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ORIGINAL PAPER

Towards Structural Quality Indicators for Intensive Community-Based Care Programmes for Substance Abusers

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Abstract Although the importance of structure for the quality of intensive community-based care was already acknowledged in the 1980s, the subject has not received much attention since. The object of this study was to identify the perceived structural quality indicators for intensive community-based care for substance abusers and expand a classification system in order to enable meaningful effect studies and to substantiate structure—outcome links. Using concept mapping based on a purposive sample of experts, seven clusters of structural quality indicators were identified. Finally, the validity of the classification system is discussed

Keywords Intensive community-based care · Assertive community treatment · Structure · Theory-building · Concept mapping

Introduction

This study identifies the structural components of community-based care for substance abusers that are perceived to contribute to the programme's quality and presents a framework for classifying these components.

The goal of intensive community-based care is to offer appropriate services in their own surroundings to severely disordered individuals who are not currently receiving adequate care. Although originally developed for psychiatric patients, this type of care has been increasingly applied to the population of substance abusers. The term 'intensive' refers to 'outreaching', 'high service frequencies' and all the other activities necessary to reach these clients and prevent drop out and no-show (Mueser et al. 1998; Stein and Test 1978; Thompson et al. 1990). Intensive community-based care was created in the 1970s and 1980s, when psychiatric hospitals in several countries started to develop programmes for this target group. Although the programmes had a number of similar components, they differed on others.

Intagliata (1982) noted that the programmes differed in comprehensiveness, in that some simply link a client to appropriate services (primarily providing outreach, assessment, planning, and referral) whereas others provide a more complete care package (including direct casework, advocacy, and monitoring). According to Mueser et al. (1998), programmes not only differ in comprehensiveness, but also whether their goal is rehabilitation (providing practical services for this purpose). Several authors have tried to categorise programmes based on the literature (Kroon 1996; Mueser et al. 1998; Phillips et al. 2001; Rapp 1998). They all found groups of programmes that matched on a number of elements (e.g., Assertive Community Treatment and Intensive Case Management). However, programmes assigned to the same group still differed on a number of elements. Furthermore, the authors did not always agree about the classifications. According to Rapp (1998), this is a consequence of the fact that literal replication of a 'model programme' rarely happens; mostly, a programme is adapted to the practice situation and its context.

Many studies have investigated different intensive community-based care practices in different countries. Unfortunately, although a number of individual studies

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have showed positive effects, there is no *conclusive* evidence certain programmes or individual programme components are effective, as was demonstrated in several reviews (Burns et al. 2001; Chamberlain and Rapp 1991; Holloway et al. 1995; Mueser et al. 1998; Vanderplasschen 2004). Such conclusions cannot be drawn because of the large differences between the programmes studied (even those based on the same model), as well as the inadequate descriptions of these differences (both the experimental and control services are poorly described in most studies). This means that the findings of different studies cannot be compared and the effects cannot be attributed to programmes or individual programme components.

Because intensive community-based care links different services and addresses a broad range of life areas, it relies heavily on its organisation, and its quality depends strongly on how well the care is integrated into the existing health care system. Already in the 1980s, Intagliata (1982) recognised the importance of the broader services network and stated that intensive community-based care programmes needed to be built on existing system components; he also concluded that some new structures and mechanisms were needed. However, subsequent studies of intensive community-based care paid little attention to organisational structure. Instead the two main structures that received attention were part of packages of components: the case manager, introduced in the Case Management model (which was the first programme developed in this sector), and the multidisciplinary team, introduced in the Assertive Community Treatment model (which is a more comprehensive model of intensive community-based care) (e.g., Teague et al. 1995; Vanderplasschen et al. 2002). Alternative structures, such as the organisational network, have not been studied, nor have variations in the composition of these structures. And because of the difficulty making comparisons and the empirical problems mentioned before, there is no conclusive evidence which structures are the most effective. For all these reasons, more information on alternative structures of intensive community-based care is needed, as well as a theoretical framework that can help describe and evaluate programmes.

The current study aims to address this need, identifying the essential structural elements of intensive community-based care, as well as proposing a framework for classifying these elements. The research questions are: 'What structural elements are perceived as contributing to the programme's quality?' and 'How can these elements be organised and summarised into categories?' Using concept mapping, this study lays the groundwork for meaningful effect studies and hopes to substantiate links between structure and outcome.

The current research included two concept mappings. The first the results of which were previously reported, provided a broad outline of the quality indicators of intensive community-based care (Roeg et al. 2005). The second, the results of which are reported in this paper, focused on the structural part. The results of these two studies will be pulled together in the discussion.

Methods

An inductive approach was chosen to explore perceptions about the structure of intensive community-based care for substance abusers. Expert opinion is one of the oldest and most used strategies for the development of norms (Grimshaw et al. 1995). To express this opinion, we used concept mapping, a standardised research method integrating focus groups with statistical methods (Trochim and Kane 2005). It allows a construct to be visualised and shows how its dimensions are related to each other. Concept mapping includes the following steps: selecting participants, brainstorming, structuring, statistical analyses, discussion, and final interpretation (Johnsen et al. 1999; Nederlands Centrum Geestelijke Volksgezondheid and Talcott 1995; Trochim 1989). Each of these steps will be explained below.

In the present study, we selected participants using purposive sampling. This is a deliberately non-random method, which aims to sample a group of people with particular characteristics (Bowling 2000). In this study we sampled cases for maximum variation, cases that show a certain variety regarding the phenomenon structure (Miles and Huberman 1994). Variety was sought on two characteristics: geographical dispersion (the region of the Netherlands where the programme is located) and perspective (managers, service providers, and clients). Geographical dispersion was relevant, as intensive community-based care is organised differently in different localities. Perspective permitted different views to be included. This sampling strategy should give the resulting framework external validity. For effective concept mapping, groups of 8–15 have been recommended (Nederlands Centrum Geestelijke Volksgezondheid and Talcott 1995). We compiled a list of all intensive community-based care programmes for substance abusers in the Netherlands, and selected and approached a number of them. Despite numerous invitations, it was difficult to involve clients (Though twice as many invitations were sent to clients, none of them chose to participate). In addition to the managers, service providers and clients, the head of the college for intensive community-based care of the Training Institute in Mental Health Care was invited, because of her national perspective on the sector. In total, nine individuals agreed to participate: five service providers, three managers, and one head of college. They worked in all regions of

the country (Groningen in the north, Sittard in the south, Arnhem in the east, and Utrecht and Amsterdam in the urban centre). The concept mapping was performed in September 2005.

The brainstorming session was chaired by a trained researcher with experience in concept mapping. After an introduction, explaining the aim of the research, the participants were asked to react to the following statement: '*A proper organisation of intensive community-based care for persons with addiction problems requires....*' The brainstorming session resulted in 43 statements.

To structure the statements, each was printed on an individual sheet. Each participant was asked to: (1) group them according to their own point of view, and (2) rate them on a Likert scale in terms of how important each statement was to their view of intensive community-based care (1 = least important and 5 = most important).

Statistical analyses were performed using the Ariadne programme for Concept Mapping (Nederlands Centrum Geestelijke Volksgezondheid and Talcott 1995). Concept map analyses include principal component analysis (PCA), hierarchical cluster analysis, and calculation of mean ratings. PCA creates a concept map on which the statements can be plotted. First, the statistical program creates a matrix for each participant, indicating whether a given pair of statements was grouped together during the structuring (with a 1 for yes or a 0 for no). Next, the statistical program transforms all these individual matrices into a group matrix, which is then used as input for PCA. The first two dimensions of the PCA solution are displayed as the concept map. The more frequently statements are grouped together, the closer they are plotted on the map. Hierarchical cluster analysis is now used to cluster the statements, using the coordinates of the statements as input. In concept mapping, it is common to start with a 50-cluster solution and then keep clustering until the clusters no longer make sense conceptually. The last meaningful clustering is then the final solution (Trochim 1989). In our study, this was a seven-cluster solution (see Fig. 1). Finally, the mean ratings are calculated for both the statements and the clusters.

The final solution and the mean ratings were then discussed with the group, and the clusters were labelled. This helped to understand the reasoning behind the findings.

In a final step, the researchers refined the labels, creating 'regions' of clusters, and labelling the axes.

Results

Table 1 presents the seven clusters that were distinguished: interorganisational cooperation, means and preconditions, professionalisation, autonomy, internal acknowledgement, internal support, and profile of staff. Interorganisational cooperation refers to organisations working together in one intensive community-based care programme, and the place of such a delivery system in the healthcare system. The two highest scoring statements in this cluster were: 'clear direction in the chain of care' and 'care chain approach (comprehensiveness and continuity)'. Participants viewed the ideal cooperation between organisations as a chain of organisations in which each has a clear position and a strong link with the others. Participants stated that such a chain needs an overall head to ensure proper coordination

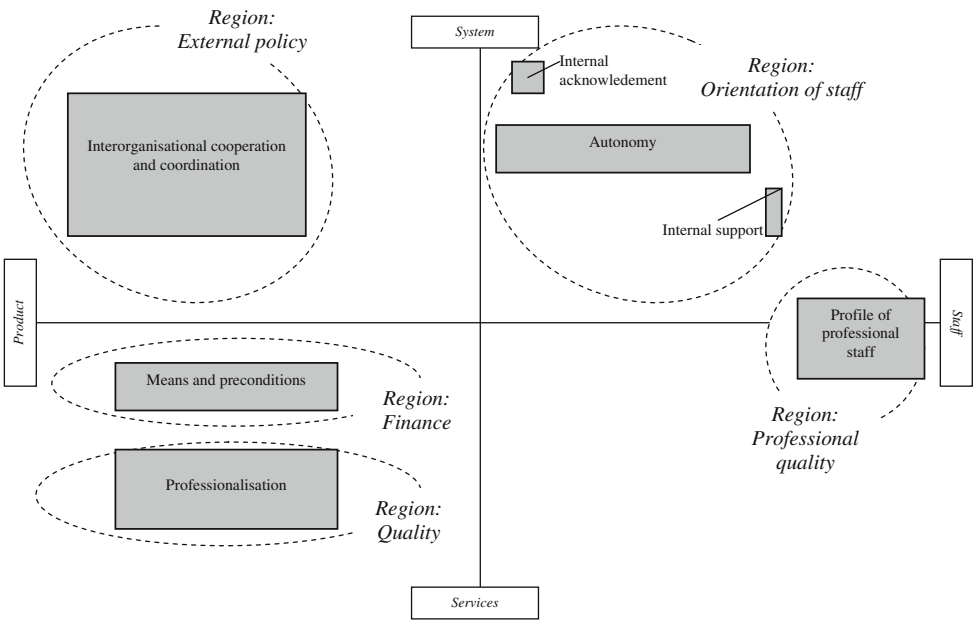

Fig. 1 Concept map of the structural quality indicators for intensive community-based care. The statements are not represented in this figure, because it is illustrative. The original concept map can be obtained from the authors. Regions are groupings of clusters. Here, only the region 'orientation of staff' consists of more than one cluster. Finance and quality are two separate regions due to their diverse contents

Table 1 Results of the current concept map on the structural quality of intensive community-based care

Regions	Clusters	Means	Statements	Means
External policy	1. Interorganisational cooperation and coordination	3.23	Clear direction in the chain of care	4.44
			Care chain approach (comprehensiveness and continuity)	4.33
			Shared client responsibility between institutions	4.00
			Institutional flexibility and willingness to cooperate	3.56
			Agreements about responsibilities of each institution	3.56
			Giving publicity to the programme, being known	3.22
			Synchronisation of nuisance reduction policy and providing care	3.11
			Construction of a separate and new organisational unit with flexible culture	3.00
			Reconsideration of the regular health care system (responsibilities, activities and orientation)	2.78
			Inter-sectorial and institutional exchange of expertise	2.56
			24 hours accessibility	2.11
			Intensive community-based care programmes are no longer the toy of other institutions	2.11
Finance	2. Means and preconditions	3.60	Clear and continued financing	4.56
			Immediate shelter facilities	3.89
			Flexibility of financers (also reimburse innovative activities)	3.67
			Unambiguous view on the content of care	3.11
			Availability of specific care facilities (e.g., adjusted housing)	2.78
Quality	3. Professionalisation	2.56	Directed registration of care activities	3.56
			Availability of a client monitoring system	3.44
			Vision about the care package (final attainment level)	3.33
			Take a stance about client privacy issues that are related to the care process	2.78
			Evaluation of results	2.67
			Social acknowledgement intensive community-based care	2.56
			Scientific basis of the construct intensive community-based care	2.33
			Specification of different target groups and appropriate care	1.67
			Specific research on intensive community-based care (methods)	1.67
			Specified inclusion and exclusion criteria (target population)	1.56
Orientation of staff	4. Autonomy	3.33	Room (finance, time) for outreach activities	4.00
			Immediately available staff	3.67
			Intensive community-based care needs to be a separate care circuit	2.33
	5. Internal acknowledgement	3.22	Internal acknowledgement by institutional management	3.22
	6. Internal support	2.72	Room for social work and the construction of a social support system	3.00
			Material and immaterial appreciation of staff	2.44
Professional quality	7. Profile of staff	2.89	Specifically trained service providers	3.56
			Application of rehabilitation approach (attention for all living conditions)	3.33
			Readiness of service providers and institutions to break frontiers	3.11
			Indefatigability and persistence of both service providers and institutions	3.11
			A pioneering attitude	3.00
			Open-minded staff	2.89
			Mutual accessibility of all service providers	2.78
			Separate job support of intensive community-based care staff	2.67
			Service providers are generalists	2.22
			Strategic bargain capacities of staff (brokering and advocacy)	2.22

between the links, because of the multiple disciplines involved. Notable in this cluster were two statements on the orientation of intensive community-based care: 'construction of a separate and new organisational unit with flexible culture' and 'reconsideration of the regular healthcare system (responsibilities, activities, and orientation).' These statements reflect a view that the current mental health culture is too rigid to encompass intensive community-based activities. Instead of creating projects within or with existing institutions, some participants suggested creating a new and separate organisational unit for this type of care. Others indicated that intensive community-based care needs to be given a formal status within the existing system, and suggested reconsidering its place in the current institutions.

'Means and preconditions' contained statements on the finance and facilities necessary for well-organised intensive community-based care. The highest rated statement was 'clear and continued financing.' This stresses the importance that intensive community-based activities have well-defined and clear funding, provided, for instance, by municipalities or healthcare insurers.

'Professionalisation' was a cluster that included statements on the improvement of intensive community-based care. Statements concerned registration, evaluation, and improvement of methodology. The two highest rated statements were 'directed registration of care activities' and 'availability of a client monitoring system.' Participants thought that a good registration of care activities could contribute to an evidence-based practice. It was also thought important that patient files be centrally available to all service providers involved with a particular client. Participants thought that a client monitoring system could enhance continuity of care, especially when more than one service provider is involved.

'Autonomy', 'internal acknowledgement', and 'internal support' all concerned the place of intensive community-based care staff in the system and the appreciation they get from their colleagues, heads, and others (e.g. insurers, government, municipalities). The highest scored statement of these three clusters was 'room (finance, time) for outreach activities.' Participants suggested that service providers with outreach tasks need specific conditions to do a proper job. Among these were including hours for outreach in the job description and funding of fieldwork (i.e., activities that are not directly productive).

Finally, 'profile of staff' included statements on the job requirements of intensive community-based care providers. The statements 'specifically trained service providers' and 'application of rehabilitation approach (attention to all living conditions)' scored the highest in this cluster. The participants were clear that not every service provider could do the job: intensive community-based care needs specifically trained staff, preferably with a bachelor's degree (e.g., social psychiatric nurses). The rehabilitation approach was considered one of the most important qualities a staff member should have; this included paying attention to all living conditions, knowing all the relevant organisations in the region, and having access to them. Interestingly, most of the other statements in the cluster 'profile of staff' concerned *personal* characteristics, such as readiness to break frontiers, having an open mind, and a pioneering attitude. This is considered necessary because service providers need to be able to work with other disciplines, which may have other traditions, and sometimes even other goals.

The axes were labelled from top to bottom: system—services, and from left to right: product—staff. 'System' refers to the existing network of healthcare institutes, municipalities and insurers, and to current regulations and standards, such as funding schedules and the working culture in the field of mental health (e.g., formal intakes, waiting lists, exclusion criteria). All these statements on the top of the map concern how intensive community-based care can fit into the existing system. 'Services' concerns elements of the care and what is needed to deliver this type of healthcare: how to manage the actual activities involved in the care, and the staff doing the job. All these statements on the bottom of the map concern the organisational preconditions of these activities (e.g., registration, evaluation and improvement of care activities; finances and facilities needed; and specific staff needed). 'Product' concerns the rules and agreements necessary to organise the parts of the 'merchandise'. These statements on the left of the map concern the management of the different institutes, the resources needed, and the primary process (i.e., the healthcare provision). 'Staff' addresses the role of the employees of intensive community-based care programmes, in particular the service providers: e.g., the organisation of the staff, their orientation within and across the organisations, and the characteristics necessary to perform good intensive community-based care.

Discussion

The main goal of the current study was to describe, summarise and categorise the structural components of intensive community-based care that are perceived to contribute to its quality.

About the Findings

The results show that intensive community-based care is not a simple intervention or methodology *pur sang*. It requires a highly complex organisation, which is reflected

by the diversity of the clusters. The emphasis on cooperation with other institutes is significant, and the participants said that this should ideally be characterised as a chain of care (Van de Lindt 2000). This means that single services provided by separate institutes need to be strongly linked. This also means that intensive community-based care is characterised by interorganisational and interdisciplinary service and that it addresses more than one living area or problem at a time. This is a logical conclusion, since the target group of intensive community-based care consists of clients with multiple problems.

The results also show that intensive community-based care is a new healthcare service that needs to find its place in the existing healthcare system. Comments about the role and responsibility of staff members show that the methodology itself and the staff providing it are not yet completely embedded and supported in the current system. There need to be formal agreements that all parts of intensive community-based care, such as outreach activities or social work, be implemented. The staff members providing these activities also need formal support, both material and non-material, as well as recognition from their own organisation.

Intensive community-based care is innovative, and this is perceptible, less directly, in other statements: e.g., the need for clear financial arrangements, or a clear policy regarding client privacy. The need for clear financial arrangements stems from the current lack of funding for intensive community-based care activities; these activities do not always meet the present financial criteria, measured in terms of productivity. Since outreach activities are not always considered directly productive, they are not always reimbursed (GGD Nederland and GGZ Nederland 2005). The need for a clear policy regarding client privacy follows from the pro-active character of intensive community-based care. This differs from traditional healthcare, where service providers wait until the client comes to their offices on their own initiative; in intensive community-based care, service providers are outreaching and pro-active, doing fieldwork, approaching clients unasked, and inquiring about the client. This approach raises ethical questions about client privacy (Henskens 2004; Priebe et al. 2005; Young et al. 1998).

It is interesting that the map not only shows that the service of intensive community-based care needs to be managed, but also that the staff needs to be managed. The individuals who provide the services are viewed as important contributors to the quality of intensive community-based care. The mentioned requirements were content-related (e.g., specifically trained staff, familiarity with rehabilitation), as well as personal (e.g., being open minded, having a pioneering spirit). There is an increasing belief that the character of the service provider accounts for a large part of the quality of intensive community-based care (Henskens 2004; Priebe et al. 2005; Young et al. 1998), and the results of this study support this.

Building on a Classification System

These findings were compared with the previous concept map (Roeg et al. 2005). The current concept map was performed in line with the previous one, using the same sampling strategy (though with different participants from different programmes), the same procedures, and the same software and analyses. Only the themes differed: the previous concept map considered all components that contribute to the quality of intensive community-based care, whereas the current one focussed exclusively on the structural components. Components that had been mentioned in the previous brainstorming session were divided into three groups of indicators: structure, process, and outcome indicators (Table 2). This division was reached inductively, and is in line with Donabedian's theory on types of quality indicators (1980). The current concept map focused specifically on structure, as it was believed that this had not been fully explored in the previous concept map.

Because the current concept map focused on a subsection of the previous one, it was not difficult to link the two, with the results of the current map classed under the analogous part of the first one.

As expected, the current concept map provides additional information. Five of the seven clusters are supplementary to the previous concept map, addressing other elements of structure. These five clusters appear in the regions 'finance', 'orientation of the staff', and 'professional quality.' The two remaining clusters of the current map, on the other hand, correspond to the previous map: 'interorganisational cooperation and coordination', and 'professionalisation' were both addressed by the previous concept map. 'Interorganisational cooperation and coordination' includes statements that also fit in the cluster 'preconditions for care' in the first map. Similarly, 'professionalisation' includes comparable statements to those in the cluster 'relation to regular care' in the first map. The two concept maps can be combined by adding the five additional clusters to the first map, and by combining the statements of the two equivalent clusters of the two maps.

Validity

This study was carefully prepared and conducted to ensure its quality. Table 4 presents an overview of all the techniques employed to improve the quality of this study. According to Yin (1993), general criteria for inductive research are construct validity, internal validity, external

Table 2 Results of the previous concept map

Regions	Clusters	Selection of statements (illustrative)
Structure	1. Preconditions for care	Various institutions achieve good cooperation
	2. Preconditions for service providers' work	Service providers have contact persons in the various institutions
	3. Relation to regular care	The responsibility of intensive community-based care does not end with referral to regular healthcare
Process	4. Service providers' activities/goals	Service provider is capable of fulfilling the primary necessities of life
	5. Service providers' skills	Service providers are active and persistent when approaching clients
	6. Role of repression	Repression plays a minor part
Outcomes	7. Optimal care for the client	Client experiences an increase of autonomy in various areas
	8. Goals of intensive community-based care	Clients returned to regular healthcare
	9. Nuisance	Clients are made responsible for the nuisance they cause themselves

validity, and reliability. Construct validity deals with the use of appropriate instruments and measures to operationalise the construct being investigated. In this study, a validated and well-defined method was used to ensure construct validity. Concept mapping was developed by Trochim (1989) in the 1980s, and since then the method has increasingly been applied in healthcare research (e.g. Johnsen et al. 1999; Nabitz et al. 2005; Van Weeghel et al. 2005). Because of its popularity, a number of statistical packages, such as Concept Mapping (Trochim 1989) and Ariadne (Nederlands Centrum Geestelijke Volksgezondheid and Talcott 1995) have been developed. Internal validity involves measuring the intended construct, dimensions, or mechanisms (for causal studies). In the current study, a number of techniques were employed to ensure internal validity. Multiple observers were present during the concept mapping session (chair, secretary taking minutes, and researcher). All paid attention to the quality of the statements during the brainstorming session and checked that they were sound, valid, clear, and logical. They also supported the participants in rating and sorting the statements. External validity refers to whether the findings can be generalised. In this study, the question is whether the dimensions that were found apply to all types of intensive community-based care programs in the Netherlands. A number of techniques were employed to ensure generalisability: purposive sampling and maximum variation sampling strategies both increase the analytical generalisability of the topic (Bowling 2000; Yin 1993). Reliability refers to whether the study can be replicated with the same results. Careful documentation of procedures is one pre-requisite, and in this study we used a formalised protocol of the concept map technique, keeping notes throughout the process.

Finally, consensus increases the internal validity of research findings (Johnson 1997). In concept mapping, mean importance rates can be regarded as a measure of consensus. To further enlarge validity, one might consider removing statements with a low mean rate (e.g., <2.50) from Table 1, though this has not been done here.

Methodological Limitations

Although several techniques were employed to improve the study's quality, two methodological limitations should be mentioned. These concern saturation and external generalisability. In the tradition of theory building, it is normal to stop the process when theoretical saturation is reached (Strauss and Corbin 1998; Zomerdijk 2005). Theoretical sampling is commonly used to achieve saturation; this is an ongoing purposive sampling procedure, in which cases are selected until incremental learning becomes minimal because the same phenomena are being observed (Zomerdijk 2005). In the current study, theoretical sampling was not used, so we cannot be positive that the point of saturation was reached. Additional data would be needed to test the taxonomy presented here for saturation. External generalisability is supported by the techniques mentioned in Table 4. However, since data were only collected in the Netherlands, further samples are needed to show whether this taxonomy applies in other countries in Europe, or beyond.

Comparison to the Literature

As a preliminary check for saturation and external validity, we compared these findings with the literature. As was mentioned, the structural components of intensive community-based care have hardly been studied; instead, we used a selection of important reviews (i.e. Kroon 1996; Mueser et al. 1998; Phillips et al. 2001; Rapp 1998). From these, we selected the structural components that had some theoretical meaning, either as part of a model that has been studied and proven effective, or which were identified as

critical features based on literature study or expert consultation.

Eleven distinctive components were found (see Table 3). We then compared these components with the structural components in the previous and the current concept map. For the previous concept map, we used the original table (in Roeg et al. 2005), as Table 2 does not show all the statements.

Four of the components mentioned in the literature appear directly in the concept maps: shared caseloads, 24-h coverage, definition of target population, and required training for service providers. Six components mentioned in the literature also appear in the maps, but less directly. For instance, the component 'multidisciplinary versus monodisciplinary teams' appears in the maps in various forms. The cluster 'interorganisational cooperation and coordination' in the second concept map contains statements that refer to this issue. The statements 'care chain approach (comprehensiveness and continuity)' and 'intersectorial and institutional exchange of expertise' both refer to multidisciplinarity; similarly, 'construction of a separate and new organisational unit' refers to a multidisciplinary

Table 3 Structural components from literature compared with the concept maps

Components from literature	In concept maps as
1. Shared caseloads	'Shared responsibility in team or between institutions'
2. 24-hour coverage	'24 hour accessibility'
3. Definition of target population	'Specification of different target groups and appropriate care'
	'Specified inclusion & exclusion criteria for the target population'
4. Required training for service providers	'Specifically trained service providers'
5. A low staff to patient ratio	Indirectly
	'Room (finance, time) for outreach activities'
	'Room for social work and the construction of a social support system'
	(As low staff to patient ratios are meant to provide enough time per patient)
6. Multidisciplinary versus monodisciplinary teams	Indirectly in the whole cluster 'interorganisational cooperation and coordination'
	For instance:
	'Care chain approach (comprehensiveness and continuity)' (i.e., multidisciplinary)
	'Inter-sectorial and institutional exchange of expertise' (i.e., multidisciplinary)
	'Service providers are generalists' (compare to monodisciplinary team)
	'Construction of a separate and new organisational unit' (compare to multidisciplinary team)
7. Locus of contacts (in vivo versus at the office)	Indirectly
	'Room (finance, time) for outreach activities'
8. Integration of treatment	Indirectly in the whole cluster 'interorganisational cooperation and coordination'
	For instance
	'Care chain approach (comprehensiveness and continuity)' (a care chain integrates services from different disciplines/organisations)
	'Application of rehabilitation approach (attention for all living conditions)'
9. Type of care coordination role: linking to formal service system, linking to naturally occurring community resources, or replacing existing services	Indirectly in the whole cluster 'interorganisational cooperation and coordination'
	Natural occurring community resources: not mentioned explicitly, although 'preventive reporting' is (for instance, police and housing corporations)
10. Range of services (e.g. substance abuse component; supported employment component)	Indirectly
	For instance:
	'A safety net is created in a network of institutions'
	'Somatic care can be called in'
	'Psychiatric care can be called in'
	Substance use component and supported employment component were not explicitly mentioned
11. Direct service provision versus care coordination	This distinction is not made explicitly
	Another structural form is mentioned: the care chain approach. This is something in between direct provision and coordination. Provided as a new organisational unit, it looks like direct service provision; when provided in a network of institutions, it looks more like care coordination

Table 4 Overview of techniques to improve the quality of the study

	That means	Techniques employed in this study
Construct validity	The use of instruments and measures that accurately operationalise the constructs of interest	• Using a validated method for explorative/taxonomy building purposes • Using a concrete question for the brainstorming • Using group setting and the advantages of group dynamics during brainstorming • Using a protocol for the brainstorming activity • Using an experienced chair
Internal validity	Measuring the intended construct/ dimensions/mechanisms	• A priori presentation in which research question and unit of analysis were explained in detail • Researcher's attendance during session and presence of a secretary taking minutes (multiple observers) • Open conceptual model (let the data "speak for itself") • Using multiple raters during sorting and rating tasks • Discussing findings with participants
External validity	The findings are general/have theoretical meaning	• Purposive sampling strategy • Maximum variation sampling strategy • Sampling participants from different geographical areas • Sampling participants with different perspectives • Including the head of college for intensive community-based care with a national perspective on the sector • Linking findings with previous studies • Comparison of findings with existing theories
Reliability	A replication of the study produces the same results	• Use of a formalised protocol for concept mapping • Selection procedures and participant information are documented • All data (brainstorming, sorting, and rating data) are recorded • Use of appropriate software and protocol for data analysis

team or department. In the cluster 'profile of staff', the statement 'service providers are generalists' refers to monodisciplinarity.

On the other hand, one component mentioned in literature is explicitly different from the concept map findings: namely, direct service provision versus care coordination. This distinction is not explicitly made in the concept maps; instead a lot of attention is paid to service provision in interorganisational cooperation, with two structures specifically mentioned: the new organizational unit and the care chain approach. A new organizational unit would consist of a formed team of service providers working at different institutions and providing services together, whereas a care chain involves close collaboration between institutes. A care chain, though, provides more than just care coordination (there is very close collaboration), but less than direct services (as the services are provided by persons working in different institutions).

Comparison with the literature also shows that many components have remained untouched so far and that the findings presented here add to the literature in a number of ways. First, they add several domains to the study of intensive community-based care: e.g., the forms and consequences of cooperation, means and preconditions, registration and evaluation, and the personal characteristics of staff. Second, this is the first attempt since Intagliata (1982) to organize the critical components of intensive community-based care in a theoretical manner rather than in a practical one (for example, presenting a model programme).

Recommendations

This study has stressed the importance of looking at the separate components of intensive community-based care rather than looking at entire packages, and a major step was taken towards developing a taxonomy of intensive community-based care. Such a classification system is a necessary tool to improve the quality of future studies, since it allows us to describe programmes in detail, and thereby makes it easier to compare them. Only with improved descriptions of experimental and control services can the findings of randomised controlled trials be properly compared and the contribution of individual programme components be disentangled.

As explained above, saturation and external generalisability still need to be checked. Saturation can be reached by performing additional semi-structured interviews with

participants selected using theoretical sampling strategies. External generalisability can be tested by performing additional interviews with experts from other countries to see whether the taxonomy also covers their views on intensive community-based care or whether new elements are found. We are currently carrying out a follow-up study in which the taxonomy is being saturated, translated into a questionnaire, and is being used to describe the various programmes in the Netherlands (Roeg et al. 2008).

This taxonomy can also be useful to practitioners. It shows which components need to be considered when (re)designing a programme of intensive community-based care, and what to focus on when comparing programmes. A taxonomy is also a useful tool for internal and external communication. Being able to explain the specifics of one's programme internally is essential to ensure that all staff have the same goals and agree on procedures. And being able to clearly explain the programme to third parties can make the difference between getting funding or not.

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