since January 2015, guidance and support has being paid by the Social Support Act (SSA) and the Long-Term Care Act (LTCA). In this thesis, it was found that a care package echelon within the LTCA was often allocated for a longer period, in some cases for fifteen years. Due to the current changes within the Dutch psychiatric care and SH, facilities are now assessing the care needs of individuals with SMI, which could lead to shorter-term allocation of care packages, potentially resulting in reduced support provision. However, the impact on achieving greater recovery remains uncertain.

Another lesson learned is that residential needs and care needs should be separated. Society must also take its responsibility to provide proper housing. Nowadays, people are more likely to benefit from SH than from regular housing due to a shortage of available housing in the regular housing market. This influences the actual care needs of people with SMI: community mental health care can be provided for intensive psychological and psychiatric support, but when people have nowhere to live, the first step is to opt for SH. Creating more available housing options within the regular housing market will result in more available places for people who truly need SH due to their (more intensive) care needs.

Various factors identified through a comprehensive examination of literature, the survey, and quantitative analyses within this thesis can potentially facilitate the transition of individuals with SMI from SH facilities towards greater independence. In the future, health authorities may consider integrating these factors into support strategies and guidance for individuals with SMI. However, it is important to interpret this advice cautiously at present, as further research is warranted to explore the factors influencing the rehabilitation and transition to greater independence among individuals with SMI.

General conclusion

This thesis has attempted to find an answer to the central research question: *Which factors influence the rehabilitation and transition of people with SMI living in SH facilities?* We identified the following factors and mention them briefly in the italic words and in a normative way:

At the start of SH, there must be *adequate information provision* so that people with SMI can have clear expectations. Once the person with SMI receives care within SH, the *continuity of care* should be ensured. The *conscientiousness of case managers* was associated with an increased self-reliance of the person with SMI living in SH over a period of two years. People with a *personality disorder, with current alcohol misuse, or who received ambulant care prior to admission in SH* had the highest probability of moving into a more independent way of living. Moreover, *people with SMI who no longer felt safe in their current home* were significantly associated with making a positive transition. People who received *clinical care prior to admission* in SH and people with a *history of substance dependency* had the highest probability of transferring to a less independent way of living or clinical relapse. We hope that the results of this thesis will assist organizations and policy-makers to implement changes that will enhance the rehabilitation and quality of life of people with SMI.

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Summary

The overall aim of the research described in this thesis was to explore the transition of people with severe mental illness (SMI) from community housing programs towards more independent living. The work described in this thesis contributes to our knowledge and understanding of factors that support or hinder people with SMI in the transition from supported housing towards more independent forms of living. The thesis comprises four parts (chapters 2-6), addressing the following question: "What factors contribute to the transition of people with SMI living in supported housing facilities toward more independent forms of living?" Chapter 2 reviews the effectiveness and different approaches of supported housing, before the third chapter describes the care needs and expectations of people with SMI who were on a waiting list for supported housing. It also explores whether these individuals felt they were adequately informed about supported housing. The fourth chapter examines associations between the functional outcomes of people with SMI and the personality traits of their case managers. Chapters 5 and 6 investigate variables that may predict the transition of people with SMI from supported housing to more independent living arrangements.

Social context of community housing programs

In **chapter 1** of this thesis, we provide an introduction to the work described in this thesis, including the history and social context of community housing programs in the Netherlands.

Starting in the 1950s, there was a growing recognition that individuals with SMI should receive support in their own communities rather than spending extended periods in psychiatric hospitals. This shift toward community-based care aimed to enhance the social integration and promote rehabilitation of people with mental illness. As a result, mental hospitals in Western Europe began to close or reduce their size. The pace and extent of this deinstitutionalization process varied from one country to another, influenced by factors such as political and economic systems, geographical features, national culture, and the structure of the mental healthcare system. As a result of this 'deinstitutionalization,' the number of places for supported housing in the Netherlands tripled between 2002 and 2012. The Trimbos Institute offers research and advice on mental health and addiction, estimating that there were around 16,500 people in supported housing in 2016. Although the number of people with SMI in supported housing has decreased since 2013, those with complex mental health issues – including substance abuse – have increased. Several factors contribute to the

complexity of the supported housing population. There has been a stagnation in transitioning from supported housing to more independent living due to a lack of affordable rental homes and an expanded target group. With the reduction of psychiatric hospital beds, individuals needing extensive care are now placed in supported housing, requiring more time and support for independence, leading to longer waiting lists. It is important to note that many people with SMI eventually recover partially or completely and move to more independent living arrangements. However, the factors that facilitate or hinder this transition remain poorly understood and require further research.

Supported housing for people with SMI in general and supportive approaches (models) used in supported housing for people with SMI

Chapter 2 of this thesis provides an overview of literature exploring the contribution of supported housing for people with SMI with respect to individual recovery. The findings suggest that supported housing primarily contributes to community integration, the association of recovery communities with reputable mental health care, feelings of safety and security within supported housing and the surrounding community, the degree of influence in the choice of housing, and social integration within the community or peer support from other people with SMI. Housing models using a theoretical framework such as "Housing First," "Double Trouble in Recovery" and "Group-Intensive Peer Support" contribute to increased stability in terms of housing, as well as better mental health outcomes.

Care needs and expectations of people with SMI who are currently on a waiting list for supported housing

The main purpose of **chapter 3** was to gain more insights into the care needs and expectations of people with SMI who are currently on a waiting list for supported housing and their care workers. A secondary aim was to explore opinions of people with SMI with respect to the information that they received on supported housing options. Data was collected through surveys among 38 persons with SMI who were on a waiting list for supported housing in the Utrecht region, an urban area in the Netherlands. We found that for most people on the waiting list, the most important care needs were obtaining a form of work or other meaningful activities, improving psychological functioning and managing their own finances. Obtaining a job or other meaningful activities was the most important expectation of people with SMI. The surveys conducted for this study showed that people who were on the waiting list for

supported housing mentioned that they mainly need support within their social environment. Having a solid social network is vital as it strongly facilitates the rehabilitation of people with SMI. It is therefore crucial to identify at an early stage current and potential future social contacts and networks. Although all people with SMI reportedly received some information about supported housing, fewer than half of them felt that they were adequately informed. They indicated that they did not know what to expect from supported housing, and what kind of other housing options were available. The degree of information about supported housing may affect the expectations of people with SMI about supported housing facilities. Our results suggest that information provision to people with SMI about supported housing may need optimization to align with expectations and reality.

Case managers' personality traits and an increased self-reliance of people with SMI living in community housing programs

Research in other (medical) fields has shown that personality traits of health professionals such as case managers could affect their efficiency of work. In **chapter 4**, we examined the association between case managers' personality traits and the self-reliance of people with SMI living in community housing programs. The self-reliance of people with SMI was measured by the Dutch Self-Sufficiency Matrix (SSM-D), and the personality of the case manager was measured with the NEO Five-Factor Inventory (NEO-FFI). In total, 47 case managers supporting 81 people with SMI were included in this study (some case managers supported two people with SMI). In our sample of people with SMI living in supported housing, we found that the conscientiousness of case managers was associated with more self-reliance, particularly in women with SMI. Our results demonstrate the importance of including the health care workers' personality in theoretical, empirical and clinical models of the recovery process. When these findings are replicated, they could be used to inform training programs for mental health professionals working with people with SMI. Specific training of care workers and case managers may lead to better care planning skills and improved outcomes for people with SMI.

Predictors of transitioning towards more independent living in people with severe mental illness

In **chapter 5** of this thesis, we examined predictors of a successful transition of people with SMI from Dutch community housing programs to a more independent way of living. For this study, a dataset derived from the Case

Registry Utrecht (N=1,569) was used, a registry containing information about everyone who received treatment in a mental health facility in the Utrecht region (including data on demographics, diagnosis and treatment). Data were analyzed using a Cox regression analysis. We found that people with a personality disorder and people who only received outpatient care prior to the relocation to a community housing program were those most likely to relocate to a more independent form of living. Contrary to our expectations, current alcohol misuse was no obstacle for transitioning towards a more independent form of living. By contrast, people with a prior history of other substance dependency were less likely to make a positive transition.

In **chapter 6**, we further explored predictors for a positive transition to more independent living. In this longitudinal cohort study, we examined 120 people living in supported housing, using a multivariate statistical approach. We found two factors that were associated with a positive transition towards more independent way of living: 1) the continuity of the case manager; and 2) perceived unsafety in the living situation. Thus, in addition to a professional and positive relationship, it appears that continuity of care is important for the optimal rehabilitation of people with a serious mental illness who live in supported housing. The second finding was that people with SMI who no longer felt safe in their current home were more likely to move towards independent living. Perceived unsafety and potential dissatisfaction with the living situation – not feeling safe due to group dynamics or because of clinical symptoms such as paranoid ideas – may lead to moving to a more independent form of living. To address this problem, it is vital that safety in housing facilities is prioritized.

Overall, this thesis has explored the transition of people with SMI from community housing programs towards more independent ways of living. Information derived from the literature study, qualitative study, and quantitative studies of this thesis may be used to promote transition of people with SMI from supported housing facilities to more independent ways of living. The work described in this thesis will hopefully guide organizations and policy-makers to implement changes that enhance rehabilitation and quality of life of people with SMI.

Nederlandse samenvatting

Dit proefschrift beschrijft onderzoek naar de transitie van mensen met een ernstige psychische aandoening (EPA) vanuit beschermd wonen naar een meer zelfstandige woonvorm. Hiermee draagt dit proefschrift bij aan kennis en begrip van factoren die mensen met EPA ondersteunen of belemmeren in de transitie van beschermd wonen naar meer zelfstandige woonvormen. Het proefschrift bestaat uit vier delen (hoofdstukken twee tot en met zes), waarin de volgende vraag aan de orde komt: "Welke factoren dragen bij aan de transitie van mensen met EPA vanuit beschermd wonen naar meer zelfstandige woonvormen?". Hoofdstuk twee geeft een overzicht van de effectiviteit en verschillende benaderingen van beschermd wonen. Het derde hoofdstuk beschrijft de zorgbehoeften en -verwachtingen van mensen met EPA die op een wachtlijst staan voor beschermd wonen. Ook wordt in dit hoofdstuk onderzocht of deze personen zich voldoende geïnformeerd voelen over beschermd wonen. In het vierde hoofdstuk worden associaties tussen de mate van zelfredzaamheid van mensen met EPA en de persoonlijkheidskenmerken van hun persoonlijk begeleiders onderzocht. In hoofdstuk vijf en zes worden mogelijke factoren onderzocht die de transitie van mensen met EPA vanuit beschermd wonen naar meer zelfstandige woonvormen zouden kunnen voorspellen.

Sociale context van beschermd wonen

In **hoofdstuk één** van dit proefschrift geven we een inleiding op het onderwerp, inclusief de geschiedenis en sociale context van beschermd wonen in Nederland. Sinds de jaren 1950 was er een groeiend besef dat mensen met EPA ondersteuning moesten krijgen in hun eigen gemeenschap in plaats van langere perioden in psychiatrische ziekenhuizen door te brengen. Deze verschuiving naar gemeenschapsgerichte zorg was gericht op het verbeteren van de sociale integratie en het bevorderen van rehabilitatie van mensen met EPA. Als gevolg hiervan begonnen psychiatrische ziekenhuizen in West-Europa hun omvang te verkleinen of zelfs te sluiten. Het tempo en de omvang van dit deïnstitutionaliseringsproces varieerden van land tot land, beïnvloed door factoren zoals politieke en economische systemen, geografische kenmerken, nationale cultuur en de structuur van de (lokale) geestelijke gezondheidszorg. Als gevolg van deze 'deïnstitutionalisering' is het aantal plaatsen voor beschermd wonen in Nederland tussen 2002 en 2012 verdrievoudigd. Het Trimbos-instituut biedt onderzoek en advies op het gebied van geestelijke gezondheid en verslaving en schatte in 2016 dat ongeveer 16.500 mensen woonachtig waren in beschermde woonvormen. Hoewel het aantal mensen met een EPA binnen beschermd wonen sinds 2013 is afgenomen, is het aantal

mensen met complexe psychische problemen, waaronder middelenmisbruik, toegenomen. Verschillende factoren dragen bij aan de complexiteit van zorg voor, en doorstroom van mensen binnen beschermde woonvormen. Er is een stagnatie zichtbaar in de overgang van beschermd wonen naar meer zelfstandig woonvormen door een gebrek aan betaalbare huurwoningen en een breed scala aan ondersteuningsbehoeften van mensen met EPA die gebruikmaken van beschermd wonen. Met de vermindering van het aantal psychiatrische ziekenhuisbedden worden mensen die uitgebreide zorg nodig hebben nu in beschermd wonen geplaatst, waardoor meer tijd en ondersteuning nodig is om deze doelgroep door te laten stromen naar meer zelfstandige vormen van wonen. Dit leidt tot langere wachtlijsten. Toch is zichtbaar dat veel mensen met een EPA uiteindelijk gedeeltelijk of volledig herstellen en verhuizen naar een meer onafhankelijke woonsituatie. De factoren die deze overgang vergemakkelijken of juist belemmeren, zijn vaak nog onduidelijk en vereisen verder onderzoek.

Beschermd wonen voor mensen met EPA en ondersteunende benaderingen en interventies toegepast binnen beschermde woonvormen voor mensen met EPA

Hoofdstuk twee van dit proefschrift geeft een overzicht van algehele bijdrage van beschermd wonen voor mensen met een EPA, alsook een overzicht van de bijdrage van ondersteunende benaderingen en interventies die binnen beschermd wonen kunnen worden toegepast. De bevindingen suggereren dat beschermd wonen in de eerste plaats bijdraagt aan de integratie van de gemeenschap, die kan worden beïnvloed door factoren zoals 1) de associatie tussen beschermd wonen en de geestelijke gezondheidszorg, 2) gevoelens van veiligheid en zekerheid binnen beschermd wonen en de omliggende gemeenschap, 3) de mate van invloed op de keuze van huisvesting en 4) sociale integratie binnen de gemeenschap of peer-ondersteuning van andere mensen met EPA. Interventies die gebruik maken van een theoretisch kader, zoals “Housing First”, “Double Trouble in Recovery” en het “Group-Intensive Peer Support”-model, dragen bij aan meer stabiliteit op het gebied van huisvesting, minder terugval naar een klinische opname, en aan betere resultaten op het gebied van geestelijke gezondheid.

Zorgbehoeften en verwachtingen van mensen met ernstige psychische aandoeningen die momenteel op een wachtlijst staan voor beschermd wonen.

Het belangrijkste doel van **hoofdstuk 3** was om meer inzicht te krijgen in de

zorgbehoeften en verwachtingen van mensen met EPA die momenteel op een wachtlijst staan voor beschermd wonen. Daarbij is onderzocht in welke mate deze mensen geïnformeerd werden over beschermd wonen en andere vormen van wonen (zoals begeleid zelfstandig wonen) en of zij tevreden waren over de informatie die zij hierover hebben ontvangen. Gegevens werden verzameld door middel van semigestructureerde interviews onder 38 personen met EPA die op een wachtlijst stonden voor beschermd wonen in de regio Utrecht, Nederland. Het verkrijgen van een vorm van werk of andere zinvolle dagbesteding, verbetering van het psychisch functioneren en het (leren) beheren van hun eigen financiën bleken de belangrijkste zorgbehoeften van de geïnterviewden te zijn. Het vinden van een baan of andere zinvolle dagbesteding was de belangrijkste verwachting van mensen met EPA die op de wachtlijst stonden voor beschermd wonen. De mensen die op de wachtlijst stonden voor beschermd wonen gaven aan dat ze vooral ondersteuning zoeken met betrekking tot het sociale functioneren en het verkrijgen van een stabiel sociaal netwerk. Het hebben van een stabiel sociaal netwerk is van cruciaal belang omdat het een grote bijdrage levert aan de rehabilitatie van mensen met EPA. Geadviseerd wordt om in een vroeg stadium de huidige en potentiële sociale contacten en netwerken in kaart te brengen.

Met betrekking tot de informatieverstrekking over beschermd wonen, gaven alle mensen die op de wachtlijst stonden voor beschermd wonen aan dat zij enigszins geïnformeerd waren over beschermd wonen. Een belangrijke kanttekening hierbij is, is dat meer dan de helft vond zij onvoldoende geïnformeerd zijn over de inhoud van beschermd wonen en over andere vormen van wonen (zoals begeleid zelfstandig wonen). De geïnterviewden gaven aan niet te weten wat ze konden verwachten van beschermd wonen, en welke andere (begeleide) woonmogelijkheden er bestaan. De mate van informatieverstrekking over beschermd wonen kan van invloed zijn op de verwachtingen van mensen met EPA over beschermd wonen. Onze onderzoeksresultaten suggereren dat de informatievoorziening aan mensen met EPA over beschermd wonen mogelijk moet worden geoptimaliseerd om aan te sluiten bij de verwachtingen en de realiteit.

Persoonlijkheidskenmerken van casemanagers en een verhoogde zelfredzaamheid van mensen met EPA die beschermd wonen.

Onderzoek op andere (medische) gebieden heeft aangetoond dat persoonlijkheidskenmerken van zorgprofessionals, zoals casemanagers, van invloed

kunnen zijn op hun werkefficiëntie. In **hoofdstuk 4** onderzochten we het verband tussen de persoonlijkheidskenmerken van casemanagers en de mate van zelfredzaamheid van mensen met EPA die beschermd wonen. De zelfredzaamheid van mensen met EPA is gemeten met de Nederlandse Zelfredzaamheidsmatrix (ZRM) en de persoonlijkheid van de casemanager is gemeten met de NEO Five Factor Inventory (NEO-FFI). In totaal werden 47 casemanagers die 81 mensen met EPA ondersteunden, in deze studie opgenomen (sommige casemanagers ondersteunden 2 mensen met EPA). Onze uitkomsten laten zien dat consciëntieusheid van casemanagers geassocieerd was met meer zelfredzaamheid, vooral bij vrouwen met EPA. Onze resultaten tonen aan hoe belangrijk het is om de persoonlijkheid van de zorgprofessionals op te nemen in theoretische, empirische en klinische modellen van het herstelproces. Wanneer deze bevindingen worden gerepliceerd, kunnen ze worden gebruikt om zorgprofessionals die werken met mensen met EPA binnen trainingsprogramma's te informeren de invloed van (hun eigen) persoonlijkheidskenmerken binnen hun werkrelatie met de cliënt. Specifieke training van zorgprofessionals kan leiden tot betere vaardigheden op het gebied van zorgplanning en betere resultaten voor mensen met EPA.

Transitievoorspellers van mensen met ernstige psychische aandoeningen die beschermd wonen

In **hoofdstuk 5** van dit proefschrift onderzochten we voorspellers van een succesvolle transitie van mensen met EPA vanuit beschermd wonen naar een meer zelfstandige vorm van wonen. Voor dit onderzoek is gebruik gemaakt van een dataset afkomstig uit het Psychiatrisch Casusregister Utrecht (N=1569), een register met informatie over iedereen die in behandeling is geweest in een GGZ-instelling in de regio Utrecht (inclusief demografische gegevens, gegevens over diagnose en behandeling). De verkregen data werd geanalyseerd met behulp van een Cox-regressieanalyse. We ontdekten dat mensen met een persoonlijkheidsstoornis en mensen die alleen ambulante zorg kregen voorafgaand aan beschermd wonen, degenen waren die het vaakst een transitie maakten naar meer zelfstandige vormen van wonen. In tegenstelling tot onze verwachtingen bleek een actuele alcoholverslaving geen belemmering te zijn voor transitie naar een meer zelfstandige vorm van wonen. Daarentegen hadden mensen met een voorgeschiedenis van andere vorm van middelenafhankelijkheid (drugs) een minder grote kans om een positieve transitie te maken naar meer zelfstandige woonvormen.

In **hoofdstuk 6** hebben we de voorspellers voor een positieve transitie naar meer zelfstandig wonen verder onderzocht. In deze longitudinale cohortstudie onderzochten we 120 mensen die beschermd woonden. Voor de data-analyse maakten we gebruik van een multivariate statistische analyse. We vonden twee factoren die samenhangen met een positieve transitie naar een meer zelfstandige manier van wonen: 1) de continuïteit van de casemanager; en 2) gevoelens van onveiligheid binnen de huidige woonsituatie. Uit onze studie blijkt dat naast een professionele en positieve relatie, de continuïteit van zorg belangrijk is voor een optimale rehabilitatie van mensen met EPA die beschermd wonen. De tweede bevinding was dat mensen met EPA die zich niet (meer) veilig voelden in hun huidige woonsituatie, eerder geneigd waren om zelfstandig te gaan wonen. Ervaren onveiligheid en mogelijke ontevredenheid over de woonsituatie (zich niet veilig voelen door bijvoorbeeld groepsdynamiek of door klinische symptomen zoals paranoïde ideeën) kunnen leiden tot een transitie naar meer zelfstandige woonvormen. Om dit probleem aan te pakken, is het van groot belang dat veiligheid binnen woonvoorzieningen prioriteit krijgt.

Samengevat werd binnen dit proefschrift onderzocht welke factoren bijdragen aan een positieve transitie van mensen die beschermd wonen naar meer zelfstandige vormen van wonen. De informatie die is verkregen vanuit de literatuurstudie, een vragenlijst en de kwantitatieve studies in dit proefschrift kan worden gebruikt om de transitie van mensen met EPA vanuit beschermd wonen naar meer onafhankelijke woonvormen te bevorderen. Het werk dat in dit proefschrift wordt beschreven, zal hopelijk organisaties en beleidsmakers helpen om veranderingen door te voeren die de rehabilitatie van mensen met EPA verbeteren.

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Curriculum Vitae

Mandy Lodder is geboren op 3 april 1987 te Zeist. Na het behalen van haar HAVO diploma in 2004 in Zeist ging zij Maatschappelijk werk en Dienstverlening studeren aan de Hogeschool van Utrecht en behaalde haar diploma in 2008 met genoegen. Hierna koos zij voor een vervolgstudie en is zij gestart met de Universitaire Pré-Masteropleiding Orthopedagogiek aan de Universiteit van Utrecht. Daarna behaalde zij in 2011, eveneens aan de Universiteit van Utrecht, in twee jaar tijd haar Masteropleiding Orthopedagogiek. In datzelfde jaar behaalde zij haar basisaantekening diagnostiek. In juli 2011 is zij gestart als onderzoeksassistent binnen het Julius Centrum van het Universitair Medisch Centrum Utrecht. In datzelfde jaar is zij gestart als promovendus in samenwerking met Lister. Naast haar promotieonderzoek heeft Mandy in september 2012 haar eigen praktijk opgericht; Orthopedagogenpraktijk Wijk bij Duurstede. Hier houdt zij zich o.a. bezig met het begeleiden en behandelen van kinderen en jongeren tot 18 jaar met gedragsproblematiek of die vastlopen in hun sociaal – emotionele ontwikkeling.